North Essex Authorities (NEAs)

Section One Shared Strategic Plan

Matter 6: Transport and Other Infrastructure

Further Hearing Statement

December 2019

Matter 6 - Transport and other infrastructure

North Essex Authorities

Issues

Is there sufficient capacity over the provision of necessary infrastructure to demonstrate that the garden community proposal in the Section 1 Plan are deliverable?

Has sufficient evidence been provided to demonstrate the viability and feasibility of the proposed Rapid Transit System [RTS]?

Does the Section 1 Plan make sufficiently clear requirements about the provision, timing and phasing of necessary infrastructure, and are those requirements justified?

Summary

6.0.1 The NEAs have undertaken substantial additional work on infrastructure since the last examination and which is set out in EB/077 Rapid Transit Study for North Essex, EB/080 Modal Share Strategy, EB/087 Infrastructure Order of Costs Estimate and EB/088 Infrastructure Planning, Phasing and Delivery. Work has been undertaken in partnership with a range of key infrastructure providers including the relevant highway authorities and crucially no statutory infrastructure provider has an in principle objection to the Section 1 Local Plan and spatial strategy set out within it.

6.0.2 Significant progress has also been made on the provision of strategic road and public transport infrastructure;

- ECC have confirmed its favoured route of the new A120 and Highways England confirming the robustness of the work done to date
- Highways England have announced their preferred route options between junction 19 and junction 23 of the A12
- Highways England have undertaken a further consultation on route options between junction 23 and 25 to better accommodate the Garden Community at Colchester Braintree Borders
- Highways England have confirmed the programme for the delivery of the A12 widening to be open by 2028
- Successful Housing Infrastructure Fund (HIF) bids have been made to progress rapid transit between Tendring Colchester Borders GC and Colchester town and a link road between the A120 and A133

- Successful HIF bids will deliver a North East Chelmsford bypass and new railway station which will aid strategic circulation in North Essex and in particular for those travelling from/to West of Braintree GC.
- A HIF bid has been submitted for the *realignment of the A12 between Kelvedon and Marks Tey to accommodate the full potential of Colchester Braintree Borders GC, and is being considered by Government*
- A planning application has been submitted for A120 Galleys Corner Millennium Way slips project to address a key pinch point on the current A120 between Braintree and Colchester. Highways England raised no objection to the consultation.

6.0.3 The NEAs have also been working with Network Rail and it is not proposed to move Marks Tey Railway Station from its current position. However significant improvements to the public transport access to the railway station are proposed as part of the internal rapid transit network for the Colchester Braintree borders GC and by active travel modes.

6.0.4 Overall the NEAs are confident that there is sufficient capacity over the provision of necessary infrastructure, that there is clear evidence on the viability and feasibility of the Rapid Transit System and the Plan makes clear the requirements on the provision, timing and phasing of the necessary infrastructure to allow the Garden Communities to come forward as set out in the Local Plan with a clear emphasis on the provision of infrastructure to support the development

Road funding and programming

1. Has funding been secured for the A120 improvement scheme between Braintree and the A12 through the Department for Transport's RIS2 programme?

6.1.1 The Department for Transport published on 29 October 2019 the Draft Road Investment Strategy 2 - Government Objectives in which reference is made to the statement of funds available to Highways England to deliver the objectives set out in RIS2. This funding covers the five year period between 1 April 2020 and 31 March 2025, and is the expected maximum funding available to the company. The funding for RIS2 which is provided through the National Roads Fund, is £25.3 billion. The final RIS2 will define how this funding is split between capital and resource and details of specific schemes to be funded. The final RIS2 is expected by Spring 2020. This is the largest ever investment in England's strategic roads and will enable the government to build on the successes of Roads Investment Strategy 1.

(a) If so:

(i) has a route for the scheme been approved?

6.1a.1 Essex County Council has developed options for the upgrading of the A120 between Braintree and the A12 to a dual carriageway standard. The work has been undertaken in line with Highways England's Project Control Framework approach which it follows on all the major projects identified in the Road Investment Strategy. Highways England is content that due process has been followed with this scheme. The outcome of this work resulted in a non-statutory public consultation in Spring 2017 on five options and further development on the options to identify an Essex County Council favoured option (Option D). As the scheme is not yet in the RIS, there is no formal approval of a specific route.

6.1a.2 Given the amount of detailed work undertaken by ECC and consultation and engagement with local residents, businesses and stakeholders the scheme is considered to be well advanced when compared to other competing schemes. Further work is also being undertaken on costings which could provide a significant benefit to the funding case.

(ii) what is the programme for the scheme and when will it be completed?

6.1a.3 An announcement on the outcome of RIS2 schemes was expected in late 2019 and a programme of communications and lobbying of government Ministers and MHCLG/DfT was programmed leading up to this announcement. Due to the national election this has not been able to take place and there is no confirmed funding announcement date.

6.1a.4 Until the final RIS2 is published it is not possible to define a programme for delivery of the scheme. If the A120 Braintree to A12 upgrade is included in RIS2, the next stage would be the announcement of a Preferred Route Announcement followed by a statutory public consultation with development work leading to the submission of a Development Consent Order. Typically a start of works would commence about three years following a preferred route announcement. This would mean that construction could commence in 2023 and the road be open for use by 2026.

6.1a.5 With regards future timetable, if funding for the delivery of the A120 Braintree to A12 upgrade is included in RIS2, it is likely that Highways England would make a Preferred Route Announcement in 2020. It is anticipated that the Development Consent Order would be submitted 2021/22, that construction could then commence in 2023 and the road would be open for use when the planned A12 Jn 19 to 25 Widening Scheme is complete (currently scheduled for 2026 - 2028).

6.1a.6 If funding for the development (rather than construction) of the A120 Braintree to A12 upgrade is included in RIS2, with delivery in RIS3 (2025-2030), it is still anticipated that the scheme would be open by 2028. The Preferred Route Announcement and Development Consent Order would happen within the RIS2 period, but construction would take place from 2025 to 2028.

6.1a.7 The timing of completion of the road fits in well with the first completion of homes on the GCs, with West of Braintree GC completions starting in 2024 with 300 completions by 2026 and Colchester Braintree Borders GC where housing completions do not begin until 2028.

(b) If not, what are the consequences for the feasibility of the West of Braintree and Colchester Braintree Borders GCs?

6.1b.1 The NEAs have proposed modifications 57 and 58 to policy SP5 within document EB/09 to address strategic road infrastructure issues. These proposed modifications set out which schemes the NEAs, working together with ECC and HE see as essential for the delivery of the Garden Communities within the Plan period and commits the NEAs to review the Local Plan if funding or commitment is not achieved for these schemes. The detailed feasibility for each GC is set out below.

West of Braintree

6.1b.2 It is considered that the new A120 scheme is essential for the delivery of the full WoBGC, however, a number of homes could be delivered in the Plan period, in advance of the new A120. Key development related traffic movements in the Plan period are likely to be to the west (to Stansted and beyond via the M11 to Cambridge and Harlow) and south (to Chelmsford and beyond), with a relatively low proportion of trips to the east (to Braintree and beyond). There are numerous improvements to the strategic infrastructure which are underway in the short term to help facilitate these movements.

6.1b.3 M11/A120 junction improvements and M11 west bound capacity – Following a successful bid in 2017 for the DfT National Productivity Investment Fund, and additional funding from other sources, work has progressed to improve Junction 8 of the M11 and A120 West. The scheme is committed, and will seek to support future plans for housing and employment by improving access between the M11 and A120 with London Stansted Airport; improve capacity on the

M11 Junction 8 exit slips and the A120. Statutory diversions have begun in preparation for full construction phase commencing in early 2020. Construction is expected to take up to two years.

6.1b.4 A120 Eastbound - When travelling east bound from the West of Braintree past Braintree towards Colchester the major pinch point is Galleys Corner roundabout. Funding has been secured for the A120 Millennium Way slips providing £4.95m from the DfT National Productivity Investment Fund for the Local Road Network, with additional funding secured from ECC (£3.5m), Braintree District Council (£2.5m), and Highways England (£3m), which has enabled the scheme to progress.

6.1b.5 The scheme involves the construction of two new slip roads and associated works to provide access between the A120 and the B1018 Millennium Way (providing west facing slips to allow better access and help relieve congestion at this location). The scheme will ease congestion in the short term, thereby helping to improve air quality, support economic growth locally and along the A120 corridor, and assist in the delivery of new housing development in the Braintree area and the wider A120 corridor. This is also expected to provide betterment for roads in Braintree town centre, where traffic currently diverts to avoid Galleys Corner.

6.1b.6 A planning application (CC/BTE/34/19) was submitted to ECC on 24 May 2019 and is currently being assessed. Highways England responded to the consultation in July 2019 raising no objection. The Advance Works for the proposed scheme are expected shortly with the Main Works (construction) expected to follow in Spring 2020 and a total construction period of around 15-18 months. The improvements are therefore expected to be completed at the end of 2022 and therefore will be in place prior to delivery of any homes at West of Braintree GC.

6.1b.7 A131 Southbound – ECC was recently awarded £218m of HIF funding for infrastructure improvements in Chelmsford. As well as providing funding to enable the new Chelmsford Beaulieu Park station to be put in place it has secured funding for the Chelmsford North East Bypass (CNEB) which will complete the dual carriageway road between the A120 at Braintree and the A12 (currently this is dualled at Braintree, but returns to single carriageway before it reaches Chelmsford). The CNEB will complement Highways England's A12 Junction 19 to 25 improvements, included and funded in RIS1. The dualling will relieve traffic on the local roads into Chelmsford City, supported by a park and ride strategy. The CNEB will also provide a wider strategic link between Braintree, Chelmsford, the A12, and south Essex, including the Lower Thames Crossing. Work on the scheme is well advanced and the road is expected to

be in place by 2024 which is before the planned delivery of new homes at West of Braintree GC.

Colchester Braintree Borders

6.1b.8 In recognition of the modifications being proposed to policy SP5 and the NEA commitment to ensure that infrastructure is provided at the same time or in advance of homes on the GCs the numbers of homes to be delivered at Colchester Braintree Borders GC in the Plan period has been reduced from 2,500 to 1,350 and the first date for completion has been amended to 2029. This allows sufficient time for the A120 scheme (even with significant slippage from its current programme) to come forward in advance of the GC.

6.1b.9 The delivery of a new A120 alignment between Braintree and the A12 would help reduce congestion, improve safety and journey time reliability whilst adding capacity and resilience to the strategic road network. The associated detrunking of the existing A120 route following the delivery of the new A120 route would assist in providing capacity at a more local level including the potential for rapid transit provision as well as improved cycling, walking and horse riding facilities.

6.1b.10 It would increase the resilience of the transport network by improving the ability of the A120 corridor to cope with incidents such as collisions, breakdowns, maintenance and flooding. It would improve safety for all road users and road workers within the A120 corridor. It would improve connectivity within communities and to the wider transport network by reducing severance and increasing accessibility for local residents. It would improve the quality and connectivity of transport provision within the A120 corridor for people using non-motorised forms of transport, such as pedestrians, cyclists and horse riders, and encourage alternatives to car travel through improvements to the attractiveness of public transport along the A120 corridor, and in particular developing the existing A120 route as a public transport route. There is a significant opportunity for the incremental implementation of a North Essex Rapid Transit system along the Stane Street Spine from the Garden Community at Tendring Colchester Borders, Essex University, Colchester and the Colchester Braintree Borders GC, and potentially linking up to Braintree and Stansted Airport.

6.1b.11 A downgraded A120 would enable the reconnection of the currently divided Marks Tey village, giving greater priority to sustainable modes of transport and improving the setting, environment and accessibility of the existing Marks Tey railway station. The realignment could also remove the intrusion of heavy traffic and reclaim Stane Street as a local route, supported by environmental improvements of benefit to the existing communities. Further work on

making the best use of the additional road space will be undertaken as part of the DPD and masterplanning work.

2 Does the A120 improvement scheme above include the grade-separated A120 junction which is identified as requiring external funding in the *Additional Sustainability Appraisal* Appendix 4, p45 (*Confirmation of Site Proposals – NEAGC1*)?

6.2.1 The ECC favoured route D runs from Galleys Corner on the edge of Braintree to a new junction with the A12 to the south of Kelvedon (and aligns with proposals put forward in the A12 HIF bid).

6.2.2 EB/087 refers to a contribution to Strategic Highways (including A120 improvement) of £31.2m at West of Braintree (WoB5) and Colchester Braintree Borders (CBB6) of £31.5m). It is important to note that ECC have sought Government funding for the improvement to the A120 irrespective of amounts secured as private sector contributions. This contribution provides an allowance for an element of private sector contribution towards the delivery of the A120 improvement, but recognises that this is a strategic highways improvement not solely related to the Colchester Braintree Borders GC. It is included as an initial working assumption in the absence of detailed costing or agreements being in place. ECC have pursued funding for the improvement from Government with or without such private sector funding but recognise that any related business case would be improved by private sector contributions where these are reasonable and affordable. ECC consider it appropriate in this instance for Colchester Braintree Borders to include this allowance as an initial working assumption. It is also worth noting that West of Braintree also includes a similar working assumption for contributions to strategic highways (of £31.2m), part or all of which could also be considered for the A120 improvement. The working assumption is that all of the Colchester Braintree Borders contribution (£31.5m) and the majority of the West of Braintree contribution would be allocated to the A120.

3 (a) Does the funding that was committed under the DfT's RIS1 programme for the A12 Chelmsford to A120 widening scheme remain committed for the scheme?

6.3a.1 Whilst the outcomes of RIS2 are not known, government is committed is committed to the delivery of the A12 Chelmsford to A12 widening scheme and therefore it can be assumed funding is available and committed for its delivery. The funding will be sufficient to fund widening to three lanes, changes to junctions and amendments to local road networks between Junction 19 (north of Chelmsford) and Junction 25 (A120 interchange). The purpose of the scheme is to address congestion and safety issues by providing additional capacity

along the route, upgrading existing junctions, removing minor accesses and improving access for non-motorised users.

6.3a.2 Between January – March 2017 HE undertook a consultation on the proposals consulting on the following 4 route options:

6.3a.3 Option 1 The online option (widening the existing A12) - Option 1 would follow and widen the existing A12 corridor to three lanes in each direction between junctions 19 and 25. It would require land within the existing highway boundary and could require land immediately next to it, particularly between junctions 22-23 and 24-25. This option is likely to remove all direct access points onto the A12 (not including the main junctions) therefore alternative access arrangements would be needed.

6.3a.4 Option 2 Rivenhall and Marks Tey bypass - Option 2, includes 2 new bypasses, and would widen the existing A12 corridor between junctions 19-22 to three lanes in each direction as with Option 1. At junction 22, it leaves the existing corridor and creates a new 3 lane bypass to the south, running in parallel with the existing A12. At around junction 23, it would re-join the current corridor. The existing A12 corridor between junction 23-24 would widen to 3 lanes in each direction. At junction 24, the road leaves the existing A12 and creates a second 3 lane bypass to the south, running in parallel with the existing A12, re-joining at junction 25. This option is likely to provide the most capacity of all the options and will meet predicted demand. It would require land within the existing highway boundary and could require land immediately next to it. It would also require significant land in the locations of the 2 proposed new bypasses.

6.3a.5 As with Option 1, where the route widens the existing corridor, any current direct access onto the A12 (not including the main junctions) is likely to be removed. Alternative access arrangements would be needed.

6.3a.6 Option 3 Rivenhall bypass - This option is a variation of Option 2 and includes 1 new bypass. Option 3 would widen the existing A12 corridor between junctions 19-22 to three lanes in each direction as with Option 1 and 2. At junction 22, it leaves the existing corridor and creates a new 3 lane bypass to the south running in parallel with the existing A12 until junction 23 where it would re-join the current corridor. It then follows the existing A12 corridor between junction 23-25 which would widen to three lanes in each direction. This option is likely to provide more capacity on the road network than Option 1 but less than Option 2. It will provide similar capacity to Option 4 and will meet predicted demand. It would require land within the existing highway boundary and could require land immediately next to it. It would also require land in

the location of the proposed new bypass. Where the route follows the existing corridor, any existing direct access onto the A12 (not including the main junctions) is likely to be removed. Alternative access arrangements would need to be provided.

6.3a.7 Option 4 Marks Tey bypass - This option is a variation of Option 2 and includes 1 new bypass. Option 4 would widen the existing A12 corridor between junctions 19-24 to three lanes in each direction as with Option 1. At junction 24 it leaves the existing corridor and creates a new 3 lane bypass to the south, running in parallel with the existing A12 until junction 25 where it would re-join the current corridor. This option is likely to provide more capacity on the road network than Option 1 but less than Option 2. It provides similar capacity to Option 3 and will meet predicted demand. It would require land within the existing highway boundary and could require land immediately next to it. It would also require land in the location of the proposed new bypass. Where the route follows the existing corridor, any current direct access onto the A12 (not including main junctions) could be removed. Alternative access arrangements would need to be provided.

6.3a.8 Details of the consultation can be found on the Highways England website at the following link;

https://highwaysengland.citizenspace.com/he/a12-chelmsford-to-a120-widening-scheme/supporting_documents/S160570%20A12%20Chelmsford%20to%20A120_Consultation%20bookletlow%20maps.pdf

(b) If so would the full costs of each of the route options shown in the Highways England consultation (January – March 2017) be covered by the committed funding?

6.3b.1 The route options in the Highways England consultation in 2017 are outlined in 3 (a) are fully funded by the RIS1 allocation.

6.3b.2 In October 2019 Highways England made two announcements on the A12 widening scheme. The first was a preferred route announcement of the proposals between junction 19 and junction 23. These proposals include;

- junction 19 will be subject to further design review
- junctions 20a and 20b will be removed
- bridges across the existing A12 at Hatfield Peverel will be modified to accommodate the widening of the A12

- a new junction 21 will be constructed and become an ‘all movements’ junction serving traffic from all directions
- a new junction 22 will be constructed and become an ‘all movements’ junction serving traffic from all directions
- HE is considering whether junction 23 could be removed, but with new access roads provided from Kelvedon to junction 22.

6.3b.3 Passive provision could be made for a potential future link to the A120 improvement proposed by Essex County Council, should it be funded through a future Road Investment Strategy.

6.3b.4 The second announcement and consultation undertaken by Highways England in October 2019 was to consider four additional route options between junctions 23 and 25, in the event that a proposed garden community development near Marks Tey goes ahead.

6.3b.5 The proposed Colchester Braintree Borders GC goes ahead, one of the options in the consultation is likely to form part of the A12 Chelmsford to A120 widening project. If the proposed Colchester Braintree Borders GC does not go ahead, the route between junctions 23 and 25 will be based on the 2017 consultation.

6.3b.6 The following four options are subject to consultation until 1st December 2019;

6.3b.7 Option A provides three lanes in each direction along the route of the current A12 from junction 23 to 24, and three lanes in each direction from junctions 24 and 25 to the south of the current A12. A fourth lane in each direction between junctions 23 (Kelvedon South) and 24 (Kelvedon North) may be required. It leaves the A12 just before junction 24 and creates a new junction. The current junction 24 will be upgraded to serve the local roads. This option would cross the avenue of Prested Hall and continue towards junction 25. At its furthest point, it would be around 1.15km south of the existing A12. Before the existing junction 25, it would re-join the current A12. A new junction 25 would be constructed to the south-west of its current position. The current junction 25 would be upgraded to serve local roads.

6.3b.8 Option B provides three lanes in each direction along the route of the current A12 from junction 23 to 24, and three lanes in each direction between junctions 24 and 25 to the south of the current A12. A fourth lane in each direction between junctions 23 (Kelvedon South) and 24 (Kelvedon North) may be required. It leaves the A12 just before junction 24, creating a new junction to the south. The current junction 24 would be improved to serve the local roads. This

option would cross the avenue of Prested Hall and continue towards junction 25. At its furthest point, it would be around 1.15km south of the existing A12. There would be a new junction at around 800 metres to the south of the existing junction 25. The route would then continue towards the existing A12, where it would re-join the existing road after passing under London Road (B1408). The current junction 25 would be upgraded to serve local roads.

6.3b.9 Option C provides three lanes in each direction along the route of the current A12 from junction 23 to 24, and three lanes in each direction between junctions 24 and 25 to the south of the current A12. A fourth lane in each direction between junctions 23 (Kelvedon South) and 24 (Kelvedon North) may be required. There would be a new junction 24 where the current A12 crosses Inworth Road. The current junction 24 would be upgraded to serve the local roads. At this stage of design, the new junction 24 could be to the east or to the west of Inworth Road, but with suitable connections to the road. The route would pass to the south of Prested Hall and continue towards junction 25. At its furthest point it would be around 1.15km south of the existing A12. It would re-join the current A12 at a new junction to the south-west of the current junction 25. The existing junction would be retained and upgraded to serve the local roads.

6.3b.10 Option D provides three lanes in each direction along the route of the current A12 from junction 23 to 24, and three lanes in each direction between junctions 24 and 25 to the south of the current A12. A fourth lane in each direction between junctions 23 (Kelvedon South) and 24 (Kelvedon North) may be required. There would be a new junction 24 where the current A12 crosses Inworth Road. The current junction 24 would be upgraded to serve the local roads. At this stage of design, the new junction 24 could be to the east or to the west of Inworth Road, but with suitable connections to the road. The route would pass to the south of Prested Hall and continue towards junction 25. At its furthest point it will be around 1.15km south of the existing A12. There would be a new junction situated around 800 metres to the south of the existing junction 25. The route would then continue towards the existing A12, where it will re-join the existing road after passing under London Road (B1408). The current junction 25 would be retained and upgraded to serve the local roads.

6.3b.11 These four amended options are not currently funded through the RIS1 allocation and are subject to an ongoing HIF bid. If the HIF bid is successful it would fund the southern realignment between junctions 23 – 25, and facilitate the delivery of the Colchester Braintree Borders GC, including a direct connection at Junction 25.

6.3b.12 The A12 widening is to be progressed as a Nationally Significant Infrastructure Project under the Planning Act 2008 via a Development Consent Order. The DCO will be made on the full

route, from junctions 19 to 25. HE intend to submit their application in 2021 and if approved, start construction in 2023, with the route open for traffic during 2028. The full timetable is set out below;

- Ongoing Stakeholder engagement
- Ongoing Technical work
- Preferred route announcement, junctions 19 – 23 in October 2019
- Public consultation for junctions 23 – 25 in October – December 2019
- Preferred route announcement, junctions 23 – 25 in 2020
- Public consultation for junctions 19 – 25 (the whole route) in 2020
- Application for Development Consent Order, junctions 19 – 25 in 2021
- Development Consent Order secured for junctions 19 to 25 in 2023
- Start of works, junctions 19 – 25 in 2023/2024
- Open for traffic, junctions 19 – 25 in 2027/2028

(c) Is the proposed alignment of the A12 between Feering and Marks Tey in route options 2 and 4 of the Highways England consultation (January – March 2017) [EXD/066] the same as the alignment shown in Figure 15 of the AECOM *Infrastructure Planning, Phasing and Delivery* [IPPD] document [EB/088]?

6.3c.1 Indicative alignments set out in the AECOM Infrastructure Planning, Phasing and Delivery Report (EB/088) are broadly similar to the route options which have been considered in the consultation undertaken by HE.

6.3c.2 However it should be noted that the AECOM report and Concept frameworks were based on broad indicative routes which would be subject to detailed planning in consultation with the highway authorities and taken forward as part of the DPD and masterplanning process.

4 (a) Is there still a possibility that funding will be secured through the Housing Investment Fund [HIF] for a more southerly realignment of the A12 in the Marks Tey area?

6.4a.1 ECC supported by the NEA's, NEGC and others submitted a HIF bid for a more southerly alignment of the A12 between junctions 23 and 25, together with a new junction to serve the development and an increase of 4 lanes to a section of the A12 between junctions 23 and 24. It should be clearly highlighted that contrary to the implication of several of the responses

to the NEAs summer 2019 consultation that this bid has not been rejected and the government is still actively considering the bid. The timetable for the outcome of the bidding process is not known as it has been affected by the current national government pre-election period. Nevertheless it should be worth noting that HE gained approval from government to undertake a further non statutory consultation at considerable time and expense on four revised options between junctions 23 and 25 (as set out in the response to question 3b) which should provide some comfort to the Inspector as to how seriously the bid is being taken. This consultation will allow HE to continue to deliver the whole A12 scheme between junction 19 and 25 within the timescales set out in question 3b.

6.4a.2 The authorities continue to be in regular contact with HE and the DfT and will immediately advise the Inspector if further updates on the announcement timetable are made.

6.4a.3 If the HIF bid is not successful then the route between junctions 23 and 25 will be based on the HE 2017 consultation. Although this would result in fewer homes being delivered it would not affect the viability of deliverability of the Colchester Braintree Borders GC.

(b) If so,
(i) what is the proposed alignment for which HIF funding is sought?
(ii) when will a decision on the HIF bid be made, and what would be the likely timescale for completion of the realignment scheme?

6.4b.1 The HIF bid has been submitted on the basis of the following vision -

https://www.essexhighways.org/uploads/docs/a12-vision_v7.pdf

6.4b.2 As can be seen from the note on page 4 of the vision;

"The exact location of the realigned A12 has not been finalised. Alternative alignments are being considered by Highways England".

However if you compare the indicative map included within the bid to the consultation undertaken by Highways England in October and November 2019 you will see that they broadly accord with options A and C. ECC, HE and the NEAs will continue to work together to consider and plan for the most appropriate route which will be determined and be able to be considered in detail through the DPD and masterplanning process.

6.4b.3 There is no timescale for the announcement of the outcomes of the HIF bid. The bids are being announced in phases and there is no published timetable for the determination of the

remaining bids. Announcements are also likely to have been affected by national government pre – election period. Once a new government is in place the NEAs and ECC will seek to gain an urgent understanding of the timescales for decision making and communicate these to the Inspector.

6.4b.4 If the HIF bid is successful the works will be carried out in accordance with the timetable set out in detail in the response to question 3b. By carrying out the additional consultation now this means there is no subsequent delay to the programme.

5 Funding has been secured through the HIF for a A120-A133 link road to the east of Colchester.

(a) Would the full costs of each of the route options shown in the Essex County Council consultation (Nov-Dec 2019) [EXD/066] be covered by the HIF funding?

6.5a.1 In August 2019 it was announced that the A120/A133 Link Road and Rapid Transit System (RTS) scheme had been successful in securing £99.9m funding through the HIF. The A120/A133 Link Road and Rapid Transit System is on public consultation until 16th December 2019. The consultation is seeking views on four route options for the Link Road, namely 1A, 1C and 1D, and 3. The HIF Bid sought monies for the Link Road, which has been estimated at £65m, and this will be fully funded by the HIF grant. The Bid also included an allocation of £35m for the first stages of the North Essex Rapid Transit System.

6.5a.2 EB/086 states that the infrastructure items that are assumed to be paid for by Government grant at Tendring Colchester Borders includes `Transport (TCB1): A120-A133 Link Rd', with an estimated cost of £41m.

6.5a.3 All options which are being considered in the current consultation are fully funded through the HIF award amount.

(b) (i) Are any other highway improvements needed to cater for the traffic generated by the Tendring Colchester Borders GC?

Other highway improvements, which are not included within the HIF Bid (A120/A133 Link Road and RTS) are identified in EB/087 and EB/088, and can be summarised as:

- A133 Boulevard improvements and site access points (£5m);

- Wider highway improvements, including improvements to Greenstead roundabout and A133 Hare Green roundabout (£3m);
- New active modes connections (eg greenways and improvements to Salary Brook trail) (£5m);
- Travel Plan measures (£3.7m); and
- Investment in early phase bus/transit services (£3.7m)

(ii) If so how will they be funded?

These will be provided by developer contributions from the garden communities, and have been factored into the viability assessment of Colchester Braintree Borders Garden Community.

6 What are the consequences of the answers to 3 (a), (b) & (c) for the feasibility of the West of Braintree and Colchester Braintree Borders GCs?

6.6.1 The responses set out to question 3 confirm that there are firm plans in place and currently being worked up in the required detail to deliver the A12 widening scheme between Junction 19 and Junction 25. . The current programme published by Highways England confirms that the road will be fully completed and open to traffic by 2027/2028 (although parts of the route are likely to be completed and open prior to this date). The improvements to this road will provide a substantial betterment to the strategic highway network in North Essex and are likely to provide a subsequent improvement to the local network where traffic is currently rerouting to avoid delays.

6.6.2 The full road scheme will be completed prior to the first housing completions at CBBGC and whilst we do not believe the WOBGC is reliant on these improvements within the Plan period, only 900 homes would be completed prior to the completed A12 being in place.

7 What are the consequences of the answers to 4 (a) & (b) for the feasibility of the Colchester Braintree Borders GC?

6.7.1 Expansion of the A12 to three lanes between junctions 19 and 25 is a fully funded RIS1 scheme with a commitment to completion by Highways England by 2028. As shown by the recent announcements and consultation work taking the scheme forward is already well underway. A HIF bid submitted by ECC is currently being considered and additional consultation has been completed to ensure that if successful the scheme can still complete

within the same overall scheme timetable. The opening of the road either along its current or proposed more southerly alignment will allow a Garden Community to be built in this area within the parameters of policy SP9 of the NEAs Local Plan. The revision to the delivery timetable of the Garden Community with first completions on site due in 2028 corresponds with this date and ensures that infrastructure and homes are delivered alongside each other as per the commitments in the Local Plan and the ethos of Garden City Principles.

8 What are the consequences of the answers to 5 (a) & (b) for the feasibility of the Tendring Colchester Borders GC?

6.8.1 The award of £99.9m through the successful HIF bid to support the delivery of the rapid transit system between Tendring Colchester Borders Garden Community and Colchester town and the delivery of a link road between the A120 and the A133 provides a positive indicator as to the feasibility of the Tendring Colchester Borders GC. Consultation on both the route options for the rapid transit route and link road are already underway which show how quickly the scheme is advancing and the delivery of the scheme will be in line with the first housing completions on the site in 2024.

Other Infrastructure and phasing

9 Item 5.1 in section 3 of the Gleeds *Infrastructure Order of Costs Estimate* [EB/087] is described as *132kv connection on Primary Substation from Colchester Grid Substation* and is estimated at £9.2M. Does that estimate include the cost of the primary sub-station itself, or just the connection to it?

6.9.1 The £9.2M cost includes the cost of a primary sub- station and the connection to it.

10. Do the Integrated Water Management Strategy [EB/015] and the AECOM IPPD document [EB/088] provide sufficient certainty that adequate provision can be made for water supply and waste water treatment for the proposed GCs?

6.10.1 The Statement of Common Ground with Anglian Water states, there are policy safeguards in the Local Plan to work with relevant providers to ensure that there is sufficient capacity in the water supply and waste water system to accommodate the scale and timing of new development. The Stage 1 Integrated Water Management Strategy (IWMS) was prepared to identify sustainable solutions for water supply, waste water treatments and flood risk management for the proposed garden communities. Stage 1 of the IWMS (EB/015)

identified feasible and deliverable strategic options for water supply and wastewater treatment that could be delivered to serve the proposed growth. These options will be further explored in stage 2 of the IWMS. Stage 2 will assess each of the garden communities in more detail, and identify and determine site specific water management measures which can serve to minimise demand for water and set out how surface water and flood risk can be managed on site in an integrated way. The AECOM work (EB/088) highlights the specific water supply and waste water issues for each Garden Community that will be addressed through subsequent stages of the masterplanning and development process.

6.10.2 It is important to note that water supply and sewerage companies have a statutory obligation to ensure that sufficient capacity is made available for sites with the benefit of planning permission supply water and provide wastewater services. Any investment which is required for water supply infrastructure identified in Water Resource Management Plans or at existing Water Recycling Centres is funded from customer bills as part of water/sewerage companies' business planning process, as such developer charges are not sought by these companies for this purpose. Developers apply directly to the sewerage or water undertaker to connect to the network in accordance with the provisions of the Water Industry Act 1991 rather than as part of a planning application to the relevant NEAs. Water/sewerage companies seeks contributions through charges directly from developers under the provisions of the Water Industry Act 1991 for the required connections to supply water and/or drain a site.

11 Is the approach to the phasing of infrastructure provision at the GCs, set out in the AECOM IPPD document, justified and appropriate?

6.11.1 Yes the approach is justified and provides an appropriate approach at this stage of planning the GC's. The work has been undertaken in consultation with a range of statutory infrastructure providers including the highways authorities, the health authorities and education authorities.

6.11.2 Further work to refine the phasing will be undertaken as part of the DPD and masterplanning progress.

12 Would an alternative approach to phasing be preferable, such as that set out in the *Infrastructure Delivery Plan* by Create, submitted with the response to EB/088 from Carter Jonas on behalf of L&Q, Cirrus Land and G120?

6.12.1 No. The NEA's believe that the Local Plan section 1 as amended by the proposed modifications provides the best approach to phasing the GC's.

13 (a) Are the section 1 Plan's policies sufficiently clear about what infrastructure needs to be provided, and by when?

6.13a.1 The NEA's have considered the views of the Inspector set out in the IED/011 in June 2018 and the evidence around infrastructure, phasing and delivery has been developed. The latest most relevant evidence includes EB/088 Infrastructure Planning, Phasing and Delivery. The proposed modifications introduce a new paragraph to Policy SP5 (EB/091 ref 58) which clearly sets out that funding and route commitments for strategic infrastructure projects will need to be secured in advance of the start of relevant Garden Communities. Other infrastructure, including rapid transit, will be secured in a timely manner and programmed to keep pace with the growth of new communities. Policies SP8, 9 and 10 also provide further details. This provides sufficient clarity on what infrastructure needs are to be provided for the GC's at this stage in their strategic planning.

(b) Should the Plan's policies require funding for key infrastructure to be committed before planning permission is granted for any of the GCs?

6.13b.1 As set out in the response to 13(a) the NEA's consider that the amendments to policy SP5 provide an appropriate level of clarity on infrastructure requirements at this stage in their strategic planning.

(c) Should the Plan's policies link the phased provision of infrastructure to defined trigger points in the phasing of development at the GCs?

6.13c.1 The Local Plan provides an appropriate level of detail of phasing at this strategic stage of planning. Further defined trigger points for infrastructure may be appropriate to be applied at the DPD, planning application or Local Development Order stage. This approach is considered to provide an appropriate balance between certainty and flexibility, which is required in any scheme, especially one of the scale proposed for the garden communities.

Rapid Transit System for North Essex

14 Are the capital costs for the proposed RTS set out in section 5.1 of the Vision to Plan document [EB/079] realistic?

6.14.1 In the responses provided on the RTS report, there has been a number of questions on the realism of the capital costs. For example, questions by Lightwood and CAUSE/O'Connell drawing on Walker Engineering's assessment.

6.14.2 Although considerably less expensive than rail and LRT schemes, bus rapid transit systems have a range of capital costs depending on the extent of segregation, new routes and land that needs to be acquired. If entirely new dedicated RTS infrastructure were to be created along the length of the public highway then the capital costs would be expected to be two to three times more. This could reflect sections of Fastrack as referred to by Walker Engineering.

6.14.3 However, as shown in the plans, the North Essex RTS uses a combination of priority measures and sharing of road space with existing traffic as well as new segregated lanes. Most relevantly, where segregated infrastructure is being provided, these new lanes are often on garden communities or utilising existing road infrastructure, such as an option using the existing A120 alignment. The costs of creating such a mixed network would be expected to be substantially less than creating entirely new dedicated RTS in urban settings.

6.14.4 The schemes in Bristol and Salford reflect the mix of interventions that will be found along the length of the proposed North Essex RTS. Hence the benchmark costs used are considered appropriate and realistic. The out-turn costs for Bristol are £230m for a 50km network, and for Salford £122m for a 22km network. Since the North Essex RTS network is long, there would also be benefits of economies of scale. (For comparison, Phase One of Fastrack created 15km of network for £19m as reported in the Contract Journal April 2006 – whilst construction inflation should be considered this does illustrate a similar order of costs.)

6.14.5 Within the cost estimates there have been specific questions on inclusion of structures, land acquisition and use of contingency and optimism bias:

- Specific structures are not explicitly costed, but the per-km benchmark costs of other schemes include such structures. These items will be costed during detailed engineering feasibility works.
- On land acquisition, large tracts of land on GCs are not costed but are part of the residual land value calculations that are generated by the Viability Assessment Update (EB/086). The aim for RTS is to deliver the majority of the rest of the route

within the bounds of the public highway. There will be some exceptions, however, these are anticipated in the benchmark scheme costs.

- The upper bound estimates of the costs in Table 5.1 of EB/079 include an optimism bias at 44% whilst the lower bound estimates do not. The cost of the three transit hubs / park and ride sites at £6m each, however, have not been adjusted for optimism bias in the report (i.e. they are consistent in both the upper and lower bounds). The lower bound costs have been included in the Viability Assessment Update (VAU), to which contingency scenario add 10%, 20% and 40%. Hence the 40% contingency scenario effectively represents the upper bound of the costs shown in Table 5.1.

15 Have sources for all the necessary capital funding for the RTS been identified?

6.15.1 For convenience, the costs shown in the series of tables in Section 5 of EB/079 have been brought together in a single table shown overleaf. This helps to identify the assumptions underpinning expectations on capital requirements.

6.15.2 The full capital cost of Routes 2, 3 and 4 of the RTS is included in the VAU. However, the actual cost requirement is overstated. This is because it does not consider the potential contributions from Easton Park Garden Community development of up to £25m to fund the RTS/BRT infrastructure between Stansted Airport and Great Dunmow, including land acquisition, as set out in the Uttlesford District Council submitted Local Plan Infrastructure Delivery Plan. This expected contribution was confirmed by LandSec at the Uttlesford Local Plan EiP in July 2019.

6.15.3 Meanwhile on Route 1, capital costs draw on the package of funding identified in the HIF bid. This comprises the HIF grant of approximately, £33m, a secured S106 contribution of £2m towards the Northern Approach Rapid Transit and a £10m contribution from the Tendring Colchester Borders GC development.

6.15.4 Working on the lower bound costs, the HIF related package of funding of £45m will cover estimated costs to 2033 on Route 1 including the £6m cost of the Park and Ride site (being called a Park and Choose site) and leave a £10m contribution to costs post 2033. This would leave approximately £13m to be found from other sources. However, if risks materialise than costs could rise to the upper bound of costs, which include optimism bias.

6.15.5 ECC are currently evolving more detailed assessment as to how far the HIF bid can cover the costs of both the Link Road and provision of RTS. Should any gap continue to exist this could either be addressed by the application of recovery and recycling mechanism (as per the response to Question 8(c)), a future strategic infrastructure tariff (or equivalent), planning contributions from other developments across Colchester, or the future award of additional grant funding. It should also be noted that costs have been overstated for Route 3 so there would be expected to be some headway in the overall programme.

6.15.6 Accordingly, the capital cost based on the phasing strategy is within reach of investment that can be expected from developments and hence RTS is financially viable in relation to capital investments.

6.15.7 Even though sources for capital costs before 2033 have been identified, it should be noted that ECC will be taking opportunities to draw in further external funding. This is because RTS is a key piece of transport infrastructure which contributes to wider transportation objectives for sustainable travel, health and well-being. For longer-term links that are not essential for the GCs, capital bids will be made to government. Recent research by KPMG shows strong cost benefit ratios of BRT schemes in the UK. This is further illustrated by the successful Tendring/Colchester borders GC HIF bid which shares similar benefits.

6.15.8 It is also likely that a DfT/MHCLG major scheme funding bid focused on the whole RTS route would be developed in order to forward fund early stages of delivery of RTS infrastructure after the Local Plan allocations have been examined and once the Plan is made. As an example, Bristol's 31 mile Metrobus network (three cross-city routes) has to-date received around £113m in DfT funding, which has worked out at about 50% of the total out-turn cost to construct and deliver the route, associated highway schemes, and all the off-bus ticketing, real time information and new/upgraded upgraded stops and Park & Ride sites along the network. As is the intention in North Essex, this is delivering housing and employment growth around and within existing settlements.

6.15.9 The fact that there is still a desire to bring in external funding should not be interpreted as an indication that the costs are not proportionate to what can be afforded by the garden communities. Rather, it reflects that the scheme is a keystone which can be added to in order to meet wider objectives and support sustainable travel beyond the needs of the garden communities.

Time period	Total route, including on-NEGC, off-NEGC and Uttlesford components					On garden communities					Off garden communities within NEA areas					In Uttlesford				
	Route 1	Route 2	Route 3	Route 4	Transit hubs	Route 1	Route 2	Route 3	Route 4	Transit hubs	Route 1	Route 2	Route 3	Route 4	Transit hubs	Route 1	Route 2	Route 3	Route 4	Transit hubs
	TCBGC	CBBGC	WoBGC			TCBGC	CBBGC	WoBGC			TCBGC	CBBGC	WoBGC			TCBGC	CBBGC	WoBGC		
Total costs by route (£ million) - upper bound (44% optimism bias)																				
2022-2028	17.9	0.0	45.6	0.0		3.1	0.0	11.9	0.0		14.8	0.0	33.7	-20.1		0.0	0.0	20.1	0.0	
2029-2033	19.5	27.8	28.4	0.0	18.2	3.1	12.2	12.4	0.0	18.2	16.4	15.6	16.0	-16.0		0.0	0.0	16.0	0.0	
2033-2051	33.1	56.9	42.7	53.3		9.3	25.9	0.0	0.0		23.8	31.0	42.7	34.9		0.0	0.0	18.4	0.0	
Total	70.5	84.7	116.7	53.3	18.2	15.5	38.1	24.3	0.0	18.2	55.0	46.6	92.4	-1.2	0.0	0.0	0.0	54.5	0.0	0.0
Total costs by route (£ million) - lower bound (no optimism bias)																				
2022-2028	12.4	0.0	31.7	0.0		2.1	0.0	8.3	0.0		10.3	0.0	23.4	-17.4		0.0	0.0	17.4	0.0	
2029-2033	13.4	19.2	19.7	0.0	18.2	2.1	8.4	8.6	0.0	18.2	11.3	10.8	11.1	-34.4		0.0	0.0	34.4	0.0	
2033-2051	22.9	39.6	29.7	37.0		6.4	18.0	0.0	0.0		16.5	21.6	29.7	18.6		0.0	0.0	18.4	0.0	
Total	48.7	58.8	81.1	37.0	18.2	10.6	26.4	16.9	0.0	18.2	38.1	32.4	64.2	-33.2	0.0	0.0	0.0	70.2	0.0	0.0
Total costs by route (£ million) - midpoint																				
2022-2028	15.1	0.0	38.7	0.0		2.6	0.0	10.1	0.0		12.5	0.0	28.6	-18.8		0.0	0.0	18.8	0.0	
2029-2033	16.5	23.5	24.1	0.0	18.2	2.6	10.3	10.5	0.0	18.2	13.9	13.2	13.6	-25.2		0.0	0.0	25.2	0.0	
2033-2051	28.0	48.3	36.2	45.2		7.9	22.0	0.0	0.0		20.2	26.3	36.2	26.8		0.0	0.0	18.4	0.0	
Total	59.6	71.8	98.9	45.2	18.2	13.1	32.3	20.6	0.0	18.2	46.5	39.5	78.3	-17.2	0.0	0.0	0.0	62.4	0.0	0.0

16 Do sections 5.2, 5.3 and 5.4 of the Vision to Plan document provide reliable estimates of revenue, operating costs and commercial viability for the RTS?

The current modelling approach

6.16.1 Appendix A of EB/079 summaries the transport modelling approach. The transport model is referred to as a multi-modal Emme model. It is called multi-modal because it handles trips on both the highway and public transport networks. As explained in the appendix there are a number of components in the model, which have been calibrated to local conditions:

- A gravity model alters the number of trips going to and from the garden communities. This is because as the garden communities grow they are more likely to become important local destinations.
- A mode choice model decides which trips will be assigned to the highway network to be undertaken by car and which trips will be assigned to public transport network to be undertaken by RTS, local bus or train. This allows for more trips to be assigned to the public transport network if public transport journey times improve, which is the case with RTS.
- A highway assignment model assigns identified trips to the highway network, which takes into account congestion effects in route choice.
- A public transport assignment model assigns identified trips to the public transport network.

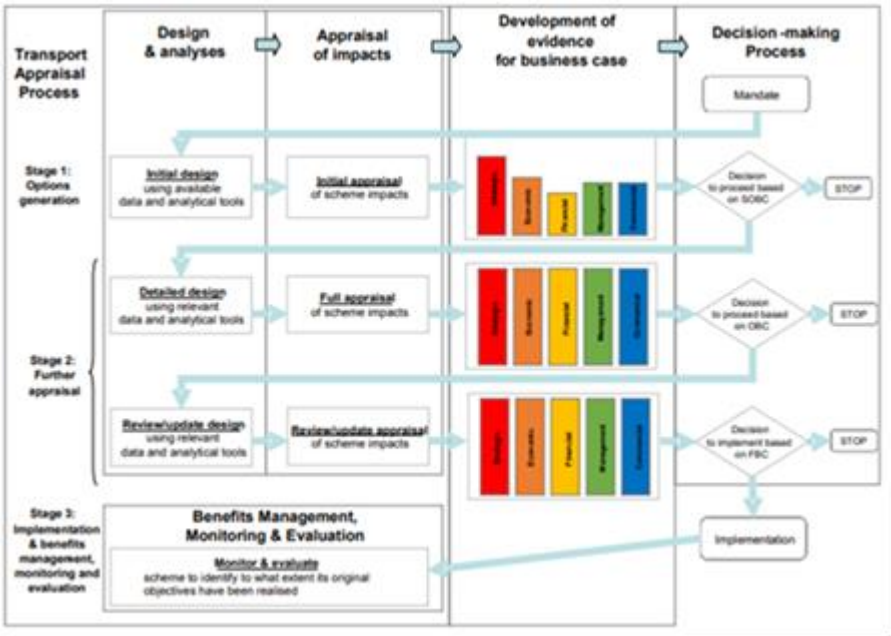
General observation

6.16.2 In responding to this question it is necessary to have regard to expectations of appropriate content at the strategic stage of scheme development and what is a proportionate transport modelling approach at this stage.

6.16.3 Hence, before considering the reasonableness and credibility of estimates, it is appropriate to consider the stages of scheme development and what is expected when. The Transport Analysis Guidance of the Senior Responsible Officer (para 1.2.4, DfT, May 2018) states: "The cost benefit analysis approach requires a wide range of impacts to be analysed for each option being considered. However, in this early stage, it would be disproportionately burdensome to conduct full analyses of impacts of each option when only a few options will be select for further appraisal (stage 2). Instead, it is recommended that proportionate efforts are applied using readily available data, supported by appropriate levels of stakeholder and public engagement. Whilst the use of transport models to extract evidence at this stage

would be desirable, it is not generally required for promoters to build a transport model at this stage.

6.16.4 There is also a useful diagram provided illustrating the business case stages. Whilst local authorities need not follow the same stages, in practice they tend to be followed as the stages are based on Treasury best practice and thus followed to demonstrate value for money.



6.16.5 In this context, it is not appropriate to compare the scale of modelling that will have been available for a later stage of a scheme on the edge of London (such as Fastrack) with the modelling in place at the strategic planning stage across North Essex, with lower density and rural areas.

6.16.6 Here a strategic analysis, has been carried out using data and tools proportionate to the current stage of the scheme. This proportionality has necessarily made approximations and assumptions, such as developing only an AM peak model. Furthermore, our approach for Colchester has been subject to extensive review as part of the HIF application process, and consideration was given to both the realism of assumptions and sensitivity tests.

6.16.7 As we move to Stage 2 and detailed design the transport modelling would be enhanced. This is to enable refinement and management of risk. Progress on this work can be seen in Colchester with the development of an AM, interpeak and PM multi-modal traffic model alongside a suite of micro-simulation models. The public transport component of new

transport model will be based on the public transport component of the Emme transport used in Stage 1. That continued use of the Emme model reflects a reasonable level of confidence in the modelling approach taken in Stage 1.

6.16.8 For information, the current Emme model has highway and public transport components, so it was a convenient transport software package to use for Stage 1 assessments. For Stage 2 assessment, the highway component will be transferred to Visum to make use of the latest Essex Countywide transport model, which was not available until this year. The public transport component will stay in Emme but there will be a recalibration based on more recent data collection.

Clarification on the modelling approach

6.16.9 On reading the responses, a number of questions have been raised which seem to arise from doubt on the assumptions that have been made in the transport modelling and whether this has introduced bias.

6.16.10 The transport modelling has used standard techniques to estimate usage of the RTS.

6.16.11 The transport model includes a modal choice model, calibrated to existing behaviour in North Essex. This has been used to provide the lower 'mode share' estimates, which inform and have been reported in the Mode Share report. The mode share model transfers trips between the highway and public transport components of the Emme transport model. Hence the mode share assumptions within EB/079 are based on existing travel behaviour in North Essex, rather than the ambitious mode share targets set out in EB/080 that are predicated on provision of the range of transport improvements and master planning principles proposed in that document. The mode share estimates in EB/079 can therefore be considered robust, 'low end' estimates that paint a conservative picture of likely demand.

6.16.12 It should also be noted that the trip estimates from the model are likely to under estimate demand for a number of additional reasons. Trip projections used in the model do not account for all trips, especially hyper-local trips, such as a trip to a local neighbourhood shop, and non-standard activities such as tourism. In addition, the model does not account for growth in student trips to the University nor any change to visitor trips. In addition, growth projections do not reflect changes in travel trends – most clearly seen in larger metropolises but starting to appear in other towns. Nor too does the model account for park and ride potential or trip chaining where people increasingly use combination of modes during daily activities.

6.16.13 Hence, any criticism of over-estimation must be balanced against under-estimation. As a result it is reasonable to consider the estimates of usage to be robust.

6.16.14 The operating costs are based on what are considered to be believable projections and reasonable assumptions. It should be noted that the advice of Go Ahead was sought on the assumptions used hence operator experience has been incorporated. Assumptions have always erred on the side of caution, though, taking higher costs ranges, where applicable. For example, the vehicle cost could be as low as £160,000 pa but the report uses £225,000 pa to reflect the aspiration for utilising latest technologies and standards. Likewise, a substantial amount has been included for maintenance significantly above the any amounts expected for standard road maintenance.

6.16.15 By way of illustration, Route 1 of RTS estimates an annual maintenance cost, which has been factored into assessments, of £415,000 pa for 15km of route (approximately £28,000 per km per year). Meanwhile the lifetime costs of maintaining the link road are estimated at £750,000 for 2.5km (that is £5,000 per km per year).

6.16.16 Similarly, for revenue estimates lower estimates have been used in Section 5.5, which exclude government subsidy. Go Ahead advised, however, that commercial assessment that operators carry out would include government subsidy. We show this potential profitability in Section 5.4.2. In 2033, in the higher investment scenario (which attracts more trips) this can add £15m pa to profitability. Commercially sensitive information is not explicitly itemised due to the nature of that information, but the assumed use lower estimates of revenue result in approximately a 25% underestimation of income.

6.16.17 Hence, since the assumptions used in the financial analysis tend to err on the side of caution, it is the NEA's strong view that the predictions provide a comfortable basis on which to base a decision to allow RTS to progress to implementation and operation.

17 Funding has been secured through the Housing Investment Fund [HIF] for a bus-based RTS serving the Tendring Colchester Borders GC.

(a) Which elements of the RTS scheme proposed in the Vision to Plan document would be covered by the HIF funding?

6.17a.1 The precise allocation of how the HIF funding will be used is subject to change. Nevertheless, in broad terms it is expected to create sufficient infrastructure to:

- Reinforce the existing route between Colchester Park and Ride North and Colchester town centre

- Create the route from Knowledge Gateway to East Street (or thereabout depending on the route chosen)
- Reinforce provision around the University
- Create the route from Knowledge Gateway to East Street
- Create the Park and Choose interchange
- Create the RTS halts

6.17a.2 How the package of funding identified in the HIF bid contributes to Route 1 has been explained in the answer to Question 15 of Matter 6. For convenience, the conclusion of this answer is repeated here:

- Working on the lower bound costs, the HIF related package of funding of £45m will cover estimated costs to 2033 on Route 1 including the £6m cost of the Park and Ride site (being called a Park and Choose site) and leave a £10m contribution to costs post 2033. This would leave approximately £13m to be found from other sources. However, if risks materialise than costs could rise to the upper bound of costs, which include optimism bias.

6.17a.3 It is worth noting that the content of the HIF submission occurred before the identification of the full range of RTS options set out in EB/079. Therefore mismatch post 2033 is not surprising, but neither is it considered a critical issue.

(b) Would any additional funding be required to complete Route 1 of the RTS scheme as proposed in the Vision to Plan documents?

6.17b.1 As identified in part (a), a shortfall in capital of approximately £13m is expected. If risks materialise then this could rise to £31m.

(c) If so, how would that additional funding be secured?

6.17c.1 As explained in the answer to Question 15, ECC are currently evolving more detailed assessment as to how far the HIF bid can cover the costs of both the Link Road and provision of RTS. Should any gap continue to exist this could either be addressed by the application of recovery and recycling mechanism (as per the response to Question 8(c)), a future strategic infrastructure tariff (or equivalent), planning contributions from other developments across Colchester, or the future award of additional grant funding. It should also be noted that costs have been overstated for Route 3 so there would be expected to be some headway in the overall programme.

6.17c.2 In addition, there could be benefits of economies of scale from constructing large sections of Route 4 alongside the A120 road scheme. Thus it is reasonable to expect the gap in capital funding for Route 1 to be closed since it is funding gap post 2033 and several mechanisms for closing this gap have been identified.

18. How would connecting public transport services within the proposed garden communities be funded?

6.18.1 The exact route of RTS on garden communities and the number and location of halts and interchanges could adapt during the masterplanning stages on each community. Indicatively, a number of halts and interchanges have been included on each garden community site – four at Tendring Colchester Borders, six at Colchester Braintree Borders and three at West of Braintree.

6.18.2 EB/079 (p.48) recognises the potential for the design of garden communities to optimise walking and cycling to RTS stops. If the design of garden communities follows the principles of Garden Towns it would be expected that walking to an RTS stop would be feasible for up to 1km away and further for cycling. In addition, the density of homes would be expected to be higher closer to RTS stops. Thus many people would be within a feasible distance of an RTS stop.

6.18.3 Nevertheless, EB/079 does recognise that distributing public transport services would be expected to be developed. However, it is expected that these services would be on-demand and only be required once the developments reach close to their full size. They would also be able to utilise expected autonomous vehicle technologies as they would only be required post 2033. (Prior to 2033 there is ample ability for the main RTS services to provide the distributary function.)

6.18.4 For this reason, the RTS report does not include costs for such distributor services, as the service pattern and operational model is not yet decided, they would only be required post 2033 and are likely to be cost-effective due to the volume of people on the garden communities by this time.

6.18.5 Nevertheless, an operational cost could be estimated based on one RTS vehicle circulating each GC on the secondary network being provided. This would lead to an operational cost of up to £225,000 per garden community, that is £675,000 pa. This is well within the expected operating surpluses identified by 2051, as set out in Table 5.15 (EB/079, p.61).

19. Is the proposed phasing of the introduction of the RTS system
(a) realistic?

6.19a.1 Should the rapid transit system be taken forward it should be recognised that the scheme closely aligns with the ECC's emerging strategy for digital technologies. It should be stressed that technological advances and the growth in on-demand transport services do not replace the need for rapid transit or public transport in general. Rather technological advances are the opportunity to create a higher quality personalised experience on public transport.

6.19a.2 It is agreed that RTS is critical with appropriate schemes and services needing to be commenced prior to 2033, together with works continuing post 2033 to complete the aspiration of an attractive and sustainable form of transport meeting the needs of the new residents of the new garden communities. If the system is to open by 2025, to coincide with the growth of the garden communities, it is recommended that the County Council commence option refinement and the refinement of the business cases as soon as possible to meet this timetable. One of the key decisions that will need to be made is whether upfront investments is to be made in order to create the entire system earlier on in the Local Plan period. Arguments in favour would be to capture existing demand, demonstrating intent to alter travel behaviour, economies of scale if built with the A12 and A120 schemes, and creating an uplift in land value. However, cons would be the cost of financing such a system or obtaining external funding for it.

6.19a.3 As an alternative, an incremental approach could be taken where those parts of the system where demand is highest are implemented first around Colchester and Braintree. The longer interurban connections would then be created at a later date. The advantage of this is that it is potentially easier to finance the scheme. However, the downsides are that it would be competing with local bus services and not meeting inter-urban demand.

6.19a.4 Specific structures are not explicitly costed, but the per-km benchmark costs of other schemes include such structures. These items will be costed during detailed engineering feasibility works.

6.19a.5 The aim for RTS is to deliver the majority of the rest of the route within the bounds of the public highway. There will be some exceptions, however, these are anticipated in the benchmark scheme costs.

6.19a.6 At this stage, prior to public engagement and consultation on route options, there are alternatives for each route. Therefore, the analysis for the report simply took those options which delivered the best journey times. While this is a simplification, it is considered appropriate at this strategic planning stage.

(b) consistent with the proposed timing of development at the garden communities?

6.19b.1 A key principle of the delivery of the RTS system is that the first services will coincide with the delivery of the first homes at the garden communities. It is acknowledged however that there is a complex interaction between the phasing of the funding and development of RTS infrastructure, the phasing of housing development at the garden communities, and the mode share proposed at the garden communities. So, although EB/079 sets out indicative timescales 2024-2028, 2029-2033 and 2033-2051, the exact phasing of the delivery of the scheme needs to be considered flexible due to this complexity. Accordingly, most sections of the route include the potential for incremental phasing to suit the available funding as well as the build out of the garden communities, noting the key principle set out above. An incremental approach to delivery is being taken and the use of interim priority measures on existing highways infrastructure are being suggested to support the very early phases of the garden community developments.

6.19b.2 We believe this is a realistic approach which recognises the potential for the garden communities to come forward at a varied pace. This flexible, phased approach within the plan period also reflects the realities of the funding of the scheme, meaning that delivery of the RTS is realistic even with limited public funding. Accordingly, the early phases of the Garden Communities will be supported by RTS although the early service may not incorporate all elements of the full RTS vision, which will be phased as described above and in EB/079. Prior to the construction of some sections of new alignments, the service would make varied use of existing road infrastructure.

6.19b.3 To ensure that the phasing of the transit system matches the delivery of the garden communities, detailed design of routes and priority measures will be progressed as the masterplans for the garden communities are developed. This will involve engagement and development of detailed traffic models in order that acceptable and workable solutions are found. It is not expected that such details are available at the strategic planning stage.

6.19b.4 It is also recognised that the phasing of the RTS is linked to the availability of funding. In this regard, an indicative phasing and level of capital costs has been set out in EB/079. This

used a single ‘higher’ investment scenario, consistent with the goal of achieving a route as segregated as possible, and capital costs for each route section are provided based on benchmarked costs from BRT schemes, along with costs for a Park and Ride site or interchange hub (as appropriate) at each Garden Community. We consider these provide a realistic high-level appraisal of the costs and phasing, benchmarked against two recent UK BRT schemes which show that the capital costs for the scheme are likely to be at the higher end of the ranges. The precise phasing of this capital expenditure is flexible within the parameters of the funding phases with expenditure requirement identified by 2028, 2033 and 2051. Hence elements of the scheme can be delivered as funding becomes available. It should also be noted that any successful external funding applications could accelerate delivery.

6.19.c Addressing the concerns raised in this question and in the comments from Lightwood Strategic on Mod 58, the importance of phasing the RTS in line with the development of the garden communities is acknowledged, to ensure that adequate connectivity is available as residents move in. The Model Share Strategy outlines how this will be achieved, in which RTS is one of several measures to the used. This strategy recognises the importance of complementary measures, such as travel plans, to encourage use of sustainable travel modes, of which RTS is only one. In addition, it is recognised that a long term steady increase in mode share occurs as the range of measures extend and reinforce each other. The RTS proposals are considered sufficient to work alongside the other measures to ensure that the proportion of sustainable travel increases in line with the Mode Share Strategy.

20. Does the Visio to Plan document provide sufficient reassurance at this strategic stage of planning that it would be feasible in physical terms to construct the proposed RTS system?

<u>Route feasibility and approach to implementation– Route 1</u>

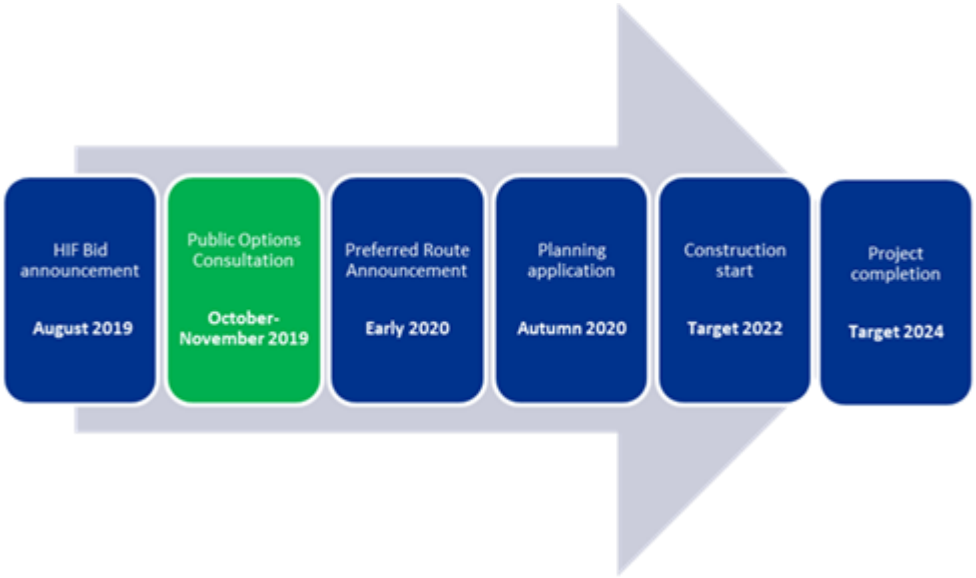
6.20.1 Current work on route 1 provides an example for the process for implementing other RTS sections. Over 2018/19, the strategic case for route 1 was developed further and submitted for HIF funding. As explained in Question 15, this set up a package of funding of £45m, of which £33m is the HIF grant.

6.20.2 From April-July 2019, further work on the engineering feasibility between route options was carried out. This work reflects the full aspiration for Route 1 options as set out in the RTS

Local Plan report. The HIF funding is sufficient to establish key sections of Route 1 by 2026 in line with the expected opening of TCBGC. There will be further route enhancements and by 2033 it is expected that the route will reflect the RTS report's vision. Enhancements, however, will continue post 2033. This incremental approach is also reflected in the report explaining how the modal share targets will be reached.

6.20.3 Following the engineering feasibility study, a public engagement event has been undertaken over November and December 2019. Only after this event will detailed design commence and formal permissions sought. To accompany the engagement events, a detailed summary of the engineering feasibility findings has been prepared.

6.20.4 The figure below illustrates the work stages after the engagement event through to implementation of HIF funded infrastructure. This excludes operational planning tasks to set up the RTS services. (NB: Public Options Consultation should be 'November – December 2019'.



6.20.5 Within the planning process to date, extensive consideration has been given to the planning consents required. Since the route will be developed incrementally and large sections fall within the bounds of public highway, it will be delivered through a mix of permitted development and planning permission as opposed to applying for a development consent order. There might be exceptions along other routes in future years. However, route 1 is following this approach.

In seeking planning consent, it should also be noted that the concept of an RTS is fully supported by the adopted and emerging Colchester Local Plan. Indeed, some sections of this route under consideration in North Colchester have already been implemented or granted planning permission.

6.20.6 Indicative routes have been provided at this strategic stage for illustrative purposes and assist in route phasing. There are no known overriding physical impediments e.g. environmental designations or topography constraints that would make the physical construction of the scheme unfeasible.

Route feasibility and approach to implementation– route 1 enhancements and routes 2 and 3

6.20.7 A similar approach as descried above will be applied to the delivery of further enhancements to Route 1 and the delivery of infrastructure related to Routes 2 and 3. The delivery plans also include provision for acquisition of parcels of land not in public ownership.

6.20.8 The acquisition of any such land would be co-ordinated with the land acquisition for garden communities (as any significant requirements are within or adjoined the areas of search). The RTS delivery plans, recognise that compulsory purchase may be needed to deliver parts of the route. This also covers minor lengths where an ideal scheme extends beyond the publicly designated highway. It should be recognised that the robustness of the RTS delivery strategy rests on its ability to alter routes and the level of priority. The transport modelling has shown that different route options still deliver the expected benefits. Therefore, it is reasonable to expect that a workable route within the range of options presented in the RTS report can feasibly be delivered.

6.20.9 At the strategic transport planning stage, it is not plausible to have developed firm route choices nor to have devised solutions to the highway engineering challenges. Rather, there should be confidence that solutions can be found within the budget identified and from the experience of delivering schemes elsewhere. This approach also allows for more genuine stakeholder engagement to influence final designs and solutions. The work on Route 1 shows how this process will work.

6.20.10 In addition, on a long-term project there is an awareness that it is likely that the trend for providing increasing levels of priority for public transport and active modes will continue. Consequently, route options do show routes that stakeholders and members of the public might be uncomfortable with based on current experiences. It was considered that the RTS

report should not close off choices too early in the process, however, as this would stifle debate. In doing so, the risk is route options being misinterpreted.

6.20.11 A good example of this is on the approach of Route 3 into western Braintree. A number of choices have been presented to commence engagement. Using a section of the Flitch Way is one of the options that is particularly contentious. However, there are many other alternatives and initial reviews of traffic pressures in the peak periods do suggest it is entirely feasible to establish routes along the public highway. These would be enabled by increasing junction capacities on the approach into Braintree.

Route feasibility and approach to implementation– route 4

6.20.12 This is addressed in the answer to the following question.

21. What are the implications for the GCs of the proposal not to build Route 4, linking the Colchester and West of Braintree sub-systems, until after 2033?

6.21.1 By 2033 it is expected that two RTS subsystems will be successfully operating based on the route options described in the previous subsections. That is a Colchester subsystem and a West of Braintree subsystem. It would be a worthwhile aspiration to connect the subsystems at some point soon after 2033. However, neither RTS viability nor growth at garden communities depends on this connection being made. But the connection, referred to as Route 4, is included in this plan as it contributes to the overarching objectives for sustainable growth and mode share targets, and provides wider benefits to the surrounding region and existing communities.

6.21.2 The opportunity to establish the infrastructure for route 4 will likely come alongside the implementation of the A120 highway rerouting scheme. Therefore by 2033, there is high likelihood that space for Route 4 could be reserved. Subject to funding, Route 4 infrastructure could then be completed soon after 2033 and then services commence. The timing will flex depending on the speed of growth at CCBGC in particular. It would also depend on if any external grant funding was made available. It should be noted that the strategic case for route 4 rests on the value of RTS to provide a fast sub-regional service, noting that there is a gap in the public transport offer between a fast regional train service and a relatively slow bus network, serving a limited number of destinations. The transport model justifies this hypothesis as the estimated total use of Route 4 does support longer sub-regional use, such as between Braintree and Colchester.

6.21.3 Post 2033, the intention is to extend the level of segregation on Routes 1-3 and introduce Route 4, which connects the two subsystems. The timescales for this further investment will be timed according to funding availability with costs included in the Viability Assessment Update for system upgrades up to 2051 in accordance with the RTS report EB/079. Since Route 4 provides a long-term extension, flexibility on delivery date is not considered problematic.

6.21.4 Similar to other large towns across the country, there will be a trend of road space re-allocation in favour of rapid transit schemes in order to support economic growth whilst achieving environmental objectives, especially air quality improvements. Therefore, going forward, not to build the Route 4 would deprive the network of a very valuable link in delivering a comprehensive and sustainable network in North Essex.

22. The Vision to Plan document proposes a bus rapid transit system initially, potentially to be replaced beyond the Section 1 Plan period by trackless trams. Are these proposals justified and consistent with the Plan's aspirations for high quality rapid transit networks and connections?

6.22.1.As outlined in EB/079, the UK is on the cusp of a revolution in technological solutions for transport choices, and rapid transit will play a key role in this for successful towns. These transport solutions are continuing to evolve in response to technological innovation and changes in the behaviour and travel choices of individuals. At this stage, the key is therefore to ensure that space is created to enable high-quality, reliable rapid transit, in line with the Plan's aspirations. This will provide flexibility to respond to innovation as and when it becomes appropriate to do so.

6.22.2 At the very early stages of garden community development, a pragmatic version of RTS will be ready to serve the first residents utilising BRT solutions – but this is a key step to the vision to RTS. As outlined in response to question 19 above, an incremental approach is considered pragmatic in order to roll-out phases of an RTS concurrent with the development of the garden communities and the availability of funding. This flexibility also allows us to stay within the budgets identified. We consider that this is a justified and pragmatic approach, and that the RTS would provide high-quality connectivity for the users of new and existing communities.

6.22.3 It is acknowledged however, that replacement of this RTS system by a trackless tram or other technological solutions giving a tram-like experience for a rubber tried vehicle would be an important step in fully realising the benefits of the system. A trackless tram combines the

advantages of light rail with the practicality and flexibility of bus rapid transit. The system can be built up incrementally alongside the garden communities, adapting readily to autonomous vehicle technology. For instance, trackless trams could co-ordinate with smaller automated pods to take passengers to final destinations.

6.22.4 However, at the current stage, establishing high-quality rapid transit to which the Plan aspires, relies not on a commitment to a particular type of technology, but rather on ensuring there is space and flexibility to accommodate emerging technologies and, crucially, appropriate levels of priority in the supporting infrastructure. Therefore, an incremental approach does not preclude delivery of a high-quality rapid transit network, but may actually be fundamental to such a network.

6.22.5 The RTS will provide a high-quality rapid transit system as well as an opportunity to proactively respond to emerging transport technologies, refine the system to meet localised demands as the garden communities develop, and assess changes in travel behaviour. This would ensure that a later implemented trackless tram system is of the highest quality and provides resilient and effective connectivity for the communities it will serve.

Mode Share Strategy

23. Are the refined mode share targets set out at Figures 7-1, 7-2 &7-3 of the Mode Share Strategy document [EB/080] justified by the evidence contained and referenced in that document?

6.23.1 The refined mode share targets set out in Figures 7-1, 7-2 and 7-3 of the Modal Share Strategy EB/080 (the Strategy) have been developed from a combination of the modelled outputs of the Rapid Transport System for North Essex from Vision to Plan (EB/079) work and from the mode share achieved in the precedents drawn across the UK and Europe (Sections 3 to 6 of the Strategy). This approach delivers ambitious, yet achievable targets when the full range of interventions recommended in the Strategy are delivered. As set out in Section 1 of the Strategy, the interventions identified will be developed and secured through Development Plan Documents (DPD) that include the preparation of masterplans that will secure the interventions on-site as well as connections and contributions to the off-site infrastructure required that, in relation to rapid transit, is set out in EB/079. The targets are justified by the evidence contained and referenced within the modal share strategy, as set out in Section 3 and Section 4 where the precedents identified provide evidence that is directly relevant to the

proposed GCs. For example, Table 3-1 sets out locations where high levels of sustainable mode share are achieved with similar levels of populations and density (eg the 'new town' of Houten), in places that do not benefit from high-frequency, capital city-scale metro style networks (Odense with its bus based network) and examples from the UK (Cambridge, Durham). Various comments within the consultee responses contend that the experience of places on mainland Europe are not comparable to those in the UK, for example based on differences in 'mind-set' or 'weather' (eg paragraph 3.27 of Lawrence Walker's evidence). However, there is limited evidence that is the case. The clearer picture that emerges from the evidence presented in the Strategy is that in general where higher quality infrastructure is provided this results in mode shift, or in new developments, higher levels of sustainable travel than surrounding areas. Numerous UK examples are set out in the Strategy, including increased walking and cycling resulting from improved infrastructure in Leicester (paragraph 4.18), mode shift away from the car to bus in Crawley (paragraph 4.34) and significantly higher sustainable travel in new developments with high quality transport provision in Sutton (Table 4-6) and Poundbury (Table 4-1). In developing the mode share targets, the approach adopted responds to well recognised shortcomings of the current planning system in delivering high-quality new development that is connected to key developments by a range of sustainable travel options. These are summarised in recent guidance published by the Chartered Institution of Highways & Transportation entitled Better Planning, Better Transports, Better Places. It notes that integrating sustainable transport into new developments is key to achieving healthy, successful places, but that three key barriers stand in the way:

- Local authorities are not setting out a vision for development in their Local Plans that includes setting accessibility and mode share targets to which developers and promoters can respond.
- Limited practical examples demonstrate how to deliver sustainable transport outcomes which reinforce risk-averse approaches. Collaboration between planning and transport regulatory and delivery bodies is either insufficient or ineffective.

6.23.2 The guidance advocates a 'decide and provide' approach to planning transport improvements for new developments, where the desirable outcomes are set and the transport services and infrastructure necessary to achieving them are provided. The Mode Share Strategy adopts this approach and provides a vision in the form of a holistic package of transport improvements, linked to specific mode share targets, for the Garden Communities (GCs). These are based on evidence from practical examples of sustainable development that have been funded and delivered elsewhere, primarily in continental Europe, whilst also being informed by the modelling work undertaken in support of the rapid transit strategy (EB/079).

6.23.3 As explained in paragraph 7.2 of the Modal Share Strategy, the targets are deliberately more progressive than the model forecasts alone, which are used as a starting point for forecasting the numbers of motorised trips that may be generated in the future by development at each of the Garden Communities. Implicit in the discussion above is the understanding that a purely transport model-driven approach (informed, typically, by vehicle trip rates from developments delivered in the recent past) is very likely to limit the scope of an achievable vision to a set of mode share targets that would perpetuate existing patterns of car-based travel and result in the delivery of car-dominated places.

6.23.4 More specifically it is difficult to accurately model the set of interventions proposed as part of the mode share strategy. There are limited examples of such coherent planning in the UK from which to draw base data. Furthermore, any form of predictive modelling across the full extent of the GC delivery timescales is unlikely to be particularly reliable at the longer-range end of transport forecasts owing to uncertainty over future transport trends.

24. Should these (or other) mode share targets be included as requirements of the Section 1 Plan policies?

6.24.1 Proposed Modification 59, Policy SP5 B. Transportation and travel states:

- *Substantially improved connectivity by promoting **and enabling** more sustainable travel patterns, introducing urban transport packages ~~to~~ increase**ing** ~~transport~~ **modal** choice, providing better public transport infrastructure and services, and enhanced**ing** inter-urban transport corridors*

6.24.2 The NEAs do not consider mode share targets should be included in the Section 1 Plan. It is more appropriate that these are considered within the Strategic Growth DPDs, which will provide the framework for the subsequent development of more detailed masterplans and other design and planning guidance for each Garden Community.