TRANSPORT, INFRASTRUCTURE AND CLIMATE CHANGE COMMITTEE

Tuesday 2 February 2010

Session 3

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TRANSPORT, INFRASTRUCTURE AND CLIMATE CHANGE COMMITTEE
3rd Meeting 2010, Session 3

CONVENER

*Patrick Harvie (Glasgow) (Green)

DEPUTY CONVENER

*Cathy Peattie (Falkirk East) (Lab)

COMMITTEE MEMBERS

*Rob Gibson (Highlands and Islands) (SNP)
*Marlyn Glen (North East Scotland) (Lab)
*Charlie Gordon (Glasgow Cathcart) (Lab)
*Alex Johnstone (North East Scotland) (Con)
*Alison McInnes (North East Scotland) (LD)
*Shirley-Anne Somerville (Lothians) (SNP)

COMMITTEE SUBSTITUTES

Alasdair Allan (Western Isles) (SNP)
Murdo Fraser (Mid Scotland and Fife) (Con)
David Stewart (Highlands and Islands) (Lab)
Jim Tolson (Dunfermline West) (LD)

*attended

THE FOLLOWING ALSO ATTENDED:

Margaret Smith (Edinburgh West) (LD)
Jim Tolson (Dunfermline West) (LD)

THE FOLLOWING GAVE EVIDENCE:

David Anderson (Transport Scotland)
Alan Duff (Arup-Jacobs)
Mike Glover (Transport Scotland)
Frazer Henderson (Transport Scotland)
John Howison (Transport Scotland)

CLERK TO THE COMMITTEE

Steve Farrell

SENIOR ASSISTANT CLERK

Alastair Macfie

ASSISTANT CLERK

Clare O'Neill

LOCATION

Committee Room 2

Scottish Parliament

Transport, Infrastructure and Climate Change Committee

Tuesday 2 February 2010

[THE CONVENER *opened the meeting at 14:01*]

Forth Replacement Crossing

The Convener (Patrick Harvie): Good afternoon. I welcome everyone to the third meeting this year of the Transport, Infrastructure and Climate Change Committee. We have no apologies to record for today's meeting. As usual, I remind all present that mobile devices of any kind should be switched off.

Both items on today's agenda concern the proposed new Forth road bridge. Agenda item 1 is a project update. Under agenda item 2, we will hear evidence from the same witnesses on the public transport elements of the Forth Crossing Bill. I welcome the witnesses from Transport Scotland's Forth replacement crossing team: Frazer Henderson, who is the bill manager; John Howison, who is the interim project director; Mike Glover, who is the commission project manager; and David Anderson, who is the head of transport economics, analysis and research in the team. In addition, we are joined by Alan Duff, who is senior transportation adviser with Arup-Jacobs. Do the witnesses want to make any brief opening remarks before we begin the formal questioning?

John Howison (Transport Scotland): Thank you for this opportunity. When I previously gave evidence to the committee on 23 June last year, I was able to give an informal summary of the scheme prior to the bill's introduction, which took place on 16 November. In addition to introducing the bill, we have made progress on securing procurement of the project, although completion of that will be subject to parliamentary authority. It should be noted that the project is to be delivered in three contracts. The bidding process has been started for the first of those contracts, for the new crossing and for the connecting roads, with invitations issued to two consortia, each comprising four major international contractors. The other construction contracts will be procured later this summer.

I can discuss in more depth how far we have got with the project if that would be useful at this stage.

The Convener: It would be useful to hear whether there has been any change in the project milestones since our previous update in June. Is the timescale that was previously envisaged still the timescale to which people are working?

John Howison: Yes. We published the bill on 16 November and started the procurement process for the principal contract on 4 December. Those dates are pretty much within a week of the timetable to which we have been working, so we are on target for delivering the project.

The Convener: Assuming that the Parliament approves the proposals, are you still confident that 2016 will be the delivery date?

John Howison: Yes, I am.

The Convener: The Government is still giving a budget range of £1.7 billion to £2.3 billion. Are you confident that the project is on budget and that it will be delivered within that range?

John Howison: Yes. I recall that there was a considerable discussion about costings the last time I appeared before the committee. I hope that the financial memorandum provides a lot of clarification. It says that we expect the work to cost around £1.345 billion at 2006 prices. We expect that the cost of the scheme that is the subject of the bill will most likely come out at £2.044 billion at outturn prices. On the uncertainties and particularly the inflation range, we are still working within a price range of £1.7 billion to £2.3 billion, which the minister announced on 10 December 2008.

The Convener: How do you respond to the popular expectation that, in general, the figures for any large construction project will look much bigger by the end of the process than they look at the stage that the project we are discussing is at?

John Howison: The critical time to reassess is when we get in the actual prices from contractors. That is what we are working to, and those prices will be submitted in December. Up to that point, we are simply looking at our expectation of the prices that the contractor will submit. Having said that, the form of contract that we are using has a very good history of delivering to the price that we receive for the tender. The normal range of pricing overrun for Transport Scotland road projects is around 3 per cent of the tender sum. That has been factored into the optimism bias.

The Convener: Do you want to say anything about the current economic circumstances and whether they are impacting on the expectation of changed prices for such projects? It appears that we are now at the beginning of what might be a slow recovery, which will obviously impact on the prices for major projects. Is there anything that we should anticipate, based on how the economic recovery might progress, that will impact on the price of the project?

John Howison: Our delivery partners and their experts, who have an audit role in relation to costs, have given considerable thought to the inflation range. I will make a personal observation. Civil engineering prices were fairly stable through the 1990s. In the first part of the past decade, there was a rapid increase in prices, but we are now going back to a stablish situation. We are looking at a very long cycle within which civil engineering prices have moved. I am fairly confident that, for the period for which we are tendering the job, our experts have made comprehensive allowances.

The Convener: Okay. Perhaps other members will explore related issues in their questions.

In our previous session, we spent some time discussing communication and consultation with local residents. There was a general feeling that making some improvement in that area was possible—some people might think that that is an understatement. What has been done about consultation and communication with residents to improve matters since then?

John Howison: The consultation process as a whole needs to be considered. It must be recognised that we are running a consultation strategy that looks at engineering, design and the environmental impact analysis, and are consulting landowners, communities, interested parties and the general public. There are four aspects to the consultation; last time, it tended to focus on the latter.

After the minister announced the project in December 2008, we undertook a fairly comprehensive exhibition in January 2009. We got quite a lot of feedback and made changes, which we brought forward in the spring and summer. We republished our thoughts in a series of information displays in August 2009 and continued to consult local interests. That has resulted in further changes to the project. We have undertaken quite a bit of consultation with community councils and community groups, particularly in the South Queensferry area. We have gone to groups and heard what they had to say, and we have gone back to give them further information on the aspects on which they required it. We have gone through quite a comprehensive process.

In summary, consultation depends on the consultees being informed. The constructive observations are the ones that we find most useful. We have systematically introduced new ideas into the design to improve the product. The proof of the effectiveness of that is shown in the decisions that have been taken and the changes that have been made. Major adjustments followed the January 2009 exhibition both in the Ferrytoll region and at Queensferry. I can say more about that if you want. In the spring and summer meetings, we looked at a number of other refinements, but at that stage, because the design was firming up, that was more limited. We looked at relocation of the principal construction site. In autumn, as we were still continuing with discussions, we turned our thoughts to the construction haul road at the south end and how we use Society Road in South Queensferry. Discussions will continue throughout the bill process. At the same time, ideas have also been rejected where we felt that the local benefits did not warrant the impacts of the changes.

When we gave evidence previously, one of the areas that you were particularly concerned about was the quality of our telephone service. After that, we provided training to everybody who was going to be involved in the service so that they would have a script to refer to and would be able to give answers directly. Having said that, the number of telephone conversations held after that has been pretty small—there have been only one or two a month.

Cathy Peattie (Falkirk East) (Lab): Can you identify any key concerns highlighted by residents and other interested parties since June 2009 and explain how you have addressed them?

John Howison: The principal one was the issue of the construction compounds. The project will require three construction compounds for the works, which we are seeking to secure and provide to the contractors. One is at the north end of the scheme, adjacent to Ferrytoll roundabout. One is at the south end of the scheme, adjacent to junction 1A on the M9. The other is to be positioned in the vicinity of South Queensferry—it is to be the principal site for engineering works. There will of course be supplementary sites. For example, if the contractor decides that he wishes to undertake the erection and assembly of the bridge components locally, he will need to find accommodation for that. We have not covered that.

As I said, the controversial area is the one at South Queensferry. You are aware that we purchased land for a previous scheme at Echline fields. As the new scheme does not require tolls, the amount of land that is required is much less than the amount that we acquired, so we sought to place the construction compound on the ground that was left over, which was sandwiched between the new road and the housing at the Clufflats, Springfield and Echline.

14:15

Considerable concern was expressed about that proposal, notwithstanding the amelioration measures that we proposed to limit the environmental impact. We took on board that

concern and examined whether an alternative site on the west side of the new road would be suitable. On an engineering review, we concluded that that would be more suitable, although it would not have the full range of benefits that the original site would have had. As a result, we decided to promote that alternative as our favoured option. We have included land in the bill for that and, subject to Parliament's granting us powers to acquire that land, we will proceed with that site.

As a consequence, the road that we originally proposed to provide access from the site compound to the site, which was to have been on the east side of the new road, was not suitable. We have therefore considered how the road might be aligned to run from the new site compound situation to Society Road, to give access not only to the road works that are immediately adjacent to the site, but to the bridgehead for constructing elements of the bridge at the south abutments and to the marine activities, to take staff to and from the marine sites.

That proposal was the subject of a couple of meetings with the Clufflats residents and a meeting with Springfield residents. We have modified our original proposals with a view to keeping them as far to the west of the communities as we can.

Shirley-Anne Somerville (Lothians) (SNP): I will ask about the site compound, which you mentioned. What is your position on the site that you proposed initially? Is it still in the bill or has it been categorically ruled out?

John Howison: If we are given consent to procure the land that is required for our favoured site, we will not consider the original site for construction purposes again. However, if Parliament decided that it did not wish us to have powers to purchase the land, the proposal would come under the heading of deemed planning consent.

Shirley-Anne Somerville: People are concerned that the ability to use that land still appears to be on the table and in the bill.

John Howison: The proposal was included in the environmental statement, but that statement is duty bound to include in its scope ideas that we considered and ruled out.

Our position is clear: provided that the land that we seek in the bill is made available, we will not use the land between the road and the community at Echline, Springfield and the Clufflats as a construction site.

Shirley-Anne Somerville: The use of Society Road has raised great concerns. The communities have not yet been told how long the road will be used for access to any site compound and the estimates vary quite dramatically. Can further work be done to give people clarification on the use of that narrow road in the village?

Mike Glover (Transport Scotland): Society Road will be used for the duration of the construction of the marine works, but only the section that adjoins the barracks will be used—that is the only part of the road that we will use during the construction sequence.

Access along the other parts of Society Road is limited purely to early mobilisation. For example, to be able to get to the area that adjoins the Clufflats, where the haul road will cut through, we will have to gain access along Society Road for the first few months of construction to be able to carry out modifications to utilities, drains and so forth. Apart from that, we will not use Society Road at all in that period. I think that we have explained that but, in case it is not clear, that is the position.

Shirley-Anne Somerville: We are talking about Society Road being used for a few months for the haul road.

Mike Glover: A few months—a number of months, yes.

Shirley-Anne Somerville: It is increasing quite a bit—it could be quite a few months more.

Mike Glover: I am sorry—I will explain. The works that have to be done are the early mobilisation works, which are to do with adjusting drains, breaking through certain areas and minor earth works. Such work takes no more than a few months but, because of its nature, things sometimes arise. The intention is not for it to go on for longer than a few months.

Shirley-Anne Somerville: I have one last question on that. It might still be useful to allow the communities to sit down with Transport Scotland to discuss the transport modelling that has been done so that they can get an idea of how the figures have been developed for the different roads that you will use, which will be used differently after the bridge has been built. I know that the figures are available, but it is sometimes useful to drill down behind them so that people get an understanding of where they came from. Would that be a good sign of openness, in the spirit of the consultation with the community that you are now taking on?

John Howison: Because of the refinements that we have made to the scheme and the progressive way that we made them, the information on traffic has come relatively late in the process, which we recognise. It first became available round about the late summer. As a result of that, at any time that we have gone to communities, we have made a point of demonstrating to them the flows that arise out of that information.

The derivation of the traffic flows is fairly complex and depends on three layers of modelling. I do not know whether it would be of much benefit for a lay person to try to grapple with that. I will test you out by asking Alan Duff to explain the complexity of the traffic modelling to you.

Shirley-Anne Somerville: Perhaps I can save Mr Duff some of the bother. I suggest that, considering that it will have a large impact on the community, it would be useful if some way was found of explaining the information to lay persons, whether they are MSPs who are involved in the committees or members of the affected community. There must surely be a way of explaining it to people such as me and to the community—perhaps not today—in a way that allows them to ask questions about it.

John Howison: The major concern rests in the South Queensferry area. I do not think that there is the same concern north of the estuary. Therefore, I undertake to approach the Queensferry and District community council and find out whether we can use its good offices to put something on.

Shirley-Anne Somerville: I hope that you will approach other community groups as well.

The Convener: I have a request for a supplementary question from Margaret Smith, whom I should have welcomed to the committee at the beginning of the meeting. I do that now for the record.

Margaret Smith (Edinburgh West) (LD): I am here as the constituency member for Edinburgh West, which includes South Queensferry, Kirkliston and the surrounding areas. By the witnesses' admission, that is the area in which local residents are likely to face the most disruption as a result of the scheme.

I will focus on the construction period, which will be in excess of five years and will result in a great deal of disruption and loss of quality of life for a number of my constituents. I understand that, under the bill, it is intended to take environmental protection rights away from local councils. I have concerns that that will leave residents without statutory recourse to their council on concerns about, for example, the hours that the contractor and sub-contractors will be able to work under the code of construction practice, given the caveats that exist.

I have spoken to people at the City of Edinburgh Council about the issue, and most of us accept that an independent professional assessment of whether what a contractor was doing was acceptable would benefit residents. Can you explain the thinking behind your suggested approach of taking away those safeguards? Why is that necessary? Can you think of other projects in which such an approach has been taken?

The Convener: Before the witnesses answer, I remind everyone that although there are perfectly legitimate questions about the practical aspects of the project, the purpose of today's session is not to undermine the Forth Crossing Bill Committee's work in scrutinising the bill itself, as responsibility for such scrutiny properly lies with that committee rather than this one.

John Howison: I will relay my understanding of the matter; if I get it wrong, Frazer Henderson will correct me very quickly.

We have created an envelope of environmental situations that we propose to police, and—provided that we stay within that envelope—to take outwith local authority supervision. My understanding is that if we breach that envelope, enforcement would revert back to the local authorities.

The project concerns three councils. Our aim and incentive is to achieve consistency throughout the project, particularly with regard to the estuary and the marine work, which will involve different local authorities, but very similar operations. Frazer Henderson may want to add something on the issue of noise.

Frazer Henderson (Transport Scotland): Noise is a good example. John Howison mentioned that any regime would be operated by three local authorities, each of which could have different policies, meaning that a consistent approach might not be taken. That could confound the delivery of the project—and certainly its delivery within the set timescale.

We have sought, under the bill, to place in the code of construction practice a particular noise threshold, which the contractor cannot breach without action being taken. If the contractor wishes to operate equipment at a higher noise level, an application will be made to the relevant local authority. The local authorities still have a role in the construction process, under section 61 of the Control of Pollution Act 1974.

We have not taken away all the local authorities' responsibilities—we have said that, in order not to confound the delivery of the project and the very tight timescale in which it will operate, we are setting thresholds in the code of construction practice that we believe are reasonable. If those thresholds, or some of the terms that are applied to the achievement of them, are breached, the local authorities can step in. Does that address the issue?

Margaret Smith: That seems to cover a situation in which a contractor or subcontractor thinks they might breach the code of construction practice. The code has a lot of caveats: it does not say, "You will not do this," but, "You won't do this, but in certain circumstances you might be allowed

to." What happens if the residents who are affected—as the people who live close to the haul road down on to Society Road will be for many years—consistently find that there is more noise than they were led to believe there would be, or that there are problems?

What rights does the local authority have to step in and act proactively? You give the example that a contractor who thinks that they might breach the code has the right to go to the local authority, but that is a different matter.

14:30

Mike Glover: There are a number of aspects that one must take into account. The first is the interesting aspect that the code of construction practice sits underneath the environmental statement, which contains additional noise constraints. The code of construction practice is effectively a larger envelope within which there are other restrictions. At the Clufflats, for example, lower levels of noise constraint are offered.

Secondly, the contractor has to apply what are known as "best practical means". To the person in the street, that might just be a bunch of words that do not mean very much but, in the industry, they mean a lot—they mean that the contractor must exhibit certain aspects of noise control.

Thirdly, noise will be monitored at strategic locations. Appropriate positions will be used for that—obviously, there is no point having a noise monitoring station at a location where there is no construction, or deciding on a location for five years, because there might not be work there for all that time. That addresses the point that you were concerned about. If there is a complaint, how will it be recorded, and what mechanism will be used for involvement? There will be such a mechanism, as there will be monitoring of activities.

The final characteristic is that Transport Scotland will have advisers, who will review the contractors' submissions before the works are carried out. Transport Scotland will therefore be able to ensure, as far as possible, that the best practical means are being applied to the activities that are undertaken. A number of thresholds and protections are being overlooked, but they are already in the documentation.

Does that help to address the point about safeguards?

Margaret Smith: Do you want an honest answer?

Mike Glover: Actually, yes.

Margaret Smith: I would like you to pick up on the small question that I asked at the beginning. Is the way in which local authority powers have been dealt with in this instance typical of other transport infrastructure projects?

Mike Glover: All projects are different. As you know, I was involved for 12 years with the Channel tunnel rail link. We exercised the sort of level of controls that I have spoken about today.

Margaret Smith: By inference, your previous involvement was not in Scotland.

Mike Glover: No—I am sorry. My reference is down south.

The Convener: We can perhaps explore those points with the Scottish Government, if it is able to provide further information.

Margaret Smith: Thank you for your indulgence, convener.

Alison McInnes (North East Scotland) (LD): I want to explore further the matter of community engagement. Mr Glover spoke about monitoring this lengthy, five-year construction project. What plans have been drawn up to engage with and be accessible to local communities over the lifetime of the project?

John Howison: We recognise that there should be some on-site facilities for that purpose, and we have been considering creating an education and training centre with a drop-in facility for local residents, so that somebody from Transport Scotland would be on hand, should something happen.

The communication requirements in the code of construction practice go much further in relation to the information that must be given to people in certain circumstances to provide them with a pre-indication or forewarning.

Mike Glover: From previous experience, we know that it is vital to advise the community of things before they happen. Therefore, the role of the community liaison officer is important. Community liaison officers will be resident on site and will be the focal point for the community, and regular newsletters will be sent round the community.

For activities that are considered to be unusual, the local community will be given specific advice. Technology moves on, so that will be done electronically, by e-mail and so on, and not just by mail drop. However, although constant communication takes place, the most important thing is that there is an identifiable person who the community can always get hold of.

Alison McInnes: In his introduction, Mr Howison talked about an education and training centre. That all sounds very one way. Good communication and engagement work both ways. What is in place to listen to the community and to

react to any concerns that arise as the project develops?

Mike Glover: I am glad that you asked that question. A key performance indicator will be attached to the response to communities' questions and queries. Those will have to be closed out within a certain period, depending on the severity of the concern. The KPI will be in the public domain and there will be some checks and balances. That is about outreach. It is not reactive; it has to be proactive, and the community is very much part of it.

Alison McInnes: What progress have you made on acquiring the land required for the project through voluntary agreements? To what extent will you need to exercise the powers of compulsory purchase that are contained in the bill?

Frazer Henderson: We have not entered into any voluntary agreements on the taking of land. The book of reference and documentation associated with the bill set out the land that we wish to take compulsorily. Over the past year we have been in discussion with landowners about the taking of their land and what that might mean for them in terms of severance and the remainder of their land. At the moment, our presumption is that, subject to parliamentary approval of the bill, we will put forward a general vesting declaration in the spring of next year to acquire the land compulsorily. The advantage of taking land compulsorily over a voluntary process is that you get what is known as a clean title to the land, which means that any servitudes or encumbrances on the land disappear. If the land were acquired on a voluntary basis, such issues would have to be negotiated individually, which could be time consuming, frustrating—in terms of the delivery—and, potentially, costly. At the moment, our policy is that we will take all of the land required for delivery of the scheme on a compulsory basis.

Alison McInnes: Can I be assured that you have entered into dialogue with and contacted everyone who will be affected by that?

Frazer Henderson: The book of reference details the land ownership that we are aware of. You will appreciate that there are pockets of land for which we have been unable to identify title. Those in the book of reference for whom we have title we have contacted. Where we have no title, we have put up notices on the land asking people to come forward. Rigorous checks have been undertaken in the register of sasines, with Companies House and so on to ensure that we have as great a coverage of ownership as possible.

The Convener: You described compulsory purchase as an advantageous process, the advantage being, as many people will understand it, on the Government's, or Transport Scotland's, side. Is it not reasonable to recognise that the Scottish Government represents the interests of individuals? The Scottish Government is their Government, so should it not balance the interests of both sides instead of simply seeking the most convenient route?

Frazer Henderson: Compulsory purchase is indeed a convenient way to acquire land. The fundamental issue is the requirement of the land in the first place. We have sought to draw the limits of deviation for the scheme tightly so that, in effect, we are taking only the land that is required to deliver the scheme and to provide some working room for the contractor. We have taken cognisance of the impact on landowners by reducing our land take. We looked very closely, and continue to do so, at whether we could mitigate the impact for a landowner by reducing the land take even further.

John Howison: There is an element of benefit to the landowner. Under compulsory purchase provisions, once the land is taken, the owner is entitled to an advance payment of 90 per cent of the assessed compensation right up front. The two alternatives are that the landowner does not give access to the land until the deal is finally done, which could mean that we did not get it within the project's timescale, or that the landowner agrees to give early entry to the land and then has to argue about the level of compensation with the valuation office. The compulsory purchase scheme provides some security and cash up front for the landowner. It is a mutually beneficial arrangement.

The Convener: If a particular landowner saw it as being in their interest, would there be any harm in offering them the opportunity to enter into a voluntary process of negotiation if they so chose?

John Howison: On a few occasions we have gone through a process of voluntary acquisition in parallel with compulsory purchase. One such situation was the M74 completion. The amount of professional time taken up in pursuing legal completion of voluntary acquisitions is very onerous on landowners and on us. We would not normally go down that route, and we will not use it in this case.

The Convener: Thank you. That answer was clear.

Alison McInnes: Given that the budget costings for the project have been widely known for some time and that only two consortia will bid to construct the Forth crossing, what are you doing to ensure competitive bids and best value for the public purse?

John Howison: Two consortia seek to win this particular prize so there will be serious competition between them. One of the issues is whether we keep both consortia right up to the point at which they submit tenders. We have recognised that issue and have approached it in two ways. One is through the agreement of Parliament to a contingent liability, so that if something untoward and unexpected should happen that results in the competition not proceeding, we will pay the consortia a certain level of compensation. The second is that, on award of the contract, the runner-up will receive a different sum of money as a non-success premium. Therefore, there is an incentive for the contractors to carry on with the process competitively in the knowledge that the costs that will accrue to them during the process—and it will be an expensive process—are, to some degree, shared.

Alison McInnes: What will be the scale of the non-success premium, and has it been used before in projects, or are you going to use it because there are only two bidders?

John Howison: I will answer the second part of your question first. The tender support regime was designed before we knew that there would be only two bidders, but it was done in the expectation that such a large contract would draw in consortia, so it would be likely that we would be soaking up a large proportion of the world's top contractors. However, we never believed that we would get more than three bidders, even in the best circumstances, and, as it happens, there are only two.

What is the sum of money for? It is a repayment of half the amount of money that the contractors have expended on estimates up to a limit of £5 million.

14:45

Alex Johnstone (North East Scotland) (Con): A number of correspondents with varying levels of understanding of and expertise in this matter have expressed concerns about the eventual cost of the project. How confident are you that you will not end up with two bids that deviate significantly from the expected cost when compared with other similar projects that have been completed in recent years in other parts of the world?

John Howison: I cannot add to what I said before about confidence in the price. The prices have been estimated by competent, world-class consultants and have been examined by quantity surveyors who are experienced in this type of project. The people who are involved in the estimating have built this type of bridge before—they built Øresund bridge and Stonecutters bridge—and are fully aware of the work that is involved. Therefore, I am relatively confident about the range of prices that we have put forward within a stable financial macroeconomic climate.

The Convener: I want to follow up the issue of the non-success premium. This is a difficult time in the public sector, as Governments—not just the Scottish Government—talk about cuts in the coming years. Surely, there must have been some concern about how the payment might be perceived. At a basic level, a lot of households are probably familiar with the practice of paying a small amount of money for a quote when someone is going to do something to their property, so the basic principle might not be outrageous. However, given the scale of the payment to the unsuccessful bidder and the possible perceptions of that, did you not consider a different approach to your presentation of it?

John Howison: Yes, of course. The starting point is that estimates do not come free and firms must consider the amount of money that they are going to spend on estimates before deciding whether they can undertake an estimating process. If they agree to enter an estimating process and they are given no support, they must include within their tender for undertaking the work a sum of money that will allow them to recover the expenditure from the unsuccessful bids in which they have been involved. In other words, over the cycle of their business activities, they must, in one way or another, meet the cost of the tenders in which they are involved.

If the tenders are supported, the contractor does not have that sum at risk and, therefore, need not factor it into his winning tender. So, on the presumption that a tender will be awarded, it is not an extra cost to the project; it is simply a cost that is placed with the unsuccessful bidder rather than a risk premium that is repaid to the successful bidder. The effect should be cost neutral.

The second issue is whether the premium had to be set at the chosen level. When we first put out a call to interested contractors, we looked carefully at the level of payment that might be involved and suggested a lower level, but we got a very clear signal from the industry that a lower level would not attract bidders. On the basis that we would get only one shot at attracting contractors to a project of this scale, we took the view—having regard to the fact that a number of contractors told us that more support was necessary—that it would be in our interest to provide extra support. That is how the sum of £5 million arose.

The Convener: So, the sum was determined through a process of asking how much the contractors wanted. However, even accepting the argument that the effect is cost neutral, there is the question of perception and presentation. Did you not think about calling the payment something

different? “Non-success premium” sounds like a bad joke, does it not?

John Howison: Forgive me, I have a history of having inadvertently unfortunate names for things, but I will leave that aside. The important feature is that there will not be complete reimbursement of costs, because it is important that bidders price to win the contract rather than simply a consolation prize. It is a bit late to consider whether another name would have been better; that is simply the name that I bring to the committee today.

Charlie Gordon (Glasgow Cathcart) (Lab): How about “failure premium”? Failure is another word for non-success.

John Howison: It is not a failure premium, because bidders’ presence at the final tender will mean that we still have a competition and competitive attitudes to putting in prices. If that were not the case and the bidder withdrew prior to putting the bid in, we would be looking at a failure.

Charlie Gordon: The design for the main structure of the new crossing has three towers, rather than the more usual two. Why is that? What impact will that have on the budget?

Mike Glover: It is to do with structural mechanics and where we can place foundations. I looked at early civil engineering journals that go back a long way—pre-Forth road bridge—and it was interesting to learn that the route that we are taking is the route that people wanted to take, but it was beyond the technology of the day to do so, because the spans were much too large. As you know, the existing bridge has a very long span anyway.

There are very few locations in the Forth where we can place foundations. Beamer rock is the obvious location for a foundation, but the next one is a long way south, towards South Queensferry. Indeed, the foundation that we have located is in reasonably deep water. It is not in the shipping channel—it is a long way away from that—but the technology is well beyond the technology that was employed elsewhere. To answer your question, there is a need to find suitable locations at a reasonable distance. The distance from Beamer rock will be about 650m. Ideally we would make it less than that, but the depth of the water precludes our doing so, so 650m is about the optimum distance.

John Howison has reminded me that another reason is that Beamer rock is in the middle of two shipping lanes. A different approach would take us beyond the bounds of sensible spans. You will have read about proposals for a bridge across the Strait of Messina between the toe of Italy and Sicily; the proposal has never gone forward, because as the spans go up, the costs go up. We want to keep the spans as short as possible—that gets us to 650m as about the optimum distance.

The technology that we wanted, which earlier studies identified before we became involved, was a cable-stayed bridge rather than a suspension bridge. The political question was, “Why use the same technology on the new bridge as is used on the old one, when that technology has generated severe problems?” Therefore, we selected a cable-stayed bridge, which is at the forefront of technology and a great advantage of which is maintainability and replaceability. Each cable that you can see on the montage and diagrams that we produced can be recovered and replaced while the bridge remains operational. With a suspension bridge, the whole cable would have to be replaced, as you know. The answer is a combination of founding levels and structural mechanics—I hope that that makes sense.

Charlie Gordon: Yes. That is a comprehensive answer, the second part of which anticipated my next question to a substantial degree.

Transport Scotland has advised that the design of the arrangement of the cables that will support the bridge deck of the Forth crossing is unique. You have explained why that novel design was chosen, but you will understand that there may be concerns or perceptions that it might, because of its unique aspects, be more expensive and subject to greater risks than a standard design might be.

Mike Glover: I would not say that cable-stayed technology is common or garden technology, but it is the normal technology that is used for a bridge of this type. We have just finished Stonecutters bridge in Hong Kong; it has just two towers, but its span is much longer than the spans of the proposed bridge—it has a span of 1,000m rather than two 650m spans. There is nothing particularly unique about cable-stayed bridges. The characteristic of the proposed bridge that makes it slightly different from most other bridges is that it will have three, rather than two, towers, which has been referred to. We simply deal with that through the structural mechanics—it is not a huge risk item that is added into the mix. I would not like to use words such as “unique” about the technology; rather, I would like that word to be applied to the bridge’s iconic nature.

Charlie Gordon: You mentioned a bridge in Hong Kong, which seems to be a kind of comparator. How much did it cost?

Mike Glover: The problem with cost is that it is shrouded in all sorts of numbers.

Charlie Gordon: Indeed. How true.

Mike Glover: The only way to answer the question that has been posed is by stripping away some of the numbers. All I can say is that the designers of the new bridge are the designers of the Stonecutters bridge, and they are now designing the Macau bridge, which will be the

longest-span bridge in the world. The designers are the same, the technology that they are employing is the same, and the people who have arrived at the design estimates and so on are, by and large, the same. Therefore, the numbers that we produce must be relevant and must be given credence.

The cost of a bridge is different from the cost of a project. The figures that we are talking about are the costs of a project. The cost of the bridge, which is of the order of £550 million to £600 million, is included in the financial memorandum—I am sorry; I do not have the exact cost in front of me. That cost is modest; it is the sort of cost that we would expect for such a bridge. I hear figures of £1.7 billion to £2.3 billion being bandied around for the bridge and people asking where the big numbers are coming from, but such figures are not the costs of the bridge; rather, they are the costs of the project. The cost of the bridge is a small component of that. As I have explained, the designers of the bridge designed the other bridges that have been mentioned. Members must give credence to what we have put forward as having been put forward on a rational basis; it has not simply been plucked out of the air.

Charlie Gordon: It remains to be seen whether saying "Trust me: I'm a structural engineer" goes down better with the public than saying "Trust me: I'm a politician."

I gather that when we talk about the cost of the bridge element of the Forth crossing project compared with the cost of the bridge element of the Stonecutters bridge project in Hong Kong, we might be talking about a ratio of 2:1 in comparative costs.

Mike Glover: I am not the best person to talk about the cost ratios between China and here or to speak about different accounting practices in different countries. A comparison between Stonecutters bridge and the Forth crossing is inappropriate, as costs must be seen in their geographic and environmental contexts, and there are differences. However, the numbers that I have given are comparable.

John Howison: I would like to provide some clarity. Mike Glover gave the price of the bridge, which is £500-odd million. That is not to say that that represents a quarter of £1.7 billion to £2.3 billion. To that price need to be added risk allowance, optimism bias, VAT, inflation and the cost of capital, for example. If we say that the whole project is the road works, those various other items and the bridge, what element is the bridge? The bridge represents about 70 per cent of the total cost. Mike Glover was saying what the basic cost would be if the bridge were built now, no VAT were paid on it and the optimism bias and risk elements came out favourably. That is the comparison with the bridges that have been built.

15:00

Charlie Gordon: Do you have figures for how much building a two-tower cable-stayed bridge would cost, even if that required the use of thicker cables and was less aesthetically pleasing?

John Howison: We have not designed a two-tower cable-stayed bridge, which would be more expensive.

Mike Glover: Such a bridge would be beyond the bounds of what is being built in the world—it would go beyond the technology that we could reasonably apply and would involve taking enormous risks for a cable-stayed bridge. Such a design would involve missing out Beamer rock. The span would be more than 1.3km—people would gulp.

John Howison: The cost of a bridge comprises the cost of foundations, the tower and the decks. Moving from three towers to two saves to an extent on foundations and the number of towers, but the deck becomes much more expensive. The whole exercise is to optimise the bridge's overall cost. We are relatively confident that if the bridge configuration were different, the bridge would be more expensive.

Shirley-Anne Somerville: The policy memorandum says that

"The embodied carbon assessment is not yet complete",

but an initial calculation suggests that it will

"be in the order of 121,000"

tonnes of CO_2. Will you describe how that figure was calculated and advise us when the final figure will be available?

Mike Glover: The policy memorandum is clear about the issue—the way in which you related the figure shows that. As part of the tender process, we are asking contractors to give us their response on carbon. When we have that information, we will have a better figure with which to respond to your question.

Shirley-Anne Somerville: Is a process being completed to ensure that that figure is kept as low as possible? I accept that, until you have the tenders from the contractors, you will not know their best estimates, but will you then try to ensure that the embodied carbon level is kept as low as possible rather than just pick a figure?

John Howison: The competition will be decided on two elements—one is price and the other is quality. On quality, we are considering how the contractor approaches risk, wider social benefits, the organisation of management and how much carbon the product will generate. We recognise that the project will cost so much in pounds, shillings and pence and so much in tonnes of carbon and we will assess both costs in the final award assessment.

Shirley-Anne Somerville: The policy memorandum also says that, in 2032, the additional carbon emissions that will be due to the Forth crossing might be 20,317 tonnes. Why did you pick 2032? That does not relate to the Climate Change (Scotland) Act 2009 or anything else on the general climate change agenda.

John Howison: I will definitely ask Alan Duff to explain the choice.

Alan Duff (Arup-Jacobs): The answer is simply that 2032 is the year for which the traffic model predicts traffic flows. It is 15 years after the bridge opens and we have traffic figures for that year, which we can feed into the carbon calculation.

Shirley-Anne Somerville: Given that, do we have figures for each year?

Alan Duff: We have figures for 2017 and 2032.

Shirley-Anne Somerville: So, we just extrapolate from the figures for those years.

Is it the case that the figures for carbon emissions from the Forth crossing do not include any increase in emissions that would result from a cable replacement on the current Forth crossing?

Alan Duff: That is correct.

John Howison: The figures that were quoted in the policy memorandum were produced by a conventional traffic model. However, we are concerned about the way in which that replicates real traffic conditions, as the crossing operates under stop-go rather than free-flow conditions, so we have undertaken further estimates using a microsimulation model called Paramics. As a result of that, and taking into account the amount of carbon that cable replacement would generate, our current view is that the new bridge will be carbon neutral, in comparison to a cable replacement operation, up to the year 2025 or thereabouts.

The Convener: It would be useful if you could provide in writing to the committee the calculations that lead to the conclusion that the new bridge will be carbon neutral. It is perhaps a bit too complex to go into here, but it would be good to have the figures on that at some point.

I want to ask not about the carbon emissions that are embodied in the crossing, but those that arise from traffic flows. Am I right that the calculation assumes that the existing road bridge will maintain its position—as described by the Scottish Government—as being closed to car traffic up to that period?

Alan Duff: Yes.

The Convener: Has there been any calculation of what would happen to traffic flows and the resulting emissions if that very brave assumption did not hold until 2032?

Alan Duff: No.

The Convener: There is no intention to do that?

Alan Duff: No.

The Convener: The figure of 20,317 tonnes—which we acknowledge is an estimate at this point—is an annual figure, so the cumulative figure for emissions by 2032 would be around a third of a million tonnes.

Alan Duff: Yes.

Shirley-Anne Somerville: As has been mentioned, the crossing is a very long-term project. What is being done to minimise the disruption to the existing—and very busy—commuter routes at various stages of the project?

John Howison: The project will involve several areas of extreme sensitivity. The most difficult part of the construction will take place around the Ferrytoll junction, north of the Forth, where the new bridge joins in. We need also to weave in fresh ramps onto the public transport facility of the existing bridge. It is fairly complicated—I invite Mike Glover to explain how that will be done.

Mike Glover: Do you want me to explain how the Ferrytoll junction operates?

John Howison: Yes.

Mike Glover: You have a go, and then I will answer.

John Howison: The first point is to recognise the community routes that exist, such as the route from Dunfermline—Castlandhill Road—and the route up from North Queensferry. The design has been altered since it was first put forward in January 2009 in order to pull those routes out of the general conglomeration of traffic going through the Ferrytoll junction. That will allow much of the construction work to go on without impacting on those local roads.

South of the Ferrytoll junction, the construction will involve a fairly extensive viaduct: a bridge will be constructed with lots of piers. North of the junction, the road needs to be fitted in between the existing earthworks and rock cuts, and the levels and alignments in that area will need to be adjusted. [*Interruption.*] I have just had something pushed at me. It is so complicated that I would prefer to provide the committee with a set of drawings to show how it can be done. Needless to say, we have looked at the design in some depth and we have presented it to the North Queensferry and district community council. It is a working policy that is available to the contractor but, at the end of the day, the contractors must work out their own way of proceeding within the constraint that they must keep two lanes of the M90 operating at all busy periods during the process.

Shirley-Anne Somerville: The drawings would be helpful.

The Convener: Members have a copy of the scheme map in front of them—you might refer to that.

John Howison: I am afraid that that map is at a different level of complexity. You will appreciate the fact that bits of road will be moved around, backwards and forwards, in five different phases to accomplish the project.

The Convener: If you can provide that information subsequent to the meeting, that will be helpful.

Mike Glover: It is a question of the level of detail. I was not sure what you wanted. As John Howison says, the best thing would be to look at a series of phased plans. Looking at the plan will just show you what the plan is; it will not show you how we will get there.

As John Howison says, the first priority is to ensure that North Queensferry is not disadvantaged in terms of communication. Therefore, the first thing that we will do is move the B981 and Castlandhill Road, so that communication from North Queensferry into Rosyth and further north will not be impacted on by any of the construction activities. Secondly, we will try to avoid rock cut into the Ferry Hills adjoining the railway. We will also, as John Howison said, maintain two carriageways—both north and south—at all times during the construction sequence. After that, as members will see, it is a question of shifting from one thing to another. However, the priority is to get the B981 out of the way so that there is a secure way out of North Queensferry that is not confused by construction. The other thing that we must do is secure the bus routes from the Ferrytoll park-and-ride facility. We have directed a lot of attention to ensuring that the routes to and from it will be as secure as we can make them.

Marlyn Glen (North East Scotland) (Lab): Given the recent tragic loss of life on both the Forth and Tay rail bridges, can you explain what you will do to ensure the safety of those who will be working on building the Forth crossing?

John Howison: A fairly elaborate safety hierarchy has been established in the UK under legislation. We have certain responsibilities to ensure that we employ competent and experienced contractors and designers. Under the legislation, the responsibility for maintaining safety on the site then passes over to the principal contractor. We must recognise that there is an industry-wide responsibility to ensure site safety and that it is not for us to try to impose measures on the contractor. The contractor will need to set out the measures that it will take and specify to us before each operation how it intends to proceed safely. It will seek to maintain its own reputation as a contractor that preserves life rather than loses it.

Marlyn Glen: It is a serious question, in the light of what has happened.

Mike Glover: Although the contractor will adopt his own construction techniques, we have produced what we call the specimen design in which we have designed the construction with safety in mind. For example, we envisage many of the components for the marine works being pre-cast components that are made in a safe location and floated into position, thereby reducing the risks of working in a marine environment. We cannot avoid all the risks, but that is where the planning comes in and the construction techniques that are chosen often reduce those risks. For example, a cable-stayed bridge is a safer type of bridge to build than a suspension bridge.

Marlyn Glen: Can you provide an update on the current status of the main cables and the cable anchorages on the Forth road bridge?

15:15

John Howison: That is a task for the Forth Estuary Transport Authority. I think that it will make an announcement on that in the near future.

We need to recognise what has already happened. There has been a lot of strength in the existing cables. The dehumidification work is not going to repair the damage that has already been done, nor will it stop some aspects of the damage from continuing. For example, a wire that has been corroded will have less strength than a wire that has not been corroded, even if it has not actually broken yet, because the corrosion produces pitting and stress-concentration points in the wire.

We also need to recognise that there is an array of difficulties with the bridge. The cable is the one that immediately comes to mind, as well as the anchoring, which has yet to be investigated. However, there are also issues around surfacing, which currently needs to be replaced every eight years or so, and the length of time between each resurfacing is decreasing. There are issues around the main bearings on the bridge, the expansion joints and other things that can be damaged by heavy goods vehicles. Those issues must be dealt with on top of the normal maintenance, such as painting, that must be done in order to keep the thing up in the air. Around 86 per cent of the bridge's strength is required to keep it up in the air; the rest is what is used to carry the load of traffic. In addition to that, there are operational problems with the bridge. Because it does not have a hard shoulder, maintenance operations will inevitably cut down the capacity of

the bridge and, when incidents occur, disruptions cannot be avoided. Further, it is not an all-weather bridge—it is not possible to put wind shielding on the bridge anywhere but in localised areas around the towers, because wind pressure would sway the bridge out of alignment.

We are where we are with regard to the cables. Strength loss has already occurred, which means that, without recabling, we would not be able to get back to the factor of safety that was originally considered appropriate. A range of other issues mean that the bridge is less than suitable as an all-weather, all-purpose connection between Fife and the north-east and Edinburgh.

Alison McInnes: You said that the state of the cables is fundamentally an issue for FETA. However, given that your project includes the bridge as a transport corridor, it must be an issue for you, as well; you need to be sure that it can perform the task that you want it to perform. I appreciate that there are issues around loading but, given the catalogue of problems that you have outlined, do you have any regrets about the fact that financial constraints mean that the new bridge will not be multimodal?

John Howison: No. We think that the current solution is better and represents better value for money.

You ask about our confidence that the bridge will be usable as a multimodal transport facility. The bridge has lost 8 to 10 per cent of its strength already. By taking off the traffic loading, we would be removing about 14 per cent of the load that the bridge must bear. The public transport loading is very much less, and if the dehumidification is successful, as we hope it will be, the bridge will come to us as a free good, at least in terms of capital cost—we will not have to replace the cable once the bridge's use is changed. With regard to those aspects of the bridge that are damaged by repeated punishing by heavy goods vehicles, it is true that buses have axle loads that are comparable to those of HGVs, but there will not be nearly as many axles going over the bridge if it is used by buses rather than HGVs.

The Convener: We will deal soon with item 2 on the agenda, under which we will consider aspects of the Forth Crossing Bill that will overlap slightly with some areas that we have touched on so far, but I have a final question before we do so.

You anticipate that FETA might be making announcements in the near future. We are all expecting the engineering reports on dehumidification to be published next year, so are you saying that there will be an announcement sooner than that?

John Howison: I think that FETA regularly updates its board at board meetings, and I presume that it will continue doing what it normally does.

The Convener: It will do what it normally does. That—

John Howison: It will, at the moment, have information that we do not have.

The Convener: We can put the question to FETA or ministers at another time.

That brings us to the end of item 1 on our agenda. We will have the same witnesses with us for item 2, but I will allow a five-minute comfort break.

15:21

Meeting suspended.

15:27

On resuming—

Forth Crossing Bill

The Convener: For item 2, we are joined by the same panel of witnesses, so I will not run through their names and job titles a second time. Item 2 is an evidence session on the Forth Crossing Bill. I emphasise that the committee's remit is not the same as that of the Forth Crossing Bill Committee—the hybrid bill committee is the lead committee and will scrutinise the bill and report to Parliament. We hope that we will inform and add to the process, but our remit is limited to the proposal for a public transport corridor over the Forth. We are keen to hear from members of the public in written evidence and from witnesses at the committee, but we are specifically considering the public transport aspect.

Today, we are hearing from officials, not the minister. Questions that are geared towards policy can perhaps be put to the minister later, or we can invite the lead committee to put them to the minister. Do the witnesses have any brief opening remarks, as the matter is rather separate from the issue that we discussed under the previous agenda item?

John Howison: Frazer Henderson would like to say a few words to start off the session.

Frazer Henderson: As this is the first evidence session on the bill, it might be appropriate to give a quick overview of our policy objective and the context and then to move swiftly on to the public transport elements. As members know, the policy objective of the bill is to provide, in the light of the uncertainties about the existing Forth road bridge that we spoke about earlier, a continuing and reliable primary road link across the Forth, to safeguard the economy, particularly that of the east of Scotland.

Principally, the bill seeks authorisation for three powers. The first is the power to construct the bridge, create new roads and upgrade existing roads and junctions. The second is the power to change the designation of and responsibility for existing roads to facilitate the implementation of intelligent transport systems, which I am sure we will discuss later. The third is the power to acquire compulsorily, or where appropriate occupy, land that is necessary to give effect to the scheme.

15:30

I move swiftly on to the public transport elements. The bill covers particular works that are directed to delivering infrastructure for public transport use. I can give the committee an overview in the form of a bus journey, if you will, from Fife through to Edinburgh. I hope that, en route, we will pick up the works elements of the bill that have a direct bearing on public transport.

We start on the M90 in Fife, where we have just passed Admiralty junction, and are heading south towards Ferrytoll. We come off down the Ferrytoll slip, where there will be a dedicated bus slip to a new and improved Ferrytoll junction. The revised junction will have segregated bus lanes and sign controls to ensure expeditious bus movements around the junction. Works in the bill will improve the exit from and entrance to the existing Ferrytoll park and ride. The bus then leaves the Ferrytoll park and ride and heads further south towards the existing Forth road bridge. When the new bridge is built, the slip road bus lane that links to the existing bridge will continue and will run on the existing bridge, which will become a dedicated public transport corridor.

In the south, the bus continues from the bridge past Echline junction and on to a dedicated busway that will link with the existing A90 busway to Edinburgh. There will be works to provide for that. On the return journey, from the A90 travelling eastwards, we will provide a dedicated bus slip road that will link to the B800, with which members might be more familiar as the old A8000. There will be works where the busway joins the B800 to improve the road signage to give bus priority movements at the junction. The bus then continues north on the B800 past Scotstoun, where there will be works to provide a dedicated bus corridor from near Scotstoun Park up to Echline junction, again giving priority to bus movements through traffic management. The bus goes across the existing Echline roundabout and then down and across the Forth road bridge to the north side. It then exits the existing bridge on a dedicated bus slipway to the Ferrytoll roundabout, which as I have mentioned will be improved dramatically under the works in the bill to improve bus circulation.

That is a broad description of the public transport works that are contained in the bill. I ask Mike Glover whether I have missed anything.

Mike Glover: No, I think that that is it.

The Convener: Thank you.

Is the experience of bus users likely to change dramatically? Are we looking at reduced journey times? What impact will the new infrastructure have on the service that people experience?

Frazer Henderson: It is safe to say that the reason why we are taking forward the infrastructure is that it should improve journey times and the bus experience for users, particularly during the rush hour.

John Howison: The bus journey that Frazer Henderson described is what will happen on a good day. It is also worth saying that, because the existing bridge cannot be wind proofed, there will be provisions in the intelligent transport system such that, on windy days, traffic will be diverted on priority lanes up from Ferrytoll on to the hard shoulder of the new Forth crossing and then back down again into Queensferry so that it can pick up the links back on to the A90 and to other places. In other words, that priority traffic will still have a priority in windy conditions in preference to the hard shoulder being used for normal hard shoulder purposes. That means that anyone who takes a bus or who appears at the Ferrytoll park and ride will do so with the assurance that the bus will run—it will not suddenly stop working because of the wind.

The Convener: What will happen during the construction period? What impact will the construction of the public transport infrastructure and the new bridge more generally have on the operation of public transport buses and the park and ride?

John Howison: That is a matter on which we will have to work closely with the successful contractor. Clearly, a lot of work will be going on, and it is important that we do not compromise the existing facilities at Ferrytoll during the process. Clearly, though, there will be more pressure on the road during the construction period than there would be otherwise.

The Convener: So the detail has yet to be explored.

John Howison: That is right.

The Convener: Is there scope to include further provisions on public transport in the bill, for example to require a public transport strategy or implementation plan to be produced?

John Howison: No, it is an infrastructure bill.

Frazer Henderson: The bill is an infrastructure bill—that is its purpose. It is not about a public transport strategy as such: that sits outside in the strategic transport projects review or other public transport policy. The bill is wholly and solely about providing infrastructure.

The Convener: Is your position that it would not be possible to include public transport provisions in the bill?

Frazer Henderson: It is certainly not our intention to provide such provision, because that would confound the bill's purposes, which relate to infrastructure. Whether it is a possibility is a matter for Parliament to determine.

Alison McInnes: I found Frazer Henderson's bus journey very interesting. Of course, many coaches will be going further north—the new infrastructure will help them, too.

When will the bus infrastructure be ready for use, and is there not a case for building it at as early a stage as possible to encourage modal shift and establish sustainable travel patterns before the new bridge opens?

John Howison: The main feature of the infrastructure that we are providing is the bridge itself, so the infrastructure will not be free to be used as a public transport link until the new bridge is open.

Alison McInnes: The policy memorandum refers to the impact that could be achieved by increased modal shift and the encouragement that will be given to drivers to transfer to public transport. What specific plans do you have in Transport Scotland to work with other stakeholders to maximise modal shift opportunities on journeys between Fife and Edinburgh?

John Howison: That is beyond our responsibility as the project team, but David Anderson, from the strategy and investment directorate of Transport Scotland, could perhaps answer the question.

David Anderson (Transport Scotland): The Forth replacement crossing is one of the STPR's 29 recommendations. A number of the STPR's other elements contribute towards improving public transport, as Frazer Henderson has mentioned. There are particular recommendations about park-and-ride sites, intelligent transport systems and light rapid transit connections to Fife. Under the STPR, we continue to work on the detail of those measures so as to introduce them as necessary.

An equally important part of our discussions with the three adjacent local authorities and the south east of Scotland transport partnership has been to identify the catchment and the market for bus journeys in particular. We can then work with colleagues across the Scottish Government and representatives of the bus industry as we seek to develop bus routes over time.

A great deal is going on as we seek to maximise the opportunity, which comes from a number of things, most notably the fact that land uses are changing north and south of the estuary. I refer in particular to the growing number of houses and to the need to maintain local market access to the economy of Edinburgh. Some of the commuting patterns that we anticipate over the years to 2022, say, will change, and as they do it will be a matter of providing the appropriate infrastructure, including bus service opportunities. It is not necessarily a matter of fixing all those things now; it is about ensuring that we have things in the right place at the right time.

Alison McInnes: I understand much of that, but the best public transport interventions tend to take a whole-corridor approach, and there are existing needs within the corridor. It would be sensible to do as much as possible with local authorities and partners up front. The process that you have identified means relying on other partners to deliver, so you cannot be sure that measures will be implemented at a particular time. Also, the approach relies on a different funding stream, which brings a whole lot of problems. Delivery might be patchy and piecemeal.

David Anderson: You correctly identify a number of risks. We are continuing to work with the delivery partners on these matters. Fife Council has a number of proposals for park-and-ride sites and so on, and work is continuing on the detail of how they can be progressed. We are also discussing with the City of Edinburgh Council its proposals for works around the west of Edinburgh. I agree that there are a number of challenges, but we will continue to discuss and progress matters.

Marlyn Glen: I want to ask about how everything is linked. If the idea is for people to use park and ride—parking their cars and then getting the bus into Edinburgh—are the existing parking facilities adequate or are there plans to make improvements?

David Anderson: The existing park-and-ride facility at Ferrytoll, which has about 1,000 spaces, is well used and is something like 80 per cent full on a normal day. There are also considerable parking opportunities at a number of railway stations on the Fife circle line, which are also very well used. It is a matter of providing a mixture—not just strategic park and ride by bus, but improvements to park and ride by rail, too. I forgot to mention earlier the STPR recommendation on the east of Scotland rail improvements. It is a matter of providing a mixture of opportunities, by rail and bus. There are potential interventions in the form of park-and-ride sites at Halbeath and Pitreavie, and potentially at other locations.

Marlyn Glen: Still concentrating on buses, I am thinking about your comment that the existing park-and-ride facility is already 80 per cent full. It will not be a good advert for that facility if someone drives there and cannot park because it is full and they cannot therefore use the bus service. I am concerned about how the various parts link.

David Anderson: That is a fair point. The majority of people who use the park and ride will be regular commuters, and part of the opportunity is to address their commuting patterns. As things change over time, could longer-distance services—as Alison McInnes mentioned—catch people closer to the origin of their journey? Work can be done with the bus industry to catch people earlier, rather than having them always drive to Ferrytoll, say, or to some other park and ride. There are lots of ways to make such a change to people's commuting habits and patterns.

Alison McInnes: You have touched on discussions with bus operators. Have you started to explore with them the issues that we are discussing?

David Anderson: We have not spoken directly with operators, but we have been speaking with our colleagues in the bus section in the Scottish Government, some of whom have experience in the bus industry, so we have taken soundings from those who are knowledgeable.

15:45

Alison McInnes: Once the project is completed, what problems do you envisage might arise from the public transport element of the project being under a separate management regime from that of the other bridge?

John Howison: Are you referring to the fact that FETA will operate one bridge and Transport Scotland another?

Alison McInnes: Yes. This is supposed to be an integrated project, and you are supposed to ensure that an effective public transport element operates across the bridge at all times.

John Howison: There will be co-ordinated input from Traffic Scotland, which operates the gantries and the signing. It is currently working with FETA to produce co-ordinated signing.

The other aspect is that the new bridge will be a trunk bridge and part of the national road network. The present road bridge is operated by FETA, but who will maintain the new crossing has yet to be decided by ministers. In the policy memorandum, we recognise as one of the options that FETA is in a good position to undertake that work. However, ministers will not take a decision on that until 2013.

Alison McInnes: I will press the issue a bit further. Can you identify any problems that might arise from having two different management regimes? FETA will have to carry out significant maintenance on the current bridge, which will result in the public transport element having to use the new bridge. Do you anticipate any problems with that?

John Howison: No. We expect to work closely with FETA. As I mentioned, the new bridge will be built with hard shoulders that are wider than normal so that they can be used by buses or other public transport. If there are any difficulties with the existing bridge—bearing in mind the level of flow and the fact that, initially at least, there will be little difficulty in running a contraflow on one

carriageway for bus operation—we will, by having built the new bridge, have a degree of flexibility that does not currently exist in managing the existing bridge. The new bridge will also have such flexibility, and we expect to work those two elements together.

The Convener: Before we move on, I want to clarify one or two points with David Anderson. Can you quantify the increase in capacity in park and ride, or in parking facilities at railway stations?

David Anderson: Proposals have been made, by Fife Council in particular, in relation to the size of the park-and-ride sites at Halbeath and Pitreavie. Our discussions suggest that there is potential for up to 1,000 spaces at the Halbeath site. We are working with Fife Council to understand the detail on that. It comes down to how big a field we want, which has a cost.

A number of the railway stations are well used. The opportunity at Pitreavie, for instance, would involve locating a park-and-choose site adjacent to the existing Rosyth station, so logically it would be more likely to serve rail commuters than bus commuters, although it could serve either.

The Convener: We are being asked to consider a bill that refers to a Forth crossing strategy that includes multiple bridges, rather than just an extra Forth road bridge. However, that seems difficult to accept when you cannot quantify park-and-ride facilities, for example, which are clearly important in relation to modal shift, and you have not yet begun discussions with the bus operators.

David Anderson: The modelling projections anticipate that bus use will decrease during the period to 2022, and we have done some thinking on that. We suggest that putting in place a series of measures—including park-and-ride sites and the measures that Frazer Henderson outlined—to provide reliability and resilience for all modes of public transport would maintain the patronage percentage at existing levels. Halbeath park and ride, for example, could have 1,000 spaces. If every space were full, 1,000 fewer cars would be on the network every day. There is therefore some quantification, but whether it is fully realised will depend on the success of the park and ride and the services that service it.

The Convener: It still seems to be a little bit speculative at this stage. Is that fair?

John Howison: Although the arrangements still have to be put in place, the reality is that the proposals have to happen. We are not providing a step change in capacity for road transport over the existing bridge; we are providing for what we expect to be an increase in travel through the infrastructure that we are putting in for bus transfer. I will use the explanation again that although taking 1,000 cars off the bridge does not sound like a lot in the face of what will be 80,000 to 90,000 vehicles a day, the bridge operates effectively for most of the day, and we are looking at the impact during peak hours. In one direction during the peak hours, the flow is much less, at around 3,000 vehicles an hour, so you can see the impact that a park and ride would have on bringing the capacity and volume ratio back into balance. If the bridge is to work in future, we must move the growth in travel from private car to bus.

That is just about the bridge itself. We also need to look at the wider transport network in which it sits, especially the morning traffic going into Edinburgh through the Barnton junction. The bottom line is that the Barnton junction is pretty well configured at the moment, with some very efficient traffic lights, so we are not going to get more capacity through it. The only way that more people will be able to travel into Edinburgh is by bus. A bus priority system already takes people along the A90 faster than the queuing traffic.

If the number of private cars on the road increases further, and the queues get longer, with the proposals we will effectively lengthen the road on which buses have a priority route in to Edinburgh, from something that currently begins at the A90 bridge over the railway to something that goes right back to the Ferrytoll junction and Admiralty.

Arrangements still have to be made for the future, but the future has been planned on the basis that the measures will be taken. That acknowledges that we are building a balanced response to the problems at the Forth and the constraints that are imposed by the space provisions, which will inevitably be limited in the wider network.

The Convener: If having 1,000 fewer cars on the network during the peak period can be achieved, that will be a benefit, because it will reduce congestion. The Scottish Government—the current one and previous ones—has told us for years that modal shift towards public transport is a strategic transport objective with the aim of reducing emissions, so it does not matter a jot if journeys are shifted from cars to public transport at 8.30 am or 2 in the afternoon.

John Howison: That is probably right within conventional traffic modelling, but we really need to avoid emitting pollutants in peak-hour, stop-go situations as well as the pollutants from normally running cars. I am probably straying into areas where I should not go.

The Convener: I would not worry; I do that quite a lot as well.

Cathy Peattie: Some of my questions have been answered one way or another, but I want to pick up on strategy. I am interested in any

discussions that you have had with FETA, SEStran, and Fife and Edinburgh councils about the possibility of a quality partnership with the bus companies across the Forth. What has happened so far? Have joined-up discussions taken place, or will that happen in future?

David Anderson: Discussions with others, especially bus operators, will take place in future to take forward opportunities for bus quality partnerships and so forth.

Cathy Peattie: When in future?

David Anderson: Good question. I do not know. At some point after today.

Cathy Peattie: I am sure that my colleagues around the table would like to know a bit more about the joined-up strategy. Whether it is a good idea to build a new crossing is not in our remit. We are considering transport, and we want to know that plans are in place, not somewhere down the line.

John Howison: We have discussed with Fife Council and with Stagecoach, which manages Ferrytoll for Fife Council, the remodelling of Ferrytoll to get the maximum out of that facility. We are also talking to SEStran about its strategic plans for the operation of bus networks on the west side of Edinburgh, and we are considering further developments that might be possible once the new bridge is in position and the existing bridge is given up to public transport. That is at a fairly early stage. That brings into account things that we have not included in the bill, but that are opportunities that exist because of it, such as the opportunity for a park and ride at Echline, which is largely unrelated to the amount of traffic going over the river but might be important in relation to the amount of traffic going into Edinburgh.

Cathy Peattie: I am not convinced by your answers. You talked about possible discussions about other roads. I am interested in what discussions have taken place with Edinburgh and Fife councils on bus infrastructure away from the immediate approaches to the Forth bridge. We have heard some indication of that, but it does not sound as though the discussions are joined up—we do not have clarity on those discussions.

David Anderson: The on-going discussions are about a series of possible schemes and measures to be introduced after the opening of the crossing. That longer-term view is where those issues sit in the STPR. The issue is to seek to ensure that a number of key objectives in the national transport strategy are met, such as improving the quality, accessibility and affordability of journeys; improving journey times and connections; and reducing emissions.

Looking at the objectives of the STPR, the opportunities—the interventions that I described earlier—are about seeking ways of achieving those objectives after the current programme, from 2012 onwards, as demands grow and as we see travel patterns changing. We need to ensure that we are planning for those futures. We are in discussions with the local authorities, which are seeking to bring forward the detail of those schemes. The issue is how we link those schemes in our discussions with bus operators. Ultimately, it is about encouraging people to make the shift to public transport by providing a mixture of the infrastructure that is included in the bill and that which is set out in the STPR. People will make the choice to move to public transport if there are reliable, consistent journey times and journey improvements.

Cathy Peattie: You are hopeful, but I am convinced that discussions should happen in parallel, rather than waiting to see how things develop.

How are you engaging with communities on either side of the Forth to establish what improvements to cross-Forth bus services would best suit their needs?

16:00

David Anderson: Again, that would be taken forward through discussions with individual local authorities on those origins and destinations. We will continue to talk to authorities about that.

Cathy Peattie: How can you possibly go forward with the plans without speaking to the people who use the bus services—public transport—across the bridge? It seems incredible that anyone would build a facility without speaking to the people who will use it.

John Howison: We gain information on people's travel habits—where they come from and where they go to—

Cathy Peattie: I am sorry to interrupt, but how do you gain that information?

John Howison: Through survey information. That gives us an indication of the scope for travel change.

Our present difficulty is people's perception of buses. The bus industry, particularly in terms of its long-distance, inter-city routes, is going through something of a revolution in terms of the quality of service that it is providing.

You are talking to conviction engineers: two of the five of us use that type of bus service every day to get from one city to another. We do that in preference to using our cars, which are lying about in a garage or something like that. This is an

iterative process; it is not simply a matter of asking someone, “Do you want to use the bus?” We have tried that. The answer is, “No. We don’t. We’d rather keep on using our car.” We need to work out the size of the market and allow the bus operators to build on that by way of the quality of services that they can provide.

Cathy Peattie: And you are convinced that that will happen.

John Howison: It happened for me.

Alison McInnes: My question is for Mr Anderson. Is it not the case that, apart from two projects—the Forth crossing and the Edinburgh to Glasgow rail improvement project—there is no prioritisation of projects in the STPR? The other 27 projects are not prioritised and no funding is identified for them. Would it not be useful to prioritise the strand in the STPR that relates to additional public transport provision in and out of the Forth crossing corridor?

David Anderson: Ministers expressed a prioritisation for four projects: the Forth crossing; the Edinburgh to Glasgow rail improvement project, the Highland mainline improvements, and the Aberdeen to Inverness rail improvements.

Transport Scotland is seeking to move where we can on all 29 recommendations. In fact, a number of improvements have been made. Transport Scotland has a fully committed programme of investment across a range of projects, both road and rail. It is about seeking to follow those on and bring projects forward as appropriate. For example, in our current discussions with Fife Council, we are trying to understand the actual status of projects—including the Halbeath park and ride—in terms of planning status, allocation of land and so forth. We are working out the best way of taking forward that work.

Shirley-Anne Somerville: My question is on the route of the bus slipway to the south of the bridge. A number of compulsory purchase orders are being made for the Scotstoun Park area of South Queensferry. Having visited the area, I know that we are talking about being able to look into the kitchens of people’s homes. The industrial estate on the other side of the road does not seem to be the subject of CPOs, however. Why was the decision made to take the route so close to residential properties and not through a more industrialised area where it may not cause as much upset to residents?

John Howison: We engaged with the residents some time before Christmas, when we started to examine the problem that we will create for them. The situation is very difficult. The residents are separated from the existing road by a bank of trees. The road works that we proposed involved land acquisition for what we regarded as a necessary piece of temporary construction. We are considering carefully whether we have achieved the right balance between what we need for the temporary conditions and the long-term effect of taking down the trees. My present conclusion is that we have not got the balance right. We will work with residents on that.

The bus improvement will take place on the other side of the road, towards the commercial estate. We are working hard to adjust the land take for that, to prevent the clear detrimental effect that the present arrangements show.

Shirley-Anne Somerville: Will that consultation with the community continue?

John Howison: Yes. We have met the community, we understand the problem and we are now applying to create an engineering solution. When we have a viable engineering solution, we will go back to the community.

Shirley-Anne Somerville: It is possible to create an engineering solution.

John Howison: We believe that we can sort that out.

Charlie Gordon: Will you provide an update on the development of STPR project 25—a light rapid transit connection between Edinburgh and Fife?

David Anderson: SEStran has completed a piece of work on LRT connections. We will continue to discuss that with the authorities. The project is at an early stage of thinking. The initial thinking is that the system would be bus based, with the possibility of conversion to a rail-based system in the future, should patronage allow that.

Charlie Gordon: The scheme is in the strategic transport projects review document, so it is not purely regional, but you are leaving it to SEStran to work out.

David Anderson: I said that we would continue to discuss the project. We will certainly discuss the detail with SEStran.

Charlie Gordon: Why have you chosen not to proceed with a park-and-ride site to the south of the Forth?

John Howison: At Echline?

Charlie Gordon: Yes.

John Howison: It is perhaps too strong to say that we have decided not to proceed, but we decided not to include the site in the bill for a couple of reasons. First, the scheme requires no powers under the bill—it would be constructed on black top that is already there. Secondly, we have remitted the project to SEStran for examination and consideration of how it fits in with SEStran’s strategic proposals. The site would not be

available until 2016—until traffic had moved off the existing A90 and on to the new road—so it need not be included in the bill.

Charlie Gordon: Will you provide figures to show how much is due to be spent on maintaining and improving the Forth road bridge in the years following the Forth crossing's opening? I appreciate that you might consider that primarily to be FETA's responsibility, but you might well have figures that show the balance of advantage to the public purse in the round.

John Howison: The financial memorandum includes not the amount of money that we will continue to spend on FETA but a calculation of the new bridge's whole-life costs over 60 years, which takes into account the savings in maintenance of the existing bridge, because of the lower traffic loadings on it.

Alex Johnstone: Many of us have assumed from the outset that building a replacement bridge and using the old bridge for public transport, cyclists and walkers was a good idea. Was a cost benefit analysis done to produce figures to prove that that is an advantage over incorporating provision for those modes in the replacement crossing's design?

John Howison: We knew the capital cost of including such provision in the new bridge separately. We knew the cost of demolishing the existing bridge, because that is what would have had to be done to avoid all on-going costs. At that level, we recognised the approach to be good value for money, but the question whether it represents good value for money in respect of the provision of transport has not been independently assessed. The decision to have a bus priority corridor was taken by the Cabinet Secretary for Finance and Sustainable Growth. The modelling tools that are available for assessing whether the approach represents value for money are somewhat deficient because they cannot reflect improvements in the quality of buses and therefore their comparable attraction in future.

Alex Johnstone: We all hope that the news about the existing Forth road bridge will continue to be good, but bad news could be just around the corner. There is a danger that the dehumidification may not be a success, or that serious problems might be discovered with the anchorages, for example. If that bridge becomes unusable, what contingency plans do you have for moving things on to the replacement crossing at relatively short notice, perhaps in the not-too-distant future?

John Howison: We do not expect that the existing bridge will not be available. If the anchorages were found to be weakened, they could be repaired without an undue impact on the operation of the bridge, and if recabling work should be necessary, the majority of it could be accommodated with buses running in two directions on one carriageway. That should be adequate.

We have engineered the new bridge with a much wider than normal hard shoulder with a view to its carrying public transport. On a daily basis, for wind loading, buses would simply be diverted on to that and they would consume all that space. If something that we cannot contemplate at the moment happens to the existing bridge and we needed to run public transport across the new bridge, or if pedestrians have to use it in the longer term, the new bridge will have sufficient width for us to be able to reconfigure it to cope with a number of scenarios. Of course, doing that would be at the expense of the hard shoulder, which the width would normally be used for.

Rob Gibson (Highlands and Islands) (SNP): You mention the hard shoulder. In conditions such as those that you have just described, how would you cope with a flow of bus traffic and vehicle breakdowns?

John Howison: If a vehicle broke down, the intelligent transport system would need to indicate that to the buses, and the buses would need to pull into the bridge's running lane to get past it.

Rob Gibson: Do you know anything about the number of breakdowns that occur? I listen to the traffic news with interest. How often might such things happen in a year?

Mike Glover: Two events must happen together: it must be extremely windy and there must be the probability of a breakdown. The probability of those two things happening together is quite remote. John Howison is correct. The ITS would register a vehicle on the hard shoulder, and buses would pull out, go around it and then go back in.

Rob Gibson: I understand that perfectly well, but I just thought that that is the kind of thing—

John Howison: The relevant information is in the "Forth Replacement Crossing: Sustainability Appraisal and Carbon Management Report". I am afraid that I do not have the figures to hand, and it would take me too long to thumb through the pages of that report, but we can provide you with information on the number of hours in which the existing bridge has problems if you want that.

It is worth saying that the existing bridge is built in what looks almost like an arch shape, which means that vehicles need to go uphill for an awful long period. One problem is that people run out of petrol because, although they think that they have enough in the tank, the tilt on the bridge means that the fuel does not get to the carburettor. Bizarrely enough, that seems to be a predominant

problem in breakdowns. That will not happen to the same extent with the new bridge.

16:15

Rob Gibson: That is a very interesting piece of information, which I am sure will be noted by all who read our *Official Report* avidly.

Alex Johnstone: Does that problem happen to people from Fife who think that fuel is cheaper in Edinburgh?

Rob Gibson: I understand that there will be no bus lanes on the immediate approaches to the new Forth crossing. How will buses be prevented from being delayed by general traffic on the bridge approaches when the Forth road bridge is closed for maintenance, or due to adverse weather conditions?

John Howison: There will be bus priority lanes on the slip roads going on to the Forth replacement crossing.

Rob Gibson: Good.

Marlyn Glen: The policy memorandum accompanying the bill includes some eight references to a cross-Forth tram scheme. Why does the memorandum continue to highlight the ability of the Forth road bridge to carry trams, which suggests that they are an established part of the scheme, when there are in fact no plans for the construction of a tram line between Edinburgh and Fife?

John Howison: The life of a bridge is about 120 years. We expect that the Forth road bridge will carry on for about another 80 years, given that it has already lasted for 40 years. During that period, we obviously need to create the flexibility to accommodate traffic that does not exist at the moment. The original proposals for the Forth replacement crossing envisaged that the existing bridge would be able to take trams so, on a like-for-like basis, we also asked whether—given that there had been some doubt about this at the start of that debate—the Forth road bridge would be able to take those. We worked with FETA and with consultants to look at the loading on the existing bridge and the articulation of that bridge. That work was done to give us confidence that, if a commercial case was made for trams in the future, they could be accommodated on the existing bridge in a way that would not preclude the continued use of buses on that bridge.

Marlyn Glen: So we are talking about a very long-term strategy.

John Howison: We are just acknowledging that the bridges will be here for a very long time, yes.

Marlyn Glen: I see that no one else wants to comment on that, so I will go on to my next question, which I ask in the context of the committee's inquiry into active travel. Aside from existing facilities on the Forth road bridge, what provision will be made for cyclists and pedestrians within the public transport corridor?

John Howison: Cyclists and pedestrians will be able to use the side spans on the existing bridge that they use at the moment.

Marlyn Glen: So there will be no change there.

John Howison: There will be broadly no change, but there will be some detailed improvements to connectivity.

Marlyn Glen: Can you expand on those?

Mike Glover: Cycle route 1, which I know well, could do with a few bits of improvement through South Queensferry. Strategically, cycle route 1 works pretty well from north to south. Did you have something particular in mind?

Marlyn Glen: No, I just wanted to know whether any additional provision was being made.

Mike Glover: We reviewed where we could make some minor improvements, which are perhaps outwith the project. We identified one or two improvements, but they are very detailed. We have maintained the cycle route at Ferrytoll, where cycle routes 1 and 76 meet. We have put a lot of emphasis on maintaining those routes into the longer term and on ensuring that they are not prejudiced.

The Convener: I will allow a final supplementary question from Shirley-Anne Somerville and then from Alison McInnes.

Shirley-Anne Somerville: I want to get some more detail on what is happening not just on the bridge but on the approach roads. Yes, cyclists can use the current bridge and will continue to be able to do so, but I am interested in what is happening on both sides. Are we not only maintaining the route but doing everything that we can to improve it, so as to encourage that modal shift towards active travel?

John Howison: Mike, do you want to talk about the improved connection between the slip road and North Queensferry?

Mike Glover: Yes. I love cycle route 1. I have cycled from one end of this great nation to the other end of the nation to the south using cycle route 1 and I care about it a lot. However, one of the problems with it has always been coming across the Forth bridge using the cycle route that goes down to the Forth. One of the advantages of taking the traffic on to the new bridge instead of the old bridge is that cycling across the bridge will be much more liberated and the routes coming off the old FRB into Ferrytoll and northwards should be a degree easier, although not dramatically so.

That is the sort of thing that we have considered to ensure that the cycle routes are at least maintained and, in some cases, improved.

Alison McInnes: I understand that concerns have been expressed by local residents in South Queensferry about localised severance of their access, not across the bridge but out into the countryside. At the moment that access is easy, but with some of your new approach roads it might become more difficult. Can you address that?

John Howison: We have undertaken surveys to quantify the number of people who would be involved, and we are looking at the area as a quadrant surrounded by a bypass around South Queensferry. Traffic will continue to pass along Society Road, underneath the new bridge at the northern end. Moving round, specific provisions will be made at the A904 junction. Moving further round, the new bridge that will be built to carry the B800 will be a wider bridge with better facilities for cyclists, taking them through there.

The Convener: I thank all the witnesses for the time that you have spent answering our questions. Under both the first agenda item, and in considering the public transport elements of the bill, we identified a couple of areas on which you have offered to provide further information in writing. Those members who expressed surprise at the limited progress that has been made on exploring some of the issues that we touched on under the second item might welcome any further information that you may wish to provide on those issues as we continue the inquiry. Thank you very much.

Meeting closed at 16:22.

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