The Forth Road Bridge (FRB) was temporarily closed to all traffic at midnight on 3 December 2015, on the advice of specialist bridge engineers, after the discovery of defective steelwork. Following a series of temporary repairs, the FRB re-opened to traffic, except HGVs and abnormal loads, on 23 December 2015. This briefing outlines the history of the FRB, how it has been managed, funding for bridge operations and looks in more detail at the events leading up to its temporary closure.
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INTRODUCTION

The Forth Road Bridge (FRB) is a long span suspension bridge that crosses the Firth of Forth some 15km west of Edinburgh. It is a vital link in Scotland's strategic road network used by over 24 million vehicles per year. The bridge and its approach viaducts, which carry a two lane dual carriageway plus cycle/foot paths, are 2,517 metres long. The suspension bridge itself is 1,822 metres long, making it the second longest single span suspension bridge in the UK after the Humber Bridge.

When it opened in September 1964 the FRB was the fourth longest span bridge in the world and the first long span suspension bridge to be built outside of the United States. The FRB is currently the 28th longest span suspension bridge in the world.

OWNERSHIP AND MANAGEMENT OF THE FORTH ROAD BRIDGE

The FRB has been owned and managed by three separate organisations, as set out below:

**Forth Road Bridge Joint Board:** The construction and management of the Forth Road Bridge was overseen by the Forth Road Bridge Joint Board (FRBJB), established under the provisions of the Forth Road Bridge Order Confirmation Act 1947. The FRJB retained responsibility for the management and maintenance of the FRB until 1 April 2002. On that date the Joint Board was dissolved.

**Forth Estuary Transport Authority:** On 1 April 2002 the assets, liabilities and responsibilities of the FRJB were passed to the newly created Forth Estuary Transport Authority (FETA) which was established under the provisions of the Forth Estuary Transport Order 2002. FETA was established with a broader remit than the FRJB, allowing it to spend money on public transport and other initiatives aimed at improving cross-Forth travel and reducing congestion on the Forth Road Bridge as well as focusing on Bridge maintenance and operation. The then Scottish Executive outlined the reasons behind the establishment of FETA in a press release issued in January 2002, which stated:

“"The creation of the Forth Estuary Transport Authority marks a significant step forward in our efforts to tackle congestion on the Forth Road Bridge and to improve travel across the Forth. While maintenance of the bridge will remain a top priority, the Authority will also be able to use revenues to fund public transport alternatives, road works, traffic management measures and other schemes it feels will bring real benefits to bridge users.”

FETA was a joint board made up of councillors from four local authorities, namely:

- City of Edinburgh Council 4 members
- Fife Council 4 members
- Perth & Kinross Council 1 member
- West Lothian Council 1 member

FETA was formally wound up, under the provisions of the Forth Road Bridge Act 2013, on 1 June 2015.

**Scottish Ministers:** On 1 June 2015 the assets, liabilities and responsibilities of FETA were passed to Scottish Ministers, under the provisions of the Forth Road Bridge Act 2013. Transport Scotland, acting on behalf of Scottish Ministers, contracted out the day-to-day
management and maintenance of the FRB to Amey, which was the successful bidder for a five year long management and maintenance contract. This contract also began on 1 June 2015.

HISTORY OF THE FORTH ROAD BRIDGE

The Forth Road Bridge was designed, and the construction supervised, by two firms of Consulting Engineers, Messrs. Mott Hay and Anderson and Sir Freeman Fox and Partners. The bridge was built by a consortium, known as the ACD group, which involved Sir William Arrol & Company, The Cleveland Bridge & Engineering Company and Dorman Long (Bridge and Engineering).

The cost of constructing the bridge and approach viaducts was £11.5m. The total cost of the construction of the bridge project, 1964/5 cash price, including eight miles of dual carriageway on the approaches, a further eight miles of minor roads and 24 other minor bridges, was £19.5m.

Several major projects have been carried out on the FRB since it opened in 1964. These projects were required to either replace, strengthen or improve elements of the structure following changes to traffic loading, design codes, a risk assessment of shipping impact and the results of testing of bridge components. The key projects include:

- Strengthening of viaduct box girders, completed in 1977
- Strengthening of main tower wind bracing, completed in 1992
- Strengthening of the main towers, completed in 1997
- Construction of pier defences, protecting the main towers from damage by shipping, completed in 1998
- Replacement of hanger ropes, completed in 2008
- Main cable inspection, acoustic monitoring and dehumidification system, the first internal inspection of the main cables was carried out in 2004, followed by the installation of acoustic monitoring equipment in 2006 to monitor wire breakages and the installation of the main cable dehumidification system in 2008/09, the third internal inspection of the main cables was carried out in 2012
- Inspection and testing of the main cable anchorages, completed in 2013.

INCREASE IN TRAFFIC LOADING AND TRAFFIC GROWTH ON THE FRB

The Forth Road Bridge was designed to carry loads specified in British Standard 153, which was based on a convoy of up to five 22 ton vehicles, the heaviest allowed on UK roads at that time, and eight 10 ton vehicles followed by lighter vehicles.

Since the opening of the FRB, the maximum UK vehicle weight has been increased several times, as set out below:

- **1983**: 38 tonne articulated vehicles with five axles (with a drive axle maximum weight of 10.5 tonnes);
- **1999**: the allowable weight limit was increased to 40 tonnes on five axles (with the axle weight limit increased to 11.5 tonnes);
- **1994**: six axle 44 tonne vehicles (max drive axle weight of 10.5 tonnes) allowed on a very limited number of UK roads
- **2001**: six axle 44 tonne vehicles were allowed on all UK roads (with a max drive axle weight of 10.5 tonnes).
It should be noted that some overweight Heavy Goods Vehicles (HGVs) with a gross vehicle weight in excess of 44 tonnes cross the FRB. Amey monitor vehicle weight and movements using a weigh in motion system located on the north side of the bridge.

In addition to the growth in maximum vehicle weights set out above, the amount of traffic using the FRB has increased at a relatively steady rate of 2-3 per cent growth each year, levelling off at around 24 million vehicles per annum in around 2003.

Works to strengthen the FRB have been undertaken, as set out above, which have ensured the bridge remains safe to use at all times. However, the increase in vehicle weights and amount of traffic using the bridge is far in excess of that anticipated by its designers, which has an impact on the life expectancy of bridge components and the amount and frequency of maintenance required to ensure continued safe operation.

**SUSPENSION BRIDGE DESIGN AND THE CLOSURE OF THE FORTH ROAD BRIDGE**

To understand the nature of the defect that led to the temporary closure of the Forth Road Bridge it is important to understand how a suspension bridge works. This is very briefly explained below.

**Figure 1: View of the Forth Road Bridge Showing Viaducts, Main Towers, Piers, Main Cables, Hangers, Suspended Span and Roadway**

Photograph: Forth Road Bridge
General principles\textsuperscript{1}: The Forth Road Bridge consists of two main towers, built on concrete piers sunk into the bed of the river Forth, over which two parallel main cables, themselves made up of 11,618 individual wires, are stretched. The ends of these cables are attached to large concrete anchors which are sunk deep into the rock at either end of the bridge. Smaller vertical cables, known as hangers connect the suspended span stiffening truss to the main cables. The suspended span runs the length of the bridge and supports the roadway. The main cables pass over a special structure at the top of each main tower, known as a saddle. The cables are fixed in the saddles at the tops of the main towers so that the towers move in a north/south direction as loads come on the bridge.

In effect the roadway of a suspension bridge hangs from the main cables. All of the weight of the bridge and any vehicles on it are borne by the main cables, which in turn are held up by the two main towers and the anchorages. The suspension bridge itself does not meet with land at either of its ends, rather traditional viaducts built on concrete piers take the roadway from land up to the suspended roadway.

The suspended span: The FRB has a main span of 1006 metres (i.e. the distance between the two towers) and two side spans that are each 408 metres long. The main span has an orthotropic deck\textsuperscript{2} made up of a 12.7 mm stiffened steel plate overlaid with 38mm thick mastic asphalt, on a waterproofing layer. The side span decks are 203mm thick reinforced concrete slab with a similar surfacing to the main span. The decks on both the main and side spans are supported on steel stringer beams that span between large steel cross girders spaced at 9.144 metre centres. These cross girders are supported by two longitudinal stiffening trusses (pictured in Figure 2), which are in turn attached to the main cables by rope hangers.

Figure 2: Suspended span truss

Truss end links: The main truss frames terminate either side of the main towers. The vertical restraint to the truss at the main towers is provided by pendulum links, also referred to as truss end links, which connect the lower chords of the main truss to brackets attached to the side faces of the towers. These links are designed to carry both tension and compression forces and allow for movement of the suspended span.

\textsuperscript{1} Technical information is taken from a series of technical papers produced by senior Forth Road Bridge engineers with additional information from direct contact with Transport Scotland and Amey

\textsuperscript{2} An orthotropic deck is a structural steel deck plate stiffened either longitudinally, transversely, or in both directions. This allows the deck to both support vehicular loads and contribute to a bridge’s overall load-bearing behaviour. The orthotropic deck may be integral with or supported on a grid of deck framing members such as floor beams and girders.
Truss end links are an assembly of separate components, and not a single component as implied in many media articles about the closure of the FRB. Truss end links are made up of five primary components, which are illustrated in Figure 4 below.

As can be seen in Figure 4, the defect which resulted in the temporary closure of the FRB was in one of the two links which form part of this truss end link assembly. More information on the defect, temporary repairs and work on a permanent solution is available on the FRB website.
FETA PROPOSALS TO REPAIR/REPLACE THE TRUSS END LINKAGES

Plans to repair or replace the current truss end linkages had been under active consideration by FETA for a number of years prior to its abolition. These plans have been continued by Transport Scotland/Amey.

The City of Edinburgh Council maintains a regular archive of papers presented at FETA board meetings dating back to September 2005, with a single earlier record for June 2003. The following section summarises the development of this project as identified through a trawl of the FETA board meeting documents available on the City of Edinburgh Council’s website.

It is important to note that the FETA board papers do not provide a complete record of the development of the truss end linkages project and do not contain much in the way of technical detail. Given this, the following summary should be treated with some caution as there will be missing information which was included in papers that are not currently publicly available or easily accessible.

The summary is organised in date order, starting with the earliest date. The dates refer to the month and year of the FETA board meeting:

February 2007: The first mention of “truss end linkages” as an item of non-recurring capital expenditure can be found in Appendix 2 of the FETA Budget 2007/2008 (FETA 2007) This allocated £150,000 of the 2007/2008 capital budget towards truss end linkages, noting that “prelim design not yet carried out”.

February 2008: The FETA Budget 2008/09 (FETA 2008a) provides a little more information on the project, stating:

“Suspended Span Truss Assessment and Strengthening (including Truss End Links)

The assessment work has now been completed and an independent check is being commissioned. Strengthening work on the truss has also been put back until there is confirmation on the outcome of the de-humidification scheme. However, work on the truss end links is scheduled to start in 2010/11 following completion of the independent check.”

February 2009: The Revenue and Capital Budget 2009/2012 and Indicative Capital Plan to 2023/24 (FETA 2009c) allocates £50,000 in 2008/09 and £20,000 in 2009/10 to “truss end linkages” and notes that “The extent of works included in this project have increased”.

The Capital Plan to 2023/24 allocates a further £500,000 to “truss end linkages” in both 2010/11 and 2011/12.

October 2009: An update on the Capital Plan to 2023/24 (FETA 2009a) includes the following additional information:

“Truss End Links
The assessment work has now been completed and an independent check is being carried out. Upon completion of the independent check, procurement of the consulting engineer to design the scheme will be followed by procurement of a contractor to carry out the work. The programmed start date for work on site is now 2011/12.”
February 2010: The FETA Revenue and Capital Budget 2010-13 and Indicative Capital Plan to 2024/25 (FETA 2010b) allocates the following sums to “truss end linkages”:

- 2009/10: £20,000
- 2010/11: £50,000
- 2011/12: £1,500,000
- 2012/13: £1,500,000

May 2010: FETA issues a notice, via the Public Contracts Scotland (2010) website, which stated:

“The Forth Road Bridge was opened in 1964 and now carries over 24 million vehicles per annum.

Assessments of the suspended structure and the truss end connections have identified that several of the key elements forming these connections are overstressed.

A feasibility study has been undertaken and a preferred option identified to strengthen the existing truss end link connection.

The Forth Estuary Transport Authority (FETA) wishes to appoint a suitably experienced consulting engineer to undertake the detailed design of the new truss end connections. The successful candidate will also be responsible for the preparation of tender documentation and the supervision of the works on site.”

February 2011: The FETA Revenue and Capital Budgets 2011-13 and Indicative Capital Plan to 2025/26 (FETA 2011b) allocates £50,000 towards truss end linkages in financial year 2010/11 and zero in 2011/12 and 2012/13. It then allocates £1.5m per year in 2013/14 and 2014/15 and £50,000 in 2015/16.

March 2011: The tender notice on Public Contracts Scotland website is updated to state:

“Notice Cancelled

This notice has been cancelled. The original deadline date of 05/07/2010 is no longer applicable.

This notice has been cancelled to due a change in the anticipated scope of the works.”

December 2011: The Review of Capital Projects (FETA 2011c) stated:

“2.1 Transport Scotland have confirmed that the Capital Grant for the next three years, 2012/13 to 2014/15, has been set at £13.8 million which is a reduction of £19.354 million (58%) from the Indicative Capital Plan approved by the Board in February 2011.

2.2 The sum granted allows the Authority to meet its current estimated contractual commitments including the third internal inspection of the main cable although, as reported previously, this project will be reduced in scope. However, as a result of the reduction in funding, all non-committed schemes within the Indicative Capital Plan have had to be reviewed and the result of this review are detailed in this report.

2.3 All of the non-committed schemes included in the Indicative Capital Plan are considered essential to maintain the long term integrity of the bridge and approaches, and include schemes that will help to reduce future maintenance costs.”
The report goes on to explain how FETA assessed which non-committed capital schemes to take forward and which to defer as follows:

“3.3 In order to determine which non-committed schemes should be taken forward a method of ranking by priority using risk analysis techniques has been used. This has involved evaluating each scheme by looking at the political, economic, social, technical, legal and environmental risks if each individual scheme was not carried out. As a consequence of the complex technical nature of most of the schemes this PESTLE analysis was supplemented by a separate Failure Mode and Effect Analysis (FMEA) which has been carried out on the technical aspects of each scheme.”

The assessment ranked truss end links remedial works as fifth out of 12 non-committed capital projects and goes on to state that “full replacement of the truss end links” will have to be deferred, alongside five other non-committed capital projects. The report goes on to state:

“3.9 Full Replacement of the Truss End Links
Following the assessment of the suspended span truss, these critical structural members were found to be significantly overstressed during certain combinations of loading. However, given the cost and difficulty in replacing these elements and the potential disruption to bridge users, further examination of the probability of certain combinations of load occurring and further structural analysis has been carried out to try to determine the most realistic level of stress in the members. After the Forth Replacement Crossing opens the existing bridge will carry only light traffic under normal operating conditions. One key factor in reducing load is the reduced probability of certain conditions of traffic loading occurring within the relatively short time period left until the Forth Replacement Crossing opens. As a result of this work there is now the potential to upgrade the existing links rather than carry out a full replacement. Upgrading the links will cost significantly less than full replacement and for this current priority ranking analysis on non-committed schemes, it has been assumed that the upgrading scheme can be carried out. However, if this proves not to be the case then the full replacement scheme would have to be reconsidered. It should be noted that if the full replacement scheme were required, the cost of the works would reduce significantly the number of other schemes that could be carried out.”

September 2012: The Capital Plan Update (FETA 2012a) provides the following update on the truss end linkages project, stating:

“…there is now the potential to strengthen the existing links rather than carry out a full replacement and engineering analysis is continuing to try to determine a workable strengthening scheme. Strengthening the existing Truss End Links would cost significantly less than the full replacement of all eight elements.”

It goes on to state:

“3.13.4 With regard to the Truss End Links, following the reduction in capital funding, an allowance for strengthening works only, and not for the full replacement scheme, has been made in the three year Capital Plan. If for as yet to be determined structural reasons it is not possible to upgrade the links then the full replacement scheme would have to be reconsidered and an approach made to Transport Scotland for future additional funding.”
October 2013: The Capital Plan and Reserves Update (FETA 2013a) provides a detailed explanation of the scheduling of work to the truss end linkages and other essential maintenance projects, stating:

“2.2 As reported to Members at the June 2013 meeting, there are a number of committed capital projects currently being carried out on the bridge. In addition, the Authority is liable for the legacy costs of the M9 Spur Extension/A8000 Upgrading Scheme. As Members are aware, the Scottish Government’s September 2011 Spending Review resulted in a reduction in the Authority’s capital funding and, as a result, a number of capital projects have had to be deferred to beyond 2015. As reported, a further utilisation of the Authority’s reserves and a further rescheduling of capital works have had to be carried out in order to provide funding for the replacement of all the cable band bolt assemblies.

2.3 Following the 2011 Spending Review, the first tranche of projects were selected for deferral following an analysis of all the non-committed schemes contained within the Capital Plan. This analysis prioritised and ranked schemes on the basis of risk and took account of key factors such as the safety of users; the structural integrity of the bridge and the core purpose of the Authority. The projects with the lowest risk score were selected for deferral. The second tranche of projects that were deferred, following the requirement to fund the cable band bolt replacement, had a higher risk score than those previously selected.

2.4 During this second round of deferrals, the four projects detailed below were identified as having the highest estimated cost. Therefore, these projects had to be considered in part or full for deferral in order to produce a significant reduction in the predicted deficit. These projects were:

- The Upgrading of the Main Cable Acoustic Monitoring Project
- Improvements to the Suspended Span Underdeck Gantry
- Truss End Linkages Work
- Improvements to the Suspended Span Underdeck Access System

2.5 The Upgrading of the Main Cable Acoustic Monitoring Project and the Truss End Links Project were both considered vital to maintain the operational capacity of the bridge and were retained in the programme. The Improvements to the Suspended Span Underdeck Gantry and the Improvements to the Suspended Span Underdeck Access System are two separate schemes and were selected to be deferred to post 2015. However, it was noted that if finance were available, it would be desirable to carry out some limited works during 2013 to 2015 on both these deferred schemes.

2.6 There is always a residual risk when maintenance works are deferred and it was noted that deferral of part or all of these projects does increase the risk to the long term structural integrity of the bridge and is likely to increase the actual cost of the works when they are eventually carried out.

2.7 Given the significant drop in reserves and with no additional funding forthcoming, a continuing check on the balance of reserves against risk from committed schemes (and the risk to the structure from any further deferral of schemes) has had to be carried out prior to committing any significant funding to non-committed schemes.”

The Update goes on to provide the following specific information on the maintenance of the truss end link:
Truss End Linkages
Following the assessment of the suspended span truss, these critical structural members were found to be significantly overstressed during certain combinations of loading. However, given the cost and difficulty in replacing these elements, and the potential disruption to bridge users, further examination of the probability of certain combinations of load occurring and further structural analysis was carried out to try to determine the most realistic levels of stress in the members. After the Forth Replacement Crossing opens, the existing bridge will carry only light traffic under normal operating conditions. One factor to be considered is the reduced probability of certain conditions of traffic loading occurring within the relatively short time period left until the new bridge opens. As a result of this analysis work there is now the potential to upgrade the existing links rather than carry out a full replacement. A repair option involving strengthening existing welds and adding stiffeners to the tower steelwork has been developed and a trial is being carried out on the south west tower leg. If successful, then this repair will be carried out on the other three tower legs. The cost of carrying out the repair option to all the links, over years 2013 to 2015, is estimated to be £0.435 million. Strengthening the links will cost significantly less than full replacement which has an estimated cost of £10 to £15 million. If the trial is not successful then the full replacement scheme would have to be reconsidered post abolition of the Authority.”

February 2014: The Capital Plan and Reserves Update (FETA 2014a) repeats the information on the truss end linkages project outlined above, adding that “The trial works have been designed and an independent check of the design has recently been completed. Work on site is expected to begin in March of this year. [2014]”

The Revenue and Capital Budgets 2014-15 (FETA 2014c) allocate £410,000 to the truss end linkages project in 2014/15. The Budget document also states:

“8.2 In addition, and as reported previously by the Chief Engineer and Bridgemaster, a number of significant non-committed schemes have been deferred to post 2015/16 due to budgetary restraints. Deferring these projects may lead to an increase in their overall cost. However, these costs will be met post abolition by the Scottish Government. The projects deferred were:

- Painting of the Suspended Span Truss
- Painting of the Viaduct Box Girders
- Resurfacing of the Main Span Southbound
- **Full Replacement of Truss End links** [bold added by SPICe for clarity]
- Strengthening Works to the Suspended Span Truss
- Main Tower Wind Barriers/Impact Strengthening
- Resurfacing the Main Span South
- Abutment Approach Barriers
- South Anchorage Regeneration”

February 2015: The Capital Plan and Reserves (FETA 2015a) report notes that:

“The intention of the Authority was to carry out a trial repair on one tower leg and if successful, this repair would be carried out on the other three tower legs. However, due to issues with the quality of the existing tower steelwork; the difficulties of access and the existence of red lead paint, coupled with the loss of key management staff, the focus is now on completing the trial on one tower leg before the end of May 2015. If the trial is successful, a recommendation would be made to Transport Scotland that this work be continued post abolition of FETA. If the repair trial is unsuccessful then full replacement will have to be considered by Transport Scotland. The cost of carrying out the repair
option to all the links is estimated to be £410,000. Strengthening the links will cost significantly less than full replacement which has an estimated cost of £15 million.

Further analysis work is also being carried out to re-assess the current capacity of the links to carry Abnormal Vehicles. This work may result in an operation restriction on the passage of the heavier loads that cross the bridge and may increase traffic disruption. A further report will be brought to the April 2015 Board Meeting.”

The Revenue and Capital Budgets 2015-16 (FETA 2015b) allocated £15,000 towards the truss end linkages project.

**BRIDGE TOLLING REGIME**

Tolls on the FRB were abolished on Monday 11 February 2008. The power to charge tolls on the FRB derived from Orders made under the Forth Road Bridge Order Confirmation Act 1958 (c. iv) This Act required both the tolling scheme and toll amounts to be established by Order. The 1958 Act set a cut-off date for the levyng of tolls of 28 May 1995. However, the tolling regime was extended to continue to fund improvements to the Bridge and ongoing maintenance.

From 1997 bridge tolls were levied on northbound vehicles only. The previous two-way tolling regime resulted in peak time queues on the bridge as vehicles waited to pass through the toll booths at its southern end, which was potentially damaging to the bridge structure.

The toll level for cars and light goods vehicles was increased on 1 May 2005, although tolls for HGVs and buses and coaches remain unchanged since 1986. The final toll charges were:

- Cars and Light Goods Vehicles £1.00
- Heavy Goods Vehicles £2.00
- Bus/Coach £1.40
- Vehicles requiring an escort £26.00
- Motorcycles, pedal cycles and pedestrians free
- Blue Badge holders free

Regular bridge users could apply for frequent user discount vouchers, which reduced the toll to £0.90 for cars and £1.30 for HGVs.

FETA indicated in its Local Transport Strategy (FETA 2005) that it intended to introduce road user charging, as opposed to bridge tolls, under powers granted by the Transport (Scotland) Act 2001 (asp 2). The charges were to form part of a wider ‘Integrated Transport Initiative’ that aimed to improve road transport across the Forth. The proposed road user charging options were as follows:

- £1 charge for car users, with extra charges for peak times rising to a maximum of £4 for single occupancy vehicles between 4 pm and 6 pm
- 50% discount to be applied to cars with driver and at least one passenger at set times.
- Exemptions for emergency vehicles, buses and blue badge holders
- Set charges for goods vehicles based on size and height of vehicle; goods vehicles would not qualify for demand charges or multi-occupant discount.

However, Scottish Ministers (Scottish Government 2006) rejected FETA’s proposals for road user charging, instead extending the tolling system until 31 March 2010, under the provisions of
the Forth Road Bridge (Toll Period) Extension Order 2006, with no revision of charges.

Tolls collected between 1997 and 2007 are set out in the table below, in both cash value terms and at 2015/16 prices.

Table 1: Forth Road Bridge Tolls collected by Year (£000's)

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<td>9,294</td>
<td>9,566</td>
<td>9,798</td>
<td>9,620</td>
<td>11,189</td>
<td>11,816</td>
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<tr>
<td>2015/16 prices</td>
<td>13,078</td>
<td>12,594</td>
<td>13,062</td>
<td>12,900</td>
<td>12,925</td>
<td>12,964</td>
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SCOTTISH GOVERNMENT GRANT FUNDING

Following the abolition of tolling, FETA was funded by direct capital and revenue grants from the Scottish Government. The table below sets out the levels of capital and revenue grants paid to FETA in the years between the abolition of tolling and the wind up of the Authority.


Annual Scottish Government Grant Funding Paid to FETA

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<th>Year</th>
<th>Capital</th>
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<td>2014/15</td>
<td>£1.716m</td>
<td>£5.100m</td>
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<td>2013/14</td>
<td>£5.600m</td>
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<td>2012/13</td>
<td>£6.280m</td>
<td>£4.993m</td>
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<td>2011/12</td>
<td>£8.600m</td>
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<td>2010/11</td>
<td>£8.730m</td>
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<td>2008/09</td>
<td>£7.070m</td>
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<tr>
<td>2007/08</td>
<td>£4.5m</td>
<td>£3.5m</td>
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It is worth noting that the April 2012 FETA board paper Grant Funding 2012/13 states that:

“Members should note that the capital grant for 2012/13 is £0.995m lower than the £7.275m approved in the February 2012 Budget Report. The difference is due to Transport Scotland advancing capital grant of £3.204m in to 2011/12, resulting in reduced grant over the subsequent three year period 2012-2015. There is no net effect to the Authority’s financial position as a result of this advance.”

The report includes the following table showing the impact of this advance of capital grant on the planned capital budget for 2012/13 to 2014/15.
Impact of Transport Scotland advancing capital grant to FETA in 2011/12 on annual grants in 2012/13 to 2014/15

<table>
<thead>
<tr>
<th>FETA Capital Grant</th>
<th>2011/12 £'000</th>
<th>2012/13 £'000</th>
<th>2013/14 £'000</th>
<th>2014/15 £'000</th>
<th>Total £'000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Feb 2012 Budget Report</td>
<td>7,275</td>
<td>4,603</td>
<td>1,922</td>
<td></td>
<td>13,800</td>
</tr>
<tr>
<td>Revised allocation</td>
<td>6,280</td>
<td>3,600</td>
<td>716</td>
<td></td>
<td>10,596</td>
</tr>
<tr>
<td>Advance/(Repayment)</td>
<td>3,204</td>
<td>(995)</td>
<td>(1,003)</td>
<td>(1,206)</td>
<td>0</td>
</tr>
</tbody>
</table>

FETA also made a number of drawdowns on its capital reserves in the two years prior to its abolition. The [Revenue and Capital Budgets 2014-2015](#) paper sets out FETA's strategy for drawing down its reserves, prior to abolition, as follows:

> “The Authority’s General Fund balance at 31st March, 2013 was £2.652m. As reported separately on this agenda it is anticipated that it will be necessary to draw down reserves of £0.082m at the end of 2013/14. Based on this, the projected reserve balance at 31st March 2014 would be £2.570m. Should Capital expenditure for financial year 2014/15 be incurred in line with the programme proposed in Appendix 3, the reserve balance would fall to £0.306m at 31st March 2015.”
SOURCES


FETA (2008b) *Grant Funding Arrangements*. Edinburgh: FETA. Available at: http://www.edinburgh.gov.uk/download/meetings/id/19065/grant_funding_arrangements


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FETA (2015a) *Capital Plan and Reserves Update*. Edinburgh: FETA. Available at: http://www.edinburgh.gov.uk/download/meetings/id/46211/item_5_-_capital_plan_and_reserves


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