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Pàrlamaid na h-Alba

Official Report

INFRASTRUCTURE AND CAPITAL INVESTMENT COMMITTEE

Wednesday 7 September 2011

Session 4

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INFRASTRUCTURE AND CAPITAL INVESTMENT COMMITTEE
3rd Meeting 2011, Session 4

CONVENER

*Maureen Watt (Aberdeen South and North Kincardine) (SNP)

DEPUTY CONVENER

*Jamie Hepburn (Cumbernauld and Kilsyth) (SNP)

COMMITTEE MEMBERS

*Jackson Carlaw (West Scotland) (Con)
*Malcolm Chisholm (Edinburgh Northern and Leith) (Lab)
*Neil Findlay (Lothian) (Lab)
*Adam Ingram (Carrick, Cumnock and Doon Valley) (SNP)
*Gordon MacDonald (Edinburgh Pentlands) (SNP)

*attended

THE FOLLOWING GAVE EVIDENCE:

David Climie (Transport Scotland)
Lawrence Shackman (Transport Scotland)

CLERK TO THE COMMITTEE

Steve Farrell

LOCATION

Committee Room 6

Scottish Parliament

Infrastructure and Capital Investment Committee

Wednesday 7 September 2011

[The Convener *opened the meeting at 10:05*]

Decision on Taking Business in Private

The Convener (Maureen Watt): Good morning. I welcome everyone to this meeting of the Infrastructure and Capital Investment Committee. I hope that all my colleagues have had a good and restful summer. I remind everyone to switch off their mobile phones and BlackBerrys because leaving them on affects the broadcasting system.

I take this opportunity to welcome five members of the Swedish Parliament—Eva Lohman, Gunilla Nordgren, Maria Plass, Per Lodenius and Anna SteeleKarlström. They are members of the Swedish Tory party, the Centre Party and the Swedish Liberal Party. I welcome you all and I hope that you find our meeting interesting.

Item 1 is to seek the committee's agreement to take in private item 3, on the committee's approach to the Scottish Government's draft budget 2012-13 and the spending review 2011. Are we agreed?

Members *indicated agreement.*

Forth Replacement Crossing

10:06

The Convener: We will now hear evidence from representatives of the Forth replacement crossing team in Transport Scotland. The aim of the session is to gain a brief overview of the project so far, and to hear updates on current and upcoming work. I welcome the witnesses, who are David Climie, the project director of the FRC team, and Lawrence Shackman, the project manager of the team. I invite them to make a brief opening statement.

David Climie (Transport Scotland): Good morning convener and committee members. I am the project director and employer's representative for the Forth replacement crossing project. I joined Transport Scotland in June 2010 after 27 years working for contractors on some of the largest bridge projects around the world, including in Hong Kong, Denmark, China and the United States of America. My colleague, Lawrence Shackman, is the project manager and the deputy employer's representative. He has worked for Transport Scotland and its predecessors since 1999 and has been on the FRC project team since 2006.

We are pleased to be here to provide you with an update on the progress of the Forth replacement crossing project and the significant milestones that have been achieved since we last reported to the Transport, Infrastructure and Climate Change Committee during the previous parliamentary session in March this year.

We successfully completed the two-year procurement process to award the three contracts that make up the Forth replacement crossing scheme. The principal contract for the main bridge and approach roads was awarded in April 2011 to the Forth Crossing Bridge Constructors consortium, which is made up of Hochtief Construction AG from Germany, Dragados SA from Spain, American Bridge International from the USA, and Morrison Construction from Scotland. The contract was awarded at a price of £790 million, excluding VAT and inflation. That figure is significantly below the original expected cost range of £0.9 billion to £1.2 billion. The official commencement date was 28 June 2011, following the provision of the required bonds, parent company guarantee and contractor insurances.

Temporary site accommodation has been taken in an existing building in the Rosyth area, and the employers delivery team and the FCBC management and construction team have been co-located there since 1 August. That is a key tool in the project governance plan for ensuring that

lines of communication are established at all levels of the project teams, and so ensuring that the contract remains on schedule and within budget.

Detailed design has started on the new bridge and the approach roads, and preparatory works are being carried out for initial site clearance and establishment of the site compounds north and south of the Forth.

FCBC has completed negotiations with Forth Ports plc to use existing quayside and warehouse facilities in Rosyth to establish the marine base for the project on the north side of the Forth. That area will also accommodate a concrete batching plant, material delivery and storage areas.

The main site office will be located west of the Ferrytoll junction and the secondary office will be located south of the Forth at Echline. Concentrating the main site compound in the north and using the existing facilities will deliver significantly less impact for residents in Queensferry, and is an early example of the contractor and Transport Scotland striving to minimise wherever possible the effects of essential construction activities on the local community.

The Fife intelligent transport system—the ITS contract—was awarded to John Graham (Dromore) Ltd in June 2011 at a price of £12.9 million, excluding VAT. Again, that was significantly below the expected cost range of £15 million to £22 million. That firm's site compound is being established in Belleknowes industrial estate and construction is scheduled to start later this month, with work to be completed by summer 2012. The contract includes the installation of 21 ITS equipment and sign gantries and the provision of bus hard-shoulder running capability on the M90 southbound from Halbeath to the Admiralty interchange.

The M9 junction 1A contract, which is the sub-contract, was awarded to John Sisk and Son and Roadbridge in July 2011 at a price of £25.6 million, excluding VAT. Again, that was significantly below the expected cost range of £46 million to £65 million. Construction is scheduled to start later this month and will be completed by spring 2013. The contract includes the reconstruction of the existing M9 junction 1A, which includes west-facing slip roads to the M9, the installation of ITS equipment and sign gantries and the provision of bus hard-shoulder running southbound from the existing M9 spur to the Newbridge roundabout.

The award of those three contracts at significantly reduced prices has reduced the range of outturn costs for the FRC project from the previously reported £1.7 billion to £2.3 billion, down to £1.45 billion to £1.6 billion, while retaining the required project completion date of 2016.

The liaison working groups that were committed to during the parliamentary process and documented in the code of construction practice have been successfully established. The terms of reference have been discussed, agreed and published and regular meetings are taking place, with good participation from all the interested parties. Four meetings of the noise liaison group have taken place, leading to the approval of the noise and vibration management plans for initial activities on the Fife ITS and principal contracts.

Community forums have been established, bringing together the employer, the FRC contractors and community representatives. The format and function of the forums was agreed following the well-attended workshop with the local community councils and representative organisations. Five meetings have taken place and they will continue to be held at least quarterly throughout the construction of the project. The traffic management working group, the rail liaison group and the environmental working group meet regularly, and the agendas and meeting minutes have been published on the project website.

The project's interim contact centre has been established at the Forth Estuary Transport Authority offices at the south end of the Forth road bridge and the project telephone hotline and inquiry e-mail address are now active. The contract for the permanent contract and education centre, which will also house a new dedicated Traffic Scotland control centre, will be awarded shortly to Don Construction Products Ltd. The centre is on schedule to open to the public by late summer 2012.

In summary, the project continues to meet the challenging schedule that was set in 2008, and its cost to Scotland's capital budget has been significantly reduced through a robust and competitive procurement process. We have world class road-building, bridge-building and civil engineering firms working across all three contracts. As the employer, Transport Scotland will continue to maintain close oversight of the project throughout its construction. The project remains on schedule to deliver a new crossing across the Forth by 2016, and construction on all three contracts will begin in earnest over the coming months. We are determined to ensure that this essential project remains on time and on budget.

The Convener: Thank you. Mr Shackman, do you want to add anything?

Lawrence Shackman (Transport Scotland): No—I do not think that there is anything to add to that synopsis.

Malcolm Chisholm (Edinburgh Northern and Leith) (Lab): Mr Climie said that the project is on

time and on budget. I think that the biggest concern for the public, particularly given recent events in Edinburgh, is to what extent the contract will ensure that there is no great increase in the budget. What guarantees can you give about that? Obviously, there can be unforeseen circumstances, so to what extent has that risk been transferred? Is it still possible that there will be quite an increase in the amount of public money that will be required for the project?

10:15

David Climie: Obviously, we are very aware of what has been happening elsewhere. A strict governance process has been put in place for this project, to ensure that things are monitored and documented by Transport Scotland. As I said, we have co-located our employers delivery team, which is part of Transport Scotland and the Arup-Jacobs joint venture, with our contractor on the site in order to ensure, at all levels, that we know exactly what is going on and how things are progressing. We also report to a financial and risk-advisory group, which meets on a two-monthly basis and we report regularly to a project board chaired by David Middleton, the chief executive of Transport Scotland, and which also has non-executive members.

As I have said, an area that is not covered by the contract is inflation—the Scottish Government takes 90 per cent of the risk of inflation, which is linked to published indices and a set formula. We continue to monitor that regularly, and we have included it within our projections for the total outturn cost of the project.

The bulk of the risks for unforeseen circumstances, and so on, remains with the contractor. We are confident that the project will remain within the new project budget range, which, as I said earlier, is from £1.45 billion to £1.6 billion.

Malcolm Chisholm: Apart from inflation, what changes represent possible risks to the public purse?

David Climie: Changes are probably the key risk. Going back and altering the scope would be a key risk affecting both times and costs. With the present project, it is good that we had a two-year dialogue period during which we explored and scrutinised in great detail the scope of the project and all its risks. We ensured that we had included within the base scope everything that we should have included. Unless something unexpected adds to that scope, we are confident that we will remain on time and on budget.

Malcolm Chisholm: I might be repeating debates from the past, but is it critical that the new bridge be completed by 2016—based on information about the old bridge—or would delay beyond that date simply mean a risk of cost overruns?

David Climie: Obviously, if the project overruns in time, there will be a risk of cost overruns as well. Time and cost run in parallel. At the moment, we have no updated information on the prognosis for the cables of the old Forth road bridge. I believe that the next inspection is due to commence late this year, with updated information being presented in early 2013. I cannot speculate on what the outcome might be, but everything has been put in place to ensure that the new bridge will be open in 2016. That fits with current information on the status of the existing road bridge.

Malcolm Chisholm: Is it true that the latest prediction is that the old bridge could be used until 2021 or have I been misinformed?

Lawrence Shackman: The latest information is that there is still a possibility of a restriction on heavy goods vehicles as early as 2014. However, it is more likely to be in the window from 2017 to 2021, with a ban for all vehicles sometime beyond that.

Jackson Carlaw (West Scotland) (Con): As the former convener of the Forth Crossing Bill Committee, I am encouraged by your summary of progress since then.

I will start by asking a slightly frivolous question, but it is a question that has been exercising my mind. When the project commenced, it was intended that the new crossing would replace the existing crossing. However, I do not think that there are now any plans to dismantle the existing crossing. I therefore wonder for how long we will continue to refer to a “replacement crossing” as opposed to simply an “additional crossing” for the Forth. Is it slightly odd to continue to call the project the “Forth replacement crossing”? That perhaps gives the public a slightly misleading impression.

David Climie: That is a fair comment. When the project was initially thought about, it was clearly thought about as a complete replacement crossing. Since then, the prognosis has changed significantly: the Forth road bridge now has a long-term future that is being built into the overall managed crossing strategy. The minister has said that he would like there to be a new name for the bridge when it opens. At present, we continue to refer to the “Forth replacement crossing project”, because that is what is being procured. However, we are currently investigating different options for some sort of naming process for the new bridge. That seems to be appropriate.

Jackson Carlaw: As Malcolm Chisholm said, recent events have given the public cause for

concern about major capital development projects. I am not saying that the public will have been slightly sceptical when they heard that the tendering process had produced such a saving over the estimate, but I wonder whether you, too, were slightly surprised to find that the tendering process produced a dividend in terms of a reduction in the estimated cost? What do you think brought that about? Did you expect that to happen as you neared completion of the tendering process? Are you confident that the tendering process has produced a reduced cost that is robust?

David Climie: I will answer your last question first. Yes—we are absolutely certain that the prices that we have are robust and cover all aspects of the contracts as tendered. The original cost estimates were made back in 2006 and, as we moved forward in the process, those cost estimates were updated on the basis of inflation over the period. Prior to the financial crisis, there was a boom in the construction industry and there was a tendency for tender prices to be higher. In certain cases, it was quite difficult to get companies to bid because there was so much work around. To a degree, we had a certain amount of luck in the timing because, when we were receiving the bids at the end of 2010, the market was not buoyant—it was going through a bad time at that point—and contractors were very keen to put in realistic but competitive tender prices. In real terms, the tender prices that we got for all three contracts were effectively back at 2006 levels. Looking at all the published tender price indices, we see a curve rising from 2006 to 2008, with prices peaking in 2008 and then dropping back down to 2006 levels at the end of 2010. It was very much in line with the tender prices that we are seeing in published indices.

Jackson Carlaw: So, in a slightly perverse way, the project has benefited from the general economic conditions that obtain.

David Climie: Yes. I think that is true.

Jackson Carlaw: Obviously, inflation is expected to fall at some point, but it is running at a relatively high rate at the moment. In relation to the project, can you confirm again the expected rate of inflation to which you are operating?

David Climie: I can. The range that we are using has a low end of 2 per cent, a median of 5 per cent and an upper end of 8 per cent annually. We will continue to monitor inflation closely, as it is one of the key areas in which we have risk. The base date, when the invitation to tender for the principal contract was issued, was December 2010. We are currently running at or just above the top end of that range; however, it is early and, as you say, inflation is expected to fall back. We will continue to monitor it regularly so that we ensure that we remain within the envelope.

Jackson Carlaw: Remind me of the potential consequences for the project were inflation to remain at those three levels. Where would that sit in terms of any potential additional cost that would subsequently materialise?

David Climie: The top end of the range that we have quoted—the £1.6 billion—assumes that inflation continues to run at 8 per cent right the way through until completion of the project.

Jackson Carlaw: Thank you.

Neil Findlay (Lothian) (Lab): Depending on where one stands in the argument, one of the benefits or dangers of a bridge project is the fact that, unlike a road, train or trams project, a bridge project cannot stop halfway. You mentioned that you have world class road-building, bridge-building and civil engineering companies involved. I am pretty sure that the companies that were involved in the Edinburgh trams project would have described themselves similarly. What safeguards are there for the taxpayer to ensure that any conflict or disputes between the different parties that are involved will be resolved quickly and cheaply?

David Climie: That is a very important point. The first stage to that is, as we have done, to co-locate and zipper the two organisations together. I meet the FCBC project director daily to ensure that I am aware of what is going on. The key to these projects is to ensure that there are no surprises, because we do not want anything to develop into a major issue.

In the contract, we have put in place a multistage dispute resolution process. We will also establish a dispute resolution board that will comprise members nominated by us and FCBC and which will meet quarterly to be updated on the project and to give initial feedback on any potential differences between us. That will be the first step in any dispute resolution process. That might then lead to adjudication and/or arbitration and obviously—and ultimately—litigation. The dispute resolution process is very clear.

The other thing that is happening is that the project board that I mentioned earlier as part of our governance structure will meet the FCBC project board to ensure that there is informal contact at that level and that issues are dealt with as they arise and are not allowed to develop into something that might have a major impact on the project.

Neil Findlay: I also assume that you will be reporting back to the committee at regular intervals and that we will—I hope—be alerted to

any such potential problems as the contract goes through.

David Climie: Yes, absolutely.

Neil Findlay: I was not a member in the previous session of Parliament, but I assume that all the contractors have evidenced their competence and ability to deliver. What steps are being taken to future-proof the bridge? Equally important, what steps are being taken to ensure that it is not expensively overengineered?

Lawrence Shackman: The competitive dialogue process that has been undertaken over the past couple of years to get to the contract award involved a specimen design that the team put together based on expert knowledge of other bridges of this type throughout the world, notably the Stonecutters bridge in Hong Kong, and the contract documents were formulated on the basis of best practice on that bridge and other bridges throughout the world. Throughout the dialogue process, we were able to discuss the particular tenderers' proposals. For example, the two tenderers had different views on how the bridge should be taken forward. The team certainly looked at every aspect of the contract requirements and the example specimen design that was prepared for it to see how it could engineer the design to meet the contract's requirements.

One such requirement is to ensure that maintenance is built into the bridge. Unlike the Forth road bridge, which was very well built for its day, the new structure will have state-of-the-art maintenance systems to ensure that workers who need to reach a particular point on the bridge can do so efficiently and effectively. For example, lifts in the towers will operate at reasonable speed and capacity and will be able to take equipment up to an appropriate level. The monitoring of the bridge's mechanical and electrical equipment will all be done in a logical and efficient way. I could go on and talk a lot about the systems that will be built into the bridge but I would say that it is not overdesigned but appropriately designed.

Neil Findlay: In order to allow us to do some research, would you point to the bridge in Hong Kong as being a successful example of how such a project should be managed or would you suggest somewhere else?

Lawrence Shackman: It is very difficult to take one particular project as a prime example. The contract for the project in Hong Kong was different to the one that we are using—it was not a design-and-construct contract but a more traditional two-party contract—so you cannot compare that side of things. However, David Climie worked on the Tacoma Narrows suspension bridge, which was a successfully delivered design-and-build project. There are good and bad examples all over the world but, from a design point of view, the Stonecutters bridge has some very good modern features.

Neil Findlay: I am talking about the management of the project and finding out how successful it was.

David Climie: In terms of the management of the contract, I would draw parallels with the Tacoma Narrows project in Washington state in the USA, which I worked on prior to coming here. The client was the Washington State Department of Transportation. It did many of the things that we have done. It co-located the new bridge with the existing bridge, and the project came in about $80 million under budget. The original budget was about $840 million and the final cost came in about $80 million under that—and the new bridge opened on time.

Neil Findlay: I am sure that the convener will arrange a trip to Washington for us.

The Convener: I wondered whether you were fishing for a trip.

As there are no further general questions on the update on progress on the project, we will move on.

10:30

Jamie Hepburn (Cumbernauld and Kilsyth) (SNP): Thank you, gentlemen, for your update. It is gratifying to know that the project is still on time and on budget.

I am relatively new to this area, but I understand that you gave updates to the Transport, Infrastructure and Climate Change Committee in the previous session, in which reference was made to the cross-Forth public transport strategy, which was to be refreshed at some point during this year. What progress has there been on that? Have local authorities and transport users been involved in the process?

Lawrence Shackman: Yes. One of my colleagues is taking forward that work. A number of meetings have been held with the local authorities—Fife Council, West Lothian Council and the City of Edinburgh Council—the south east of Scotland transport partnership, which is the relevant regional transport authority, and the bus operating companies to develop the public transport strategy. We have been able to extract a number of elements of the original strategy and take them forward as part of the scheme—namely, the bus hard-shoulder running on the Fife side and as part of the junction 1A project, together with the dedicated public transport corridor, which is the Forth road bridge. That is obviously the biggest element of the project. A number of things have

been done to progress public transport elements of the strategy through the project.

Notwithstanding that, the meetings that we have had with the local authorities and SEStran have been encouraging. We have tried to identify pressures in the project corridor and how they can be addressed in the coming months and years. The recent discussions have centred on the Newbridge area of the scheme, which is right at the southern end of the crossing. Getting bus transport through that junction seems to be a particular problem, as is improving journey times on the A8 corridor. Much of that work is not on the trunk road corridor and is not really part of the project, but I believe that Transport Scotland, working with all the other bodies that I have mentioned, will be able to formulate a programme of works that can be taken forward in the years to come.

I should stress that another element of the strategy that it has transpired will be constructed is the Halbeath park and ride, funding of some £10 million for which the minister announced at the award of the principal contract would be made available. That is now being progressed by Fife Council, and it will dovetail nicely with the bus hard-shoulder running schemes down the M90 towards the bridge and across into Edinburgh.

Jamie Hepburn: You mentioned some of the stakeholders that have been involved, but I did not hear any reference to the people who cross the Forth. The councils and the transport authority have been involved, but what about the people who have to get across the Forth?

Lawrence Shackman: At this early stage, it is quite difficult to involve the public. That should certainly be taken forward when the overarching work has been done to identify the key problem areas. A lot of people who use the road corridor and the bus network will know that Newbridge is a difficult part of the road network, as are the connections from Edinburgh to the corridor involving the M9, the M90 and the A90. I agree that the public need to be involved, but at an appropriate time.

Jamie Hepburn: In response to my first question, you referred to bus hard-shoulder running from Halbeath and the park and ride at Halbeath. Is that on track for introduction next year?

Lawrence Shackman: No. It is on target for introduction in 2013, but it is hoped that construction will start next year.

Jamie Hepburn: I understand from the previous committee's work that not much work had been undertaken to encourage modal shift in cross-Forth journeys. How does the public transport strategy seek to rectify that, and what work is on-going to get people out of their cars and on public transport?

Lawrence Shackman: With the introduction of the bus hard-shoulder running, we will embark on an education programme to inform and educate both the general public who will use the M90 corridor—taking the Fife ITS bus hard-shoulder facility as an example—about the benefits of using the facility, and the bus companies about how physically to use the facility when it is complete next summer. One element is therefore to educate the public and bus companies.

On the other elements of the project, we will have the contact and education centre available so that people will be able to understand the project as a whole. They will see the benefits of being able to use the buses over the Forth road bridge because it will be much easier for buses to use it. We will demonstrate that there will be significant journey time savings. For example, with the junction 1A bus hard-shoulder running, in the peak time there will be something like a 20-minute journey saving from jumping the queue on the southbound slip road—a road which a lot of the public will know well and not love. The buses will be able to jump the queue there, and we reckon that up to 20 minutes will be saved at peak hours. That is a very attractive proposition for people in using public transport.

We can use the variable message signs that will be situated on the gantries through the project to show people that if they want to go to the airport, for example, it will take X minutes on the bus and X minutes plus whatever it is at that time of the day by car. We can therefore use the information signs to tell people how much time they will save.

Jamie Hepburn: This follows on from Jackson Carlaw's question earlier. The idea is that the existing bridge will be retained largely for public transport use. Before the committee kicked off, we were discussing the fact that there have been reports that some bus operators have indicated that they may prefer to use the replacement—or additional, depending on your perspective—bridge. Will you comment on that?

Lawrence Shackman: For the journeys from north to south, it will depend on the destination. If you are going on the A90 corridor to Edinburgh, it will be very sensible to use the existing bridge because it is the most direct route. If you are going to the airport, there is no dedicated link from the existing bridge aside from going down the B800 towards Kirkliston, which is not a preferable route for fast inter-city coaches to get to the airport and destinations down the M8 and city bypass corridor.

One of the elements in the public transport strategy is a scheme to add in dedicated slip roads at some future stage to create a junction from the

B800 with the M9 spur. We could then route buses to and from the Forth road bridge down the B800 and connect directly to the M9 spur and to destinations to the south and west of Edinburgh. That is another element of the public transport strategy.

Jamie Hepburn: So, you are confident that there will be enough demand for public transport on the existing bridge so that the two-bridge strategy is worth while.

Lawrence Shackman: Yes. I have not got the actual figures and proportions, but the vast majority of buses travel to destinations down the A90 corridor to Edinburgh.

Jamie Hepburn: I understand that the previous committee heard evidence that there is an informal arrangement whereby FETA will take responsibility for ensuring that cyclists can get from A to B if they cannot cross the bridge, for example because of high winds. Is that arrangement being taken account of? Might it be more formalised?

Lawrence Shackman: At a previous committee, I mentioned that once we have a maintenance body in place for the new bridge, and looked at the maintenance of the existing Forth road bridge and taken forward what is appropriate, the issue of how pedestrians and cyclists get across the Forth road bridge in inclement weather will be taken forward.

Jamie Hepburn: So, we will hear more about that in the future.

Lawrence Shackman: Yes.

Jamie Hepburn: FETA was just mentioned. What is the position with regard to determining its future and the management arrangements for the new crossing? I understand that a decision was due to be made by 2013—is that still the case? Are we any closer to knowing what the situation will be?

Lawrence Shackman: That is still the case; I am sure that the minister will say something in due course.

Jamie Hepburn: We look forward to that.

Gordon MacDonald (Edinburgh Pentlands) (SNP): I have a question on public transport provision. You said that the vast majority of public transport uses the existing bridge, which is closed on a regular basis to high-sided vehicles. Those include double-decker buses, which are the most efficient way for public transport operators to move large numbers of people, especially if you are going to build another park-and-ride site at Halbeath. How will you overcome that problem to allow public transport companies to plan for such a situation, which happens on a regular basis, if you retain the existing bridge as a public transport corridor?

Lawrence Shackman: We have addressed that by allowing a third bus hard-shoulder running option in the project. If the existing bridge is closed because of strong winds, it will allow buses—in particular double-decker buses, as you mentioned—to cross the new bridge and use the hard shoulder to maintain journey reliability. There are mechanisms built into the intelligent transport system to redirect buses across the new bridge and back on to their old route.

Gordon MacDonald: Public transport companies might find it beneficial, in order to plan which vehicles to use, continually to use the new bridge as opposed to the old one. That would give them consistency as they know that they can use a particular driver and vehicle on that route.

Lawrence Shackman: That would not be economical, either in terms of time or fuel, because it is a longer route to take. It would not make sense. Also, there is a bus stop in South Queensferry that would end up being bypassed if they did that, so I cannot see it being a feasible option.

As I have said before, we are hoping to educate the bus operating companies through a series of presentations and meetings to ensure that they fully understand the capabilities of the bus hard-shoulder running facilities, both on the new bridge and north and south.

David Climie: The key point of the new crossing is that it adds resilience to the existing crossing, as there will be wind shielding all the way across the new crossing. That will ensure that whenever the Forth road bridge is closed to high-sided buses, they can reroute on to the new crossing in all weathers.

The Convener: I am not sure at what wind speed the current crossing must be shut. At what wind speed will the new crossing have to be shut, if at all?

David Climie: At present we do not anticipate any circumstances under which the new crossing would have to be closed. We are currently carrying out extensive wind-tunnel testing to ensure that the wind shielding that will be put in place is the appropriate type, so that we can avoid any closures on the new crossing.

The Convener: Do you know at what wind speed the current bridge must be shut?

David Climie: I believe that they begin to bring in restrictions at winds of approximately 50 mph, although I do not know the precise figures.

Lawrence Shackman: I think that the bridge closes at winds of 80 mph. We have previously

used the analogy of the second Severn crossing down at Bristol, which has wind shielding. It opened in 1996 and has never closed—touch wood—because of high winds, although it has closed due to other issues. The wind shield that we anticipate using on the new bridge will be similar in height and resilience to that one, although it will look different.

The Convener: If no one else has any questions on that area, we will move on to community engagement. Jackson Carlaw has a question.

Jackson Carlaw: Community engagement was a huge part of the original Forth Crossing Bill Committee's workload, with regard to hearing the respective views of community councils throughout the whole consultation phase on whether that process was thorough and genuine.

Community councils had different perspectives—for example, people in Newton were concerned about the traffic load that might be directed through Newton and people in Queensferry were concerned about the whole building process. David Climie mentioned five meetings. Were they meetings of the new community council forum?

David Climie: Yes.

10:45

Jackson Carlaw: Did you say that the forum meets quarterly?

David Climie: The meetings are at least quarterly. At the moment, we are meeting every two months. A fair amount is going on, so we felt that meeting more regularly would be more appropriate.

Jackson Carlaw: Will you tell us more about the forum's composition? As best you can, will you characterise the spirit in which everybody has participated in the forum's meetings? What key immediate issues have been discussed?

Lawrence Shackman: Following a workshop that we held earlier in the summer, it was decided that the community forum would be split into three forums and that community council members could attend as observers forums of which they were not members. The north of the Forth forum covers the communities of Rosyth, Inverkeithing and North Queensferry; the south forum involves Queensferry and district community council and Newton community council; and the junction 1A forum looks after Kirkliston's interests.

One requirement for each forum meeting is that the contractors for all three contracts attend with their representatives to explain the upcoming programme of works and to discuss any concerns of the community councils. In addition to the community councils, we will welcome any other suitable recognised community groups—for example, the south forum involves the bridge replacement interest group (south)—to represent themselves in the coming months and years.

We have started forum meetings and we have discussed our terms of reference—draft terms of reference are on our website and we have taken them forward. We have looked at the contractors' upcoming proposals and we have asked the contractors to introduce themselves to the community councils and to inform us of concerns such as land, traffic routing or dust issues for the upcoming construction events.

The meetings have been constructive. The project is at a difficult stage, because everything has yet to happen. The work is very much preparatory; much of it concerns finishing and putting in place the procedures and principles of construction and design. What is involved is awareness of what is about to happen.

Jackson Carlaw: That answer is encouraging. It is enormously beneficial if the community councils do not feel that they have not had a proper opportunity to contribute to the process, as some previously felt.

Following the discussions, is the document "Engaging with Communities" being revised to allow for the future involvement of as many people as possible? How is work progressing on the contact and education centre?

Lawrence Shackman: The community forums have discussed "Engaging with Communities", which has been published on our website. We stressed to people that that is the first version, which can be changed—we are perfectly happy to amend it if the need arises, as we go through construction. I hope that the document is easy to view and read. The public can see what the project is about and where to go if they have a query or complaint about it.

We have established a project hotline, whose number is displayed clearly in the document. People who use the hotline will get through to an answering person who will direct them to one of the relevant contracts. A person with a query about the Fife ITS contract would get through to the relevant community liaison officer—contractors have had to appoint such officers for each of the three contracts—and that officer would deal with queries and complaints in the timeframes that have been set out. A good means for people to phone us is available, and people can e-mail us. "Engaging with Communities" and our website say that clearly.

Jackson Carlaw's last point was on the contact and education centre. It is hoped that the

permanent facility will be up and running later next year—the contract is just about to be awarded, as David Climie mentioned. In the meantime, we have established a temporary contact and education centre, which has a Transport Scotland person, along with the community liaison officers for each of the three contracts. People are able to drop in there and ask questions about the project. If they have a complaint or a query, it can be taken forward there. As the project starts to move out of the Forth and appear on the land, the contact and education centre will be able to accommodate visits by schools, students and yourselves, if you want to come and visit. We will be able to give people a full briefing on the project. There will be webcams, scale models, exhibition boards and all the information that you would want to know about the Forth replacement crossing.

Jackson Carlaw: That is not quite the same as a visit to Washington state, but I am sure that Mr Findlay and I will take advantage of that opportunity.

The Convener: I think so.

Neil Findlay: On the issue of community liaison officers, in other projects that I have been involved in, a compliance officer who has been paid for by the contractor and appointed by the local authority, in consultation with the community, has worked with the community to ensure that all the community engagement aspects of the project that have been agreed by the contractor happen. This project seems different, as the community liaison officer is appointed by, and ultimately works for, the contractor. I would be more comfortable with a situation in which the contractor paid the money but the community liaison officer worked on behalf of people in the community to ensure that their concerns were addressed. Will you comment on that?

Lawrence Shackman: The fundamental difference from a lot of other projects is that Transport Scotland and our advisers, Arup-Jacobs, which together make up the delivery team, are co-located on site, which means that we will be in the midst of all the work that will be going on. We have a representative working alongside the CLOs, which means that we can ensure that they are doing their job.

Set procedures are laid out in the contract documents with regard to what the contractor has to do in terms of reporting complaints to us. We have to log such complaints and are obliged to publish them regularly on our website. We are working hand in hand with the contractors' representatives to ensure that they deliver a first-class service to landowners, motorists and every other member of the public who has a concern. We will work together to ensure that people's queries are answered quickly and effectively.

We are being proactive by regularly visiting affected parties and ensuring that they are kept up to speed with what is going on. As I have said before, the idea is to have no surprises. We want to ensure that people are aware of the works to come.

Neil Findlay: I do not doubt your sincerity; I am saying only that, in my experience of such projects in other areas, a lot of warm words are said but it is the action that proves whether the arrangements work. I am sure that your approach is genuine. We will see how the situation develops.

The Convener: What do you intend to do regarding the hours that are worked? One of the main problems encountered by communities that are affected by such projects involves disturbance at night. Will it be a 24-hour operation?

David Climie: A lot of work was done on that issue during the parliamentary process and the outcomes have been included in the code of construction practice. That document is unique to the project and sets out clearly what our commitments are and what we must do.

Some activities will take place on a 24-hour basis. Those are largely the marine-related activities, because we have to work with the tides and so on. Issues around that work will be addressed through the noise liaison group. We have to meet the local authorities and propose plans for the control of noise and vibration, and demonstrate clearly that we are using the best practical means for any work that we wish to do. If the contractor wants to work on some part of the project on a 24-hour basis, it has to demonstrate that there is no other way of doing the work. The standard working hours are 8 am to 7 pm, Monday to Saturday. If anything needs to be done outside of those hours, there must be a good reason.

The Convener: Have there been any problems with land acquisition?

David Climie: No, it has all gone through very smoothly. The general vesting declarations for all the projects also went through smoothly.

The Convener: We move on to traffic management during the construction of the Forth replacement crossing. Adam Ingram has some questions.

Adam Ingram (Carrick, Cumnock and Doon Valley) (SNP): We are talking about a major artery of the Scottish economy and, as with any major construction activity, there is potential for disruption. Some of us are well aware of that happening close to where we are now.

I understand that Transport Scotland indicated that the traffic management working group is the main body that will address a lot of the traffic

issues. How has FCBC engaged with the traffic management working group? Have any plans been adjusted as a consequence of those meetings?

David Climie: Yes, is the short answer. We are fortunate in that the traffic management working group was put in place in advance of the contracts being awarded, so it was operating throughout the tender process. That means that all the contractors that were bidding for the work on all three contracts were given a chance to interact with the traffic management working group to ensure that their tenders were based on something practical for the long term. It was not a case of the bidders winning the job and then thinking, "Now, how are we going to do it"; at the earliest stage, there was engagement so that they could decide how they were going to manage the traffic effectively.

Now that the contractor is in place, the traffic management working group has continued to operate regularly. The contracts contain lane occupation charges, which form an incentive for the contractor to minimise the impact on the road system. The traffic management working group is not just about talk; there is a financial incentive to minimise the amount of disruption on the road network.

So far, engagement has been positive. The meetings have gone well and a lot of work has gone into ensuring that the impact on the public will be reduced as far as possible. A project of such size will inevitably have some impact, but we want to ensure that it is minimised and well publicised in advance of changes being put into effect, so that people are aware of what is happening, of alternative routes, if necessary, and of how they can maintain their journey times as much as possible.

Adam Ingram: Having first been elected to Parliament in 1999, I have seen that Edinburgh seems to be particularly prone to disruptive activities, especially road works. Never a week goes past without a new set of road works interfering with the free flow of traffic. I am interested in what you said about the financial incentives. Could you tell us a bit more about that? Are any penalties involved if the free flow of traffic is not assured?

Lawrence Shackman: The lane occupation charge is a mechanism in the contract that has been used in other Transport Scotland contracts for several years. I will try to say this as succinctly as possible. The contractor allows a sum of money in its tender—it is sort of virtual money—and it has to predict how many lane occupations it will use throughout the construction of the project. Different lane occupations attract different amounts of money, so occupation of a lane on the M90 would cost considerably more than it would on one of the B roads, for example. Again, if the lane was occupied during the day, that would be considerably more expensive than it would be at night. That should give you a feel for how the charges work.

11:00

The contractor sets an amount based on how many times it judges that it will have to occupy a lane to be able to do the works. Clever contractors try to get round that. They do not want to have lane occupations at all, so they might use the mechanism of temporarily widening the existing roads to maintain two lanes of traffic at all times rather than restricting the traffic to narrow lanes, which also attracts a charge, or closing a lane completely.

I believe that FCBC has allowed in its tender for some temporary widening works to ensure that the traffic flow is maintained, the cost of lane occupations is kept down and the effect on the travelling public is minimised.

David Climie: Adam Ingram's final question was about the penalties that could occur. We have built FCBC's proposed lane occupations into the contract. We will monitor actual lane occupations as the project progresses and if the number exceeds that which FCBC said it would have, there will be financial penalties of so much per lane per day. We can claw back money from FCBC if it goes over what it said in its tender.

Adam Ingram: I take it that a regular schedule of meetings with FCBC is built into your work.

David Climie: There is a detailed set of meetings. I seem to spend more time in meetings than I do on the site, so there is a very busy schedule of meetings.

Adam Ingram: The proof of the pudding will be in the eating. Construction will happen very soon, or indeed is happening now, so we will see how things develop.

The Convener: We move on to CO_2 emissions. Our predecessor committee in the previous session of Parliament had some questions about emissions. Transport Scotland officials advised us:

"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."—[*Official Report, Transport, Infrastructure and Climate Change Committee*, 2 February 2010; c 2528.]

Transport Scotland officials indicated at their previous appearance before the committee that the release of that information would have to wait until the announcement of the successful bidders.

Can you now give us an estimate of greenhouse gas emissions for the construction of the crossing?

David Climie: Yes, we can. I re-emphasise that, on the specimen design, the previous figure that we gave the committee was about 120,000 tonnes of CO_2. The calculation in FCBC's winning tender came out at 110,000 tonnes of CO_2. For comparative purposes, the figure given by the losing bidder, Forthspan, was 140,000 tonnes of CO_2.

The Convener: Can you give us some idea of the cause of that difference?

David Climie: Sure. The figures are based on the main crossing quantities, and on the calculation of the amount of materials—reinforcing bar, concrete and steel—that are involved and the distance that they are transported. Transport is a key element of the total CO_2 emissions.

The figure is included in the contract as a baseline quantity. At the end of the contract, we will do a reconciliation with the actual outturn. Should there be an overrun on that and CO_2 emissions are higher than the 110,000 tonnes that FCBC predicted, there will be a clawback under the terms of the contract.

The Convener: Is that how you intend to offset CO_2 emissions? If not, how will they be offset in the context of our climate change targets?

David Climie: CO_2 emissions were part of the tender evaluation process—in other words, FCBC scored better than the losing tenderer on CO_2—so if FCBC overruns on what it said at tender time, we want to ensure that it is penalised for not living up to what it said. That is the only mechanism that we have by way of a penalty for CO_2 emissions.

Jamie Hepburn: Other methods could be used to offset the carbon output. What, if anything, has been done in that regard? Has tree planting or anything like that been done?

Lawrence Shackman: Yes. There is extensive tree planting in the scheme, but it is not enough to offset the total amount of carbon by any manner of means.

Jamie Hepburn: But there is some.

Lawrence Shackman: There are substantial tree planting and landscaping areas on the project.

Jamie Hepburn: How does that pertain to the tendering process? FCBC calculated that carbon emissions would be lower. Was that part of the calculation?

David Climie: It was part of the quality evaluation, which formed 10 per cent of the overall evaluation scoring.

Jamie Hepburn: It is reassuring to know that that is taken into account.

The Convener: I think that we will return to that matter in future meetings.

Will you say something about community benefit clauses in the contracts, the hiring of apprentices and the work that is going on with Skills Development Scotland, the Department for Work and Pensions and contractors to get into work people who might not have been in work recently?

Lawrence Shackman: A number of obligations are placed on the contractor in the contract—I am talking about the principal contract and the major part of the project. The contractors were asked to provide a minimum number of places in their tenders; on top of that, they gained more points towards their quality score if they offered further training places and opportunities for long-term unemployed people.

With respect to FCBC and the principal contract, that organisation has committed to provide 45 vocational training positions annually, 21 professional body training places and 46 positions for the long-term unemployed. We will monitor exactly how those figures fit with the people on the site over the course of the project. If the figures are not achieved over the course of the contract, there will be a deduction mechanism. The figures have to be exceeded, or there will be a financial deduction. The contractor is therefore very much committed to providing such opportunities.

On a more voluntary basis, the contractor has committed to engaging with training colleges and to having something like a school on site for newly graduated people or school leavers to try to take them forward through training on the job as the project progresses. There is quite a commitment to trying to provide training opportunities across the whole skill base.

The Convener: As most members of the committee are new to the project, can you give some idea of how many people you estimate will be employed on it? I presume that a number of the bidders will use subcontractors. Where do they envisage getting their labour from?

Lawrence Shackman: We recently spoke to FCBC, which thinks that, over the course of the project, it will have around 200 people working on the technical management side of the project and up to 1,000 people building the project, although that figure will vary during the duration of the contract, depending on the activities that are going on. That gives members some idea of the scale of the project and of the opportunities that it presents.

We have drawn on recent Transport Scotland projects and found that more than 70 per cent of

the workers who have been employed on the M74 and Clackmannanshire bridge jobs, for example, have been local, Scotland-based people. That is quite encouraging to the local surrounding area.

Jamie Hepburn: I have a final question, which occurred to me during the convener's line of questioning. It is about elements of the contract.

I have recently had contact from companies based in my constituency that are rather concerned about how they have been treated by the people with whom they have been engaged under a contract. Those companies have been subcontractors—one was a subcontractor of a subcontractor on a transport project. I am aware that there is only so much that the Government and Transport Scotland can do in managing subcontracting relationships, but what can be done to ensure that the interests of such companies are protected? Some of them are quite small compared with the big boys with whom they have engaged under contracts.

David Climie: The main element is a prompt payment clause for subcontractors to ensure that they are paid on time, and we have built that into the main contract. Obviously, a key issue is that money can be withheld, and that is a major problem for small companies. Therefore, we have ensured that all our main contractors have a commitment to prompt payment to all their subcontractors. As you have said, it is difficult to build in specific requirements for managing the supply chain, but we will, obviously, monitor the matter and keep our eyes and ears open.

Jackson Carlaw: I have a final thought. To paint a picture for the public, much of the work that will be done in the interim period will be preparatory work on both sides of the crossing. I recall from what was said in the Forth Crossing Bill Committee that a lot of work will be done on the foundations on the Beamer rock, which will allow it to take a construction that will arise from the middle of the estuary and stretch out from there. On what date will the public look out into the Forth and see an emerging bridge?

David Climie: We can give members an idea of some basic timescales. All the foundation work—the underwater work and so on—should be finished during 2012. Therefore, we should be ready to start rigging up the three towers by the end of next year. The towers will take between 12 and 18 months to construct—that will be through 2013 and the first part of 2014. We should see the first decks being erected during 2014.

That is a very rough outline of the programme at this point.

The Convener: I thank both witnesses for attending the meeting and providing us with an update on the most significant infrastructure project in Scotland. I hope that your biannual oral updates, which were introduced by our predecessor committee, will continue and be supplemented by written updates between the sessions. We would like an early indication of any problems or successes if anything major crops up in the project. We need to visit the site as soon as possible to get a visual idea of the project.

Once the witnesses have left the room, we will continue in private as agreed under item 1.

11:11

Meeting continued in private until 11:25.

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