

Review of Transport Issues raised by the Tiptree Neighbourhood Plan January 2021

Introduction

- COTTEE Transport Planning have been instructed to consider the Transport related points raised by the Independent Examiner for the Tiptree Neighbourhood Plan.
- These are summarised below together with comments and questions arising.
- This is followed by a summary of other related factors that will influence Transport conditions in the future for example the proposed A12 widening scheme being promoted by Highways England.
- Potential benefits of the Link Road to the north of Tiptree associated with the Elms Farm / Highland Nursery are considered using a high-level assessment.
- Sustainable transport is reviewed and conclusions relating to the above are provided.

Summary of Transport related points raised by the Independent Examiner

1. *The 'missing link' route lies in an adjacent parish (Messing) and therefore does not meet a legal requirement. The link is a long-term project which at best would come forward towards the end of the plan period and there is no evidence that the road would be completed by a Messing-cum-Inworth Neighbourhood Plan or through the Colchester Borough Council Local Plan – paras. 2.13, 2.14 and 5.2.*

Comment:

- A high-level assessment is provided in this report examining the benefits of a link road with a view to Colchester Borough Council including in the Local Plan.
 - Delivery of a link road is likely to be phased and development within Tiptree should be designed to facilitate this.
2. *Objectives 12 and 14 to locate sites to the north and north west are based on concerns about congestion on routes and at junctions in the centre – para.4.4.*

Comment:

- Given that the main destinations associated with for example work trips (those that impact the most heavily trafficked Am and Pm peak hours most) are to and from the A12 (for London / Chelmsford / Braintree), Colchester and Maldon (as evidenced by Census data) i.e. away from the village centre (which lies to the south), locations to the north and north west of Tiptree centre are least likely to have an impact on Church Road and therefore the village centre.

- New homes to the north of Tiptree will attract residents to visit the centre for non-work trips such as shopping and using local services which will benefit businesses in the centre and therefore the local economy. Good footway / cycle and bus connections will assist in reducing any traffic impact.

3. *Given the pivotal nature of the objectives they need to be underpinned by **proportionate and robust** evidence for example a technical appraisal of current conditions and an assessment of the impact of different spatial options on the roads and junctions in question. Early advice from ECC was to carry out modelling to test the proposed solution – but it was not carried out. There is no empirical evidence to support the preferred approach and the new routes being necessary – para. 4.5.*

Comment:

- Proportionate evidence would not normally involve Transport Assessment level of detail (including detailed traffic modelling) associated with a planning application. ECC's initial comments on the need for modelling were superseded in this regard.
- A high-level assessment has been undertaken later in this report to consider the potential transport impacts with and without a link road.

4. *Map 8.1 does not show the main pedestrian routes and destinations that the developments would be expected to link with – para 8.2.*

Comment:

- A review of Map 8.1 indicates that the main pedestrian routes and destinations that the developments would be expected to link with have been identified.
- Some of the routes and links between those destinations and the sites would need to be reviewed and upgraded with pedestrian crossings and consideration given to linkage with bus stops and cycle facilities. This would normally be undertaken at the planning application stage as part of a Transport Assessment.

5. *Neighbouring parishes and residents to the north of Tiptree made the point that concentrating development on the selected sites would put intolerable pressure on the B1023 which is inadequately configured to deal with it – para 8.6.*

Comment:

- New development anywhere in Tiptree would lead to more traffic on the B1023 towards and through Inworth. However, as will be demonstrated later in this report the increases associated with Tiptree development is a small proportion when compared to the traffic increases predicted to travel through Inworth as part of the A12 widening scheme and the introduction of a new junction 24 on Inworth Road at Feering. HE's document 'Scheme Assessment Report Addendum published in 2020 states that:
'3.3.2 Junction 24 A Junction Strategy Refinement exercise was undertaken to confirm junction proposals in advanced of PCF Stage 3. The most significant change from the

*2017 design is the refinement to junction 24. Following the Junction Strategy Refinement work, it was recommended to relocate the proposed junction 24 further south to the west of Inworth Road. The proposed junction 24 design consists of an all movements dumbbell junction with a direct connection to Inworth Road. Following the Non Statutory Public Consultation events held in 2017, it emerged that there was a preference for a junction on Inworth Road. It is also understood that the provision of a junction close to Inworth Road provides an overall benefit to the A12 scheme, as it provides better connectivity between Tiptree and the Strategic Road Network (SRN). In addition, **it promotes the right traffic on the right roads as it reduces the volume of strategic traffic making journeys on the wider local road network in comparison to the previous design from 2017.** It is also understood that a junction near Inworth Road provides an economic benefit to the scheme in comparison to the previous design from 2017, particularly because the junction becomes more attractive for traffic from Tiptree and reduced journey times from traffic.*

Further information on the proposed junction 24 is detailed in Appendix D Junction 24 Strategy Technical Note.'

Underlined and bold inserted by author of this report

- According to Highways England data there will be less traffic in Feering and Kelvedon with a new junction 24.
- Appendix D. J24 Junction Strategy Technical Note prepared by Jacobs' for HE states that:

'Compared to Stage 2 location, moving junction closer to Inworth Road changes the existing travel patterns across wider road network. Tiptree to A12 (SB) traffic joins A12 at new J24 location, instead of travelling via Rivenhall End. Significant reduction in traffic on cross-country route along Braxted Park Road, and therefore lower traffic at J22 compared to with Stage 2 location. Tiptree traffic using new J24 leads to a significant increase in traffic on Inworth Road between Tiptree and new J24 location (this was raised as a concern at non-stat consultation).
- Whilst HE refer to the 'right traffic on the right roads', it is assumed this refers to a shift in traffic from Braxted Park Road to Inworth Road, they appear not to have considered in any detail the impact of this shift on Inworth and Tiptree as regards to increases in through traffic. It is recommended that representations are made to HE to advocate a balanced approach to traffic distribution on the wider local network to avoid increases in traffic through Tiptree village centre and unsustainable increases in traffic through Inworth on the B1023.
- It is considered that there should be no measures in the A12 widening scheme to discourage traffic from Tiptree and villages to the south and east of Tiptree using the Braxted Park Road to access the A12 at Rivenhall / Witham. The volumes of traffic predicted by the HE to use the B1023 through Inworth are unlikely to be sustainable in the long term. The traffic impact of the A12 widening on Tiptree and the surrounding road

network should be examined further by HE/ECC to ensure a sustainable / balanced traffic distribution strategy.

6. *ECC's position is puzzling to the Examiner – para 8.8 – they initially supported the Tiptree's approach, then effectively objected suggesting modelling was required to support the proposals then decided they were content provided Transport Assessments were carried out at planning stage to justify it. The TA requirement is in limb C of Policy TIP12 – Comprehensive Development.*

Comment:

- As indicated earlier ECC have confirmed a proportionate response is the preparation of a Transport Assessment as part of a planning application in the usual way.

7. *The Examiner agrees with the points raised by Bloor and Marden at para. 8.10 that: '...there is no evidence to suggest that the proposed link road is needed, would be of benefit, is deliverable, or represents the optimum route for a new link road'. Therefore, Policy TIP07 fails the Basic Conditions.*

Comment:

- A high-level assessment has been undertaken later in this report which shows that the link road would clearly have benefits in terms of diverting traffic away from Kelvedon Road / Maypole Road and the double mini roundabout in the village.
- The benefits of providing the link road are clear therefore it is recommended that Colchester Borough Council include it in the Local Plan.
- It has already been confirmed via the TNP process that the road is deliverable.

8. *ECC consider that linking the three developments (Tower End, Highland Nursery, Elms Farm) would represent a rare opportunity to the parish council to secure the required bus service. The Examiner agreed – para. 12.4.*

Comment:

- This can be explored further with ECC / bus operators as part of the planning application process as is the normal approach.

9. *If the work is undertaken to show the new links are necessary and need to be safeguarded, then policy can secure that and that can be done through individual allocations – para. 12.5*

Comment:

- Based on the high-level assessment undertaken in this report it is considered that Colchester Borough Council should consider adding the requirement for the link road in the Local Plan to ensure a comprehensive approach.

High- Level Traffic Assessment

10. The A12 – A120 Highways England (HE) scheme incorporating a new junction (24) to the south of Kelvedon is planned for opening in 2027-2028.
11. HE's predicted traffic data for 2042 (taking account of Local Plan and background traffic growth) shows increases in traffic (Passenger Car Units) on Inworth Road between the A12 and Tiptree from 793 to 2017 in the AM peak; and from 1040 to 1866 in the PM peak. Traffic flows are predicted to reduce on Inworth Road north of the new A12 junction, and in Feering.
12. The condition of the B1023 Inworth Road through Inworth is poor: there are limited footways, drainage is poor with standing water frequently occurring, property boundaries are to the edge of the highway in places limiting opportunities to widen the road and provide additional footways, there are vertical and horizontal alignment constraints. Messing-cum Inworth Parish Council have raised concerns about the route in their representations.

Comment:

- As mentioned earlier the traffic increases predicted by HE on the B1023 mostly as a result of diverted traffic from Braxted Park Road are unsustainable therefore these issues will need to be addressed with HE / ECC.
- There may be a requirement for S106 contributions from developers in Tiptree adding traffic to the route.
- ECC work / S106 contributions could involve new footways / improved drainage / improved road condition (there are currently road structure defects).
- Opportunities to provide footway / cycle connections between Highland Nursery and for example Perrywood Nurseries / Inworth can be examined as part of a Transport Assessment associated with a planning application.

13. Traffic generated by the three proposed sites:

Assuming 0.6 per residential unit AM and PM peak; and 0.5 per 100 sqm employment. These would need to be agreed with ECC as part of a pre-application when planning applications come forward.

- **Highland Nursery** – 220 homes = 132 vehicle movements; plus 6,000 sqm employment (assumed 40% developable area of 1.5 Ha) = 30 movements; total = **162 movements**
- **Elms Farm** - 230 homes = **138 vehicle movements**
- **Tower End** - 175 homes = **105 movements**
- **Total 405 vehicle movements in each peak hour.**

14. Based on 2011 travel to work Census data the following approximate distribution is predicted. This would need to be agreed with ECC as part of a pre-application submission. The Gladman scheme on Barbrook Lane assumed a different distribution but it is not known whether their TA took any account of traffic diverting to the B1023 from the Braxted route. It is considered unlikely that it did so as the TA was undertaken in August 2018 (surveys undertaken in 2018) prior to the 2020 HE announcement regarding a new junction 24:

Car trip distribution assumption:

- Tiptree 5% (based on the Census 18.2% of work destinations are less than 2km i.e. within Tiptree. The census indicates 15% walk or cycle therefore 5% of Tiptree residents have been assumed to use a car to drive to / from work in Tiptree)
- Colchester 35%
- Chelmsford 10%
- Braintree 15%
- Maldon 15%
- London 10%
- Other 10%

15. From the above it is predicted that 60% of traffic from the developments will travel to / from the A12 (15% of Colchester traffic has been assumed to travel to/from the A12 and 20% via the B1022). The small number of internal Tiptree car trips (most trips will be walk / cycle trips from the development) will be distributed throughout the local network. Maldon traffic (15%) will travel south on the B1022.

16. Using the trip rates and distributions estimated earlier the **volume of traffic through Inworth on the B1023** from the three developments (Highland Nursery / Elms Farm / Tower End) is **estimated at about 240 vehicle movements in each of the Am and Pm peak periods:**

- Highland Nursery 97 vehicle movements
- Elms Farm 83 vehicle movements
- Tower End 63 vehicle movements

17. HE's figures for traffic through Inworth resulting from the A12 widening and proposed junction 24 in 2042 (and taking account of Local Plan and background traffic growth) are as follows:

- Am peak – 2017
- Pm peak – 1866

HE's 'do minimum' (i.e. no A12 widening scheme) figures are:

- Am peak 793
- Pm peak 1040

Traffic increases through Inworth resulting from the A12 improvement scheme / Local Plan / background growth are therefore:

- Am peak 1224
- Pm peak 826

18. Given that Local Plan and background growth are included in the figures it is assumed that the 240 vehicles from the three developments are included. It is apparent that the 240 vehicles represent 20-30% of the total increase identified by HE. The calculation for the proportion of traffic from all three developments compared to total increase is as follows:

- Am peak $240/1224 = 20\%$
- Pm peak $240/826 = 29\%$

19. As mentioned earlier the development related increases through Inworth will take place with any Tiptree NHP allocation. The bulk of the traffic increases through Inworth and Tiptree are associated with trip diversion from Braxted Park Road and background traffic growth as opposed to Tiptree development itself. As mentioned earlier traffic from Tiptree and villages to the south and east should not be discouraged from using Braxted Park Road to access the A12 widening scheme at Rivenhall when it directly leads to an adverse impact on the amenity of Tiptree village centre and Inworth. It is recommended that this issue is raised with HE / ECC.

20. S106 contributions from developers commensurate with the level of impact of each development could be used to secure improvements to the B1023 through Inworth.

21. A guide to the approximate capacity of Inworth Road can be estimated from TA79/99. Inworth Road varies in width and quality but a 6.1m road width has a capacity of around 1020 vehicles per hour one-way. Based on HE's predicted figure of around 2000 vehicles using the road in 20 years' time suggests the road has some capacity to accommodate additional traffic but the levels of traffic predicted by HE as a result of the A12 widening and new junction 24 are very unlikely to be sustainable. As indicated earlier the B1023 through Inworth has physical constraints that should be examined by HE/ECC further as part of a broader study to ensure it is fit for purpose as traffic flows increase as part of the A12 widening and over the next 20 years.

Potential benefits of the Link Road

22. Using the trip and distribution analysis undertaken above, the impact in numerical terms of traffic from the three developments on key links and the double mini roundabout at the junction of Maypole Road and Kelvedon Road has been estimated as follows:

Road link / junction	No link		With link	
	AM peak	PM peak	AM peak	PM peak
Double mini	200	200	41	41
Kelvedon Road	150	150	8	8
Maypole Road	160	160	28	28
Other Tiptree roads	20	20	20	20

23. The figures in the table show that the link road would substantially reduce the impact of the three new developments on local roads and junctions. The 'no link' situation assumes that measures would be introduced to deter traffic from using Oak Road as a rat-run during the interim period before the link road is constructed. The 20 movements under 'other Tiptree roads' relate to internal car trip within the village itself. These trips would be spread around local Tiptree roads.
24. As a comparator for the figures the approved Gladman development involves around 100 vehicle movements through the double mini roundabout in the peak hours, around 50 vehicles added through Inworth, and around 60 vehicle movements on Church Road.
25. The table below shows proposed traffic flows in 2023 including the Gladman scheme and the committed development / traffic growth at that time (source Gladman TA 2018).

Road link / Junction	AM peak	PM peak
Double mini	2129	2105
Kelvedon Road	908	983
Maypole Road	1226	1060

26. A high-level indication of the impact of the combined three schemes at each location (with and without a link road) based on the tables above (using Gladman 2023 figures) is shown in the table below which indicates significant improvements with the link in place:

Road link / junction	No link		With link	
	AM peak	PM peak	AM peak	PM peak
Double mini	9%	9%	2%	2%
Kelvedon Road	16%	15%	1%	1%
Maypole Road	13%	15%	2%	3%

27. The Gladman TA flows do not include traffic increases associated with the A12 widening / new junction 24 which would require access to the HE/ ECC SATURN model to determine the amount of traffic assigned to the B1023 and B1022 through Tiptree. The HE figures available show that increases through Inworth could involve 800-1200 vehicles (including Local Plan and background traffic growth in 2042 - it is assumed that these increases have included 600 new homes in Tiptree). Many of these vehicles will travel through the double mini roundabout in Tiptree and some of those will travel through Church Road to villages beyond unless HE / ECC review their scheme / the local network and their modelling so as not to deter traffic from using the Braxted Park Road route to access the A12. Notwithstanding the outcome of further representations to HE in this regard, a link road to the north of Tiptree would divert some of this traffic away from the double mini roundabout thereby further increasing the benefit of a link road to other Tiptree local roads and junctions.
28. In line with normal practice a TA will be undertaken at planning stage to assess the impact of development on the local road network with and without the link road and traffic associated with the A12 widening scheme, but it is clear from high-level assessment undertaken in this report that the link road will lead to substantial benefits especially as the double mini roundabout in the village approaching capacity. The Planning application TA will identify any mitigation measures required to accommodate the developments, for example to improve the capacity of junctions with or without the link road and agreement sought with ECC for any necessary S278 works / S106 contributions.
29. Further investigation as part of the planning process for the link road will also include:
- Identifying through traffic surveys the extent of rat-running through Oak Road currently – a survey at each end of Oak Road could be undertaken to establish through movements (after Covid restrictions are lifted). This will enable the interim ‘no link road’ situation whereby traffic currently using Oak Road as a rat-run would divert to Maypole Road and

through the double mini-roundabout. This would need to be factored into the traffic analysis.

- A survey of traffic that travels along Maypole Road to/from Kelvedon/Colchester through double minis would be carried out. That traffic could be diverted from that route by the new link road further relieving pressure on the double mini roundabout.
- Traffic surveys of all key local junctions (post-Covid restrictions) and road links in the study area will need to be undertaken – these will be established as part of pre-application discussions with ECC / HE.
- Maypole Road, Oak Road and connecting roads are used by potentially vulnerable pedestrians accessing schools therefore diverting through traffic onto the link road would represent a safety / environmental benefit.

Sustainability

30. From the Census it has been estimated that the mode of travel for work for Tiptree residents is as follows:

- Car 75%
- Car passenger 4%
- M/C 1%
- Walk 12%
- Bus 3%
- Cycle 3%
- Train 1.5%

31. Walking represents a good proportion of trips in the village. There are therefore opportunities to increase the number of people walking through the provision of improved footways and pedestrian crossings. Similarly, improved cycle routes would encourage an increase in cycling.

32. Bus services in the village to and from surrounding towns are good but opportunities to increase usage especially for trips to Colchester / Maldon and to the rail stations at Kelvedon and Witham for commuters to London / Chelmsford / Ipswich can be explored with ECC and operators at the planning stage. Bus infrastructure improvements for example to bus stops (low floor kerbs / shelters / timetable information) would also encourage greater use of existing services.

33. Travel Plans will form part of the planning application process for both residential and employment proposals. These will be designed to reduce single occupancy car travel by encouraging car sharing / greater use of buses / increase the number of people cycling and walking to shops / local services / schools.

34. The proposed developments are well located for access to schools and leisure facilities.

Conclusions

35. Development to the north of Tiptree avoids traffic increases on Church Road in the centre of the village. An example of a development that impacts Church Road in the centre of the village is the recently approved Gladman development. The Transport Assessment for that scheme on Barbrook Lane leads to traffic on Church Road of around 60 vehicles in each peak hour. Developments to the north of the village will not impact the centre adversely because they are located closer to and more easily accessible to the main routes located on the northern side which lead to the A12 and Colchester, the principal destinations for many trips away from the village.
36. The high-level assessment for the link road associated with Highland Nursery and Elms Farm (traffic data for 2023 has been obtained from the Gladman TA) shows that it will significantly reduce traffic at the double mini roundabout and on Maypole Road (B1022) / Kelvedon Road (B1023), i.e. the key junction and routes in the village providing access to Colchester / the A12 and Maldon. Importantly, there will be no adverse impact on Church Road.
37. The 2020 announcement regarding the A12 – A120 Highways England (HE) scheme incorporating a new junction (24) to the south of Kelvedon raises traffic concerns relating to the impact of additional traffic in Tiptree and Inworth. That scheme is planned for opening in 2027-2028.
38. The HE figures available show that increases through Inworth could involve 800-1200 vehicles (including Local Plan and background traffic growth in 2042). Many of these vehicles will travel through the double mini roundabout in Tiptree and some of those will travel through Church Road to villages beyond. This is of great concern to the Parish Councils especially since HE has indicated that some of the increases result from a diversion of traffic to Inworth and Tiptree from the Braxted Park Road route which connects the south-west of Tiptree to the A12 at Rivenhall.
39. The Tiptree developments considered in this report involve around 240 vehicle movements on the B1023 Tiptree to Inworth Road which represents a small proportion of the 800-1200 HE predicted increase.
40. Inworth Road has some capacity to take additional traffic (with mitigation measures to improve footways / drainage and road condition) but an increase of 800-1200 vehicles is unsustainable.
41. It is recommended that representations are made to HE / ECC encouraging a review of their scheme strategy so that it does not lead to a diversion of traffic from the Braxted Park Road route when this is predicted to lead to serious potential detriment to the B1023 through Inworth and Tiptree.

- 42.** Notwithstanding the outcome of further representations to HE a link road to the north of Tiptree would divert some of this additional traffic away from the double mini roundabout in the village thereby further increasing the benefit of a link road.
- 43.** The appropriate approach to the consideration of the transport impact of the proposed developments and link road will be at planning application stage when a full Transport Assessment will be undertaken. This will involve reviewing the updated modelling undertaken by HE / ECC for the A12 widening / junction 24 and the consequent impacts on traffic flows predicted for Tiptree and Inworth.
- 44.** Following pre-application discussion with ECC/ HE traffic surveys will be undertaken on an agreed study area to include key junctions and links in the village. The HE data and survey data will then be analysed in detail with modelling to further show the transport impact with and without the link road.
- 45.** The traffic impacts will be considered and mitigated where necessary through S278 works for highway improvements (such as the link road and junction improvements) and S106 contributions towards improving pedestrian / cycle / bus infrastructure connected with the schemes. These measures will improve accessibility by all modes and will be supported through Travel Plans designed to increase sustainability.