

Major Transport Infrastructure Projects

Forth Replacement Crossing
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Steve Farrell
Clerk to the Infrastructure and Capital Investment Committee
The Scottish Parliament

Our ref:
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Issued by Email

Date:

18 June 2015

Dear Mr Farrell

Infrastructure and Capital Investment Committee

Forth Replacement Crossing Update 14

I refer to the commitment given by Transport Scotland to provide regular updates in relation to the Forth Replacement Crossing (FRC) Project. Update 14 covers the following topics:

- Progress Update
- Stakeholder Engagement
- FRC Public Transport Strategy

Photographs illustrating progress can be found at Annex A.

Progress Update

The Project remains on time and within the reduced budget range of £1.35-£1.4 billion.

Good progress is being made on the construction of the Queensferry Crossing and approach roads on the north and south side.

Since the last update, further milestones on the project have been achieved. These include the completion of the last underwater concrete foundation pour on the project at Pier S2, carried out on 26 to 30 May. This involved a continuous operation lasting 115 hours (almost 5 days), where a total of 3,312 m³ of underwater concrete was poured which signifies that all foundations for the Queensferry Crossing are now secure (Photograph 1).

The towers continue to rise. In April, all 3 towers reached the height at which the first of the cable anchor boxes were installed. We anticipate that the towers will reach their final height of between 202 and 210 metres in the summer.

Construction of Pier S3 was completed on 3 June (Photograph 2). This enabled the final launch of the northbound carriageway of the south approach viaduct to take place on 9 and 10 June with the final launch of the southbound carriageway to follow later this month.

Work at Ferrytoll continues. The construction of the Ferrytoll viaduct is progressing well and all 18 beams are now in place (Photograph 3) with the first deck concrete pours due shortly. The viaduct is expected to be completed in summer 2015. The new alignment of the northbound carriageway through Ferrytoll is taking shape with the traffic due to be diverted onto it by September (Photographs 4, 5, 6). Work on Hope Street and the Ferrytoll Park&Ride, to segregate entrance/egress arrangements for buses and cars will progress rapidly over the next 6 months, as will further works on King Malcolm Drive.

The Castlandhill Road reinforced earth wall and associated A90 embankment continues to progress with completion due in Summer 2015. (Photographs 7&8). The new A90 northbound merge will also be constructed in this area.

Landscaping work on the project is well underway. Planting on the south side of the project is nearly complete (Photograph 9) whilst on the north side of the project, planting on the west side of the Ferrytoll embankment has been undertaken. Over 200,000 trees have been planted already (this is half of the total that will be planted over the course of the project).

Other developments on the project include:

- Towers: North Tower - 42 concrete pours (out of 54) complete.
Centre Tower - 41 concrete pours (out of 54) complete.
South Tower - 41 concrete pours (out of 54) complete (Photograph 10)
- North Approach Viaduct (NAV) - Steel assembly work is on-going, currently around 60% complete. We anticipate that the NAV will be ready to be launched over the north piers in the autumn.
- Pier N1 – Seven pours (out of 23) complete. (Photograph 11)
- Pier S1 – Three pours (out of 23) complete.
- Deck Sections – Pre-cast concrete decks have now been constructed on 23 of the deck units, in the Marine yard at Rosyth. Pouring of concrete to the first section at the North Tower was completed successfully on 16/17 June after having to be rescheduled on 05 June following initial issues with the concrete mix and delivery. The rescheduling has no impact on the project completion date.
- B800 Bridge - The B800 Bridge has been concreted and is nearing completion. Traffic will be diverted onto the new bridge in August with the old bridge being demolished over two weekends in September.

Stakeholder Engagement

The Project continues to attract interest from a variety of stakeholders, including the general public, schools, industry and the media. Since the last update, the project has undertaken a variety of stakeholder engagement.

The Project is hosting 12 specialist technical presentations and Site Visits that will take place between April and August. To date, these visits have been a huge success, with the maximum of 45 people having attended each visit to date, and all forthcoming visits in the schedule are now fully subscribed.

Two Family Days were held during the school Easter holidays, on Friday 10 April and 17 April. Following the high turnout for this event last year, these were very well attended again this year with nearly 900 people attending over the two days.

Due to the success of these events, the Project is currently looking at running further events next year.

The FRC Presentation series recommenced at the end of March, and will continue until the end of October. During this time, on the last Friday of each month, a number of presentations will be held throughout the day, and will focus on different aspects of the Project. Over 400 people have attended this series to date.

The Project Exhibition, open each Saturday until the end of October continues to draw visitors, with over 800 people visiting this year since March.

Combined, the Outreach and Education Programme has now attracted over 30,000 individuals across all activities. This includes over 8,000 school pupils who have attended the School Education Programme and over 13,000 people who have heard a presentation about the project.

Quarterly meetings of the North and South Community Forums took place on 20 and 27 May. No significant issues were raised by Forum members.

The Project's social media channels remain popular. To date, over 61,000 people have viewed videos on the Queensferry Crossing YouTube channel. The official Queensferry Crossing twitter account @FRC_Queensferry has over 890 followers.

The latest quarterly Project Update was published in May 2015, a copy of which is attached for your information.

FRC Public Transport Strategy

The Forth Replacement Crossing Public Transport Strategy Working Group met on 30 March 2015, and the next meeting is due to take place in early October. Updates on progress towards the Revised Implementation Programme are reported to the Working Group, and the March meeting heard the outcomes of a technical assessment to determine whether public transport slip roads between the B800 and the M90 are still required. The study found that, while some journey time benefits may be realised, the route would not be attractive to bus operators due to the reduction in potential patronage by avoiding Kirkliston. Work is on-going with the A8/A89 Corridor Study which will identify potential improvements for public transport

in the vicinity of Newbridge Junction, reporting on this is expected during summer 2015.

Yours Sincerely

David Climie CEng FICE
FRC Project Director

Annex A – PHOTOGRAPHS

Photograph 1 Underwater foundation pour at Pier S2



Photograph 2 Pier S3



Photograph 3 Ferrytoll Viaduct



Photographs 4,5 & 6

**Works at Ferrytoll to construct temporary bridge
and Ferrytoll roundabout**



Photographs 7& 8 Retaining wall on Castlandhill Road



Photograph 9 Landscaping on the south side



Photograph 10 Bridge Towers



Photograph 11 North Abutment, Pier N2 and Pier N1



Forth Replacement Crossing

project update

May 2015



Project Directors' Update

History in the making: an overview of progress in recent months on the Queensferry Crossing.

Page 2

Working in the Community

Latest news from recent Family Days and the popular Bridges to Schools initiative.

Page 3

Photo Update

Our photo collage takes you right into the heart of the action!

Centre pages



An agency of The Scottish Government



The only way is up! The Queensferry Crossing's three towers have now reached a height of around 150 metres (500ft) above sea level, approximately three-quarters of their final height.

Steady progress on all fronts

Welcome to a "Photo Special" edition of the Forth Replacement Crossing "Project Update". They say a picture is worth a thousand words, so this month we take a break from the usual series of feature articles describing the progress of our construction works out in the Forth Estuary – and on the land either side of it. This time, we focus on some recent photographs which take our readers right out to the heart of the action. We hope you enjoy it. As ever, we welcome your feedback.

Good progress continues to be made across the Project. Since the last issue of the "Project Update", construction of the towers has continued ever upwards. At the time of writing, we have completed 40 out of a total of 54 "lifts" (individual 4m concrete sections) per tower and are on track to achieve "top out" at 210m on the Centre Tower during the summer. In April, the first of the steel anchor boxes was installed inside the North Tower. These boxes will anchor the bridge's steel cable 'stays' which, in turn, will support the road deck beneath. The next milestone will be the installation of the first cable which is due in the summer. This will then trigger operations to lift into place the bridge's individual deck segments.

At the moment, these segments are in our dockside fabrication yard where work continues on the installation of the reinforced concrete surfaces which are installed on each segment prior to it being taken out by barge to the towers for erection.

Turning to the approach viaducts, work is nearing completion on Pier S3 which will then enable the final launch into position

of the 543m long, 5,617 tonne southern approach viaducts. On the north side, Pier N2 is complete and work is progressing well on the legs of Pier N1. Under the large white tent, clearly visible to motorists on the A90, several weeks of welding work on the individual sections which make up the north approach viaduct have gone successfully. With the forthcoming completion of the North Abutment and the installation of the necessary temporary works, we expect to launch the viaduct out over the two piers on schedule later this year.

Passers-by will also see continuous change in the connecting road works on either side of the Forth. To the south, work is continuing to finish the new B800 bridge over the A90 dual carriageway. We expect to complete surfacing work and utility services diversions by late summer at which time the bridge will open to traffic and the existing bridge will be demolished. Work is continuing on the route of the new M90 extension which will connect traffic from the Queensferry Crossing to the M9 and A90. On the northside, work has been completed



Michael Martin & David Climie

to install the 18 steel beams (total weight approximately 2,000 tonnes) forming the new Ferrytoll motorway viaduct which will carry traffic to and from the Queensferry Crossing.

We continue to be delighted at the level of public interest shown in our construction works. Numbers of visitors to the Contact & Education Centre in South Queensferry continue to rise, as does the number of people visiting the project website.

This all reflects the fact that the Queensferry Crossing is a once-in-a-generation construction project which all of us are proud to be involved with. We are delighted to share information with members of the public through a number of channels, including this newsletter.

David Climie
Transport Scotland
Project Director

Michael Martin
FCBC
Project Director

Visiting the Queensferry Crossing or live nearby?

Become a part of the Project's legacy with a quick click of your camera or smartphone.

Take a photo of yourself, family and/or friends with the bridge works in the background and you can become part of "Frame the Bridge"! Upload your photograph to help build the fantastic online "People's Bridge" mosaic. Your photos will also form a key part of the celebrations when the bridge opens. It couldn't be easier.

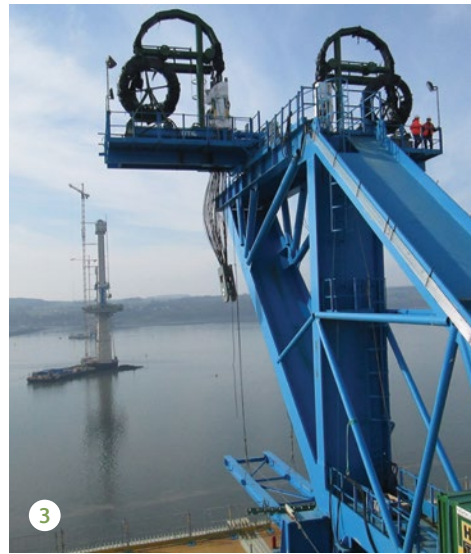
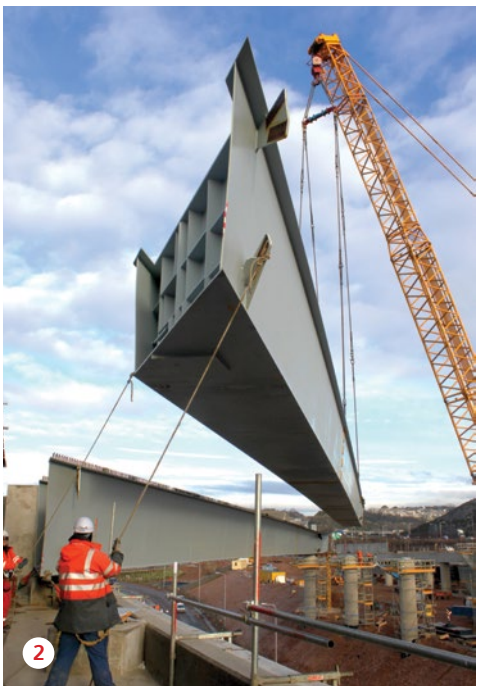


Find out more at www.framethebridge.co.uk





DECK: 1 The enormous Taklift 6 sheerleg crane delivers one of the first deck segments to the North Tower. 2 Taking pride in the job. 3 Two members of the team give scale to the erection traveller hoists. 4 A view of the North Tower showing the temporary steel trestles, the temporary steel platform, the initial permanent deck segments and the blue erection traveller hoists which, later this year, will start lifting subsequent deck segments into place. 5 One of the 122 main crossing deck segments is manoeuvred at the dockside Fabrication Yard where the reinforced concrete deck will be installed prior to the segment being transported by barge out to the towers later this year. 6 Work continues on the 'soffit' shuttering on the deck sections already installed at the South Tower. The next operation will be the installation of steel reinforcement followed by the pouring of the concrete deck slab. 7 Work proceeds on the installation of the temporary steel platform on the Centre Tower which supports the initial four permanent deck segments.



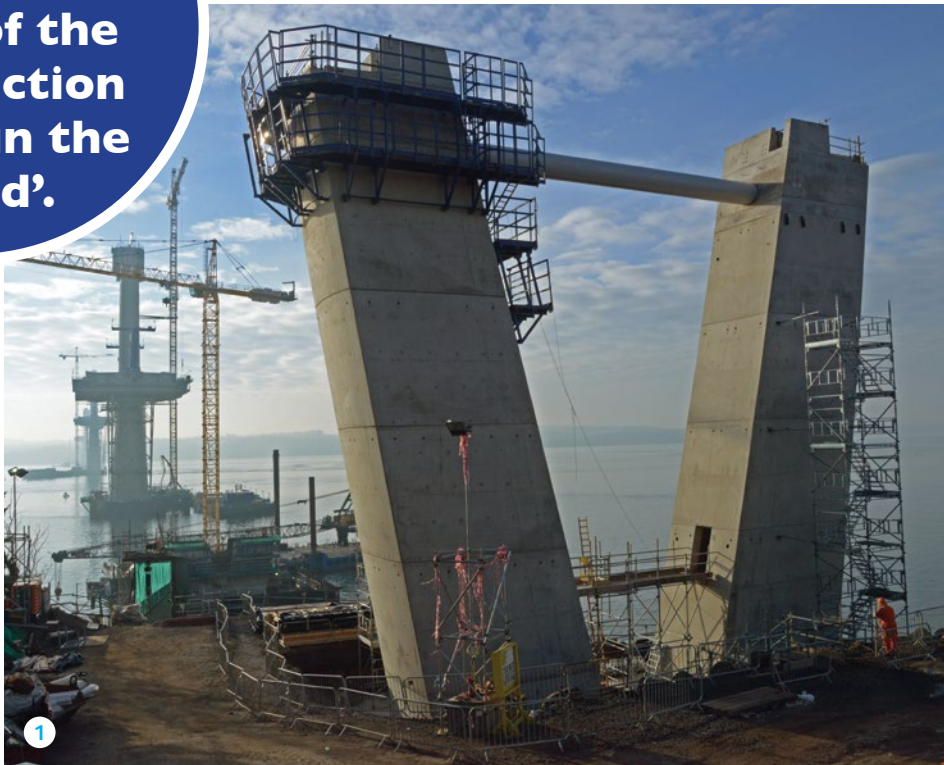
ROADS: 1 Members of the Network Connections team celebrate the successful positioning of the first of the steel beams forming the new Ferrytoll motorway viaduct north of the Queensferry Crossing. 2 Installing the steel beams – 18 in total with a combined weight of 2,000 tonnes – which will form the new Ferrytoll M90 viaduct. 3 Bird's eye view of the new Queensferry Junction and the new stretch of M90 to the west and south of South Queensferry which will link the new bridge to the existing trunk road network. 4 An aerial view of the Northern Approach Viaduct under construction and, on the right, the newly positioned steel beams which will form the new Ferrytoll motorway viaduct taking traffic to and from the Queensferry Crossing. 5 Looking south over the Ferrytoll area, the Park & Ride station in the centre, Castlandhill Road on the right and the north approaches to the Queensferry Crossing in the background. 6 Work is progressing well on the construction of the reinforced earth retaining wall and embankment, adjacent to Castlandhill Road, which will support the new section of M90 motorway leading to and from the new bridge. 7 Looking north over the new M90 Queensferry Junction to the Southern Approach Viaduct and the three bridges in the background. This is the only place in the world where you can find three major bridges, adjacent to each other, built in three consecutive centuries, each cutting edge technology in their time.



Recent photographs show the scope of the construction works 'in the round'.



TOWERS: 1 Members of the Towers team get ready to move one of the cable anchor boxes. 2 Team members celebrating the completion of another concrete pour at the South Tower. 3 A fleet of barges, each with six on-board static mixers, takes the concrete from the batching plant to the towers. The concrete is then pumped through a pipework system to the top of the towers. 4 160 metres up, work continues on installing the steel reinforcement ready for the next concrete pour. 5 Positioning steel reinforcement sections at the top of the South Tower. 6 The Centre Tower floodlit at night appears like a giant piece of modern sculpture. 7 A prefabricated section of steel reinforcement "cage" is lifted into position at the top of the North Tower ahead of the next concrete pour. 8 In April, the first cable anchor box was installed at the North Tower. Here, waiting silently on the dockside, a series of anchor boxes await their turn to be installed. 9 A cable anchor box is manoeuvred in the dock area prior to being transported out to one of the towers. 10 Members of the concrete batching team pose in front of the FCBC batching plant in Rosyth Docks. Virtually all of the 500,000 tonnes of concrete to be used in the Project will be batched on-site in this plant, one of the most modern of its kind in the UK.



VIADUCTS: 1 Pier N2 on the Northern Approach Viaduct is now complete. 2 The Southern Approach Viaduct waits in the background to be launched out over the almost completed Pier S3. This final launch of the viaduct into position is scheduled to take place in Summer 2015. 3 Aerial view of the Northern Approach Viaduct under construction. 4 The north and southbound carriageways of the Southern Approach Viaduct from the air. 5 Sections of the Northern Approach Viaduct are manoeuvred into position prior to welding. 6 A welding enclosure has been used night and day to enable welding of the Northern Approach Viaduct in all weather conditions. 7 The Southern Approach Viaduct steelwork will be 543 metres in length with a total weight of 5,617 tonnes. Both carriageways – one each for northbound and southbound traffic – are launched incrementally over the supporting piers. 8 Steel sections are welded together on-site to form the completed Northern Approach Viaduct.





Bridges to Schools

Almost 300 pupils from ten local schools visited the FRC Contact & Education Centre for a week in April to take part in the 'Bridges to Schools' week hosted in association with the Institution of Civil Engineers. Local primary school pupils enjoyed building their own cable-stayed bridges, giving them an insight into the challenges of civil engineering while having some fun along the way. Dressed in hard hats and hi-viz vests, they were tasked with constructing a 12 metre long model of a cable-stayed bridge, supervised by volunteer civil engineers. The pupils were then able to walk across the bridge before dismantling it. In addition to learning about the Queensferry Crossing and civil engineering in general, the focus was on Health & Safety and teamwork. The FRC Contact & Education Centre has now hosted over 9000 school pupil visits through the ever popular wider schools education programme.



Family Days

Almost 900 visitors attended two fun Family Days at the Contact & Education Centre during the Easter holidays. All age groups enjoyed a wide range of activities including building a cable-stayed bridge model and a bridge deck section, taking part in the "Design & Build" bridge challenge to find the bridge design which could support the most weight, erecting towers from wooden blocks, drawing a picture of the Firth of Forth in Spring 2017, constructing different types of bridges and taking part in a number of Queensferry Crossing related quizzes.



FRC CONTACT & EDUCATION CENTRE

Project Exhibition and Presentation Series

The FRC Project Exhibition is open every Saturday (10am – 4pm) until the end of October 2015. Visitors are able to learn about the Project, ask engineers questions and view the exhibition and 3D models.

The FRC Presentation Series is held on the last Friday of every month (10am – 4pm) until the end of October 2015. These presentations provide an in-depth look at the construction of the Queensferry Crossing and its connecting roads.



All welcome! Further details are available on the project website: www.forthreplacementcrossing.info



GENERAL: 1 One of FCBC's crew boats comes alongside the Centre Tower at dusk to take team members home for a well earned rest. These boats provide a round-the-clock service ferrying personnel to and from the towers. 2 The three towers at dusk. 3 Time for reflection before knocking off for the day. 4 Significant progress was made with landscape planting during the latest planting season from November 2014 to March 2015. Approximately 30,000 trees were planted beside the south network road, providing a lasting woodland legacy for the Queensferry Crossing project. A further 15,000 trees in the Echline area and 6,000 trees beside Ferrytoll embankment were also planted this season. This means that more than 50% of the 400,000 trees, shrubs and hedging plants which will be planted in total have now been planted since February 2012. Overall, more trees will be planted than removed. This provides a significant environmental benefit in advance of completing the Queensferry Crossing and connecting roads. All the trees are native species with local provenance, to ensure the best landscape and ecological 'fit' with the surrounding woodlands.



Contacting the FRC team

There are a number of ways you can contact us to ask questions, provide comments, make a complaint or find out more about the Forth Replacement Crossing project:

Call the dedicated 24 hour Project Hotline **0800 078 6910**

Email the team **enquiries@forthreplacementcrossing.info**

Look for us online:

www.forthreplacementcrossing.info

www.queensferrycrossing.co.uk

@FRC_Queensferry

Or go to the Queensferry Crossing YouTube channel

Or drop into the **Contact & Education Centre**

Adjacent Forth Road Bridge Administration Office,
South Queensferry, Edinburgh EH30 9SF

Opening times

Mon-Thu: 0900-1700, Fri: 0900-1600, Sat: 1000-1600



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