

29th January 2018
 Your Ref:
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Essex County Council

Andrew Cook
 Director for Highways and Transportation

CC: (by email)

To: Jeremy Potter
 Planning and Strategic Housing Policy Manager
 Chelmsford City Council
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Dear Mr Potter

Response to Representations on Transportation Matters, Preferred Options Consultation

The representations received in relation to transportation issues have been reviewed, and the Highway Authorities comments on these issues are included in the table below. Technical responses to specific transport modelling issues, in the public representations, have been compiled by Essex Highways, a copy of which is attached.

Representation	Reference	Transport Issue	ECC comments
Ballard (North and West Parishes Group) Journey Transport Planning (North and West Parishes)	PO1602 PO1578 PO1597	1. Potential developments identified based on potential improvements to bus service which are not deliverable due to conditions on ground.	Capacity constraints on highway network, especially city centre will necessitate travel by sustainable modes. Broomfield Rd corridor well served by public transport and there is scope to increase this. ECC committed to public transport enhancements along this route and from West Chelmsford e.g. Chelmsford City Growth Package schemes.
		2. Broomfield Rd and Roxwell Rd likely to present challenges for delivery of cycle schemes to improve cycle connectivity.	Draft Chelmsford Cycle Strategy identifies several potential schemes along this route. West Chelmsford has good cycle connectivity though Admirals park which could be improved to enhance these routes. ECC committed to cycle route enhancements e.g. Chelmsford City Growth Package and Cycle Strategy schemes.
Maldon District Council (Butt)	PO1428	Highways investment needs to consider improving capacity and alleviating congestion at: <ul style="list-style-type: none"> The Shaw Farm roundabout 	The transport modelling assesses A132/B1012 corridor to assess the necessary mitigation. More detailed assessment of local roads and junctions would be required at the

		<ul style="list-style-type: none"> • B1012 Burnham Road with the B1418 • B1012 Burnham Road with Hullbridge Road, which acts as an alternative access to SWF • B1012 Burnham Road with Ferrers Road /Hamberts Road • B1012 Woodham / Lower Burnham Road with the Woodham Road to Cold Norton 	planning application stage.
Rochford DC Basildon BC	POQ531 PO537	1. Consideration needs to be given to impact on strategic highway network in vicinity of South Woodham Ferrers e.g. A132, A130, A1245 and A127.	<p>A Route Based Strategy and Integrated Transport Package study for South Woodham Ferrers and the A132 has been commissioned.</p> <p>Development in South Woodham Ferrers might be expected to add to background traffic flows via the A130 but this is a small amount comparative to the existing traffic flows.</p> <p>Transport modelling does not include A127 as traffic from South Woodham site would disperse on numerous routes so likely to be limited impact on A127.</p> <p>Developer would be expected to identify and mitigate the impact of development traffic at planning application stage.</p>
		2. Necessary to identifying more sustainable public transport options in addition to highways improvements including improvements to the railway line through South Woodham Ferrers.	Agreed sustainable travel options are important for South Woodham site. Developer would be required to provide suitable sustainable travel measures and associated infrastructure.
		3. Improvements to A12/A130 junction are	Agreed improvements are important. Study of Howe Green junction

		vital.	currently being undertaken by Essex Highways.
Broomfield PC (Hurrell) Writtle PC (Walker) Little Waltham PC (Walker)	POQ524 POQ517 POQ533	1. No certainty that Chelmsford NE bypass (CNEB) will be delivered in the plan period.	Proposed that CNEB constructed in phases with developers either building or contributing towards single carriageway first phase, during plan period.
		2. Concern about public transport and cycling as sustainable alternatives for Local Plan sites.	See comments re public transport and cycling alternatives in ECC response points 1 and 2 rep. PO1602 PO1578 PO1597 above
		3. Suggest improvements to Sheepcotes roundabout and other roundabouts along Essex Regiment Way to improve capacity and encourage traffic to use A130 instead of B1008. Also extensions to bus lanes of Essex Regiment Way.	Improvements are planned for Sheepcotes roundabout including a segregated left turn slip from A131 to A130 as part of ECC's Chelmsford to Braintree A131 route based strategy. Also extension of bus lanes and improvements to other roundabouts.
Archer Bell Jackson Jackson	PO1465 PO1435 PO1451 PO1453	Local and strategic roads are at capacity at peak times now without 800 houses.	Acknowledged that many roads are at or near capacity in peak hours e.g. 4% reserve capacity in city centre in peak hours. However focus would be on sustainable modes of travel which is possible because of location of Warren Farm site. This will be complemented by the investment of the Chelmsford City Growth Package schemes,
Birch	POQ299	No intention of providing the necessary infrastructure to make development in South Woodham Ferrers sustainable.	A Route Based Strategy and Integrated Transport Package study for South Woodham Ferrers and the A132 has been commissioned. Developers will be required to provide the necessary public transport, cycling and walking infrastructure to mitigate the impact of their development and minimize the need to travel by car, which is possible from South Woodham Ferrers site.
Bray Littlewood	POQ581 POQ709	No adequate transportation infrastructure for the proposed sites at Warren Farm and North of Broomfield these sites are not sustainable.	Developers will be required to provide the necessary public transport, cycling and walking infrastructure to mitigate the impact of their development and minimize the need to travel by car which is possible from Warren Farm and Broomfield sites.

Bright	PO1633	Has cumulative impact been considered?	The transport modelling does assess the cumulative impact of development and the junction modelling assesses key junctions in the district. More detailed assessment of local roads and junctions would be required at the planning application stage.
Brunning	PO216	Modelling assumes dualling of A132.	The latest transport modelling does not now include the dualling of the A132.
Edwards (South Woodham Ferrers Neighbourhood Plan)	PO1482	1. Keeping current A132 / B1012 route will result in: a) a development that is separate and NOT integrated and b) runs the risk of dividing current community by forcing 'through traffic' to use Ferrers Road route through town. Why no consideration to a new 'boundary road' / 'bypass' to replace the current A132 / B1012 route?	Connectivity between South Woodham site and town centre would be extremely important; therefore developer expected to provide adequate facilities to accommodate necessary linkage. Expected to be combination of grade separated and at-grade crossings, at various locations along the A132/B1012 frontage.
		2. Suggest an express bus service like at Beaulieu Park.	Expected that express bus service would be provided by the developer, similar to Beaulieu, to link to local facilities including South Woodham and Wickford stations.
Howard	PO672	Increased volume and speed of traffic on local roads near John Shennan site.	Developer would be expected to mitigate impact of development traffic on local roads. Site in good location for sustainable travel to local facilities and city centre.
Wakeling	PO1328	Concern about additional traffic from South Woodham Ferrers site.	Developers will be required to provide the necessary public transport, cycling and walking infrastructure to mitigate the impact of their development and minimize the need to travel by car, which is possible from South Woodham Ferrers site.
Massie	PO1131	Suggest left turn slip or traffic signals at Shaw Farm roundabout.	Congestion likely to be caused by Burnham Road merge from two lanes to one. Developer expected to mitigate impact of development traffic to address this and by providing sustainable transport alternatives.
Hammonds Estates LLP	Various including PO1970, PO2130,	Various, including reasons why site promoter considers site is acceptable in highway and transportation terms.	1. Hammonds Farm site is severed by A12, Maldon Road and A414, all of which are close to capacity and experience congestion and

	PO2125 and PO1939		<p>delays. Site is adjacent to A12 junction 18; consequently expected traffic generation from site in this location expected to have additional impact on the A12 carriageway.</p> <ol style="list-style-type: none"> 2. New settlement at Hammonds Farm could mean benefits arising from development on edge of Chelmsford Urban Area reduced as large proportion of new development would be detached from existing urban area, which could lead to increase in car/traffic movements to facilities in city centre. 3. Modelling impact of growth in Maldon Local Plan A12 junction 18 considered to be operating satisfactorily. However, growth proposed in this alternative spatial strategy, along with background growth in plan period, would require detailed assessment to be undertaken to ascertain the impact on the capacity of junction and A12 carriageway, along with possible mitigation options. 4. Site would require access to A414, which is strategic route linking Maldon with Chelmsford, and wider network. Significant growth planned in Maldon Local Plan, along busy strategic route which passes through urban areas, including Danbury towards A12, Junction 18. Principal traffic flows on A414 are westbound in morning peak towards A12 and Chelmsford, and eastbound in afternoon peak. In modelling impact along this route of planned growth in Maldon District Local Plan installation of pre signals at Eves Corner will assist in peak hour operation of junction by end of Maldon District Council plan period (2014 – 2029). ECC did not model any additional growth along route (other than background growth), and hence additional modelling necessary to consider potential impact of any additional growth. 5. Access to proposed phase 2 via bridge over A12 likely to encourage more trips by car into city centre as Park and Ride
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			<p>would be bypassed.</p> <p>6. Although site is located close to Sandon Park and Ride site, traffic from Hammonds Farm site would have to travel through Junction 18 to Park and Ride facility with consequent impact on that junction. A further Park and Ride site suggested within Hammonds Farm site. ECC acknowledges that Park and Ride is key strategy in managing volume of longer distance journeys from outlying developments along congested corridor routes into city centre. However additional Park and Ride likely to have effect on viability of neighbouring Sandon site, Chelmer Valley, and potential additional two sites.</p> <p>7. Large development at Hammonds Farm would significantly increase use of city centre rail station, which is already close to capacity, more than site in NE Chelmsford which will be in close proximity to proposed station at Beaulieu Park.</p> <p>8. Although Hammonds Farm site fairly close to proposed new rail station at Beaulieu Park travel between them would be via A12 which currently experiences congestion, or by rat running though minor roads to north of site which would not be acceptable.</p>
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Yours Sincerely



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Responses to Public Representations made concerning Local Plan traffic modelling

Essex Highways has reviewed and considered the highway and transportation responses received during the public consultation process for the Chelmsford Local Plan Preferred Options. Essex Highways' response to questions/comments relating specifically to the technical aspects of the traffic modelling methodology are documented in this technical note.

The public representations regarding the Local Plan traffic modelling reported in March 2017 contain some common themes. Indeed, points raised in the Chelmsford North and West Parishes Group Report (May 2017) were subsequently referenced in representations made by members of the public. Therefore, these comments/areas of concern have been addressed issue by issue rather than by individual representation. The table below shows which combination of technical responses should be applied to each representation. Where no response number is referenced, the representation did not include questions/comments related to traffic modelling. Responses to Hammonds Farm representations have been provided in an addendum at the end of this technical note.

Name	Code	Please refer to response:
Archer	PO1465	2, 3
Ballard	PO1578	1
Ballard	PO1597	-
Ballard	PO1602	-
Bell	PO1435	2, 3
Birch	POQ299	4
Bray	POQ581	3
Bright	PO1633	9
Brunning	PO216	3, 4
Butt	PO1428	6
Edwards	PO1482	4
Hayward (Rochford District Council)	POQ531	-
Howard	PO672	-
Hurrell	POQ524	1, 5, 6
Jackson	PO1451	2, 3, 7, 8
Jackson	PO1453	2, 3, 7, 8
Littlewood	POQ709	5, 6
Massie	PO1131	-
Styles	PO256	10
Wakeling (North Fambridge Parish Council)	PO1328	-
Walker	POQ517	1, 2, 3, 5, 6, 7, 8
Walker	POQ533	1, 5, 6
Winslow (Basildon Borough Council)	PO537	-
Chelmsford North and West Parishes Group		1, 5, 6

1) Common Theme: “VISUM is a link-based model and does not consider delay at junctions”

Public Representation (Sample):

The traffic model used by Ringway Jacobs is a ‘link based’ model and takes no account of junctions. It provides only a strategic overview of the Chelmsford City area network in terms of link performance, based on theoretical link based capacity. The model predicts certain links across the network will be operating in excess of capacity during the modelled periods but the assessment does not take into account the presence of junctions and bottlenecks within the network. As such, it assumes that all assigned traffic can access the network equally and will only re-assign to alternative routes in response to link congestion based on journey times and congestion.

Essex Highways Response:

Whilst network capacity in the VISUM traffic model is built around ‘links’ (roads) rather than ‘nodes’ (junctions), delays at junctions are nevertheless accounted for and are determined by the volume of conflicting vehicle movements and/or the presence of traffic signals. The base year Chelmsford VISUM model used to forecast the impact of Chelmsford’s Local Plan proposals, has been checked against observed journey times along a number of routes through the city. This would not have been possible if delays at junctions were not effectively modelled. Summary analysis found in the Local Plan transport impact technical reports uses link-based volume/capacity plots to illustrate areas of congestion as part of a strategic overview. Both route based and junction based delays are, however, modelled and influence overall vehicle routing in the model.

2) Common Theme: “Journey to Work patterns have changed since 2012 following Chelmsford attaining City status. Census information is therefore out of date”

Public Representation (Sample):

Under the summary of findings, Appendix 4, assumptions made– Next Steps, states that journey to work trips are based on 2011 census data. However, in 2012, Chelmsford achieved City status since when the City and its environs have seen significant construction, regeneration and expansion, which has not been reflected in the 2011 census data.

Essex Highways Response:

Whilst we acknowledge that journey patterns will have changed to a certain extent since 2012, 2011 census data is still an extremely reliable, comprehensive and widely accepted source of data for use in developing trip distributions in traffic models. The base-year traffic model used in the Local Plan assessment makes use of 2011 census data, alongside traffic count and mobile phone data obtained in 2014. Trips associated with new development since 2014 have been identified using Chelmsford County Council planning data and have been accounted for in the forecast modelling.

3) Common Theme: “The stated 5% reduction in traffic flow to account for mode shift is not achievable”

Public Representation (Sample):

Heavy weight is placed on non-use of the private car, where the Study anticipates there will be a 5% reduction in traffic, as shown in the model, which will result in lower traffic flow along major routes around the area, which will in turn make the plan feasible. However, it is considered that such a reduction cannot and will not be achieved.

Essex Highways Response:

The 5% reduction in overall vehicle trips was carried out as a sensitivity test to consider the impact of a change in travel behaviour on road conditions, and to gain a greater understanding of the severity of congestion on the road network. It was made clear in the reporting that whilst a reduction of 5% was considered to be significant, but not unrealistic, there was no evidence to suggest this would be achievable, or that it could be achieved uniformly across all trips in Chelmsford. Changes in travel behaviour as a result of peak hour congestion will be modelled to Department for Transport standards as part of upcoming Local Plan transport studies.

4) Common Theme: “Models use and 0800-0900 AM peak whereas the real peak period is earlier”

Public Representation (Sample):

In South Woodham Ferrers you produced (Appendix4) Volume/Capacity figures to ascertain peak volumes. The morning study was conducted between 8.00am - 9.00am, which was the wrong time as by then the peak of the traffic has gone. The survey needed to be conducted between 6.45am - 8.00am. The evening survey needed to be done between 4.45pm and 7.00pm instead of finishing at 6.00pm. The figures you have based your transport plan on are therefore flawed.

Essex Highways Response:

The Chelmsford VISUM Model that was used to assess the likely impact of Chelmsford’s Local Plan proposals on the strategic road network, has been built for the peak hours of 0800-0900 in the morning and 1700-1800 in the evening. This reflects peak hour traffic conditions across the urban area of Chelmsford. It is acknowledged, however, that this does not reflect the true peak hour at all junctions in the administrative area and in particular in outlying towns and villages. Upcoming Local Plan transport studies will take into account the actual peak hours in South Woodham Ferrers when looking at the traffic impact of Local Plan developments on the surrounding local road network.

5) Common Theme: “The Sustainability Review does not provide a detailed enough evaluation of possible mitigation measures”

Public Representation (Sample):

(The Sustainability Review) does not provide an accurate review of the quality or reliability of the (bus) services available. Many of the services provided do not have specific infrastructure, therefore do not and will not represent an attractive mode for occupiers of new or existing development.....The sustainability review has identified potential development areas/corridors based on potential to improvements to bus services that are not defined or realistically deliverable due to conditions on the ground.

It cannot therefore be assumed that future development will be supported by a step change in terms of bus usage. In terms of cycle accessibility.....no detailed evaluation of the deliverability of such proposals has been undertaken and as such it is considered that it would be premature to identify development locations based on potential improvements to transport infrastructure and an assumption as to the extent of modal shift which can be achieved, at least without some assurance of deliverability of the infrastructure which will be needed to support this.

Essex Highways Response:

The main purpose of the sustainability review was to carry out a high level assessment of the feasibility of sustainable travel to/from Local Plan developments. Documents produced for the Chelmsford City Growth Package Public Consultation (June/July 2017) detail the County Council’s vision for travel in Chelmsford up to 2036, and present a programme of improvements to the road network over this time. These include significant improvements made to the cycle network across the city, and the provision of bus priority measures along key transport corridors. Growth Package schemes have been subject to feasibility studies, and have been shaped by an awareness of the network capacity pressures that will arise through further development in Chelmsford in the future.

6) “Traffic modelling does not include the impact on junctions”

Essex Highways Response:

Initial focus of the highway impact of Local Plan proposals was placed on the strategic road network. A more detailed study of the development impact on local junctions has been commissioned for completion before Public Consultation in January.

7) “The Park and Ride at Widford has not been taken into account” (in terms of attracting traffic through Writtle)

Essex Highways Response:

The proposed Park and Ride site at Widford has been incorporated into the Local Plan strategic modelling. A proportion of vehicle trips in the model that travel to and from the city centre along routes in the vicinity of the Park and Ride site have been reassigned as trips to and from the Widford Park and Ride site.

8) “Areas on the periphery of the Chelmsford local authority area have not been calibrated or validated to the same level of detail as the modelled urban area of Chelmsford. Information currently being relied upon in assessing local impact is insufficient to make a reasoned calculation of Local Plan impact”

Essex Highways Response:

Limitations associated with the approach adopted for the strategic assessment of the Local Plan impact have been acknowledged and documented. Essex Highways have since been commissioned to undertake further work to assess the junction impact of Local Plan proposals. This looks to address the limitations of the VISUM model on the periphery of the local authority area by reducing the reliance on VISUM model outputs in these areas. Observed traffic data is, for example, being used as the basis from which to forecast traffic flows at junctions.

9) “Has the cumulative impact of increased traffic been considered?”

Essex Highways Response:

Traffic has been modelled using observed 2014 traffic volumes which have then been increased to account for a growth in trips to/from areas outside of the Chelmsford administrative area up to the end of the Local Plan period in 2036. Predicted trips to/from existing and proposed developments within the Chelmsford administrative area in 2036 have then been added. All these trips have been included on the future road network in the model to measure the cumulative impact.

10) “The report by Ringway Jacobs does not show Sandford Road as being over capacity at peak times, however as a local resident I can argue that it is over capacity”

Essex Highways Response:

The volume/capacity plots in the report are presented as an indicator of modelled congestion on the road network in Chelmsford. By this indicator, Sandford Road is not shown to be congested in the modelled peak hours, as modelled traffic flows along the road are lower than the modelled capacity. It is understood to be the signalised junctions at either end of Sandford Road that hold traffic in queues along the route. These junctions are included in the modelling and do contribute to congestion, but the delays that they cause to journeys are not shown within the volume/capacity plots.

Addendum – Hammonds Estates LLP:

Representations were received from WSP and Terence O’Rourke Ltd. on behalf of Hammonds Estates LLP regarding the Local Plan modelling of development on Hammonds Farm. These are summarised as follows:

1) WSP Comment: “Limited detail provided with regards to the assumptions in the modelling work”

Limited detail provided with regards to: Trip generation of identified sites, Trip assignment of identified sites, Design scheme used for A12 Junction 19 / Boreham Interchange and assumptions made with regards to trip reduction / reassignment associated with existing /future Park and Ride sites and Beaulieu Park Railway Station.

No detail on the validation of the model. It is not possible to determine what level of model validation work has been completed or the extent of model area that the ‘periphery’ relates to.

Essex Highways Response:

Comments around a lack of detail on model development and validation have been addressed by providing WSP with the appropriate VISUM model documentation.

2) WSP Comment: “There appear to be anomalies within the results of the completed modelling”

The most pertinent one in relation to Hammonds Farm being the saturation / queue data on the A414 Maldon Road corridor at Junction 18.

Essex Highways Response:

The V/C plots are not an illustration of queue extents, but rather an indication of potential congestion on roads. Projected 2036 traffic volumes along the A414 in the Chelmsford VISUM Model are modelled to be similar in both directions, so network conditions might therefore be expected to be broadly similar – as demonstrated in the V/C plot.

3) WSP Comment: “Hammond Farm Tests do not include the significant supporting highway infrastructure over the last two years, and do not present fair representation of future conditions and benefits of Hammonds Farm”

Essex Highways Response:

Mitigation tested for the Local Plan modelling reported in March 2017 covered strategic schemes identified by ECC and CCC with a focus on tackling traffic growth across the wider administrative area of Chelmsford. Modelling at the time did not consider schemes designed to mitigate the impact of specific proposed developments (with the exception of committed infrastructure improvements). It is considered that the right level of detail has been modelled at this stage of the assessment.

4) Terence O’Rourke Ltd. Comment:

Inadequate testing of the highways implications of the preferred option spatial strategy and the alternative spatial strategy has been undertaken to inform the Preferred Options Consultation Document, particularly in respect of the highways infrastructure that would support Hammonds Farm.

Essex Highways Response:

See previous comment.