

## **The Edinburgh Tram Inquiry**

### **Witness Statement of Professor John Kay CBE FBA FRSE**

Statement taken by Hannah Kennedy on 5 October 2016.

#### **Introduction**

1. My full name is John Kay. I am aged 68, my date of birth being [REDACTED]. My contact details are known to the Inquiry.
2. I am a Professor of Economics. I am currently an economic adviser to the Scottish Government's Brexit group called the First Minister's Standing Council on Europe. I joined in July 2016. My curriculum vitae is attached as an annex to this statement.
3. I was not affected by the Edinburgh Trams Project.

#### **My comments to the Inquiry**

4. I am a concerned member of the public and I believe it is important that the Inquiry should review the process by which projects, such as the Edinburgh trams project, are appraised. The key point is that the initial framework for appraisal for projects such as this is unsatisfactory. There are two aspects to that: a general aspect and a specific one.
5. The general aspect is that there is now an extensive history of projects, such as the tram project, massively falling short of revenues and exceeding costs. Major infrastructure projects are routinely subject to large cost over-runs compared to the initial projections. There is extensive work which demonstrates that proposition and I refer the Inquiry to the work of Professor Bent Flyvbjerg of Oxford University who has spent two decades compiling records of these experiences both in Britain and internationally. These failures of estimation appear to be particularly true of rail projects, including light rail. In my view the Inquiry should review that experience and understand why such estimation failure occur and what steps can be taken to prevent the continued recurrence of this phenomenon.

6. The second and specific issue, which is related but not identical is that transport projects in the UK are required to go through an appraisal process which is known as Webtag (Westminster Transport Appraisal Guidance)(a model devised by the Department of Transport in the Westminster Government). In Scotland we have a model called Scottag (Scottish Transport Appraisal Guidance)(also known as STAG). For practical purposes both Webtag and Scottag can be treated as identical. Both originate in the pioneering Cost Benefit Analysis which were undertaken in the 1960s. These models have since been developed and have become completely out of hand in terms of their complexity. They prescribe lists of assumptions, such as the UK economic growth rate 50 years from now or the average car usage 20 years from now, which are far beyond the scope of anyone's knowledge.

7. The complexity of this model has numerous malign results. Firstly, and fundamentally they are simply divorced from reality. The approach is to imagine what would be done if one had all the information now and in the future which should underpin an appraisal. Since very little of this information is in fact available, the guardians of the model simply make these numbers up. No confidence can validly be attached to these results. Secondly, undertaking such analysis is effectively confined to a small group of specialists who are committed to a particular methodology. In effect the analysis forms a black box which is impossible for outsiders to interrogate or query effectively. Further, since the range of admissible assumptions is very wide, results can be generated to meet the expectations and requirements of those who commission the study and this is routinely experienced in the case of major projects such as the High Speed link from London to Birmingham and the North (HS2). The opponents of that project are sufficiently well resourced to commission their own consultants to undertake a study which in that case, as in general, came up with diametrically opposed results. This process effectively excludes others from informed participation in the debate over economic costs and benefits unless those other parties commit to spending millions of pounds on their own modelling.

8. What should be done instead? I should make it clear that I am not opposed to, indeed strongly support, the use of models and quantitative analysis to appraise such projects. There is a continuing need for evidence based policy, but as in the case of the tram or as is powerfully illustrated by the experience of the assessment of the HS2, we have instead policy based evidence. Complex material is produced

effectively by the advocates of a policy, or in some cases its opponents, which serves as propaganda rather than to illuminate the central economic and business issues raised by large scale projects. The value of a model lies in identifying the limited number of issues on which an economic evaluation depends. In the case of the tram I believe it was and is not very difficult to identify the key issues requiring such further research:

- 8.1 the need for, and value of, a, light rail link to Edinburgh airport;
- 8.2 mechanisms for the provision of better public transport links to the Gyle/Edinburgh Park area;
- 8.3 the contribution of a tram project to the potential development of the Leith/Granton area; and
- 8.4 The preferences of users for trams over buses, and the extent of substitution of tram use for existing or prospective competing bus services.

9. Each of these four issues under should have received specific investigation. I would observe that:

- 9.1 The business case appears to have anticipated that public transport users to and from the airport would split about 3-1 in favour of the tram. In fact these proportions have been reversed – the split is about 3-1 in favour of the pre-existing bus.
- 9.2 Better access to office/retail premises in west Edinburgh is the principal benefit of the project as completed. Careful analysis of the nature of these benefits, and in particular the costs of providing such access in alternative ways eg by improved bus services, should have been provided.
- 9.3 The 'do nothing' benchmark in relation to new housing and other property development is plainly absurd. A careful exploration of the relative costs of alternative provision of services to these prospective developments should have been provided. In practice, of course, this is no longer relevant because neither the development at Granton nor the tram link to it have occurred. One might expect that if the superiority of the tram were material, a significant part of the cost could have been recovered from developer contributions. The risk that such development would not materialise was always real.

9.4 Passenger preferences for trams over buses appear simply to have been an assumption of the model rather than based on research on actual choices made in areas where these alternatives are available.

9.5 Unrealistic simulations purporting to determine the probability distribution of outcomes are no substitute for a considered analysis of the risks involved, including in particular the kinds of risk which generated such extreme cost overruns. If the risk assessment genuinely described the probability of outcomes then the trams project is so far out the range predicted by their probability distribution of outcomes that it is the kind of event that would occur once in the entire history of the universe. Although commonly adopted in these processes, this so-called risk assessment is worthless, as the trams project proved.

10. My overall point is that, despite the substantial expenditure on reports from consultants, the modelling framework used does not illuminate, but rather obscures the questions which a proper commercial assessment of this, or any similar, project would address. This has implications not only for the trams project - and any proposed extension – but for other large transport projects in the UK.

11. A focus on these or similar issues would have facilitated informed public debate about the best methods of meeting Edinburgh's public transport needs. It would have enabled councillors and the Scottish Government to make better informed decisions about the scope and desirability of the project and compare it effectively with alternatives. And such an appraisal could have been accomplished at less cost than the exercise which was undertaken.

12. With the Webtag/Scottag (STAG) model, a group of junior analysts can simply plug in the numbers to the model and allow the computer to produce meaningless numbers. What is actually required is people with experience in public transport projects elsewhere whose judgement and experience is applied to the model from the outset.

13. I have no particular expertise in the management of large infrastructure projects and my observations in that respect are limited to what has already been widely publicised over the years. Much of the information on which I based my observations appears no longer to be in the public domain. My observations are based on my qualifications and experience. I have long experience in the application of economic models to policy issues, beginning with my role in establishing the

Institute for Fiscal Studies over thirty years ago and subsequently establishing a major economic consultancy business.

14. I am concerned with the modelling on which the trams project itself was founded. I have no direct knowledge of any aspect of shortcomings in development or delivery of the trams project, although it is clear it failed on these. If the modelling had been done properly I think it very unlikely that the trams project would have been built at all. It is the principle of the model and its assessment method that I consider is relevant for the Inquiry to scrutinise. The poor modelling resulted in a white elephant.

15. I would like the Inquiry to look into the process by which projects, such as the trams project, get adopted. I have no direct knowledge of actual mismanagement of the trams project. I would say that universal use of the Scottag (STAG) model template should be abandoned and replaced with a purpose specific model (or models) which are relevant to the particular project being considered.

### **References to documents**

16. I have been referred to document number **CEC01609485** which is an email from Agnes Bicket, Media & FOISA Assistant of Transport Initiatives Edinburgh (TIE) Limited, dated 4 July 2007 to UK DL TIE Edinburgh (tie@tie.ltd.uk). The last paragraph of that email states: *"My colleague John Kay is to be a member of an impressive Council of Economic Advisers to Alex Salmond, Scottish Minister"*.

17. I have no recollection of having any association whatsoever with Anges Bicket of TIE Limited. I do not know why she has referred to me as a colleague. I have had no associations with TIE Limited. It is correct I was an economic adviser to Alex Salmond when he came to power as First Minister of Scotland. I was not an economic adviser to him concerning the trams project. I do not recollect discussing it at all with him except perhaps to say I did not consider it a good idea.

18. I have been referred to document number **CEC01235975** which is an email from Keith Anderson, Waterfront Development Partnership Director dated 30 June 2008 to Dave (David) Anderson Director of City Development, City of Edinburgh Council (CEC). The penultimate and final sentence of that paragraph states: *"You also said that Ministers' economic advisors and so Prof John Kay was mentioned some months ago. Will you or I contact him his comments on a draft final report we could send him during August"*.

19. I have no recollection of being approached by Dave Anderson or Keith Anderson or indeed by anyone from CEC. I have no recollection of a report. I had no connections with CEC and I was not an adviser to them in any respect. I did not advise them on the trams project.

20. I confirm that the facts to which I attest in this witness statement, consisting of this and the preceding six pages are within my direct knowledge and are true. Where they are based on information provided to me by others, I confirm that they are true to the best of my knowledge, information and belief.

Witness signature.....  .....

Date of signing..... 8 Nov 2016 .....