Closing Statement to the CGB Public Inquiry

CAST.IRON

[Document Reference CI/26]

The references in the following text were not read out at the closing session, but were provided in the written submission to support each of the points being made.

I will start with a general appraisal of the evidence presented to this Inquiry by the County.

Throughout this Inquiry, the County has presented a huge volume of repetitious documentation in an attempt to bury the truth about its TWA application. The reason for this is, no doubt, that the case for construction of a bus guideway is very poor.

The County has responded to the many objections to the application by producing long rebuttals, often delivered to objectors minutes before they were due to speak at this Inquiry. No doubt this is designed to minimise proper scrutiny of these rebuttals and to obscure the many valid objections to its scheme. Some examples will illustrate the general character of these rebuttals.

It is agreed by all the parties that the County's patronage predictions are entirely based on modelling the AM peak hour and then using a simple multiplier of 6 times to predict daily patronage. An objection was made [AH2/s12] that this multiplier is based on data from areas with much lower car ownership than rural South Cambridgeshire, and is thus inappropriate to predict off-peak patronage for this scheme. The County, in rebuttal [CCC/AH2/REB:s3.24], said simply that car usage in the AM peak hour has been accurately represented. The County could provide no rebuttal to the actual objection, so it has tried to disguise this by addressing a hypothetical objection not actually raised. Of course the actual objection goes to the heart of the County's case. The residents of Northstowe would use their second cars during off-peak times and the County's transport case would be fatally wounded.

Another objection [SA/2:s63] noted that flooding will render the maintenance track as proposed unsuitable for emergency access. The County, in rebuttal [CCC/SA2/REB:s3.76] said that all project details have been furnished to HMRI, who have made no comments on this issue. This rebuttal references a County Proof [CCC/SHD/5:s3.9-12] which references letters from HMRI [CCC/SHD/6:s6]. These actually show that on 25 August 2004 HMRI had expressed no objection to the **concept** of the proposed guideway. However HMRI had yet to receive a detailed design from the County. No doubt the County hopes no readers will follow up its references, for they will find the truth very different from that asserted in the rebuttal.

Still another objection [IB/2:s3.9] highlighted the County's claim in the TWA Application [CCC.A15:p445] of employment benefits from CGB, including 8 full time **equivalent** staff employed in maintenance of the guideway. This is contradicted by the County's claimed costs for running the guideway [CCC.A35:p16] which would not even meet the national minimum wage levels for these staff hours. The County, in rebuttal (CCC/IB2/REB:S3.9), said only that the staff would be subcontract staff,

presumably to avoid addressing the real issue - its cost and benefit claims are simply incompatible.

A comparison was made between the proposed guideway route from Oakington to the City Centre and an alternative existing bus route [AH/2A:s7.3-7] that offers the same journey time. This comparison received the rebuttal [CCC/AH2/REB:s3.45] that the alternative bus route included sections of road with a 30mph speed limit. The rebuttal did not mention the fact that two thirds of the journey time along the proposed 'guideway' route would be spent on congested City roads. These also have a 30mph speed limit, but a bus would average under 10mph on these roads [see CCC.B37:p53; on-road distance 2.1 miles].

Some especially flawed rebuttals have been placed in front of witnesses only during cross-examination, no doubt to minimise the risk that the flaws would be detected. For example, the County's claimed journey time savings are significantly dependent on the claimed accuracy of its own bus timetable 99. This timetable [CCC.B169] claims that a bus will run from the Science Park to the City Centre as quickly at 8.30am as it will at 6.30am. The absurdity of this is plain to anyone who has used the roads at these two times. Other timetables, published independently by bus operators [CI/9] tell a different and accurate story for the same bus route. The truth is important because it dramatically impacts the claimed transport benefits of CGB.

Evidence from daily A14 journey time measurements over 5 months was presented [MA/2:s4, CI/9] which shows that peak hour speeds on the A14 are substantially faster than claimed by the County [CCC.B37:s1.8, CCC.A39]. The County therefore produced a set of tables [CCC.B168] during cross-examination, containing a mixture of speeds in kilometres per hour and miles per hour, preventing easy interpretation. These tables claimed an overall A14 average speed of 38mph, ironically conceding that the County's previous lower claim [CCC.B37:s1.8] was wrong. Closer inspection of tables showed measurements were taken at a particular speed camera. The County has separately conceded during the Inquiry that this camera is located at one of the slowest points on the whole road section. Why does this detail matter? The truth is that average speeds on the A14 are much faster than claimed by the County and this dramatically impacts the claimed benefits of CGB.

The County has supplemented its evidence and rebuttals with a stream of notes to the Inquiry, containing misleading and selective information. For example, its note on rail capacity into Liverpool Street [CCC.B175] claims that capacity on this route is at 90% utilisation. It suggests that this limits the potential benefits of a Cambridge – St Ives railway. It omits to mention that most Cambridge-to-London trains, including all the non-stop fast services, use the alternative route to London Kings Cross. This note must be compared with another note from the County [CCC.B190] which says that a future Chesterton Station would provide an effective interchange for rail passengers to London that start their journeys from guideway stops on the St Ives railway formation. Suddenly it seems that capacity into Liverpool Street would not be a problem if the guideway were to be constructed – surely an admission by the County that a bus/rail interchange is much less attractive than a rail/rail interchange.

Regarding an East-West Rail Link, the County has discounted the recommendations of other multi-modal studies [CCC.B95] that a rail link into Cambridge should be

constructed close to the A428. Such a route would be prevented by the proposed guideway. The County has pointed instead to the SRA's recommendation that this section of the **rail** link should be a **bus** service.

The County has referred repeatedly to the alternative, much less direct rail routes recommended by the East-West Rail Consortium, of which the County is a prominent member. The study justifying support for these longer routes is, of course, confidential. However a note containing summary information [CCC.B145] shows that the consortium decided not even to study routes running close to the A428 at all. The fact that this much more direct route option was not even considered by the Consortium renders its conclusions unsound. Consortium proposals would lead to long rail journey times, providing an unattractive alternative to the private car.

The County has produced a note on indicative journey times on the Consortium's proposed routes. This claims [CCC.B184] that Cambridge-Bedford running times on routes considered by the Consortium would vary from 40 minutes to 52 minutes. However this note failed to point out that the shorter running times apply only to routes that the Consortium has already discounted after initial study [CCC.B145:s1.5].

I will now turn to the modelling results presented by the County, for the County has made much of the evidence from its modelling work, in support of its claims for the transport benefits of the guideway. The County has been very careful to present only partial results and never to present a complete set of data to the Inquiry, in order to prevent independent analysis of its conclusions. For example, on the County's own admission [CCC.B138], the comparative mode share data presented in the County's transport assessment [CCC.B45:appC1] has been so arranged that the catchment area for guideway services is wider than the catchment area for the 'do minimum' services against which they are compared, hence apparently generating extra trips for the guideway service. This, the County has claimed, undermines simple comparisons [e.g. PK/2:s3] that show how little extra patronage the guideway would attract. In fact it reveals that the County has overstated the comparative attractiveness of the guideway.

Naturally very few of the input assumptions for the County's modelling are published. It is well known that changes to input assumptions can be used to alter the outputs from any modelling exercise. And the changes made by the County have been enormous. In 2002 the County predicted a 4% reduction in A14 traffic [CCC.A28:p42], but as result of scrutiny by Government was obliged in 2003 to reduce the figure to 1% [CCC.A35:p51]. Since then, away from Government scrutiny, the County has raised the figure to 2.3% [CCC.B138], even though it says the number of predicted guided bus users stayed the same. Finally [CCC.B45:6.24] the County decided to alter its modelling approach radically, by adding new constraints to the model that led to much higher predicted use of the new Park and Ride sites. This led, of course, to a greater predicted A14 traffic reduction as well as improved mode shift projections. It is amazing just how flexible modelling tools can be.

Models are no more than simplified representations of a system, so that an essential part of interpreting any modelling results is a test that the results do not defy common sense. The County has failed to apply such tests. Even on the County's admission, reductions in A14 journey times resulting from the guideway would be small and imperceptible to motorists. Yet the County claims that most of the journey time

savings [CCC.A35:p51] will arise because motorists are attracted back to the A14 – because of its improved journey times, motorists will no longer prefer rat running through vilages. The whole of the County's case is undermined by a common-sense test – no A14 journey time improvement means no change in motorists' habits. Rat running is much more likely to be inhibited by traffic calming measures, which the County is anyway currently installing extensively in the villages along the A14 corridor.

Modelling tools can only provide any useful information if they realistically model the conditions on the ground. This is illustrated by another County note [CCC.B176], which predicts long and ever-increasing queues throughout the peak period if the level crossing in Milton Road is restored to railway use. Of course none of the modelling input assumptions are stated in this paper. However it is clear that those who built this simplistic model have not looked at the conditions on the ground at all. Observations at site [CI/25] have shown that flow rates are limited by the traffic lights either side, not by the crossing, and that the achievable flow rate across the crossing after barriers are lifted will allow queues at the crossing to dissipate, even at peak times.

The Statement of Matters refers to consideration of alternatives to the guideway; we will now consider the rail alternative. Mr Hughes told the local newspapers in June that 'the Inquiry is only looking into whether a guided bus scheme will be suitable, not looking at alternatives to it'. However the County has focused much attention on the railway alternative by dint of the amount of paper it has submitted the Inquiry about rail. There is the County's study by Atkins [CCC.B83], which systematically exaggerates the costs of building and operating a rail system.

For example this study claims the permanent way costs for a predominantly single line route from Regional College to Swavesey to be £10.3 million [CCC.B83:s7.3], plus additional costs of £4.4 million for site establishment [CCC.B83:s7.3, CCC/CI/REB2:s4.29]. In contrast CAST.IRON has produced budgetary quotes from contractors [CI/4] putting the total figure at £4.2 million, on the basis of inspection of the actual rail formation and its condition. These contractors based their costings on their findings at the site, which indicated that little formation renewal would be required. As a contingency CAST.IRON also obtained costings for the case where full excavation and preparation of the trackbed were required, with completely new ballast and substructure. This increased the cost to £5 million – still only a third of the County's claim. The County therefore made out [CCC/CI/REB2] that CAST.IRON's costs had allowed only for rail and sleepers, as a pretext for adding another £3.8 million for 'formation renewal' – excavation and disposal, bed preparation and ballast.
This is despite the quotes produced by CAST.IRON, which refer to plant for excavation and costs of disposal. However, on the County's request CAST.IRON has produced further correspondence from the contractors [CI/23], confirming that, yes, they had included for both ballast and site establishment in their costings, and yes, the County's extra £3.8 million and £4.4 million are both just fantasy figures.

The budgetary costings from permanent way contractors produced by CAST.IRON equate to roughly £350k per track kilometre [CI/23:s2.17/2.19], against the County's claim of around £1.2 million per kilometre [CCC.B83, CI/23:s2.20]. The County then went on to produce [CCC.B170] a permanent way costing for the single track

extension [CI/3] from Cambridge South Junction to Trumpington - this calls for 3 kilometres of completely new track, all the old track having been long since lifted. The County priced this section at £600k per kilometre. The trouble with applying exaggeration factors is that one may forget to apply the same one each time, so that occasionally a figure closer to the truth comes through.

The County has also applied exaggeration factors to its predicted rail journey times. The method used here was to assume very poor design of the rail system and then show that this poor design would result in unnecessarily poor system performance. For example CAST.IRON had suggested that low-speed sprung points should be used, with a speed restriction of 15mph. All points would be close to stations, so as to introduce the minimum running time penalties. The County in contrast produced an interpretation where points were remote from stations, necessitating additional acceleration and braking penalties. The County's response to a challenge to this approach [CI/4] was the incredible statement [CCC/CI/REB2:s4.40] that in the County's simulations the position of the points is immaterial. Thus modelling simply does not reflect reality – the time penalty of an additional acceleration/braking cycle is highly material. Throughout its study work, CAST.IRON has made use of real rail contractors and looked in detail at the real design of a rail system. In contrast the County has relied on simplistic simulations whose inadequacy has been exposed repeatedly during this Inquiry.

The County has claimed that the complete cost of a railway from Cambridge onto the East Coast Main Line would be £354 million. Mr Thorne was asked why this was so much more expensive than the £109 million quoted by CHUMMS in 2001 for a railway of the same length, which also including connection to the East Coast Main Line. He claimed that CHUMMS was merely a desk-top study, while the County had considered the detailed costs of a real rail system over the proposed route [CCC.B83]. Yet it turned out that Mr Thorne had budgeted £24 million to install a set of ladder points on the East Coast Main Line, at the exact location where there is already a set of operational ladder points. He explained that he did not know whether they would be suitable. It became very clear that the County has itself done no more than a desk-top study.

The County has provided no evidence at all that its claimed costs to either construct or operate a rail system come from real industry suppliers. This must be a particular concern in the light of its permanent way estimates, which account for nearly half of construction costs [CCC.B83:p36-7, CI/23:s2.20]. As we have seen, not only are the County's estimates vastly inflated compared with real quotes, but also there is no consistency within the County's own estimates.

The County's masses of paper on the rail alternatives are full of statements of 'causes for concern', intended to daunt the reader as to the inordinate number of issues that a rail system designer needs to know. Take the County's statement [CCC.B83:p53] that in a Driving Van Trailer the driver is unable to access a cab window. Mr Thorne was asked whether he was aware of the Driving Van Trailers operating on the London-Norwich line, in which drivers are perfectly able to access, open and lean out of a cab window. He replied that he was referring the fact that there are other Trailers that are differently built, and this was a relevant issue to bring before the Inquiry. Of course this is not how the County's written statement were intended to be construed – its

documents are designed to create the impression that these concerns are serious issues affecting the whole viability of the railway option.

Why do these details all matter? Because they add up to a systematic attempt to portray the railway option as much less attractive than it actually is. The Statement of Matters looks to this Inquiry to examine the main alternatives considered. The fact that the County has felt obliged to consider obviously sub-optimal versions of the rail alternative can only suggest that it knows that a high-quality rail system would be a better option than the guideway.

It should be remembered that when the County applied for Government funding for the guideway, it still maintained [CCC.A28:fig 3, CCC.A35:fig 3] that a guideway could be constructed along the railway line from Chesterton to the Railway Station. Yet at the date of the funding application the County already knew [CCC.A16:App 2A] that this was not the case. This leaves the rail option as the only realistic means to transport passengers across the City Centre without forcing them along the congested road network.

It should also be remembered that from 1993 to 1997 the County promoted reinstatement of the St Ives railway. During all of that time, the County assured us that the rail system could be run without subsidy and would run from St Ives to Cambridge in 22 minutes [CCC.A62]. Now that the County is promoting an alternative to rail reinstatement, it assures us that rail in the same corridor cannot operate without subsidy, despite the increased population along the route, and that the same DMUs would take 31 minutes to run from St Ives to Cambridge [CCC.B162]. County witnesses were asked why the railway had previously been so attractive, but it turned out nobody wished to answer that question.

The County has repeatedly said that LTP funding is not available for a rail system, but the recent change of policy by the Department for Transport [CI/7] means this is not true. Mr Hughes has conceded in his evidence that the County, in its haste to pursue the guideway, has not fully evaluated the alternative transport options. The County should now do so. The guideway proposals are flawed and so the haste in pursuing them cannot be justified.

And so we will now turn to the guideway scheme that the County is promoting and, as raised in the Statement of Matters, first to the anticipated transport benefits of the scheme. As the scheme has been subjected to increased scrutiny, the claimed Benefit to Cost Ratio has fallen over two years from 4.8 [CCC.A28:p57] to 2.3 [CCC.B45:appF]. The Ratio of 2.3 currently claimed is still a substantial over-estimate.

A number of significant factors undermine this ratio. 33% of claimed benefits come from journey time savings for users. We have already referred to the fact that the County's journey time saving calculations are significantly dependent on their claim that a bus will run from the Science Park to the City Centre as quickly at 8.30am as it will at 6.30am – something that commuters know is patently absurd, but which the County has steadfastly avoided addressing because of the significant impact on their economic case.

There is then the fact that the predicted 20,000 passengers per day depend simply on applying a factor of 6-fold increase to the modelled peak predictions. We have already referred to the inappropriateness of this factor for rural South Cambridgeshire and to the County's failure to address this objection, again because of its significant impact on the economic case.

Next there is the effect on the economic case due to the A14 upgrade and other planned road improvements. The Highways Agency has confirmed to this Inquiry [CCC.B167] that the A14 upgrade should commence in 2008/09, that the likely alignment will follow CHUMMS recommendations and that the inclusion of a local access road in the upgrade will improve flows on the trunk road without compromising local traffic movements. The Agency has also suggested that both trunk and access roads will be dual along the most heavily loaded sections. CHUMMS [CCC.A39 p5-3] indicates that this upgrade will reduce 2016 peak hour journey times by 20% compared to 2000 levels.

The benefits of this upgrade will be felt by local as well as long-distance traffic. This is not just due to the separation of local and long-distance traffic west of Cambridge. It is also because a significant amount of traffic that is local to the A14 corridor will use the new trunk road. For example, the commuter from St Ives or Bar Hill to the Science Park is local to the corridor but will use the new trunk road. The same commuter will also benefit from the improvements at the A14/Milton Road interchange that the County has announced that it will implement [CI/22], irrespective of the success of its guideway application.

In reality, all of the journey time savings on the A14 will come from the A14 upgrade and the guideway will make no measurable difference. This undermines the County's economic case. In addition, improvements in A14 journey times after the upgrade will act to reverse the mode shift from private car to bus usage. The guideway is likely to be in place for only 5 years before the A14 upgrade is completed. The stated economic case for the guideway depends on achieving benefits over 30 years, but only the first 5 years are valid.

After 5 years, the attractiveness of the guideway will also diminish for bus operators, as compared to routes using the A14. Dr Brett has told the Inquiry that the A14 upgrade will mean some bus trips along the A14 becoming faster than equivalent guideway journeys. Operators, who are faced with access charges on the guideway, can be expected to revert to the A14. Expressions of initial interest in operating services on the guideway should not be mistaken for a long-term commitment. It should be remembered that in Leeds, where the guideway runs in the centre of dual carriageway roads, a significant number of routes are operated along these roads and not on the guideway.

Taking into account all of these factors, the guideway is unlikely to achieve a Benefit to Cost Ratio of 1, let alone 2.3. The short-term traffic problems during the A14 upgrade call for a short-term solution, such as a temporary public transport lanes provided as part of the upgrade works.

We will now look at the quality enhancements that the County claims will attract users to the guideway services.

The County says that it will require low floor, low emission buses as part of the quality partnership set up with guideway service operators. Similarly it will provide joint ticketing arrangements, prepaid ticketing, real time information and CCTV at bus stops.

None of these quality improvements require the construction of the guideway. It is already County policy to apply many of them to its conventional bus services. The County already has a programme in place to provide real time information on bus services across the whole county and neighbouring counties, to be operational in 2005 [CCC.B67]. Low floor buses have already been deployed on a number key bus services. The County says that this has led to improved patronage of 15% over the last three years [CI/21].

Joint ticketing could be applied to existing bus routes, for example making the existing St Ives to Cambridge services into a true turn-up-and-go service. The County has conceded [CCC.A15:p53] that quality partnerships could be applied to conventional bus routes. OFT guidance of 2003 [SITC/7] makes it clear that joint ticketing could be implemented on conventional bus services, where it could be justified under current OFT criteria on exactly the same grounds as would apply to the guideway.

As for CCTV and prepaid ticketing, the County could also introduce these at selected conventional bus stops as part of a Quality Partnership.

The Statement of Matters sets out tests to be satisfied for compulsory purchase of land for the guideway. Applying these tests, is clear that none of these prospective quality improvements can be used as justification for constructing the guideway, since none are dependent on the guideway. On the County's own evidence, most of these improvements are already being introduced and are already providing a greater annual increase in public transport usage than is predicted from the guideway by the County.

During this Inquiry, Mr Hughes was questioned about why the introduction of low-floor buses would be a differentiator for the guideway, when the County was already so successfully introducing them onto conventional bus routes. He told the Inquiry that low-floor buses were just an example of a differentiator that could be used to make guideway services more attractive than conventional services. At this advanced stage of the County's proposals, it is too late for the County to argue that 'this is just an example'. Real differentiators that stand up to scrutiny are required, especially since all of the County's examples so far are fully capable of application to conventional bus services.

In the light of the success of the County's existing policies for improving patronage of conventional bus services, the County should abandon its guideway proposals and instead set up a number of key turn-up-and-go routes under a Quality Partnership with local operators. Some possible route options have been put forward to the Inquiry [e.g. PK/2A], which would attract just as much patronage as the guideway. Options that the County should explore include interchanges between such routes, with through ticketing. Where there is a reliable interchange between two frequent services and through ticketing, passengers will be prepared to plan journeys using more than

one route - this is widely and successfully implemented in many other countries. Careful design of new conventional bus routes would produce a bus system able to deliver the same benefits as the guideway, but without the costs or the compulsory land purchase.

Regarding comparison with alternative schemes, as raised in the Statement of Matters, the County has evaluated only poorly designed conventional bus alternatives, just as it considered only poor rail alternatives – this is another fundamental flaw in its economic case.

Although most guideway users would simply transfer from existing bus services, let us now turn to the minority who would make a mode shift from the private car, since this minority is highly significant to the County's transport case. 66% of benefits claimed by the County are non-user benefits, deriving from the decongestion resulting from mode shift.

On the County's own evidence [CCC.A35:p65, see also PK/2:s1.5], nearly all of its predicted mode shift is due to the two proposed new Park & Ride sites. The mode share analysis note provided by Dr Brett [CCC.B138] helps to highlight this point clearly. This note states that the County's most recently favoured modelling scenario, in which there is much greater predicted use of the two new Park & Ride sites, would double the number of cars removed from the A14. The point is clear – practically all of the benefits from the County's scheme come from the Park and Ride sites; practically no benefit comes from the guideway itself.

The turn-up-and-go conventional bus routes mentioned above would be just as suitable to serve the new Park and Ride sites as would the guideway. The various other options suggested by the County for increasing public transport share [CCC.B138] would increase use of turn-up-and-go conventional bus routes just as they would guideway services.

A combination of improved conventional bus routes plus the proposed Park and Ride sites is the Low Cost Alternative that the County should have evaluated - it produces nearly comparable benefits but with nearly none of the costs. Once again, the County's evaluation of alternatives is fundamentally flawed.

Such a low cost alternative would remove the need for most of the land purchase for which the County seeks powers. Its proposed long-term use of land breaks down into [RT/2] 11 Hectares for parking sites against 109 Hectares for the guideway. Two thirds of the land permanently required for the guideway falls outside Network Rail ownership.

Even if the claim of a Benefit to Cost Ratio of 2.3 could be sustained, it is highly relevant to the Statement of Matters to look at the clear evidence given to this Inquiry about where these costs and benefits come from. The benefits come from the new Park and Ride sites plus higher quality bus services, which can be operated under Quality Partnership arrangements whether the guideway is built or not. Yet the County puts the cost of the Park and Ride sites at £4 million, against the cost of the guideway at £82 million [CCC.A8].

In this light, we should look at the tests specified in the Statement of Matters as to whether there is a compelling case for compulsory purchase. There is no case in the public interest for the compulsory purchase of 109 Hectares of land for the guideway, since they are not necessary to deliver the benefits that the County seeks to deliver. The case for the 11 Hectares of Parking sites is much stronger, but this does not require the grant of this Transport and Works Act order.

For all these reasons, and on the basis of all the evidence presented to this Inquiry, we urge you Sir to recommend that this Transport and Works Act Order application be rejected.