EDINBURGH TRAM (LINE ONE) BILL COMMITTEE AND EDINBURGH TRAM (LINE TWO) BILL COMMITTEE (JOINT MEETING)

Thursday 23 September 2004



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EDINBURGH TRAM (LINE ONE) BILL AND EDINBURGH TRAM (LINE TWO) BILL: PRELIMINARY STAGE1

EDINBURGH TRAM (LINE ONE) BILL COMMITTEE

4th Meeting 2004, Session 2

CONVENER

Jackie Baillie (Dumbarton) (Lab)

DEPUTY CONVENER

*Phil Gallie (South of Scotland) (Con)

COMMITTEE MEMBERS

Dr Sylvia Jackson (Stirling) (Lab)

*Michael Matheson (Central Scotland) (SNP)

*Mr Jamie Stone (Caithness, Sutherland and Easter Ross) (LD)

EDINBURGH TRAM (LINE TWO) BILL COMMITTEE

4th Meeting 2004, Session 2

CONVENER

*Bill Aitken (Glasgow) (Con)

DEPUTY CONVENER

*Jeremy Purvis (Tweeddale, Ettrick and Lauderdale) (LD)

COMMITTEE MEMBERS

- *Marilyn Livingstone (Kirkcaldy) (Lab)
- *Kate Maclean (Dundee West) (Lab)
- *Stewart Stevenson (Banff and Buchan) (SNP)

THE FOLLOWING GAVE EVIDENCE:

Keith Holden (National Audit Office) Stewart Lingard (National Audit Office)

CLERK TO THE COMMITTEE

Jane Sutherland

CLERK TO THE COMMITTEE

Graeme Elliot

LOCATION

Committee Room 1

^{*}attended

^{*}attended

Scottish Parliament

Edinburgh Tram (Line One) Bill Committee and Edinburgh Tram (Line Two) Bill Committee (Joint Meeting)

Thursday 23 September 2004

[THE CONVENER opened the meeting at 12:53]

Edinburgh Tram (Line One) Bill and Edinburgh Tram (Line Two) Bill: Preliminary Stage

The Convener (Bill Aitken): Good afternoon, ladies and gentlemen. Welcome to this joint meeting of the Edinburgh Tram (Line One) Bill Committee and the Edinburgh Tram (Line Two) Bill Committee. We have received apologies from Jackie Baillie and Dr Sylvia Jackson, both of whom had previous engagements that they could not break.

The purpose of this meeting is for us to receive a presentation from the National Audit Office. I am pleased to welcome Keith Holden and Stewart Lingard, who have come from London to give evidence to the committee. We will ask those gentlemen to give a presentation, which will last approximately 20 minutes. Thereafter members will question them on the presentation. We will not ask them about the specifics of the Edinburgh tram line proposals, as they are not in a position to address those issues. Members should avoid questions about the specifics of the proposals.

I open the floor to Keith Holden and Stewart Lingard and ask them to let us have the benefit of their sound advice.

Keith Holden (National Audit Office): Good afternoon, ladies and gentlemen. I am the National Audit Office director responsible for transport value-for-money studies. Stewart Lingard is an audit manager on my team. He managed the report that we published in April this year on the provision of light rail services in England, their success and the associated success factors. Most of that work was carried out in 2003. Our report included а number of international comparisons. Stewart and other members of the team went to France and Germany to make comparisons with experiences there. I now hand over to Stewart, who will run members through the presentation.

Stewart Lingard (National Audit Office): The two issues that we tried to address in our study

were, first, whether light rail systems in England deliver sustainable benefits at the expected cost and, secondly, what barriers exist to the further development of light rail schemes and how they might be overcome. One reason to consider the second issue was that the Government's 10-year plan for transport includes a target to build up to 25 new lines in England by 2010. Early in our preliminary work, we found that there will be significant barriers to meeting that target.

To give some background, seven systems have been built in England since 1980: Tyne and Wear metro, Docklands light railway, Manchester metrolink, Sheffield supertram, Midland metro, Croydon tramlink and, most recently, Nottingham express transit. The systems are promoted by local authorities, although most were built, and are privately run, by commercial firms. One exception is the Tyne and Wear metro, which is run by the local passenger transport executive. Since 1980 around £2.2 billion—a not insubstantial sum of money—has been spent on schemes, to which central Government has contributed the largest share and more than 50 per cent of costs. When the study was carried out, there were around 138 million passenger journeys a year on light rail, although, obviously, the figure is minuscule compared with the figure for passengers travelling by bus.

On the methodology of our examination, we chose several systems as case studies, to allow us to consider them in depth. We chose the systems in Manchester, Sheffield, Birmingham and Croydon and we also considered the Sunderland extension to the Tyne and Wear metro. We considered the systems in the round, including issues such as performance, cost and financial performance. We carried out a survey of all local authorities that do not have a light rail system and asked them what the main barriers to such a scheme in their area were.

We consulted widely with stakeholders such as private sector investors, operators, bus companies and anybody we could think of who might have a stakeholding in the building of a light rail system. We also visited Lyon and Grenoble in France and Freiburg and Karlsruhe in Germany in order to draw comparisons with English systems. We received expert advice from promoters and private sector consultants. One of the first things that we did was to run a focus group of promoters and managers of systems from passenger transport executives in England.

13:00

What did we find? The headlines were the good things about light rail, and we think that such systems are basically good. They provide fast, frequent and reliable services and comfortable,

safe journeys. All the systems have easy access for the disabled. Representatives in each city that we visited said that their system enhanced the quality of life in their city and passengers were generally satisfied with the systems.

We also found that light rail systems encouraged a shift from car use, but I shall not go further than that at the moment. They are perhaps the one mode of transport in English cities that could get people out of their cars and on to public transport. Light rail systems also mean less noise and less on-street pollution. Overall, we had positive views about light rail.

On the deficit side, however, one of our main findings was that the benefits of light rail are not being exploited to the full. Passenger numbers on almost all the systems—all of them except Manchester metrolink—were far lower than had been expected when the schemes were being promoted. Therefore when the systems were up and running, there were far fewer overall benefits for people in those cities than expected.

We found that systems were not fully integrated with other forms of transport, such as heavy rail systems and bus services. It is not easy to transfer from light rail to a bus or to heavy rail in many cities. In some cities there are no common tickets to enable people to use all forms of transport. Although, as I said, light rail systems encourage people to leave their cars at home, we found that their overall impact on congestion has been limited. We thought that that was probably because the vacant spaces created by people switching from cars to light rail systems have been filled in by other people making other car journeys for other reasons. We also found that measures that might have been taken to restrict car use were not being put in place.

We also wanted to see what impact the systems have had on regeneration and social exclusion. There has not really been much research on that to date, so our finding was that it was not clear whether such systems have had an impact.

Many of the systems run by private sector operators are running at a financial loss. The Department for Transport in England expects the schemes to be self-financing, so to a certain extent it is not interested in whether the private sector is making a loss on such systems. However, with losses of up to £11.4 million a year, what seems to be happening is that the private sector is putting up its prices, which is leading to an increase in the cost of building and operating the systems. The schemes running at a financial loss are Midland metro, Manchester metrolink, Croydon tramlink, Tyne and Wear metro and Sheffield supertram. The main reason for that, we think, is that patronage has been well below forecast. That has been one of the main problems.

We also found that some planned features of the systems that might have increased patronage, such as park-and-ride sites, have not been built, although they had been planned for. The private sector firms that constructed the systems chucked out such proposals at the development stage to save money.

As I said, the 10-year plan for transport envisages that up to 25 new lines could be built in England by 2010, but that will not happen. Cost is the most significant discouraging factor. New systems are more expensive to build, cost estimates of proposed schemes are rising and fewer firms are competing for the contracts to construct and operate systems—all those factors lead to higher costs.

There are other barriers to development. The poor financial performance of many systems discourages the private sector, as does the fact that the private sector has to bear all the revenue risks. The sector does not have control over certain aspects of schemes, such as fares, in many cities, so it does not want to bear the revenue risks. Many local authorities are put off by the expense that they would incur in the promotion of schemes, some of which do not go ahead. I think that one authority told us that it was costing it up to £1 million a year to promote the scheme, without there being any certainty that the scheme would go ahead. Schemes are often dependent on central Government moneys and there are few local funds to exploit. With the exception of London, no city in England is taking advantage of congestion charging, which might offer a source of local funds.

We found that the Department for Transport's planning approval process takes 8.5 years on average, which is too long. The department's targets for approval are being missed.

There is a lack of local authority expertise and understanding of what works—mainly in the smaller local authorities, rather than the larger passenger transport executives. For example, authorities were uncertain about whether trams could run in their older streets—we can call them heritage streets. That is not a problem in France and Germany, where we found major differences in the way in which schemes are installed and operate.

There are more systems in France and Germany. In France, 11 cities have or are installing systems. Germany has a lot more systems—around 50—partly because older tram systems that were built in the 19th and early 20th centuries were not abandoned but have been updated. In France, as in the UK, such schemes were done away with after the second world war. The French have been building systems from scratch since the 1980s.

France and Germany have greater reported patronage per kilometre, but the word "reported" might be significant, because we do not know whether the figure has been audited to the extent that we audit figures in the UK. However, it is largely true to say that there are denser urban corridors in many French and German cities.

Different designs are used in France and Germany. There is a greater degree of segregation than there is in England and trams, like rail vehicles, enjoy virtually 100 per cent priority over other traffic at junctions. In several English cities, light rail vehicles have to stop at traffic lights to let through road traffic.

We were impressed by the extent to which the French and German systems integrate with other modes of transport. They also connect centres of activity such as hospitals and shopping centres, whereas our systems have tended to use disused heavy rail lines, which do not necessarily pass through such areas.

In France, when new light rail lines are constructed, streets are redesigned and regenerated and heritage streets are preserved. Although one of our bullet points mentions

"less use of disused heavy rail routes"

in the French and German systems, I have to say that I did not see any disused heavy rail routes being used for light rail developments in France. They all tend to be street-based. I should also point out that French and German light rail systems are heavily subsidised and French light rail developers have access to a local transport tax.

I will now outline some of the NAO's recommendations, several of which centre on realising more benefits for passengers. We want better integration and the introduction of park-and-ride schemes to be conditions of the Department for Transport grant to local authorities. We also note that there is no reason why light rail vehicles should not be given priority over other road vehicles at all junctions, which is what happens in France and Germany.

Other NAO recommendations are concerned with bringing down costs. In England, each city that has built a light rail system seems to have redesigned the wheel. Each city wanted a system that was tailored to its own needs and we felt that there was much greater scope for standardising design.

A lot of money is being spent on utility diversion and several consultants we spoke to questioned whether such work was always necessary. We also thought that, in the medium to long term, consideration should be given to greater track share with heavy rail. Track share has been

extremely successful particularly in Karlsruhe in Germany and I am sure that the French will adopt it in the near future. We also recommend that local authorities should try to encourage take-up by building in integration and schemes such as parkand-ride.

The contracts for building the systems in England are all different and the department should evaluate the procurement methods to ascertain which is the best and how financial viability can be improved. Moreover, we believe that there is scope for developing sources of local funds such as congestion charging.

The Convener: Thank you very much for that presentation. Do you have anything to add, Mr Holden?

Keith Holden: No. We are happy to take questions from members.

13:15

Stewart Stevenson (Banff and Buchan) (SNP): To save time, I will ask my two questions together. In this study or in other studies, have you been able to tease out the particular benefits that light rail systems can or should contribute? For example, is their value in the use of dedicated track, or in customer acceptance of this form of transport over others? Where does their value lie?

Secondly, have you considered the financial and societal benefits that might derive from using the money that could be spent on light rail systems in other ways? For example, trolleybuses might use the same dedicated routes but involve a diminution in the amount of infrastructure required; or the investment could go into the bus service. You have considered how light rail systems work. Why are they important and could we get a better return on the public's money by considering other types of investment in public transport?

The Convener: Two questions, gentlemen; two replies please.

Keith Holden: I will take the questions in reverse order. The work that we did was not a comparative value-for-money study; we did not compare light rail with alternative systems. We did not ask whether, if you had £400 million to spend, you would get a greater return—more bangs for your buck—by investing in light rail rather than in other modes of transport, such as trolleybuses.

Stewart Stevenson: Have you done it in any other study?

Keith Holden: No. We tend not to take that approach. We start by saying, "Okay, the Government has invested this amount of money in this particular activity. Has it achieved its objectives? If not, why not? If it has achieved them, how did it achieve them?"

Your first question was about the key features and success factors of light rail. From my perspective, as the director of this particular piece of work, I would say that the key thing is to attract passengers. If you do not attract passengers, you will fail. It is as simple as that. The question then is how to make a light rail system as attractive as possible to passengers, to encourage them to get out of their cars. Altering people's behaviour is very difficult. Instead of walking out the door in the morning and getting into the car-which might be air-conditioned in the summer and nice and warm in the winter-people would have to walk to the nearest light rail stop. You therefore have to work very hard to make light rail at least as attractive as the car, but ideally more attractive.

How can that be done? You have to make the services fast and frequent, as you do not want people to be standing around stations for 10 minutes, 20 minutes or half an hour. That would be disastrous, because people would walk away. You have to make the services punctual and reliable. They have to get people from A to B as quickly as possible.

Stewart Stevenson: Have you engaged with customers and non-customers in the areas where light rail systems have been implemented, to determine their attitude to using or not using the service?

Keith Holden: No. We drew on evaluation studies of passenger satisfaction, passenger numbers and so on that were carried out by the Department for Transport, various local authorities and, to some extent, the bus operators. The studies considered the factors that either were driving an increase in passenger numbers or were causing passenger numbers not to reach planned levels. We have not done direct studies ourselves, but we have received the information through other routes.

The bottom line is to ensure that you run a light rail system on the right route and attract passengers on to the trams.

Michael Matheson (Central Scotland) (SNP): In your presentation, you stated that light rail systems

"encouraged a shift from car use".

Would you expand on what you mean by that?

Stewart Lingard: As I tried to say, of the different modes of public transport—buses, trolleybuses, underground or light rail—light rail seemed to us to be the mode of transport that was most likely to get people out of their cars. People who drive cars perceive light rail to be a fast, frequent, modern service that they might want to use whereas they perceive buses and underground systems to be old-fashioned forms of

transport that they might not want to use. Further, those forms of transport might be clumsy for disabled people to use. The Government has tried to use light rail as a means of coaxing people out of their cars.

Keith Holden: Mr Matheson is probably trying to draw out of Stewart Lingard a recognition that the Government has to some extent tried to encourage a shift from car to light rail. The key issue relates to a simple dynamic: if a good number of people start to use light rail, they will leave their cars at home, which means that there is more space on the road for other people to fill. There is a problem of backfill. That issue of generated traffic also comes up in relation to the building of new roads because new roads make it easier for people to drive from A to B, which means that more people will drive. There is an argument for tackling congestion by making driving so difficult that people are forced off the road and on to other forms of transport.

That is an outline of a problem that is associated with light rail. Although we can say that light rail is attracting however many million passengers a year, it is also freeing up road space, so we might not end up with a reduction in congestion that is proportionate to the number of people who are using light rail.

Michael Matheson: From your examination of the schemes that are operating in England, have you been able to identify the number of car users who have transferred to the light rail schemes?

Keith Holden: We did not cover that specifically in the report.

Stewart Lingard: Some analysis of the transfer of people from buses and cars to light rail has been done in Manchester, Sheffield and Croydon. Each study showed quite large shifts of up to 20 per cent from car use to light rail use. However, there has been hardly any resultant congestion relief in any of those cities. Croydon has had the greatest amount of congestion relief, which is probably because it introduced some complementary car-restriction measures such as reducing the number of parking places and restricting slightly the roads that cars could use.

Phil Gallie (South of Scotland) (Con): I am interested in what you said about Manchester, as that is the only scheme in which passenger numbers are up and it seems the most financially viable case. I note that, recently, Manchester abandoned the idea of extending the light rail route. Why would that be, given that the scheme has been such a success?

Keith Holden: We do not have any details about that, as that decision was made subsequent to the work that we did on our report. From what I have read in newspapers, I would say that the

decision was probably to do with an escalation in costs and the question whether the council could get the level of grants that it wanted from central Government.

Phil Gallie: My impression is that many of the light rail systems tend to help city centres. However, will that not result in the reverse of the objective, because people will drive into the cities to meet the light rail system? That will increase car usage rather than reduce it.

Keith Holden: Potentially. One of the key things that we concluded was that light rail is not a panacea. By itself, it is not enough. It needs to be seen within the context of a portfolio of complementary measures, such as park-and-ride feeder systems. People can be encouraged to use the park-and-ride system outside the city centre, which could be integrated with the light rail system and measures such as parking restrictions. There are things that need to be done in addition to building a light rail system; otherwise scenarios such as the one that you describe could happen.

Phil Gallie: One of the NAO's objectives is to encourage further use of light rail systems. If that is the case, do you encourage the use of circular routes in city centres or, given your answer, would it be much better if the systems extended well into the outskirts rather than just being closed loops?

Keith Holden: I do not think that we have a specific view on whether a closed loop is good, bad or indifferent. The better way of looking at it is to make sure that the right route is chosen. Stewart Lingard mentioned earlier that French and German systems make sure that the right connections are made where there are centres or points of economic activity such as hospitals, schools, universities, colleges, shops and the business district. Those places are the centres of economic activity and that is where the patronage base is. The route itself is the key.

Some English cities that we examined put the systems in place just to improve public transport—to get commuters into the town centres from the outskirts and suburbs as quickly as possible, and then get them back out again at the evening peak hour. In other places, such as Sheffield, the light rail system was used quite heavily for regeneration of parts of the city centre. That is fine, as that was the outcome of a local democratic decision. However, the problem was that after the system was designed and the routes were chosen, a significant amount of the high-density housing along those routes was knocked down and the people who were living there were moved elsewhere, so the patronage base was lost.

The key thing to do is to look ahead. If you are seeking to introduce a system in six to eight years, you need to look forward to make sure that the

existing patronage base will still be there when you open. The question is not whether the system should be radial or circular; the key thing is to ensure that the routes that you choose are the right routes and that the people who live on those routes and who want to get from A to B will still be there when you open the system.

The Convener: Jamie Stone has a question on that point.

Mr Jamie Stone (Caithness, Sutherland and Easter Ross) (LD): It is a separate point.

The Convener: Carry on then.

Mr Stone: You talked about the possible use of heavy rail. By definition, I would have thought that trams were like buses and Mrs Mackenzie might take a wee bit of time to find her change to pay for a ticket. The trams might start at 10-minute intervals but eventually some will be faster than others. Is there not a danger that our bright, new, red tram might get run down by Richard Branson's Virgin express hurtling along?

Keith Holden: Sorry—

Mr Stone: If we put a tram on heavy rail, and a tram cannot stick bang on to a 10-minute schedule because there are bound to be delays, is there not a chance that a big goods train or passenger train will come thundering through? Is it not just plain dangerous having trams on heavy rail?

Keith Holden: That is one of the issues that will have to be sorted out with the tram-train concept. It is being used in Germany, as Stewart Lingard has mentioned.

Stewart Lingard: In Germany, that issue was sorted out, but you are quite right that it is a big issue. You have to ensure that that sort of thing is not going to happen.

Keith Holden: We know that the Strategic Rail Authority, which will be abolished next year, has been considering that option. Of course, the idea is not appropriate in all locations. It might be appropriate on the outskirts of cities where people want to get from A to B as quickly as possible along a commuter route. In some cases, heavy rail lines are underused and there might be a window of opportunity to put in a light rail system. There are all sorts of other issues that we have to take into account. There are technological issues with the need to ensure compatibility between the light rail vehicles and the heavy rail lines. We know that that is possible, because it is working in Germany.

13:30

Stewart Lingard: One of the main advantages of track share is that the light rail vehicles travel very quickly from suburban areas to the town centre and can then go through the town centre as

well. The normal suburban railways often have to stop at a station that is outside the city centre and then people have to transfer to another mode of transport to get into the centre. In Germany, that has been overcome, particularly in cities such as Karlsruhe.

Marilyn Livingstone (Kirkcaldy) (Lab): Like Phil Gallie, I am interested in how Manchester has bucked the trend. In your report, you say that there is sometimes overcrowding there. Why are the trams so popular there? You were talking about encouraging people out of cars by having trams with air conditioning and heating and so on. Is there a lesson to be learned from Manchester, or is it to do with the sheer numbers of people? What are the reasons behind Manchester's success?

Secondly, your report mentions the

"Complexity of the delivery chain".

There are sometimes a high number of partners. What lessons are to be learned from that and how can we alleviate the problems?

Keith Holden: I will take the first of those questions: I think that Stewart Lingard will be better able to answer the second. Manchester got it right. It is obvious that the right routes were chosen there, with Manchester phase 1 and Manchester phase 2. The Manchester system is overcrowded at peak times, as it is so popular. Places where there are people who are economically active were picked and that was got right. However, the patronage was underestimated, whereas patronage overestimated in all the other light rail systems. The overcrowding problem can be alleviated by putting on more frequent services and buying additional trams.

You should recognise that local economies and local demographics have a major impact on light rail systems, particularly if they can take up to 10 years from conception to delivery. All sorts of things can happen in that time. Manchester, as a local economy, boomed during the 1990s, and the Commonwealth games were held there a couple of years ago. The state of the local economy will have a major bearing on the success of a light rail system, particularly if it is developed and implemented within a wider context of city centre regeneration, as was the case in Manchester.

Stewart Lingard: The Manchester system used a disused heavy rail line between Altrincham and Bury. There is now a fast commute from Altrincham and Bury straight into the city centre, where the system goes on to the streets. That is what has attracted it to people. It offers a fast run into Manchester—it goes straight into the city centre. The second Manchester line, which runs from Eccles into the centre, has been less successful, because it takes a very long time for

the tram to get into the city centre from Eccles. It is no quicker than the bus. That is a key factor.

The second question was about the delivery chain. Were you referring to the way in which the trams are built?

Marilyn Livingstone: No. Your report mentions

"Complexity of the delivery chain, where delivery of light rail schemes depends upon several partners to be fully effective".

Stewart Lingard: That is to do with all the partners who are involved in getting things delivered.

Marilyn Livingstone: What lessons have been learned from that?

Stewart Lingard: There are many partners in such schemes. The private sector partners in particular are the ones who have to work together. I noted that, in some of the contracts for getting light rail schemes built and run, the operators and the builders were not necessarily all pulling in the same direction. The builders' objectives are different from those of the operators: the builders, for example, cut out the park-and-ride sites, whereas the operators are very interested in park and ride, because it will increase their patronage. Therefore, the form of contract under which such schemes are built is important. That is one of the main lessons.

It has been suggested that the Lewisham extension to the Docklands light railway has been one of the better contracts, although I have not examined it in any great detail—it was not one of the schemes that we examined. That suggestion was made because there were two separate contracts: one for building the scheme and one for operating it. When the scheme was built, the operator knew exactly what he was getting; in other schemes in which there was a design, build, operate and maintain—DBOM—contract, that was not necessarily the case.

Kate Maclean (Dundee West) (Lab): That covers one of my questions, which was about the planned features of the system, such as park and ride. You are saying that park and ride should be built in at the contract stage, because otherwise the developer cuts and runs, leaving the operator to lose money because an essential feature of the scheme is absent.

On subsidies, you said that several systems run at a financial loss and that the Department for Transport expects schemes to be self-financing. Must they be totally self-financing or are local authorities allowed to subsidise unprofitable routes or times? Local authorities are able to subsidise private bus companies to provide bus services to areas or at times of the night that are unprofitable. In Scotland, millions of pounds of subsidy go to

private bus companies to provide such services, but I suppose that those services help with social inclusion and regeneration, so local authorities see their subsidy as part of that package. Would it help the financial viability of the systems if local authorities were able to finance unprofitable routes and times and would that be a good idea?

Stewart Lingard: As far as I know, the only system in England that is subsidised by the local authorities—the local PTE—is the Tyne and Wear metro; the others are not subsidised. The Department for Transport says, as a condition of grant, that schemes cannot be subsidised but must make a profit from revenue. I really do not know whether it would be a good idea for local authorities to subsidise them.

Keith Holden: We cannot comment on that, because it is a matter of policy.

The Convener: In fairness, gentlemen, you are being put a little bit behind the 8-ball on that one.

Kate Maclean: If transport is to be part of a strategy to regenerate areas and socially include people who are currently socially excluded, it would not seem unreasonable to put some subsidy into it. If the subsidy is for an area, that is fine, but if it is for transport, that is fine, too. Given that buses can be subsidised in Scotland, it does not seem to make sense that other forms of transport cannot be subsidised.

Keith Holden: The only two things that we can say on that are that it would be helpful if local authorities could offer subsidies and that you are right in pointing out the contrast between light rail and buses.

Jeremy Purvis (Tweeddale, Ettrick and Lauderdale) (LD): We have discussed patronage at length, but I presume that the potential operators use patronage reports that are based on public transport models, which have fallen short in some regards. Should the models be reviewed? Are they systemically flawed?

Stewart Lingard: The reports have been based on such models and you are right that they have fallen short, although, in one or two cases, the private sector operators decided to use their own patronage estimates, which were sometimes higher than those in the models that they had been using. That was particularly true in the case of the Croydon tramlink.

Jeremy Purvis: You refer in your report to the potential motives for that.

Stewart Lingard: Yes. There was an optimum bias in the models, somehow.

Keith Holden: Attempts to estimate patronage for all sorts of public sector and private sector investments are always fraught with risk.

Throughout the United Kingdom there countless examples of facilities on which large sums of taxpayers' money have been spent in the expectation that they would break even and attract a certain number of visitors, but which have not achieved those numbers. Light rail is no different; the key is to recognise the risk. We should look very hard at passenger numbers and carry out a sensitivity analysis to ascertain the impact on a scheme's viability if numbers were to fall short by a significant percentage. We should question who puts the numbers together and what conflicts of interest or vested interests might be driving them and we should consider how good the model is. The area is vast and fraught with risks, but it is fundamental to any investment appraisal.

Jeremy Purvis: In the projects that you investigated, did changes of policy have an effect on patronage levels? I am talking about policies that might have introduced a positive or negative element to a project, such as park-and-ride schemes, further development in the area of the line or the introduction of subsequent charges. For example, your report mentions a local percentage tax in Grenoble, but it does not make it clear whether the tax was in place and formed part of the initiative from day one.

Keith Holden: The housing policy issue in Sheffield, which I mentioned, is one example. We should bear in mind the fact that the housing department that went ahead with knocking down all those houses was part of Sheffield City Council, which was promoting the light rail scheme—that demonstrates that there was a lack of joined-up thinking. There are examples of developers trying to cut costs by, for example, abandoning plans for park-and-ride schemes, as Stewart Lingard mentioned. Such cuts prove to be a false economy because ultimately they cut into a scheme's patronage base. We found a few examples of changes being made to the number of stations on a line or the number of vehicles, but I do not think that we came across other policy changes that had an impact. Obviously the key is to ensure that there are no policy changes, or that changes that are made between the design of the scheme and its eventual opening are complementary and do not cut across the hoped-for success of the scheme.

Jeremy Purvis: I have a final question about the cost of bringing projects to reality. You mentioned risk. As a result of your inquiries, do you have a view on whether new schemes should have a grant-based, private-finance-initiative-based or hybrid funding model?

Stewart Lingard: We would like the Department for Transport to carry out an exercise to determine the best contract model for building and operating systems. I would not like to say that PFI, DBOM or

even the Lewisham model that I mentioned was necessarily the best model; there should be a proper economic analysis of each type of contract.

Keith Holden: I understand that the Department for Transport is taking action on the basis of the recommendation in our report.

Jeremy Purvis: I was going to ask whether the Scottish Executive is taking similar action, but we should put that question to others.

The Convener: That would be more appropriate.

Gentlemen, we are obliged to you for your presentation and for answering our questions so clearly. You have given us much food for thought and perhaps a few concerns.

Meeting closed at 13:45.

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