



The Scottish Parliament
Pàrlamaid na h-Alba

Official Report

INFRASTRUCTURE AND CAPITAL INVESTMENT COMMITTEE

Wednesday 16 September 2015

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INFRASTRUCTURE AND CAPITAL INVESTMENT COMMITTEE
18th Meeting 2015, Session 4

CONVENER

*Jim Eadie (Edinburgh Southern) (SNP)

DEPUTY CONVENER

*Adam Ingram (Carrick, Cumnock and Doon Valley) (SNP)

COMMITTEE MEMBERS

James Dornan (Glasgow Cathcart) (SNP)

*Alex Johnstone (North East Scotland) (Con)

*Mike MacKenzie (Highlands and Islands) (SNP)

*Siobhan McMahon (Central Scotland) (Lab)

David Stewart (Highlands and Islands) (Lab)

*attended

THE FOLLOWING ALSO PARTICIPATED:

David Climie (Transport Scotland)

Linda Fabiani (East Kilbride) (SNP) (Committee Substitute)

Derek Mackay (Minister for Transport and Islands)

Lawrence Shackman (Transport Scotland)

CLERK TO THE COMMITTEE

Steve Farrell

LOCATION

The Adam Smith Room (CR5)

Scottish Parliament

Infrastructure and Capital Investment Committee

Wednesday 16 September 2015

[The Convener opened the meeting at 10:00]

Interests

The Convener (Jim Eadie): Good morning and welcome to the 18th meeting in 2015 of the Infrastructure and Capital Investment Committee. Everyone present is reminded to switch off mobile phones, as they affect the broadcasting system. As meeting papers are provided in digital format, you may see tablets being used during the meeting.

Apologies have been received from James Dornan and David Stewart. Linda Fabiani is attending this morning's meeting as a substitute member of the committee.

I welcome Siobhan McMahon as a new member of the committee and invite her to declare any relevant interests.

Siobhan McMahon (Central Scotland) (Lab): I have nothing to declare other than what is in my entry in the register of members' interests.

The Convener: I take the opportunity to thank Mary Fee for her extremely worthwhile contribution to the work of the committee over the past few years and to wish her well on her new committee.

Harbours (Scotland) Bill: Stage 2

10:01

The Convener: Agenda item 2 is consideration of the Harbours (Scotland) Bill at stage 2. I welcome Derek Mackay, Minister for Transport and Islands, and Chris Wilcock, head of ports and harbours at the Scottish Government. I invite the minister to provide an update on the progress that has been made on issues related to the bill since the stage 1 debate.

The Minister for Transport and Islands (Derek Mackay): On 16 June, I wrote to the committee in response to the stage 1 report, which was published on 5 June. I would like to outline what progress has been made in relation to the Office for National Statistics and the non-statutory guidance on mediation.

Our view remains that the repeal of sections 10 to 12 of the Ports Act 1991 to remove the Scottish ministers' powers to require certain trust ports—those with a minimum annual turnover of around £9 million—to prepare privatisation proposals should achieve our aim of trust ports not being categorised as public corporations by the ONS in future.

The purpose of the bill is primarily to resolve a technical issue—namely, to stop the borrowings of affected ports scoring on the budgets of the Scottish Government despite the fact that we have no control over what is a private financial transaction. It also removes a level of uncertainty for the ports affected and thus confirms the trust port model as part of the diverse range of ports ownership structures operating in Scotland.

Our view of the ONS decision on this matter was that the removal of section 10 would mean that trust ports would not fall within the classification as public corporations. Indeed, the wording of the ONS review in 2013 highlights that the remaining powers that ministers have—to block voluntary privatisations—were not sufficient in themselves for the ports to warrant classification as public corporations, at that point referring to the status of the smaller trust ports.

We wrote to the ONS on 15 July to put forward our case and to request that a definitive decision be made on whether the bill will achieve our aim. A decision has not yet been received from the ONS, and a follow-up reminder has been sent requesting an update as soon as possible. We will continue to press the ONS for a decision and will update the committee as soon as it is received. In the interim, a copy of the paper that was sent to the ONS can be shared with the committee and I will ask officials to ensure that that is passed across.

Some progress has been made on the development of non-statutory guidance on harbour

dues mediation, and officials are holding a series of informal discussions with ports and harbours to seek their views. Following collation of those views, a more formal consultation is planned for later this year.

The issue that we wanted to address was very clear and primary legislation was the route for addressing it, as previously described and explained to the committee. There was wide support for the bill from the industry and that remains the case. Therefore, no amendments have been lodged for today's stage 2 consideration.

The Convener: Thank you, minister. I invite questions from members.

Alex Johnstone (North East Scotland) (Con): The minister is aware that my reason for supporting the bill related to the ONS judgment, as I explained at stage 1. You tell us that you have not yet had a response from the ONS. Would a failure to obtain a response have the effect of delaying the progress of the bill to stage 3?

Derek Mackay: It could do. I would rather have the information back from the ONS. There is still the benefit of securing the trust port model; it is still a good-to-do bill and a good-to-do technical amendment. We want to proceed, but a driving force is our desire to address the classification issue. We will pursue the ONS; we have given it time to respond. There is the potential to delay things, but we are now in the final run of this session of Parliament and we want consideration of the bill to be concluded within this session. I hope that we get that response and avoid delay; that is what we will pursue. However, the bill would still be good to do in any event.

The Convener: As there are no further questions, we will move on.

No amendments have been lodged, but we are obliged to consider each section and the long title, and to agree formally to each. Standing orders allow us to put a single question where groups of sections are to be considered consecutively, and that is what I propose to do.

Sections 1 to 4 agreed to.

Long title agreed to.

That ends stage 2 consideration of the Harbours (Scotland) Bill. Stage 3 amendments can be lodged with the clerks on the legislation team. A date for stage 3 consideration is still to be agreed by the Parliamentary Bureau.

I thank the minister and Mr Wilcock for their attendance. I suspend the meeting briefly to allow for a witness changeover.

10:05

Meeting suspended.

10:06

On resuming—

Forth Replacement Crossing (Project Team Update)

The Convener: Agenda item 3 is a Forth replacement crossing project team update. The committee will take oral evidence from the project team. I welcome David Climie, project director, and Lawrence Shackman, project manager. I thank them and their team for the very hospitable way in which they hosted the committee's recent visit to the Forth replacement crossing. I know that that visit was appreciated by all members of the committee.

I invite you to make an opening statement.

David Climie (Transport Scotland): Thank you, convener.

I am pleased to be able to report continuing good progress on all aspects of the work for the FRC project since our previous appearance before the committee in February this year. As the convener has just mentioned, the project team hosted a visit by him and some committee members two weeks ago to see the work that was going on at the south tower at bridge deck level. They experienced some of the better weather conditions that have prevailed in 2015.

The site workforce has steadily increased during the year, and it currently stands at a new peak of 1,266. Their skill, hard work and dedication have meant that progress on the principal contract for the Queensferry crossing and approach roads continues on time for opening to traffic by the end of 2016. That progress, coupled with continued low levels of inflation, has meant that we are still working within the overall final project cost range of £1.35 billion to £1.4 billion, which was announced last October.

I will focus on progress on the principal contract. As we have done previously, we have given the committee a diagram of the various areas of the project, which may help when I describe those areas.

On the south side, the new B800 bridge on the South Queensferry to Kirkliston road has been completed; it was opened to traffic at the end of July. The A904/B924 junction is now fully signalised, and the excavation work for the new M90 road cutting to the north of the South Queensferry junction is now nearly complete. The alignment of the new road to the south and west of South Queensferry is clearly visible. Construction of the lower road layer started in August; that is to be followed by the bituminous layers this autumn.

Steady progress has been made on the Queensferry crossing. In the summer, the bridge towers became the tallest in the United Kingdom. The first cables have been installed at the north and south towers, and construction of the steel viaduct sections and their supporting piers is nearing completion. The tower crane for the north tower has now reached its final height of 235m, and the cranes at the centre and south towers will be jacked up to the same height shortly.

The north tower has reached concrete pour 51 out of 54, with the south and centre towers currently at concrete pours 48 and 46 respectively. The first stay cables have been installed at both the north and south towers, and the four deck units, which were previously supported on the large temporary trestles, have been lifted clear of them by transferring the load into the cables. That means that the four cables are carrying a load of about 4,000 tonnes in total in each tower.

A major milestone was achieved last week, when the first two deck units, complete with their concrete deck and fitted out with internal access walkways and mechanical and electrical installations, were loaded on to a barge at the quayside in Rosyth and lifted into place either side of the north tower. That was on 7 and 9 September. Each of those deck units weighs about 800 tonnes. The contractor is now welding the deck units in position and will then install the next pairs of cables to transfer the load from the blue deck-lifting gantries. Work in the Rosyth marine yard to prepare the deck units is progressing well, with deck concrete and internal fit-out complete or in progress on 26 deck units.

On the viaducts, the push launch for the steelwork on the south side has been completed, with the final launching operations over pier S3 having taken place in June. The twin boxes are each 543m long, and work has now started to install the concrete deck, starting at the south abutment and working north. All the steelwork has been delivered, welded and painted on the north side, and the focus has now shifted to preparations for the launch of the 222m-long north viaduct approach structure, which weighs nearly 6,000 tonnes. The gantry crane and tent structure, which have provided good weather protection to the welding and painting works, will be removed shortly. That will allow for installation of the king post, which is a modified version of those used for the south approach viaduct launches.

On the north-side road works, the Ferrytoll viaduct is nearing structural completion, with the 18 steel girders having been lifted into place between January and March this year, and seven of the nine deck concrete pours have been completed. Work on the bridges to carry the northbound M90 across the new Ferrytoll junction

has been completed, and the final road surfacing is in progress to allow traffic to be switched on to the new alignment shortly. Significant work has also progressed on Hope Street in Inverkeithing, and the B981 King Malcolm Drive-Ferry Toll Road junction is now fully signalised.

The physical progress across the project is of course attracting ever-increasing interest, and we continue to engage with the public, schools and stakeholders, making use of a wide range of communication techniques. The contact and education centre is the focus for those activities. That has resulted in very positive media coverage, and community relations have continued to be very good, with much positive feedback from the many presentations and site visits that we have hosted. We continue to monitor the performance of the two road contracts that were completed earlier in the project, and that performance remains positive.

Overall, 2015 to date has presented some challenging weather conditions, with the lack of a normal summer and repeated periods of what has been reported as “unseasonably windy weather”. However, through careful planning and the determined efforts of the very skilled workforce on site, we have been able to minimise the effects and to keep the project on track—both on time and on budget.

The Convener: Thank you very much, Mr Climie. You have just confirmed that the project is currently on time and within the predicted budget range. Is there anything further that you wish to say about the timescales and budget at this stage?

David Climie: No, I think that I have covered that. We are continuing to monitor the budget very carefully. It is trending towards the low end of the range, which is extremely encouraging, but I do not have anything further to add at this point.

The Convener: That is fine.

You mentioned the challenging weather conditions. Your team has obviously been resilient in overcoming those, which is very welcome. The bridge deck sections can be raised only in relatively calm weather conditions. Are you confident that there is sufficient contingency time in the project programme to allow the bridge to open on time, even if there is a very windy autumn and winter this year?

David Climie: We have considered that issue extremely closely. The allowances in the programme for that particular operation have remained unaltered. We had always allowed about a year for the deck-lifting operations, and that remains the same—we are still allowing a year for the operations to take place. Provided that we get those done within that year, there is adequate time

to complete things such as the waterproofing, the concreting, the road surfacing and so on, so as to allow the project to be opened to traffic by the end of 2016, as we have planned.

As I say, there are good allowances built in. We have closely examined previous weather records. Wind is the key factor for the deck-lifting operations. Winds of about 30mph are the governing factor in relation to whether we can lift the deck units off the barge and into position, so it is important that we know the likelihood of winds above 30mph. On average, historically, in July and August we expect winds above that threshold about 5 per cent of the time; as we go into the winter, the average is more like 25 to 30 per cent of the time. The worst month in the past 20 years or so was a February that had 55 per cent occurrence of winds above the threshold.

What is important is that we are geared up so that we are ready when we get the periods of calm weather that come along between the windy spells. We have to be ready to lift as many deck units as possible when those windows become available. Provided that we get what I suppose I would call average weather, I am confident that we are still on track for the end of 2016. You asked what would happen if we get a horribly windy autumn and winter. That would create challenges, of course, but I am confident that the project team is ready to address the challenges. A lot of hard work goes into the planning of all the operations that lead up to the bridge opening to traffic, and we will continue to monitor operations and work hard in that regard.

10:15

The Convener: In your scenario planning, is there a scenario in which you have to go beyond the end of 2016 before opening to traffic?

David Climie: We plan for that, of course—it would be rash not to do so. It could be a possibility, but at the moment we are certainly not predicting that and I can confidently say to you that we are still on track for the end of 2016. It would be misguided not to consider the potential risk, at least. We have always looked closely at all the risks that are associated with the project throughout its duration, and we continue to do that.

The Convener: In your opening remarks, you helpfully set out key project milestones that have been achieved—installation of the cables, the deck units being lifted into place and the work on launching one of the viaducts, if I heard you correctly. Can we look forward to other milestones being reached in the next six months?

David Climie: Certainly. A lot of activity will be going on. In my opening remarks, I focused on

what has happened rather than what is coming up. In the next period, we will be demolishing the existing B800 bridge, now that the new one is open. That is scheduled for late October to early November, over up to three weekends. The final dates will be confirmed and well publicised by the end of this month, because we expect a significant traffic impact during the operation. We will have to close the A90 south of the Forth road bridge between about 8 o'clock on Saturday evening and 6 o'clock on Monday morning while we demolish the two existing spans. In doing that, we are taking the opportunity to work with the Forth bridges operating company—FBOC—to carry out other works on the Forth road bridge and the road network locally, so that we maximise the opportunity to work on the bridge and the adjacent roads during the closure.

South main-line road surfacing will be completed from Scotstoun all way to the south abutment over the next four months. The deck concrete will be installed on the south approach viaduct, and the remaining piers, S1 and S2, on the south side, will be completed by next spring.

The three towers will be completed to their full height in the next one to three months. It looks as if the north tower has won the race to the top—it is only three pours away, so it should be there within the next month. The south and centre towers will follow, certainly within the next three months.

The lifting of the deck sections will continue into next summer, as I said, with work at the south tower commencing later this month. The first deck units will go up at the south tower by the end of September. Work at the centre tower will start next month. Lifting at all three towers will be under way by the end of next month.

The north approach viaduct will be launched into its position over piers N2 and N1 in late autumn. That will take about a week. The first connection of the cable-supported deck units building out from the towers to the land will happen on the north side of the north tower in the spring of 2016. That will be the first time that we will have walk-on access from the land to one of the towers on the north side.

On the road network to the north of the bridge, the Ferrytoll viaduct will be completed this winter. Traffic will be switched on to the new northbound M90 alignment between Ferrytoll and Admiralty progressively from next month, to allow the new southbound road and bridges to be constructed.

I think that those are the highlights of what is coming up. There is going to be a huge amount of activity all the way across the project.

The Convener: Thank you for sharing those highlights with us. Do you want to add anything, Mr Shackman?

Lawrence Shackman (Transport Scotland): No, thank you—not at this time.

The Convener: Okay. We will move on.

Mike MacKenzie (Highlands and Islands (SNP): Like the convener, I thank Transport Scotland for hosting our visit, which brought home to me the challenges and complexities of the work. I say that as someone who worked for many years in the construction industry, including on the A9 and the Kessock bridge in 1976. Therefore, I have an appreciation of the scale of the work and of the challenges and how well you have risen to them. I was struck by how constrained the site is in terms of the logistics and getting material into and flowing through the site and so on. I take my hat off to you and to everyone involved in the project, because it is looking so good so far.

In mid-June, there were reports in the media about problems with pouring concrete on the north tower. The reports suggested that the work had to be aborted and the concrete from that batch removed. Will you explain to the committee a bit about that, please?

David Climie: Certainly. To put the matter into context, that was one pour that we had a problem with out of many hundreds that have been carried out on the project. It was the first pour of concrete being placed on a deck unit in a tower—it was the first time that that operation had been carried out, although we would have seen it as a normal pour, within the normal range of operations.

One or two things happened on the day that combined to create a problem. First, a cruise liner was in at Rosyth, so we were not able to load the concrete barge as quickly as we would have liked to. There was also a delay in getting the concrete barge out to the tower. As you will know, concrete starts to stiffen as it ages, and the mix that we use is already particularly stiff, in order to create the high strength that we need on the project. The initial hold-up in getting the barge out to the tower meant that the concrete had started to stiffen. The concrete has to be pumped from the tower's base up 60m and then out to the deck. In this case, one of the pipes that we use to pump the concrete split—it burst. It is under pressure, obviously, and the concrete mix that we use is quite abrasive, so when it is piped through it wears the inside of the steel pipes. The issue was that the pipe had worn out, and it broke.

I applaud the contractors for making the quite hard decision to abort the pour, because when all the logistics are in place, you do not want to stop a pour. However, the contractors looked at the situation and decided that the pour was not going to work, given that they were having great difficulty spreading and placing the concrete. After placing about 20m³, they decided to stop, take the

concrete out—the quicker you make that decision, the easier it is to get the concrete out—reconvene and redo the pour.

Mike MacKenzie: That seems a perfectly reasonable explanation to me. Our friends in the media—who are never, ever given to hyperbole—suggested that it was sheer luck that no one was badly injured or killed. Do you share that assessment of the situation? Was there a health and safety risk?

David Climie: No, absolutely not. Health and safety is our number 1 priority on the job, and it remains our number 1 priority throughout the job. It always will. A huge amount of planning goes into every single one of our operations, and we produce method statements and risk assessments. It is difficult work out there, and we have to ensure that every single part of the operation is planned and prepared, and that the workforce is briefed on it.

As I said, one problem occurred in one pour out of several hundred. The matter was dealt with quickly and effectively, and there was no risk to the personnel on the site.

Mike MacKenzie: During my visit, it was apparent to me that the job is extremely well organised, with huge regard for health and safety. I was surprised to read that story in the press.

Linda Fabiani (East Kilbride) (SNP): Some of the reports said that pipes had exploded, while you described what happened as a “split” in the pipe. Will you be absolutely clear about that and take this opportunity to put on record your understanding of the reality?

David Climie: It is a matter of degree. If the pipe splits, concrete comes out, because it is being pumped under pressure. However, it is not being pumped under huge pressure. You described it as an explosion. An explosion suggests something catastrophic. What happened was not a good thing, but nothing happened that could be described as a catastrophe. A pipe under pressure split and concrete came out of it.

The Convener: Has there been an investigation into what was clearly an important health and safety incident?

David Climie: Yes. We describe the incident as a near miss, in that an event happened that could have caused some damage if someone had been close to it. We always carry out a thorough investigation of near misses and they are reviewed by the senior management team on the project. It is important that we cascade that information out to the whole workforce and produce the lessons learned. We set out that a near miss took place and the lessons that we have learned from it. One of the lessons that we learned from the incident in

question was that we had to look at and potentially replace the pipes that we use for the pumping system more regularly. A clear lesson came out of that, and it was distributed to the workforce.

The Convener: To press you on the issue, is there any truth in the suggestion that some of the employees said that the work should stop but that that was disregarded by their manager?

David Climie: I do not believe that there is any truth in that at all. I have certainly been reassured by the contractor, the Forth crossing bridge constructors consortium, that that was not the case.

Mike MacKenzie: Amey has now assumed responsibility for the management and maintenance of the current Forth road bridge, and it will assume responsibility for the Queensferry crossing when it opens. Are you engaging with Amey to discuss its assumption of that responsibility and, if so, how are you engaging with it?

Lawrence Shackman: We have had on-going dialogue on a seamless transfer to Amey with my colleagues in Transport Scotland who did the tender process for the Forth bridges operating company. Amey has had regular visits to the site, not just for the Queensferry crossing element, which is obviously under construction at the moment, but for the road network connections, which have their own idiosyncrasies. The plan has always been to have the operating company along for site visits and meetings and to ensure that it knows as much as possible about the road network and the bridge before it takes control, which we hope will happen towards the end of next year.

As you will imagine, there are a number of issues, and not only on the structural side of the bridge, because there are a lot of mechanical and electrical installations in the bridge and the surrounding area. It is therefore important that the operating company is brought on board. That has been very much the case since Amey was appointed, and it will continue right up to when it takes over operation of the bridge at the end of next year.

One implication for our contractor is that it has to ensure that proper training is provided for all the equipment that is installed in the bridge. For example, there are lifts in each of the towers and there are shuttles within the deck to get men and equipment to various locations on the bridge. Under our construction contract, the contractor is required to educate the operating company so that it is up to speed from day 1.

Mike MacKenzie: I recollect from our briefing that the bridge has been designed in such a way as to facilitate maintenance of the cables that

carry the load, unlike the other road bridge. Will you explain a wee bit about how that works?

David Climie: The fundamental difference between the cables that we use on the cable-stayed bridge and the cables on the existing Forth road bridge, which is a suspension bridge, is that the cables on the Forth road bridge were installed in situ—that is, individual galvanised wires were put in place and exposed to the weather for a period of time, so when the cable was compacted and finished, water was trapped in it.

The individual strands that make up the cables on the cable-stayed bridge are manufactured in factory conditions. The fundamental material is exactly the same—it is basic 5mm galvanised wire—but it is coated in wax in a factory. Seven of those wires are then spun together into a strand, which is then coated in a high-density polyethylene sheathing. That is what is delivered to the site, so the wires are already protected and sheathed when they come to the site. Up to 109 of those individual strands are put into each of the stay cables—the number depends on the angle of the cable—and each cable is then enclosed in a large white HDPE sheath to protect it further. A multiple layer system is put in place, and the initial protection of the wires is done in factory conditions rather than out in the open air, which keeps water out at the start.

The cable-stayed bridge also has the advantage that any individual cable stay can be taken out and replaced. An individual strand or all the strands in a particular cable can be taken out and replaced with the bridge fully open to traffic. The wire is less prone to corrosion and it is far easier to replace if it needs to be. Those are the fundamental differences between the two bridges.

10:30

Lawrence Shackman: A dehumidification system will be installed in the bridge to make sure that, where the cables are anchored—both in the deck and at the top of the towers—the conditions are kept as dry as possible to prevent corrosion.

Mike MacKenzie: Thank you very much. That is very useful to know.

The Convener: Thank you. We now move to Adam Ingram's questions.

Adam Ingram (Carrick, Cumnock and Doon Valley) (SNP): Mr Climie, you mentioned in your opening remarks that there were good relations between the project and the various local communities. However, we have received correspondence from the bridge replacement interest group (south)—BRIGS—raising some issues of concern. For example, it states that properties near the Echline corner have been

damaged by construction works, with cracks visible in some properties. Are you aware of those concerns? What are you doing to remedy any damage to properties caused by construction work?

David Climie: We are certainly aware of those concerns. They have been raised with us—some of them were raised with us quite a considerable time ago.

As part of the overall engagement on the project, one of the things we were required to do was to identify potentially susceptible properties close to the works and carry out structural surveys of them prior to work starting. Between August and December 2011, we carried out property condition surveys, using an independent consulting structural engineer, on quite a large number of properties around the project, so that we had a baseline at the start. It does not help to come in part way through the project: it is important to know the starting point.

When we received the report about damage from a particular householder, we arranged for a follow-up survey, which took place in February 2014. A further report was issued following that survey that identified the appearance of some small hairline cracks. The structural surveyor categorises that type of defect on a range of 1 to 5, and those were all categorised as category 1, which is defined as very slight, at 0.1mm to 1mm—virtually a hairline crack. We have said that we will continue to monitor that property.

At the end of the work, we are also required to resurvey all the properties that we originally surveyed so that, even if no-one complains, we will have an end-condition survey as well, to make sure that there is no issue. Clearly, if there is any damage that can be attributed to construction, the project will have to deal with that.

Adam Ingram: Would compensation be offered to people who were in that circumstance?

David Climie: Either a repair would be carried out or, yes, there could be compensation.

Adam Ingram: Is it the case that you are not seeing evidence of significant problems in the area?

David Climie: We have not seen any issues.

Lawrence Shackman: No, we have not seen such evidence. David Climie has set out where we are at the moment with hairline cracks. We will carry out surveys in 2016 and take appropriate action at that time.

Adam Ingram: Okay. BRIGS has also highlighted a number of concerns about inadequate, ineffective or missing traffic management measures. I take it that you

investigated those concerns and took action where appropriate. For example, there is concern about the wheel washing of construction vehicles not being sufficiently effective, resulting in mud on roads and footpaths, and about construction traffic accessing Hopetoun Road and Society Road, in breach of undertakings.

Lawrence Shackman: As I am sure you are aware, there is a code of construction practice, which was debated during the passage of the Forth Crossing Act 2011. The code sets out all the obligations on the contractor in terms of wheel washing facilities, noise limits and various other fundamental aspects so that the project is constructed in an appropriate manner and the impacts are mitigated or eliminated as much as possible.

When it comes to wheel washing, there are clauses in the code that clearly say that the contractor is obliged to keep the roads free from dirt and mud. The majority of the project has been kept very clean of dirt and mud. However, I am not saying that there have not been instances in some places where problems have arisen.

Dedicated wheel washing facilities are provided where it is “reasonably practicable” to do so—that is the phrase that it is included in the code of construction practice. It is not always practical to put in dedicated wheel washing facilities. They need a dedicated water supply and, potentially, electrical equipment for shaking the mud off vehicles. In very small areas that are difficult to access, it is not reasonably practicable to put those facilities in place.

There is a dedicated wheel washing facility in the area around the Echline corner, which leads into and out of the main satellite compound. Whenever reasonably practicable, facilities have been put in place and the contractor has undertaken a cleaning regime with some of its suppliers to ensure that the roads in the area are regularly cleaned. The footpaths and bus stops have also been cleaned regularly.

I am pleased to say that, this year, there has been a marked improvement on previous years in the cleanliness of some of the roads, particularly in the Echline corner area. The import of the spent oil shale material from the Winchburgh bings caused some issues and concerns in the past. Red material on the roads was very evident, and efforts were made to keep the roads clean. That issue seems to have been resolved as we have come through 2015.

There was an issue with construction traffic and with people arriving to work on the project accessing Society Road. There is no restriction in the code of construction practice on workers getting to and from their place of work, albeit that

we want to keep such access to an absolute minimum.

There is an area around Society Road near Linn Mill—underneath the south approach viaduct in the plans—where some of the main contractor's subcontractors are working on the approach viaduct. They were certainly working on the foundations of the piers immediately adjacent to Society Road and some of their personnel accessed the work site at that location, where they had an office and facilities. However, we were keen to keep vehicle parking by people getting to and from their place of work, which is the real issue, to a minimum and worked with the contractor to ensure that as many steps as possible were taken to limit the number of people working in, or bringing vehicles to, that area.

You are absolutely right that we need to ensure that the road is kept free of construction vehicles. As part of the employers delivery team, Transport Scotland has been regularly monitoring contractor's vehicles that go along that road and has been able to work with the contractor to ensure that they are kept to an absolute minimum. The main reason for any breaches of the code is new subcontractors not understanding that they are not allowed to go along that road. The contractor, FCBC, has had to bring that into its briefings when new subcontractors are involved in the project so that they know from day 1 that they must not use that road. We occasionally really bang the drum to ensure that the contractor is vigilant and minimises the amount of traffic.

That is a rather long answer, but we have discussed the matter a lot at community forums and there was a step change after initial use of the road a year or so ago. The residents of Linn Mill noted that there had been a step change reduction in the amount of use of that road.

Adam Ingram: I am happy with those answers.

Linda Fabiani: I read the submission that came from the residents. Many points in it have been explained as part of normal construction disturbance. That happens and we have to deal with it. However, people have a serious concern for their properties, which is only natural.

Mr Climie, you talked about one property, but the submission refers to properties in the plural. What is your understanding of the properties that have developed hairline cracks? What dialogue has there been with the owners and residents who are concerned?

David Climie: I mentioned one property because it was escalated to us and we followed up on it. We have had several inquiries on the subject and we have gone out to look at incidents that people thought might have something to do with the construction. The initial view is that they do

not. The properties are a considerable distance from any work that has been carried out.

To reassure people, we have used vibrographs to check the vibration in areas when we have been requested to do so. Vibration can be felt long before it causes any damage, so we have put vibrographs in people's gardens or close to their houses to show them that we are working within the limits that are imposed by the Forth replacement crossing code of construction practice and that we are using best practicable means.

The noise liaison group that was established as part of the project also deals with vibration. We review all the reports that come in monthly and we publish them all on our website. We go through quite a detailed process in the monitoring of vibration and looking at what vibration will be caused by the works that we will do.

In that context, we are looking particularly at the demolition of the B800 bridge. That will be quite disruptive, so we will look at it and talk to residents about it in advance of the work being done, to try to let them know what is coming. We will continue to monitor those areas.

Linda Fabiani: The submission says that people find those who they have to deal with are a bit dismissive and defensive. Do particular people deal with residents so that they feel included and feel that there is transparency about what is going on?

David Climie: The general feedback that I have had is that we are extremely responsive and open in all our dealings. Achieving that is part of the reason why we have the contact and education centre as a point through which people can contact us directly. It is also why our client team is based on the site.

We are not remote or a long distance away; we are here to be seen. We have the community forums, at which issues can be brought to our attention. We have regular project briefings. Members of the community forum have visited the site and were given a tour of it—was that 10 days ago?

Lawrence Shackman: Yes.

David Climie: We are one of the most open projects in our engagement with the community. If anyone has concerns about how they have been dealt with by anybody on the project, I encourage them to let me know.

Linda Fabiani: Excuse my smiling, but I thought that you were a wee bit defensive there. [*Laughter.*]

Lawrence Shackman: A community liaison officer and their team were part of the contract

requirements and the code of construction practice. That person is one of the contractor's staff members and they are available at all times to be contacted by phone or email or by dropping in at the contact and education centre. We are keen on that and we have done our best to make sure that the community does not leave issues to the community forum, which occasionally happens. People can bring issues to us straight away so that we can deal with them appropriately and as quickly as possible.

To hear that we are defensive is rather surprising. Like David Climie, I have worked on many projects in the past and I do not think that there has ever been a project where we have been as open and transparent about making sure that we will deal with any issues. Sometimes people do not like the answer that we give them, unfortunately. However, we try to work wherever possible with the community to get to where we are going as quickly and efficiently and with as little disruption as possible.

The Convener: Alex Johnstone has been waiting patiently.

Alex Johnstone: Thank you, convener. Linda Fabiani said that the witnesses appeared to be "a wee bit defensive", but I am surprised that they have not developed a nervous twitch by this stage.

I have a couple of other points on the same topic. BRIGS has raised concerns about noise and poor landscaping works at the Echline corner. Do you intend to take any action to minimise noise there and to consider changing the landscaping?

10:45

David Climie: The noise liaison group looks at all the work that we do to make sure that we and the contractor are using best practicable means to carry out the work. We occasionally get complaints about noise. The most recent ones that we had related to properties that are close to the water on the north side or the south side. I do not believe that we have had any noise complaints from the Echline corner recently. That might be because the work there is beginning to decrease, as it is nearing completion.

We have noise monitors at Echline corner. We publish the results of that monitoring, so the levels of noise and whether there have been any exceedances are transparent. The Echline corner monitor has shown the fewest exceedances of any of the monitors that we have on the job.

We are certainly aware of the issue and we make sure that we deal with it. If any noise complaints are made, they are assessed at the noise liaison group; every complaint is discussed at the group. We publish our minutes to show what

has been discussed and what action, if any, we have taken to mitigate any noise about which complaints have been made.

Alex Johnstone: Have you considered additional landscaping work at Echline corner?

Lawrence Shackman: Yes. We have discussed with some members of BRIGS, in a series of meetings, how the landscaping could be improved and supplemented. The bunding that was always envisaged between the new approach road and Echline corner has been increased in height. We have also increased the amount of mature tree planting that has been incorporated into the works.

We worked with BRIGS people in particular and promised them that the bunding and the planting would be delivered by spring of this year, which is what happened. There is an increased height of bund and increased planting in that area.

The vast majority of the works in the Echline corner area have been completed. They have not been formally handed over to Transport Scotland as completed works, but they are substantially complete. There will be areas of grass in the landscaping. I drove through there this morning and I saw that, in one of the areas to the south of the A904, the earthworks have been prepared to a fine tilth and are getting ready to be seeded for the grass-growing season. Any weeds that appear in the grass—unfortunately, sometimes that occurs—will be treated in due course.

Until five years after the contract's completion, our contractor is responsible for all landscaping maintenance. It is in his interest to get it right when he plants it in the first instance, because otherwise he will have to come back and sort the issues out during those five years.

Alex Johnstone: BRIGS has raised concerns about the new road layouts and the fact that the roads are still subject to peak-time congestion. Are they still subject to such congestion and do you expect it to subside following the opening of the bridge?

David Climie: That relates principally to the main A90 where, clearly, the work is not finished yet. The whole idea is that it is a 22km corridor. We split it into three parts. We deliberately did the Fife intelligent transport system and the M9 junction 1A early so that we could use the ITS to reduce the additional impact of the road works that we would do at each end of the Queensferry crossing to connect it to the main line. The monitoring information that we have got so far on the operation of the Fife ITS and the M9 junction 1A suggests that they are working as we planned.

It is unrealistic to expect a difference in the traffic that goes across the Forth road bridge at present because we have not done anything there

yet. The transformation will come when we switch all traffic apart from public transport on to the new Queensferry crossing. At that point, we will have the new road system and the new ITS.

We will also have the hard shoulders, which will allow traffic to be moved out of the way if there is a breakdown or an accident. From personal experience I know that immense tailbacks still develop if there is a breakdown or a shunt on the bridge. What we are doing at the moment does not alter that, so it is too early to draw conclusions and say, "That's not working as you said it would," because the work is not finished yet. The fundamental step change will come when we open the Queensferry crossing.

Alex Johnstone: I presume that you have seen the BRIGS submission that we received.

David Climie: Yes.

Alex Johnstone: Do you want to address anything else in it at this stage?

Lawrence Shackman: If we look at the road layout at Echline corner, where the traffic lights are now operational, we can see that not all the lanes through the junction are in operation, because of the proximity to the Queensferry junction, which is only partially constructed. The slip roads still have to be constructed and put into operation, and that will happen over the coming months. There have been issues with the junction's operation, but we have looked into them to ensure that it is operating as efficiently as it can in its present temporary form.

BRIGS said that it wanted the junction signalled from day 1. It was fully safety audited by an independent road safety auditor, the police, the local authority and various officials, who deemed the arrangement to be safe, but BRIGS was adamant that it wanted the traffic lights to be operational early, although the contractor was under no obligation to do that. However, we listened to the concerns and were able to realise those traffic lights back in June, so that was a positive result of working with BRIGS.

David Climie: Overall, we welcome the BRIGS written submission, which is helpful and summarises most of the issues that have arisen from 2011 to 2015. We are fully aware of all the examples that were covered in the submission, and there were no new issues that came up and surprised us. I appreciated the fact that the submission stated that a lot of the issues have been resolved. Perhaps that did not happen quite as quickly as BRIGS might have liked, but they have been resolved.

We are happy that we know about any existing issues and that many issues have been dealt with through direct correspondence with BRIGS

representatives. BRIGS is represented on the south community forum, and at the most recent meeting, at the end of August, no issues were raised that had not been dealt with. We will continue to engage with BRIGS as we go forward with the project.

Lawrence Shackman: The community forum minutes are all published on the website. They show that pretty well all the issues have been discussed and documented throughout the past four years. Some of the minutes are quite lengthy.

Alex Johnstone: You might not be surprised to discover that, in recent weeks, the number 1 issue that has come across my desk has been community engagement on the construction phase of the Aberdeen western peripheral route. Quite a lot of people are getting in touch with me about things relating to that.

I have watched your community engagement strategy develop during the Forth crossing project and I have seen what I believe to be a successful outcome. Is the project team aware of whether Transport Scotland is capturing what it has learned, so that examples of best practice can be used on projects such as the AWPR and the A9 improvement scheme, which is entering the construction phase?

Lawrence Shackman: Since the start of the project and at various stages throughout the development process, the bill process, the procurement process and construction, we have undertaken a lessons-learned exercise, and we now have a huge lessons-learned log, which is being updated again to capture lessons that have been learned over the past couple of years.

We have shared those lessons with a number of bodies and with teams in Transport Scotland. We had a meeting a while back with the Aberdeen western peripheral route team and we have spoken to the A9 team about developing its community relationships and starting on the best possible footing in terms of how the scheme looks and how to manage it as it is being delivered.

We have engaged with a lot of external parties. We are regularly asked to talk at conferences. Only last week, I spoke at the Scottish conference of the Association for Project Management at Murrayfield and imparted lessons that I have learned about project governance, programming, risk management and that kind of thing. We have engaged with other large organisations such as Highways England, which was formerly the Highways Agency, whose representatives came to see us only a few weeks back. It is developing the lower Thames crossing project to replace or augment the Dartford crossing. That could be a multibillion pound project, so we had a lessons-learned session with them. We have also met the

high-speed rail team and have had regular meetings with the Mersey gateway crossing team over the past seven or eight years. We have learned lessons from them and they have learned lessons from us. We are more than happy to talk to anyone who wants to listen to us in taking the lessons forward.

Alex Johnstone: I might refer somebody to you.

Linda Fabiani: The public transport strategy has been an on-going issue and some people are concerned about it. Two things have been pointed out to me. First, I understand that a study in relation to the Newbridge area was due to come out in summer 2015, and I wonder how that is going. Secondly, there is concern about a bus-only slip road between the B800 and the A90. That would reduce journey times, but we have heard that it is not attractive to bus operators. Are you aware of the reason for that? There is concern that it will mean that the proposal is not pursued. Can you put people's minds at rest in any way?

Lawrence Shackman: Yes. I attend the public transport working group meetings. I was at the most recent one back in March and I think that the next one is due at the end of October or in early November.

Newbridge has developed as one of the key issues along the Forth crossing corridor. It is really a stop in the public transport network as well as a difficulty for motorists. We hear it mentioned on the news pretty well every morning. The study that is being undertaken is funded jointly by Transport Scotland, the City of Edinburgh Council and West Lothian Council, but it is being managed by the City of Edinburgh Council. Consultants are on board, and the study involves traffic modelling and other issues that I will not go into the detail of.

As I understand it, the modelling is still being undertaken and the final report is due this autumn rather than in the summer, so the publication of the report has slipped. I guess that that will be one of the key points to be discussed at the next meeting.

We have looked in a lot of detail at the B800 slip roads to what used to be referred to as the M9 spur—it is now the M90 just north of junction 1A on the M9—and there is only limited demand from public transport operators. You alluded to the fact that the Stagecoach 747 service would benefit from the proposal—it goes from the Ferrytoll park and ride to Edinburgh airport. However, other services, such as the Stagecoach 51 service and the Lothian Buses 63 service, would be likely to experience reduced patronage, because they would no longer go through Kirkliston—they would bypass it.

There are pluses and minuses in all these things. For the amount of money that it would cost to build the slip roads—another consideration is how they would interact with the main traffic flow on that section of motorway—it really does not look like a good proposal, and it certainly does not offer good value for money or any benefit in journey times, so it does not look like a suitable proposal to take forward. It would be better to spend the money on something else that is more beneficial.

Linda Fabiani: I am here today as a substitute for my colleague James Dornan, so I guess that it is over to you on that one, convener. I will not be here to hear the result of that study.

The Convener: We will make sure that you are kept fully abreast of developments as they take place, Linda.

I have a question on cycle access. Cyclists have raised concerns that inadequate provision is being made for them on the sections of the B800 that are being upgraded as part of the project and that they are being excluded from the northbound bus lane. Do you have those concerns on your radar? What action, if any, do you intend to take to improve cycle access and provision for cyclists on the B800?

11:00

Lawrence Shackman: I believe that a number of cyclists expressed concerns and that a blog has raised further concerns. There was some misinformation about what cyclists will and will not be able to do on the B800 as it is reconstructed or reconfigured as part of our works.

I want to ensure that it is made clear that the bus lane facilities on the B800 will be able to be used by cyclists, who can use any bus lane in Edinburgh, and we have dedicated bus lanes or bus facilities right throughout the project. Wherever possible, we have integrated those with existing facilities to ensure good connectivity with the existing bus facilities—

David Climie: Cycle facilities.

Lawrence Shackman: Sorry—I mean cycle facilities. Around the Ferrytoll junction, for example, there is a whole system of cycle lanes. The B800 will have cycle lanes up to the Ferrymuir roundabout and connectivity is provided into existing national cycleways, but the northbound off-slip off the A90 would not be for cyclists to use, because cyclists cannot use the A90.

The Convener: I encourage you to continue your dialogue with cyclists. Notwithstanding the fact that you think that there has been some misinformation, their perception is that they are being excluded from the northbound bus lane. You

are saying that, for practical reasons, that cannot be addressed.

Lawrence Shackman: It is hard to explain it, but the dedicated slip road that will be constructed from the Scotstoun junction up to the B800, which will be a bus-only, or bus-and-taxi, slip road, will come off the A90, and cyclists will not be on the A90 there anyway. On the B800 itself, as part of the new bridge and the connections on either side, as David Climie explained earlier, new cycle lanes are provided on the bridge. In turn, the bus lanes—

The Convener: Those are segregated, dedicated cycle lanes.

Lawrence Shackman: Yes, they are.

The Convener: I encourage you to communicate that piece of good news more widely.

Lawrence Shackman: We have communicated that to all the people concerned. We were keen to put that story right, so we communicated that to all the relevant people, and they were content with what we told them.

The Convener: That is fine—we have given you a further platform to communicate that message this morning.

Siobhan McMahon: It was mentioned in the opening statement that 1,266 employees are currently working on the bridge, but Transport Scotland's most recent update does not include any information on the number of apprentices and professional trainees who are working on the project. I am wondering what those numbers are, with reference to the 1,266 figure.

David Climie: I am happy to clarify that. As of 31 July this year, we had delivered 638 places for vocational and professional body training and for the long-term unemployed. I will break that down in a bit more detail for you, as that is just a grand total for the project to date.

We currently have 137 people who are undertaking vocational training at Scottish vocational qualification level 2 or higher. To date, 421 people have either undertaken or completed vocational training on the project. That equates to a cumulative annual average—which is what we check against—of just over 100 people. That is against a minimum contractual requirement of 45. We are therefore well above that minimum contractual requirement. Those numbers include 12 people on on-going modern apprenticeships, all of whom are from the Fife, Lothian or Edinburgh areas.

On professional training, we have 19 people who are undertaking training as professional engineers. On the project to date, 71 people have

either undertaken or completed professional training. That gives us a cumulative annual average of 36.3 people in professional training, compared with the minimum contractual requirement of 21.

I will cover the figures for the long-term unemployed as well. There are currently 69 people in employment who had previously been unemployed for at least 25 weeks, and 146 such people have been employed on the project to date. That gives us a cumulative annual average of just over 50, which compares with the minimum contractual requirement of 46.

The training has proved to be extremely successful. The contractor has been delivering well above what we put in the original contract, even though it offered us more than the minimum requirements that we put out at tender stage. We set a bar with annual averages. In its bid, the contractor put in place a higher bar for a higher annual average, and it is beating even that higher bar. I think that it is to be congratulated on that.

Siobhan McMahon: Absolutely—that is fantastic news. Is there something that the contractor is doing that others could learn from? We have all seen how the contract minimum for projects can be met, with perhaps one or two people above that level being taken on, but it is clearly great news that this project is succeeding in that respect, with double the minimum number being employed in some cases. Do you know whether the contractor is doing something specific, or have things just worked out that way?

David Climie: We have the advantage that it is a hugely attractive project to work on. Because so many people want to come and be involved in the Forth replacement crossing project, there has been no shortage of people to work on the project. FCBC has developed a very good training programme, and it has committed to it up front to ensure that, once it has people on board, it retains them.

I mentioned apprentices earlier. Three people have completed their apprenticeships, and they have now been taken on in full-time roles within FCBC. It is encouraging that it is not just delivering to meet a statistic but is following through on that with long-term training.

Siobhan McMahon: That is very good news.

On a separate issue, I was not on the committee at the time, but I understand that an assurance was given in March 2013 about keeping a watching brief on the use of blacklisting in the contract. Can you give us an update on that?

David Climie: I can. In fact, I was asked the same question when I was last before the committee back in February so, anticipating that I

might be asked the same question today, I spoke yesterday to Michael Martin, the FCBC project director, to ask him about that specifically. He has again categorically reassured me that FCBC never has and never will engage in any blacklisting on the project.

Siobhan McMahon: I appreciate the answer—thank you.

The Convener: Do members have any further questions?

Linda Fabiani: I do. I am just trying to work out what “FCBC” stands for. There is one bit that I cannot get.

Lawrence Shackman: Forth crossing bridge constructors.

Linda Fabiani: Constructors—that is the bit that I could not get. Thank you.

The Convener: On behalf of the committee, I thank you for the very open and constructive way in which you have engaged with us, not just through the six-monthly updates that you provide but also through the three-monthly written updates that you have fed into the committee.

I also acknowledge and recognise the high level of community engagement that is clearly taking place—notwithstanding that there will never be 100 per cent perfection in the eyes of local residents. I further recognise the strenuous efforts that you are making to share general practice and the lessons from the project with other transport projects across the United Kingdom.

Are there any further points that you wish to make to the committee this morning?

David Climie: No, I do not think so. I think that we have covered everything very thoroughly—thank you.

The Convener: It only remains for me to thank you for your very detailed oral evidence and for your attendance this morning.

That concludes today’s committee business.

Meeting closed at 11:07.

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