Response to Extra Material presented
by the NEAs on 21st December 2017

10 January 2017

We welcome the opportunity to comment on the extra documents submitted by the NEAs just before Christmas. We comment on each document in turn. In summary:

- EB/066 from ECC Highways is the most significant and helpful of the new documents. But it does nothing to support the soundness of the plan
- Instead it demonstrates how far behind infrastructure planning has fallen and gives CAUSE confidence that its infrastructure costings for West Tey are not out of line
- The other papers provide more detail but still fail to justify the NEA figures. We apologise for the length of this paper but it is important that we explain the differences

Most seriously the NEAs have still not addressed the weaknesses in their land acquisition strategy. The failure to provide for the finance costs on land is not a matter for judgement or legal argument. It is a fundamental error which must be addressed if the plan is to have credibility.

1. EB/064  Justification for Infrastructure costings

1.0 We still believe Hyas’s £1.182bn costs to be materially under-estimated, and that £1.8bn is a better estimate. This note focusses on just three areas of difference – 1.1 community and health costs, 1.2 public transport costs and 1.3 the cost of the Western Parkway.

1.1 Community and health costs

1.1.1 The NEAs use a round sum £2250 per dwelling but this is much too low. CAUSE has prepared its own figures which suggest that an extra £147m will be needed for the items listed below.

<table>
<thead>
<tr>
<th>General Practitioners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dentists</td>
</tr>
<tr>
<td>Acute hospital beds + services - 3 per 1000 population*</td>
</tr>
<tr>
<td>Library 970sqm</td>
</tr>
<tr>
<td>4 court sports centres</td>
</tr>
<tr>
<td>4 lane swimming pools</td>
</tr>
<tr>
<td>4 churches and church halls</td>
</tr>
<tr>
<td>Post office</td>
</tr>
<tr>
<td>Police station</td>
</tr>
<tr>
<td>Fire station</td>
</tr>
<tr>
<td>Ambulance station</td>
</tr>
<tr>
<td>Town Hall/ Council Offices</td>
</tr>
<tr>
<td>Home for elderly or handicapped</td>
</tr>
</tbody>
</table>
1.1.2 We still have no breakdown of the £2250 per dwelling, so it is difficult to identify exactly why Hyas / AECOM is so low. We suspect that the biggest differences is in the cost of hospital provision. We assume that three acute beds are needed per 1000 population, that acute beds are the best indicator of overall hospital size that we have, that a new hospital will be needed\(^1\) and that costs per acute bed will be in line with those of the Queen’s Hospital Romford completed in 2004.

1.1.3 We are surprised that the NEAs suggest a need for only 1 hospital bed per 510 people, equivalent to 1.96 per 1000. This they say is the English average, but we would regard that as a poor benchmark given i) the current problems in the NHS and ii) NEA promises that a step change in infrastructure will be provided with the Garden Settlements. It is significantly below the UK figure quoted by OECD and also below every OECD country except Mexico. Our assumption of 3 per thousand is still lower than comparable major European countries.

1.2 Public transport costs.

1.2.1 The figures produced by the different parties are confused and confusing. The difficulties in arise because there simply is no Plan – we have no agreed layout or specification or funding strategy, just a number of unco-ordinated consultant reports.

1.2.2 We don’t accept that public transport is a detail to be decided later and nor does the Garden Communities Charter which states that the GCs are to be planned around a step change in public transport (see Principle 2).

1.2.2 Mass Rapid Transit system:

\(^1\) The North Essex Clinical Commissioning Group agrees that a new facility is likely to be required. See their representation 6206 on the Publication Draft Local plan by Jane Mower para 4.21.
1.2.2 We focus on this as an example: rather than 1. planning a layout, 2. costing it and 3. developing a strategy for funding it, AECOM simply assumes £1500 per dwelling. Then Hyas reduce it to £1000 per dwelling postponed until 2058. EB/064 justifies taking the lower figure on the basis that some costs are itemised elsewhere but we are not told which.

1.2.2a Whether the budget is £1000 or £1500 per dwelling, the resulting figure is only a fraction of the total costs proposed by Jacobs and ECC Highways.

1.2.2c EB/064 makes no attempt to explain why the expenditure is postponed until 2058 in the Hyas appraisal. This is in flagrant disregard for principle 2 of the Garden Community Charter which states that “the Garden Communities will be planned around a step change in Integrated and Sustainable Transport system for the North Essex area.”

Figure 1: varying estimates for the cost of a Guided Busway, arguably the minimum specification needed to achieve the ambitious modal shift targets laid out in the Jacobs report (private car use reduced from 70% to 30%):

<table>
<thead>
<tr>
<th>Mass Rapid Transit system cost estimates – guided busway</th>
<th>Cost £m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyas viability appraisal – assumes £1000 per dwelling for all GCs wherever located – 23660 x £1000 = £24m in 2058</td>
<td>24</td>
</tr>
<tr>
<td>AECOM – assumes £1500 per dwelling for all GC’s wherever located. For 23,660 dwellings £36m</td>
<td>36</td>
</tr>
<tr>
<td>Jacobs – cost of a guided bus system PT1b for West Tey only</td>
<td>145</td>
</tr>
<tr>
<td>ECC Highways report EB/066 – guided bus rapid transit system for North Essex option 2 £1034m approx. 70kms at 2010 prices.</td>
<td>1034</td>
</tr>
<tr>
<td>Cost included in CAUSE £1.8bn total infrastructure cost estimate based on 25kms and the costs of the Cambridge guided busway.</td>
<td>253</td>
</tr>
</tbody>
</table>

1.2.2d The ECC Highways figure is high because i) it includes a proper contingency (or optimism bias) and ii) it provides 70km of guided busway over the whole of North Essex. When adjusted for contingency, length and cost inflation from 2010 the figure reduces to £254m. This is close to our own costings based on the Cambridge guided busway and gives us further confidence that our overall estimate of £1.8bn infrastructure cost before contingency is not exaggerated.

1.2.2e CAUSE has long argued that using a standard £1000 or £1500 per dwelling for the viability appraisal is the wrong approach. Transit systems should be laid out and specified before location is decided. Existing under-used infrastructure such as the Colchester Clacton line should not be

---

² The Hyas appraisal is central to the plan because it is the only place where cost and revenue are brought together in an attempt to prove viability. Bringing forward the 2058 date will have a material adverse impact because of the finance costs. At 6% they double the cost every 12 years.

³ £254m = £1034 / 1.64 to remove contingency * 25/70 to reduce length * 1.13 for inflation since 2010.
ignored. Transport is one of the key “differentiators of location” and a plan that leaves it as a detail to be resolved later must be unsound.

1.2.2f The Plan shows no awareness of the funding shortfall between the £1000 per dwelling and the actual likely cost, nor does it indicate how it might be funded. The NEAs may be assuming that HM Treasury will provide: but there is no sign of any budget allocation and it is not clear why the Treasury would support the funding of new infrastructure when better use can be made of an existing railway. We have seen the delays in funding the A120 and can have no confidence that funds for a bigger and riskier project will be forthcoming.

1.2.3 Moving Marks Tey station:

1.2.3 Hyas include only £50m of the £145-£158m cost. EB/064 acknowledges that other sources of funding may be needed. But the station move is of little benefit to the wider North Essex community and is only needed for West Tey. So the entire cost should be included in the viability appraisal.

1.2.3a There are some major practical issues with the new station which remain unaddressed. Would the existing Marks Tey station be closed? Would Network Rail accept stations so close to each other on a mainline? How would the Chappel/ Sudbury line be realigned? These are not just details: they go to the root of the concept of trying to build a new settlement on an over-crowded main line. The delays and difficulties in building the new Beaulieu Park station should serve as a warning.

1.2.3b Hyas postpone the expenditure on the new station until 2058, another example of how the Plan is being rushed through with little co-ordination, and another breach of the NEGC Charter which has been used to sell the Garden Community concept to Councillors.

1.2.4 Great Eastern Mainline constraints

1.2.4a EB/064 continues to ignore the external costs caused by building a commuter settlement at West Tey, despite the warnings by its own transport experts that the GEML is constrained\(^4\). CAUSE has long argued that such costs should not be ignored just because they are born by a different part of the public sector.

1.2.4b We believe that if the public sector continues to ignore such external costs it will make the wrong decisions on location and waste large sums of public money.

1.2.4c We have arranged for CAUSE’s rail adviser, Mr. Jonathan Tyler from Passenger Transport Networks, to be present for Matter 5. His presence alongside Network Rail and Greater Anglia will be the first opportunity to get to the bottom of this issue. Mr. Tyler’s timetabling work shows that even with a new station, new rolling stock, a new dynamic loop and new signalling there will still be major constraints on the Shenfield-Stratford stretch of the line which are not easily resolved. The signalling systems are untested on a mixed use line of this sort: and even if they perform as hoped

\(^4\) See ECC Highways Report para 2.3.2.
See Anglia Route study
See Aecom Volume 2 page 73
Stratford station will struggle to cope. We have repeatedly raised this problem over the last three years, and it is vital that it is properly addressed at the Examination.

1.2.4d Even if these interventions do provide an answer to the capacity constraints there is as yet no plan to provide them or identified source of funding. We would expect something much more specific and credible before a decision on locating garden communities is made.

1.3 Western Parkway

1.3.1 This road from Coggeshall to the existing A12 is mentioned in the Iceni statement, the DPD consultation and Jacobs report as a way to “bring forward” development ahead of the A12 / A120 improvements. But it is not mentioned in the Hyas appraisal or EB/064 and it appears that the cost has been ignored.

1.3.2 This Western Parkway solution is impractical: the cost will be very high and it will do no more than shift the traffic problems onto other parts of an unimproved A120. The 29% extra peak hour traffic\(^5\) indicated in the December Iceni hearing statement for the first phase is unthinkable given current congestion.

1.3.3 The cost will be high mainly because the junction with the A12 will be complex.

- The junction is proposed at a location where the railway is on a 1.5m embankment, so the bridge will have to be very high and the consequent earthworks will be expensive.
- A full grade separated junction will be needed onto the existing A12 (it isn’t clear why Jacobs ignore this), a solution that isn’t ideal because it will be too close to other junctions – at Marks Tey and probably Feering. Traffic engineers would have concerns about the lack of mixing space between them.
- The grade separated junction and bridge will be at the centre of the completed settlement proposed by DLA, leaving an unattractive town centre suffering from even worse severance problems as we currently see at Marks Tey.

1.3.4 The cost of the A12 Junction and rail bridge may be close to the £41.5m stated in EB/064 for the Southern Junction between A12 and A120. The road is only needed for an early start on West Tey so, on “user pays” principles, it should bear all the cost. The same applies to the cost of the new or moved railway station, but not to the A12 or A120 whose benefits will be enjoyed on a regional basis.

1.3.5 We share the widespread consensus that (even if West Tey were the right place) no material start can be made before the improvements to both A120 and A12 are complete

---

\(^5\) Iceni Technical note December 2017 shows that the current PM Peak observed flow at the A120/A12 interchange is 2573. This will increase to 3328 in 2026 if 2500 units are built. This is a 29% increase at a Junction where the evening traffic is frequently backed up to Salmons Lane or beyond. There will also be an impact on the notorious tailback at the MacDonald’s roundabout in Braintree whether or not the Western Parkway is built.
2. **EB/065  Housing Trajectories**

2.1 EB/065 summarises information already available in the Hyas appendices. It provides no further justification for the delivery rate assumptions which we believe to be unrealistic particularly with a 5% Garden Community premium.

2.2 We, and others in their Hearing statements, have referred to the study by Lichfields which demonstrates that, on average, large housing developments only deliver 161dpa.

2.3 Delivery rates are particularly important because slow delivery of large settlements means much higher land finance costs and a less viable project. We believe that the NEAs have yet to understand the scale diseconomies arising from these finance costs which go to the root of their strategy for large settlements rather than balanced growth.

3. **EB/066  Essex Highways North Essex Rapid Transit Study 21/12/17**

3.1 **Not a Plan:** This report addresses the key issues as best it can. A 70km rapid transit system is the sort of initiative needed to deliver modal shift and avoid road congestion – but it must be rapid and it must be properly supported by other transport infrastructure.

The report also demonstrates that there is **no Plan** in any normal sense of the word. Transport infrastructure planning is lagging far behind housing, and is not properly co-ordinated with it. It has been considered only after the garden settlements have been located. The report’s conclusion that a rapid transit in North Essex is “worth pursuing” falls far short of Principle 2 of the NEGC Charter.

3.2 **Demand forecasts:** these indicate that more journeys are made from West Tey (11.7%) and West Braintree (12.8%) to London than East of Colchester (9.6%). Every effort is needed to locate settlements to support the local economy rather than over-stretching limited capacity on the GEML. We believe that locating settlements on an overcrowded main line is unsustainable.

3.3 **Inconsistent employment forecasts:** ECC Highways use the most conservative of the three Cambridge Econometrics scenarios – “business as usual”. Meanwhile the NEAs use the most ambitious “potential unlocked” scenario. CAUSE believes that the same scenario should be used consistently and suggests that scenario 2 “business as usual + A120 improvements” is the most appropriate.

It is unsound to plan for housing on the basis of optimistic forecasts and provide infrastructure on the basis of pessimistic ones.

3.4 **Cost Benefit analysis:** the report includes some useful cost benefit analysis, but this must not be confused with financial viability. This is because the costs are cash but the benefits are time savings valued at around £27 per hour which are difficult to convert into cash.
We question the 4x BCR for the Bus Rapid Transit system in table 7.7. Although the costs will be lower we would expect the benefits of a BRT system to be much lower because it will not have dedicated pathways and will suffer congestion in built-up areas. We support the comments from C-Bus in this regard.

If the public is to be convinced it needs to know where the money will come from. There won’t be enough from land value uplift, and the queue for central government funding is long.

3.5 Phasing: the report acknowledges that this is a major problem. A rapid transit system is a network which shows little passenger benefit until it has grown to a certain size. The report suggests the network should start with existing centres and link them up later. But there is no indication of what can be delivered by 2033 or how the incomplete network will be fundable.

3.6 Risk of de-basement: we fear that political pressures and over-spends elsewhere will quickly lead to compromises. The more expensive tram or guided busway will be reduced to “dedicated” bus routes which will be further reduced to “shared” routes which will suffer from continued congestion. Without significant journey time improvement the desired modal shift won’t be achieved.

If public support is to be obtained (GC Charter principle 7) then much more convincing evidence of delivery is needed, and protections need to be hard wired into the Local Plan.

3.7 Ignoring the opportunities provided by the Colchester-Clacton line: it is extraordinary that in a study of mass rapid transit options to serve north Essex, ECC Highways have not been briefed to analyse the potential of the Colchester-Clacton line to offer a mass rapid transit system or that it has not occurred to them to do so. It is particularly extraordinary given CAUSE’s study of the potential of this line back in 2015 and constant reminders to the authorities of the scope that the line offers. We can’t understand why this option is neglected in favour of expensive, new and impractical options which are unlikely to be deliverable.

3.8 Segregation and congestion: the paper doesn’t address the difficulties of segregating the rapid transit system from existing routes, and the difficulties of finding routes near the town centres. The recent difficulties in establishing a bus route along the Lexden road bear witness to these problems. If they are not solved the journey time improvements will be insufficient to achieve the desired modal shift.

4. EB/013(2/2a) Contingency Analysis

See CAUSE hearing statement, Matter 5, app1, page 73.
4.1 These are the first numbers we have seen to justify the NEA “24% contingency” claim. We note that total contingency is now claimed to be 42% including £120m embedded in the individual line items and £170m profit margin. However this 42% figure is misleading because:

i) it includes 10% Hyas contingency whereas there is only 5%. The 5% appears in the appendix which leads through to the residual value conclusion of £177k per acre. There is an error in the main body of the Hyas report which may have caused confusion.

ii) it includes 15% profit which is a real cash cost, not a contingency. A profit margin will be needed to incentivise a contractor to take on the risk of managing a complex project. NEGC doesn’t have the skills or track record to do this work itself and will have to outsource it.

iii) the contingency should be applied to all costs on which NEGC bears risk, including planning cost, fees and all payments to contractors including their margin.

4.2 We believe that the contingency in the Hyas appraisal is 13% of the relevant costs not 42%. In total it needs to be £563m rather than £177m, calculated as 40% of £1.4billion.

<table>
<thead>
<tr>
<th>Contingencies in Hyas appraisal</th>
<th>NEA claimed contingency</th>
<th>Actual contingency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Built in contingencies</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>Overall contingency is 5% not 10%</td>
<td>113</td>
<td>57</td>
</tr>
<tr>
<td>15% profit treated as contingency</td>
<td>170</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>403</td>
<td>177</td>
</tr>
<tr>
<td>Denominator</td>
<td>960</td>
<td>1408</td>
</tr>
<tr>
<td>Contingency %</td>
<td>42%</td>
<td>13%</td>
</tr>
</tbody>
</table>

4.3 We have always said that 40% is the minimum contingency, and this figure may be too low: but we stick to it for consistency. We note that there is a 44% contingency in the latest A120 costings. This project is better defined than the NEGC infrastructure project. We also note that ECC Highways use a 64% contingency or “optimism bias” in EB/066.

4.4 In addition there are doubts about whether there really is £120m embedded contingency in the figures. £94.6m of this is said to be included in site preparation works. We are also told that the total figure for site preparation works “is based on experience of large scale schemes elsewhere but has been set at a relatively high level to reflect the need to create a high quality public realm and sense of place”. The uplift cannot be BOTH an increase in quality AND a contingency. It must be one or the other. We have not included this point in our figures above because we don’t want to (or need to) exaggerate.
5. Land funding costs

5.1 We are disappointed that the NEAs have not used these extra statements to clarify the position on land funding costs. We remain extremely concerned that the £836m error in the Hyas appraisal is still not properly understood by them or that they are deliberately hiding the problem.

5.2 The only response we have had since we first raised it in June 2017 is the letter dated 16 November 2017 from NEGC Chairman John Spence. He suggests that the Harman guidance can somehow be used to sidestep the issue. But the guidance provides no precedent for ignoring these costs. In fact it clearly acknowledges that excluding interest on land is a common mistake. This is a matter of economic arithmetic, not of rules or guidelines.

5.3 It has been suggested that the Hyas appraisal is just one report and that there are others which should have equal weight. We disagree. The Hyas appraisal is central to the plan because it is the only place where income and cost are publicly drawn together in an attempt to prove viability. The Harman guidance makes the same point eloquently with the following diagram:

---

7 The Government’s direction of travel (as set out in the Planning for Homes Consultation document section paras 109-114) is towards further emphasis on viability at the Local Plan stage, to prevent problems further down the line at planning application stage.


9 See page 9 of the Harman Guidance
5.3 The land funding point is dismissed in the NEAs’ 49 page Hearing Statement in para 6.8h.3 where they “agree that where land is purchased then additional finance costs would arise”. The suggestion that the land won’t be purchased by NEGC would be a major change to the Plan. It is not what Councillors expect, nor is it what Hyas modelled. However it makes no difference to the overall appraisal: whatever the final balance between public and private ownership, someone must bear the land finance costs - the Councils, L&Q, a developer or the landowners - and financial structuring won’t make the cost go away.

5.4 If the £836m error remains uncorrected misleading conclusions will be drawn in the following areas:

- **Deliverability**: the NEAs don’t own any of the land and their land acquisition strategy appears to be unfunded and unrealistic. Faulty appraisals will result in poor land acquisition negotiation and the resulting bad deals will be with us for decades.
- **Scale**: finance costs create major scale diseconomies for large settlements. If land value uplift is to be captured, all the land has to be controlled on day 1, and for big settlements the finance costs are huge. This has not been considered in setting the 5000 dwelling minimum threshold which has been used to rule out several alternatives including CAUSE’s proposals for smaller settlements located to make better use of the Colchester-Clacton line.
- **Location**: proper appraisal methodology needs to be in place before location is decided. Location has clearly been decided without considering cost, one reason for the poor viability.
- **Raising finance**: an unviable plan cannot be financed on market terms. This problem will emerge if and when NEGC approaches the financial markets for debt or equity funding.
- **Government subsidy**: central Government needs to know how much subsidy is required in order to make choices on which settlements to support. Without evidence that the subsidy will be forthcoming the plan is undeliverable.

5.5 It is vital that the NEAs now acknowledge the error and demonstrate that they understand the importance of financial viability and protecting the public purse. It is so fundamental that if it remains unaddressed at the Inspection it could be grounds for Judicial Review.

5.6 We respectfully request that this issue be fully considered by the Inspector, and that proper time and expertise be allocated to it at the Examination. It is a fundamental flaw that must be addressed – far more so than differing views on infrastructure costs or contingency.

### 6. Conclusion

Having analysed the extra information our figures change in detail but our broad viability conclusions remain unchanged:

1. There is an £836m error in the Hyas appraisal whose significance remains unacknowledged

2. The new papers re-inforce our view that infrastructure cost for West Tey should be nearer £1.8billion rather than the £1.182bn in the Hyas study.
3. A much larger contingency is required.

West Tey is undeliverable because it is too big and in the wrong location. It (along with West Braintree) should be not be taken forward. A more balanced approach to development is needed for the plan to be sound.