

Committee: Uttlesford Planning Policy Working Group

Agenda Item

Date: 22 June 2017

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Title: Uttlesford Transport Study

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Summary

1. The report sets out the outcomes of the **Uttlesford Transport Study** including the;
 - District Study (including Addendum Report June 2017)
 - M11 Junction 8 Assessment
 - South Cambridgeshire Junction Assessments
 - Uttlesford Transport Study Addendum Report, June 2017 - Saffron Walden Traffic Study Update

Recommendations

2. To note the outcomes of the study that will inform the Draft Local Plan document.

Financial Implications

3. None

Background Papers

4. The following papers were referred to by the author in the preparation of this report and are available for inspection from the author of the report.

None

Impact

- 5.

Communication/Consultation	17 May PPWG provided with Briefing
Community Safety	N/A
Equalities	N/A
Health and Safety	N/A
Human Rights/Legal Implications	N/A
Sustainability	Growth effects modal share and congestion
Ward-specific impacts	All
Workforce/Workplace	N/A

Situation

6. Introduction

The district study was prepared by WYG on behalf of the Council to assess the transport impacts in the district of local plan growth. The study;

- is a strategic level assessment in line with government policy and best practice
- examines the likely transport impacts of different spatial distribution options
- presents a comparison of the transport implications

The study area covers the whole of the district and also parts of adjacent districts as advised by the relevant transport authorities Essex, Cambridgeshire, and Hertfordshire County Councils.

The study provides evidence on:

- Existing baseline data;
 - sustainable travel/potential for improvement
 - network flows/traffic congestion
- Sustainable approach to travel in the district;
 - Policy improvements
 - Traffic impact of different scenarios/patterns of growth/accessibility
 - Impact on strategic infrastructure/measures needed

The objectives of the study are:

- Develop understanding of key highways issues including objections raised by Highways England on the withdrawn local plan
- Use recognised good practice/involve Essex County Council and Highways England
- Compile evidence on traffic impacts/sustainable travel/potential for improvements
- Consider reasonable growth options applying the outcome of the above to a sieving process of the options to establish those preferable

6.1 Review of Inspector's transport comments on withdrawn plan

The inspector's report on the withdrawn local plan identified two strategic transport concerns:

- The potential impact of proposed large-scale development and settlement at Elsenham on the local highway network; and,
- Concerns that proposed mitigation of traffic congestion around M11 J8 would not be sufficient to mitigate proposed cumulative development in Uttlesford, Harlow, East Herts, and Epping Forest districts

The study therefore began with a review of the inspector's transport issues including the transport situation at Elsenham. It found that a number of concerns remain unresolved including impacts on the local road network and constraints/downtime at the level crossing. Regards M11 J8 the District Study includes relevant local plan development in the districts of East Herts, Epping Forest and Harlow not previously included.

6.2 Transport Policy and Programmes

The study includes a full review of relevant transport policy including national/local policies and programmes that may affect the transport situation in the district. The study summarises the aims/programmes including those on growth/sustainable transport relevant to inform the preparation of the study.

6.2.1 Key documents/policies include;

NPPF - priorities regards presumption in favour of sustainable development, core principle to manage patterns of growth to make fullest use of sustainable travel modes, and garden city principles regards growth.

PPG: Transport Evidence Bases in Plan Making/Decision Taking – Government web based resource of planning practice guidance which sets out why, how and when LPAs should produce robust transport evidence bases in support of new Local Plans.

DfT Circular 02/2013: Strategic road network and the delivery of sustainable Development - explaining how Highways England will engage with the planning system/fulfil its remit to be a delivery partner for sustainable economic growth whilst maintaining, managing and operating a safe and efficient strategic road network
Essex Transport Strategy: Essex Local Transport Plan sets out County Council's vision for transport "A transport system that supports sustainable economic growth and helps deliver the best quality of life for the residents of Essex."

Cambridgeshire Local Transport Plan sets out policies and plans for transport to contribute towards the County Council's vision: "Creating communities where people want to live and work: now and in the future."

Transport Strategy for Cambridge and South Cambridgeshire (TSCSC) sets out a transport strategy for facilitating the employment and residential growth identified in their Draft Local Plans for 33,000 homes/44,000 jobs to 2031

Greater Cambridge City Deal partnership of local Organisations/Central Government, to secure economic growth/quality of life in the Greater Cambridge city region to support the TSCSC and local plans

Hertfordshire Local Transport Plan vision is: "To provide a safe, efficient and resilient transport system that serves the needs of business and residents across Hertfordshire and minimises its impact on the environment."

6.3 Transport network/infrastructure

The study notes the districts most significant transport infrastructure is along the M11 and A120 corridors including rail links to London and Cambridge. Transport connections in the district are focused on the M11, A120 and train stations on its western and southern edges. The M11 J8 interchange is a key junction in the district providing access to Stansted Airport and the M11 and A120 transport corridors. The

B184 forms an important north/south spine for the district connecting its two largest settlements. In the rest of the district connections/highway network are often limited to rural roads. The south of the district has better transport access east-west than the north. Beyond the district/close to its edges lie a number of A and B roads that provide links to larger settlements.

6.4 Baseline assessment/Sustainable transport

The study looks at commuting trends/modal travel shares finding much long distance out commuting from a largely rural area to a wide range of attractors including London, with implications for strategic and local transport infrastructure. Sustainable transport is an issue in the district with most travel by car and use of some sustainable modes negligible. A large part of the study (Technical Note 5 etc) is therefore given over to understanding the causes behind this/how the plan may improve the situation. This includes new local plan policies to achieve modal shift from the car in the new garden communities.

6.5 Existing stress on the highway network in the study area

The study examined existing traffic flows on the network using either existing up to date traffic data or commissioning a further 46 traffic counts. This means comprehensive coverage of the highway network in the district. The following roads within Uttlesford are forecast to exceed their capacity by 2033 without any Local Plan development, if all the assumed reference case growth is realised/no modal shift away from current levels of car use:

- M11 Junction 7 to Junction 8
- M11 Junction 8 to Junction 9
- A120 from the B1383 west of M11J8 to M11J8
- A120(T) from M11J8 to Stansted Airport
- B1256 west of Great Dunmow
- B1008 south of Great Dunmow through Barnston
- B1383 at Stansted Mountfitchet

6.5.1 The addition of Local Plan development traffic increases the total link lengths that are forecast to be at, or close to capacity by the end of 2033. However, the traffic impacts of Local Plan development are relatively small in comparison to the traffic impacts of the Reference Case. Committed development traffic is therefore expected to place more pressure on the highway network than Local Plan growth.

6.5.2 Several junctions within the district will require improvement to accommodate future traffic conditions and schemes are being identified/promoted to address future traffic conditions at key locations within Uttlesford and within neighbouring districts. These improvements will enable Local Plan development to proceed. Additional complementary highway improvements and sustainable transport measures will be identified through the planning application process for delivery by developers.

6.6 Junctions in the district

The study examined existing traffic through junctions within the study area and identified traffic congestion at the following locations;

Saffron Walden

- B1052 High Street/George St signals
- B1052 London Road/Debden Road mini-roundabout
- B1052 London Road/B184 Audley Road /High Street
- B184 Audley Road/B184 East Street
- B184 Thaxted Road/B1053 Radwinter Road
- B1052 Common Hill/B184 East Street/Hill Street
- B1052 Castle Hill/Church Street/Ashdon Road

The findings are consistent with the 2013/14 Essex County Council study into the operation of the highway network within the town. The assessment identified that all of the above junctions would be operating with one or more arms exceeding capacity in the peak hours by 2026. See below for outcome of 2017 update.

Great Dunmow

High Street

Hoblongs junction of the B184 Chelmsford Road with the B1256

Newport

B1383/Secondary school

Felsted

B1417/Braintree Road/Station Road

Stansted Mountfitchet

B1051 Grove Hill signals

B1051 Chapel Hill/ Lower Street/Station Road junction

B1383 Silver Street/ Chapel Hill

Takeley

Four Ashes signalised junction

The preferred Local Plan development strategy is to deliver new garden communities at three locations across the district that have good access to a combination of public transport, employment opportunities, local facilities and the strategic road network. The new garden communities will comprise an appropriate mix and scale of development to minimise the need to travel whilst also enabling delivery of sustainable travel infrastructure and services to minimise new trips by car. This approach will minimise traffic impacts at the local junctions listed above however residual traffic impacts will still need to be assessed at the planning application stage and appropriate mitigation delivered as a conditional requirement of planning permission. This is in line with best practice on transport mitigation.

6.7 Testing of scenarios

The study has tested and analysed 28 growth scenarios to help consider transport impacts. These scenarios are based on different;

- Levels of housing and employment growth
 - At 12,500 and 14,100 dwellings
- Growth distributions including;
 - two or three new garden communities
 - different growth levels in towns and villages

6.7.1. Of the Areas of Search for new garden communities shown in the Local Plan Issues and Options Consultation several were ruled out due to no interest being received for development in the 'Call for Sites Consultation' and due to the findings of the Green Belt and Countryside Protection Zone (CPZ) reviews.

6.7.2. The UDC Green Belt Study 2016 found Birchanger/AOS 4 strongly meets the purposes of its Green Belt designation. Given these findings, national policy on the protection of green-belt and the presence of sufficient non-green belt options AOS 4 was considered less preferable and not tested further in the study.

6.7.3. In the CPZ study AOS 6 South of A120/North of Hatfield Forest shows a high level of harm to the CPZ if lost to the designation. AOS 6 is proposed for 750 dwelling which is insufficient for a self-contained new garden community. For these reasons AOS 6 was considered less preferable and not tested further in the study.

6.7.4. This left the following six garden community locations for consideration;

- M11 Junction 9a East (Great Chesterford)
- Elsenham
- West of Great Dunmow(Easton Park)
- West of Braintree
- Little Dunmow(Chelmer Mead)
- North of Takeley

6.7.5. Scenarios of the above new garden communities were then tested at different sizes/combinations in terms of stress on the road network.

6.7.6. It should be noted that Elsenham was included purely at this stage on the basis of a live S78 appeal at the time. Nevertheless, the above work indicates the Elsenham scenario creates severe stress on the local road network (up to 225% stress value). Furthermore, the issues regards severance/down time at the level crossing remain unresolved. The S78 appeal was rejected by the inspector and Secretary of State on grounds of severe traffic impacts. Since this time the applicant has submitted a diagram showing an alternative southern route and a larger new settlement. However, no appropriate detailed modelling accompanies the proposed new route to establish if reassignment is likely. It is also not clear if the applicant owns/controls all of the land required to deliver the alternative route so its deliverability is uncertain. The proposed route would utilise existing

infrastructure which serves a major commercial development area adjoining Stansted Airport. Its function should remain primarily commercial. Therefore, at this time there is no evidence to suggest that an Elsenham scenario has acceptable traffic impacts. In order to ensure a sufficient scale of development is tested, Little Dunmow (Chelmer Mead) and North of Takeley has been assessed in place of Elsenham to test for growth requirements at 12,500 and 14,100 dwellings.

6.7.7. For the remaining five proposed new garden communities, network link stress was broadly similar although differences in accessibility/delivery were emerging. Therefore, a site accessibility appraisal was carried out using the following indicators;

- Internal service/amenity provision
- Access to existing rail services
- Access to existing bus services
- Quality of existing bus services
- Ease of implementing new bus services
- Pedestrian/cycle accessibility
- Potential pedestrian/cycle accessibility
- Existing access to strategic road network

6.7.8. In general apart from Little Dunmow each Area of Search scores well against most of the accessibility scoring categories, with most sites achieving good scores against each of the categories assessed. However, Little Dunmow scores less well on the criteria as it is more remote from settlements with services. Little Dunmow contains very few services and is distant from the rail network.

6.7.9. Essex County Council has also indicated that a new junction onto the A120 would be required. This would be challenging to deliver. The above assessment suggests that Little Dunmow (Chelmer Mead) would be less preferable in terms of transport sustainability grounds.

6.7.10. The remaining scenarios have similar overall assessment scores but Takeley would require a new junction onto the A120 to avoid unacceptable traffic impacts on built up areas. A new junction would be challenging to deliver. ECC have also informed UDC that serious impacts are likely to arise from a Takeley garden community at J8 from queueing traffic without a new junction onto the A120. Such queues would impact on the strategic role of J8. Significant new development at Takeley would therefore be less preferable on these grounds.

6.7.11. Therefore, having regard to link capacity impacts, accessibility and sustainable transport the appraisals have found that the following locations would be preferable in transport terms for new garden communities:

- Great Chesterford
- Easton Park
- West of Braintree

6.7.12 These locations have good access to the Strategic Road Network, are accessible to jobs and settlements with services. Great Chesterford has good access to walking and cycling facilities and is close to a rail station. Great Dunmow is more distant from a rail station but is better served by buses as is West of Braintree. West of Braintree is more distant from settlements but this is balanced by the promotion of Braintree for a co-terminus new settlement with associated/ accessibility improvements.

6.7.13 The study has identified key infrastructure including an acceptable approach to mitigation at the M11 J8 interchange and to strategic junctions in South Cambridgeshire on the A505 corridor.

6.8 M11 Junction 8

6.8.1. The study takes account of relevant development from neighbouring districts and Stansted airport as well as UDC growth. The effects of Local Plan development at M11J8 have been tested using Essex County Council's LINSIG models of the M11J8 roundabout, and the A120/A1250 west of M11/Birchanger Lane and the A120/B1383 Stansted Road junctions. The assessment results confirm that M11J8 operates close to, or at capacity, in the AM/PM peak periods at the 2014 base year. By 2033 all of the junctions are expected to be over capacity in peak times with the addition of Reference Case flows (Base + Committed). The addition of Local Plan development flows makes this situation worse.

6.8.2. Interim improvement schemes have been identified by the County Council that provide additional traffic capacity at the junctions. The proposals improve the capacity of the junctions in peaks times and their operation with the addition of the Local Plan development is better than the Reference Case performance of the existing junction layouts. The proposed interim improvements are therefore expected to offer operational benefits by providing short to medium-term congestion relief, effectively extending the 'working life' of the junctions. Assuming that all committed development is actually delivered, it is recognised that more major improvements will be required at the junctions within the Plan period.

6.8.3 ECC are currently working in partnership with Hertfordshire County Council and Highways England to enable growth in the Counties via a long-term solution to J8. ECC have produced a detailed VISSIM model of the M11 Junction 8 complex of junctions to test selected growth options from which a detailed improvement can be selected. This will be used to identify a more comprehensive long term improvement scheme for promotion through future Government Roads Investment Strategy (RIS). ECC have developed Scheme improvement options with a scheme expected by September.

6.9 Impacts on South Cambridgeshire junctions

6.9.1 As part of the district study more detailed assessment of South Cambridgeshire junctions on the A505 corridor was undertaken following comments from Cambridge County Council and South Cambridgeshire District Council. Initial

work indicated most traffic impacting on these junctions was due to committed development not UDC local plan development. Following discussions with ECC/CCC/HE/SCDC a proportionate methodology was agreed to model performance and identify impacts and the possible range of mitigations at:

- M11 Junction 10
- A505/A1301 roundabout
- A11/A1307 Fourwentways roundabout

6.9.2. The M11 junction 10 and A505/A1301 roundabout were found to be currently near capacity or already over capacity. However, with the range of improvements identified, the situation is mitigated. The mitigation identified can also provide for capacity at these junctions beyond the plan period with up to 3300 dwellings possible at Great Chesterford possible, subject to delivery of successful modal shift measures and more detailed Transport Assessment work. Fourwentways roundabout operates within capacity even at the end of the plan period and does not require mitigation measures. It would be expected that local plan growth would make reasonable contributions to mitigation schemes where they are required proportionate to the development traffic impacts.

6.9.3. Cambridgeshire County Council with the support of Essex County Council and Highways England are investigating a bid to fund a full A505 study that would look at the long-term implications of growth impacting the corridor including the need for dualling.

6.10 Saffron Walden

Introduction

6.10.1 Essex CC on behalf of UDC produced an assessment of traffic in Saffron Walden in 2014 to support the since Withdrawn Local Plan while committing to an Updated Study that would check the original findings. The Update focuses on the future traffic situation at the Radwinter Road/Thaxted Road Junction with and without an eastern link road to inform the emerging local plan including the testing of development scenarios. A range of scenarios were tested including;

- A Southern and Eastern Link road/enabling development - 5000 dwellings
- Intermediate scenarios with an eastern link road/enabling development
- No new link road/remaining ECC strategy measures

Method

6.10.2 The Update is based on more data than the 2014 work notably on the observed movements of traffic around and through the town to enable greater confidence in the likely use of an eastern link road. The new work is based on an automated number plate recognition (ANPR) survey to determine traffic origin/destinations rather than the static traffic counts in the previous work.

Findings

6.10.3 The analysis of the updated traffic flows on the existing network (without an eastern link) indicate a worsening of forecast capacity at the Radwinter Road /Thaxted Road junction with all arms over capacity by 2033 in the PM peak. The ECC Update indicates that more traffic would use such a link road than was previously projected. In particular the ANPR survey indicates that 5200 vehicles a day would be likely to use an eastern link road compared to the 3300 previously estimated. For such a volume of traffic in residential areas ECC Design Standards requires a distributor standard road. ECC consider the latest Manor Oak permission does not include a link road of sufficient standard to deliver such a route. In any event the latest high level modelling suggests such a route would not have the impact required to divert traffic from the centre. As a result the eastern link road originally envisaged in the 2014 ECC study is now challenging to deliver.

Conclusions

6.10.4. The original traffic study included a suite of measures to encourage traffic to avoid the town centre with the eastern link road a key part. Measures to divert traffic from the centre help reduce vehicular pollution/manage air quality in the AQMA. Some measures in the strategy are still achievable for example,

- Newport Road/Borough Lane priority junction improvements
- Debden Rd, London Rd to Borough Lane junction improvements
- Thaxted Road/Peaslands Road junction improvements
- Waiting restrictions on Peaslands Rd

6.10.5. The Update suggests though it is now challenging to deliver the original eastern link and the corresponding scale of development it would have enabled. The Update concludes that without the relief such a link road would provide, no further major scale development would be considered acceptable on the eastern side of Saffron Walden. The exception is the land east of Thaxted Road (Kier site). However, this conclusion is based on a high level assessment. More sophisticated modelling would be required to justify a greater scale of development and test whether its impacts could be satisfactorily mitigated.

6.10.6. A number of other options were tested including a southern and eastern link roads, but in each case the traffic impacts were found unacceptable. A southern link would also require extensive expansion of the town that would have to address concerns on landscape, heritage, and viability.

6.10.7. The work also tested impacts without a link road development on part of the Kier site (150 dwellings) and found that the transport impacts would be acceptable. Furthermore the location complements the specific measures that will be delivered from existing S106 contributions, and would potentially represent a good fit with ECC's existing circumvention strategy. An appropriate transport assessment and related air quality assessment would be required to confirm these assumptions as part of the normal planning application process.

6.10.8. Beyond this scale of development more sophisticated modelling would be required to justify development in terms of impacts. This would fall to developers to produce in a development management context. The scale and cost of such work is beyond the current round of plan making and is a matter for plan review. As a result the County Council and UDC are exploring ways of looking at longer term growth via a separate Saffron Walden Town Transport study that would inform such a review. This would include any consideration of the future transport implications of Carver Barracks.

6.11 Overall Study Conclusions

6.11.1 The study tested a number of scenarios which compare different distributions of growth to establish transport impacts in the district and affected areas beyond its boundaries. The outcomes of the assessment show an acceptable scenario can be identified in transport terms for all the circumstances identified, including 14,100 dwellings distributed in three new garden communities and growth in the towns and larger villages.

6.11.2 The assessment of the scenarios shows that the strategic and local road network could be a potential constraint to local plan development. It is therefore important to locate development where it minimises these impacts.

6.11.3 The Preferred Options have less development on the A120. Great Chesterford would use junction M11 J9 rather than J8. The preferred approach spreads growth and the resulting traffic around the district and its highway network. It utilises the connectivity of the A120 and M11 while minimising impact on key junctions especially M11 J8.

Risk Analysis

7.

Risk	Likelihood	Impact	Mitigating actions
If the Council does not have NPPF compliant evidence the Local Plan could be found unsound	1 - Low	3 - Delays in adopting the Local Plan	Making sure that the evidence is up to date and in accordance with the relevant regulations and NPPF.

- 1 = Little or no risk or impact
- 2 = Some risk or impact – action may be necessary.
- 3 = Significant risk or impact – action required
- 4 = Near certainty of risk occurring, catastrophic effect or failure of project.