North Essex Authorities - Section 1 Local Plan

Matter 6

Following the hearing session on Matter 6, the Planning Inspector confirmed in writing on 20 January 2020 his request for information referred to in the hearing session. The information requested was as follows:

- a note setting out the breakdown of the total £65M cost for the A120-A133 link road. In particular. the breakdown is required to show the key headings as appropriate including construction costs, contingency, land purchase, fees etc
- the source of the modelling which identifies the other highway improvements needed to cater for the traffic generated by the Tendring Colchester Borders GC
- the assumed length of each of the RTS routes (Routes 1-4) which were used to calculate the per-km capital costs given in Table 5-2 of EB/079. In other words, by what lengths (in km) were the midpoints of the capital costs in Table 5-1 divided, to give the per-km costs for each route in Table 5-2?

The Inspector also asked for clarification regarding the costs of the Fastrack BRT scheme. Specifically:

- which Fastrack route Mr Whittles was referring to (A, B or C);
- how long the stretch is that the cost of under £2m/km relates to;
- what the total capital cost of that stretch is; and
- what proportion of the whole of route A, B or C that stretch represents?

The requested information is provided in this note.

1. **Breakdown of the total £65M cost for the A120-A133 link road.**

For the A133-A120 Link Road, the table below shows the item type, description, cost, and the amount funded through HIF. The remaining amount or 'balance' to £65M is for risk and contingency.

Type	Description	Cost	Amount Funded by HIF
Preparation Costs (Design and Planning)	All professional fees, preparation (design and planning) etc	£3,451,970	£3,451,970
Infrastructure	Link Road and associated works (at current day prices)	£28,294,836	£28,294,836
Other	Preliminaries (at current day prices)	£6,224,863	£6,224,863
Infrastructure	Inflation	£6,220,626	£6,220,626
Infrastructure	Statutory Undertakers Diversions	£4,080,207	£4,080,207
Other	Part 1 Claims	£640,000	£640,000
Allowance for Developer Profit	Link Road Contractors Overheads and Profit (3%)	£1,349,822	£1,349,822
Land	Land Acquisition to north of A120 outside GC bounds	£1,000,000	£1,000,000
		£51,261,900	**£51,261,900**

2. **The source of the modelling which identifies the other highway improvements needed to cater for the traffic generated by the Tendring Colchester Borders GC**

Details are contained in local plan transport modelling reports for Colchester and Tendring.

i. Colchester Local Plan Traffic Modelling Technical Report (CBC/0051). Pages 49 and 50 provide information of suggestions for mitigation measures. Appendix C provides further details with cost estimates.

https://www.braintree.gov.uk/downloads/file/7000/cbc0051_colchester_local_plan_traffic_modelling_technical_report_ringway_jacobs_essex_county_council_july_2017

ii. Tendring Local Plan Modelling Support Stage 3 (TDC 00/32)

https://www.braintree.gov.uk/downloads/file/6962/tdc032_tendring_local_plan_modelling_support_stage_3_may_2017

iii. TDC/033 Tendring Local Plan Modelling Support Stage 2 September 2016 (TDC 00/33)

https://www.braintree.gov.uk/downloads/file/6961/tdc033_tendring_local_plan_modelling_support_stage_2_september_2016

3. Further information regarding RTS routes

In preparing a response to this request, a slight error has been noticed in the RTS route lengths used for the benchmarking exercise to inform Table 5-2 of EB/079. Please see below a revision to Table 5-2, reflecting the correct route lengths. It is one slight error in one summary table showing average per km costs. This has no implication on the capital totals or the precise per km rates used (which consider a range of types of infrastructure). The error has no implication as the numbers in these tables were not used to calculate the route costs. They are merely a check which we used to compare the NEA proposal to other benchmark schemes.

The capital costs estimates used in the report are therefore unchanged by the identification of this minor error. It is worth observing that average per kilometre estimates are now above the Bristol benchmark on both the Colchester sections.

Table 1: Revision to Table 5-2 of EB/079

<table>
<tr><th>Capital costs (£m, current prices)</th><th>Lower investment cost per km</th><th>Higher investment cost per km</th><th>Bristol cost per km</th><th>Leigh - Salford cost per km</th></tr>
<tr><td>Route 1: TCBGC - Colchester North P&R via Colchester town</td><td>3.4</td><td>4.7</td><td rowspan="5">4.6</td><td rowspan="5">5.5</td></tr>
<tr><td>Route 2: Colchester Town - CBBGC</td><td>2.9</td><td>4.8</td></tr>
<tr><td>Route 3: Stansted - Braintree via WoBGC</td><td>2.3</td><td>4.1</td></tr>
<tr><td>Route 4: Braintree - CBBGC</td><td colspan="2">3.3</td></tr>
<tr><td>Total for all routes by 2051</td><td>2.8</td><td>4.2</td></tr>
</table>

The two tables below show in greater detail the calculations underpinning this revised Table 5-2. A separate table is shown for each of the low and high investment scenarios. The report states under Table 5-2 that "the benchmarking exercise demonstrates that capital costs are likely to be at the higher end of the ranges shown in Table 5-1." To further develop this point, the additional columns (h and i) to the right of the tables show the per-km cost if the upper bound cost estimate is used.

The midpoint cost is in column (c), the assumed route length is in column (f) and the per kilometre average cost presented in Table 5.2 is in column (g). As explained above, the the minor error in 5-2 which was identified has no bearing on the capital cost estimates since the figures in Table 5-2 were not used to calculate the route costs.

Table 2: Derivation of per-km costs in lower investment scenario

Lower investment scenario	Lower bound cost in Table 5-1 (£m) *a*	Upper bound cost in Table 5-1 (£m) *b*	Midpoint cost (£m) *c = (a + b) /2*	Transit hub / P&R cost (£m) *d*	Midpoint cost excl. transit hub / P&R (£m) *e = c - d*	Route length (km) *f*	Cost per km (£m) as presented in revised Table 5-2 *g = e / f*	Upper bound cost excl. transit hub / P&R *h = b - d*	Upper bound cost per km *i = h / f*
Route 1	38.4	55.4	46.9	6.0	40.9	12.2	3.4	49.4	4.0
Route 2	45.1	62.2	53.7	6.0	47.7	16.5	2.9	56.2	3.4
Route 3	51.0	70.8	60.9	6.0	54.9	24.0	2.3	64.8	2.7
Route 4	37.0	53.3	45.2		45.2	13.9	3.3	53.3	3.8
Total	**171.5**	**241.7**	**206.6**	**18.0**	**188.6**	**66.6**	**2.8**	**223.7**	**3.4**

Table 3: Derivation of per-km costs in higher investment scenario

Higher investment scenario	Lower bound cost in Table 5-1 (£m) *a*	Upper bound cost in Table 5-1 (£m) *b*	Midpoint cost (£m) *c = (a + b) /2*	Transit hub / P&R cost (£m) *d*	Midpoint cost excl. transit hub / P&R (£m) *e = c - d*	Route length (km) *f*	Cost per km (£m) as presented in revised Table 5-2 *g = e / f*	Upper bound cost excl. transit hub / P&R *h = b - d*	Upper bound cost per km *i = h / f*
Route 1	46.8	65.1	55.9	6.0	49.9	10.6	4.7	59.1	5.6
Route 2	58.9	82.0	70.5	6.0	64.5	13.4	4.8	76.0	5.7
Route 3	87.1	122.7	104.9	6.0	98.9	24.0	4.1	116.7	4.9
Route 4	37.0	53.3	45.2		45.2	13.9	3.3	53.3	3.8
Total	**229.8**	**323.1**	**276.4**	**18.0**	**258.4**	**61.9**	**4.2**	**305.1**	**4.9**

In addition, it is considered informative to provide the breakdown of route kilometres by infrastructure type for the lower and higher investment scenario is shown in the tables below.

In the lower investment scenario, there is less segregated infrastructure and hence, in general, the routes are longer utilising existing highway with some priority measures, which overall is less expensive. In the higher investment scenario, there is a greater proportion of more expensive segregated infrastructure utilising more direct route choices. Therefore, although route length is shorter the overall cost is greater.

Table 4: Route km breakdown by infrastructure type (lower investment scenario)

Lower investment scenario	Route length (km) by level of segregation (as described in report Table 3-1)			Total route length (km)
Route	Segregated	Restricted	Unsegregated	
Route 1	5.4	3.2	3.6	12.2
Route 2	7.5	2.9	6.0	16.5
Route 3*	0.0	0.0	24.0	24.0
Route 4	5.9	0.0	8.0	13.9
Total	**18.8**	**6.2**	**41.6**	**66.6**

** There was not a lower investment scenario for Route 3 as this section was largely developed as part of a separate project with Uttlesford District Council. Therefore, the lower investment scenario was based on a long but unsegregated route.*

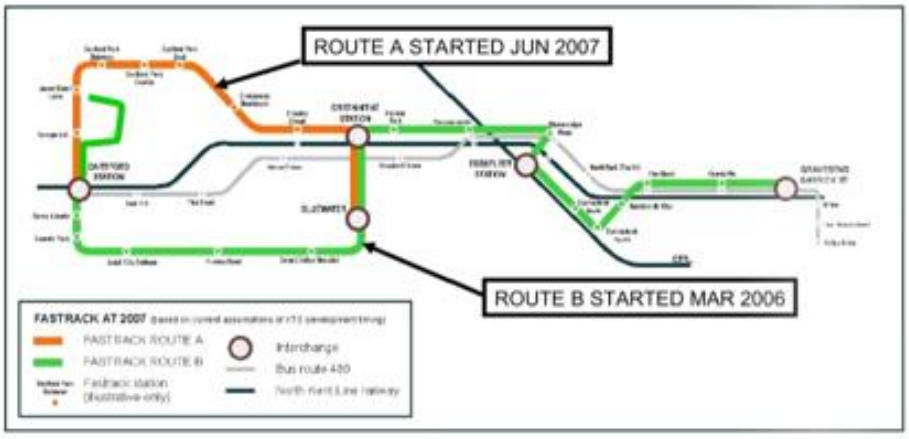
Table 5: Route km breakdown by infrastructure type (higher investment scenario)

Higher investment scenario	Route length (km) by level of segregation (as described in report Table 3-1)			Total route length (km)
Route	Segregated	Restricted	Unsegregated	
Route 1	7.8	2.9	0.0	10.6
Route 2	8.8	0.0	4.6	13.4
Route 3	17.4	0.8	5.8	24.0
Route 4	5.9	0.0	8.0	13.9
Total	**39.9**	**3.7**	**18.4**	**61.9**

4. Clarifications regarding Fastrack

In the hearing session, Mr Whittles referred to Fastrack - and in doing so was referring to Fastrack Route B. This has a length of 15km. Of this route, 5.5km is dedicated busway, 4km is on bus lanes and 4.5km is on-street running with general traffic. This information can be seen in a presentation on Fastrack at https://www.yumpu.com/en/document/read/27487215/kent-thameside-fastrack-an-introduction-david-bhls-home but the relevant slide is shown below.

Routes A and B (Fastrack)



Route B = 15km (5.5km busway, 4km bus lanes, 5.5km on-street)
Route B = 10km (2.5km busway, 2km bus lanes, 5.5km on-street)

The total length of the Route A and B is 25km. There are plans to extend the route to up to 40km by adding in Routes C and D.

The capital cost of Route B, which opened in 2006, was £19m. This is reported in the publication the Contract Journal (26 April 2006). An excerpt from the article is provided below.

The Fastrack journey begins... Phase one

Phase one of Fastrack, now called Fastrack's Route B, cost £19m. It was funded by £14.5m from the Department for Transport, £4m from the Office of the Deputy Prime Minister (for project development and the vehicles) and £500,000 from Kent County Council. The total length of Route B is 15km. Between Bluewater and Gravesend, it currently runs largely on existing highway, with junction priority. Almost all of the design and construction work took place in the Dartford to Bluewater stretch, the showcase section that will be replicated throughout the area as the developers move in.

The scheme was designed by the council's consulting engineer Jacobs and main contractor was Fitzpatrick.

Fitzpatrick began its £9m contract in September 2004. Graham Fisher, Fitzpatrick's site engineer, says the two largest elements were at each end of the construction project. At Bluewater the dedicated bus way has been constructed in a cutting through chalk cliffs to take the route from Watling Street into Bluewater's transport interchange. This involved "a massive amount of earthworks", Fisher says, and about 600m of rock bolting and soil nailing into the chalk face. Ovendens was the earthworks contractor.

In Dartford town centre, Home Gardens, a bowstring arch footbridge was installed to connect the shopping centre with the railway station and council offices. Widening the road for a bus lane meant the existing footbridge was too short. The new bridge was lifted into place in September 2005 and opened just in time for the Christmas shopping season. This was some months later than planned, Fisher explains, because Dartford Borough Council was unhappy with the council's original design and wanted something more striking. The new bridge accounted for £1m of the work, says Fisher, including £300,000 for the steelwork itself. The bowstring bridge was built and installed by Nusteel.

The other major element of the contract was Foster Yeoman's asphalting, which accounted for about £1m, Fisher says.

The design challenges, says Simon Beaney of Jacobs, were at the same places. Jacobs sought to design the bus way through the cliffs down into Bluewater "so that it looks like it fits perfectly", he says. While in Dartford town centre, a dedicated bus way had to be "shoe-horned into a very busy congested area" without any loss of road space for motorists.

The designers failed in their mission only in two short sections: there is a 200m stretch in the centre of Dartford where Fastrack takes a lane from car users; and where the route meets a grade separated roundabout junction above the Dartford river crossing approach road, Fastrack competes with cars for road spaces, just as regular buses do. There are discussions with the Highways Agency about finding a future solution for this part of the route, David George says.

TRIUMPHANT ARCH: In Dartford town centre, Fitpatrick had to construct a new bowstring arch footbridge. The new bridge was lifted into place in September 2005 and opened just in time for the Christmas shopping season.

In addition, project files have been reviewed in order to identify the capital costs of the creation of the 5.5km section between Dartford Station and the Bluewater shopping centre. This comprises approximately 3.5km of fully segregated 2-way busway and approximately 2 km of partially segregated bus lanes.

The out-turn cost of this section was £15 million. This includes design, construction and other costs, such as diversion of utilities. This cost is not comparable to the situation in North Essex, however, since the costs in Dartford include the construction of a bow string arch footbridge bridge and works to route the busway down 40m high chalk cliffs into the quarry that houses the Bluewater retail park. The routes identified in North Essex will not need to take on such major civil engineering challenges.

For this reason, as stated in EB/079 Vision to Plan, costs have been benchmarked against recent BRT schemes in Salford and Bristol. The NEAs consider that these are reasonable benchmarks to use at the strategic planning stage to ensure that a realistic amount of capital cost is being factored into the viability assessments.