

## Tay Road Bridge Joint Board (TRBJB) - Capital programme in Spending Review 2010

Portfolio	Finance and Sustainable Growth	
Level 2 Budget heading in 2010-11	Forth and Tay Roads Bridges	
Programme title	Tay Road Bridge Joint Board – Capital Programme	

This template captures information on the future requirement for programme spend which scores under Scottish Government Capital DEL. Programme spend is defined as expenditure in support of the capital expenditure by third parties (e.g. local government or health block grant).

You are asked to complete one template for each area of capital programme spend, providing the following information:

1. the scale of the potential funding requirement over SR2010;
2. the outcomes and specific outputs that are planned for delivery in SR2010; and
3. expected impact on the programme of reduced capital budgets.

Please provide as much detail as you consider necessary to provide the evidence base for considering the allocation of capital funding in the Spending Review. Please also ensure that the anticipated spending profile in Section 1 is reflected in the separate Level 1 summary table.

### 1. Scale of the potential funding requirement over SR2010

Please provide your best estimate of the anticipated expenditure profile of the programme at least until 2014-15 (and beyond that if there is a reasonable basis for a longer-term projection). If necessary, you may provide a range for funding requirements for some or all years. Where appropriate, please separate the total anticipated funding requirement into two components: (i) the creation of new capacity or facilities; and (ii) the maintenance of existing capacity or facilities.

*(Figures in brackets are proposed revised Capital Programme; above them are those approved by Tay Road Bridge Joint Board. The revised programme will need to be formally approved by the Board.)*

Year	2010/11	2011/12	2012/13	2013/14	2014/15	SR Total	2015/16	2016/17
New capacity								
Maintenance	2.075	11.575 (11,325)	10.850 (10,520)	1.665 (770)	3.830 (1,385)	27.920 (24.000)	4.950 (2.670)	4.195 (2.465)
<b>Total (£ million)</b>	2.075	11.575 (11,325)	10.850 (10,520)	1.665 (770)	3.830 (1,385)	27.920 (24.000)	4.950 (2.670)	4.195 (2.465)

### 1. Scale of the potential funding requirement over SR2010 (*continued*)

**Notes:** Please outline here the key financial assumptions associated with the anticipated expenditure profile that you have provided above, including any projections concerning the future level of capital receipts related to the programme.

Discussions have taken place with TRBJB in relation to funding requirements. As a result of these discussions TRBJB officials have revised the budget approved by their Board in January 2010 to contain only those items essential to maintaining the structural integrity of the Tay Road Bridge and to smooth the profile of required spend wherever possible. Opportunities for smoothing spend over a number of years; deferment of projects and the impact of these choices has been discussed and is included to support the evidence base in the following pages.

The file detailing both budget approaches is attached at the end of section 3 for information.

- TRBJB 20 Year Capital Programme 2010 -2030

**This results in a difference between the Board Approved Budget and the Reprofiled Essential Plan over 4 years of £(27.920 – 24.000) = £3.92 million**

### 2. Outcomes and specific outputs that are planned for delivery in SR2010

Please provide details of the purpose of the capital programme; the policy outcomes and objectives it will help to support; and the specific outputs that the capital programme spend will deliver over the course of the Spending Review period from 2011-12 to 2014-15.

This spend fits with the first tier of the Transport Scotland Investment Hierarchy as defined in the Strategic Transport Projects Review (STPR December 2008)

1. **Maintaining and Safely Operating Existing Assets**
2. Making Better Use of Existing Capacity
3. Targeted Infrastructure Improvements

The purpose of the Capital Programme on Tay Road Bridge is to ensure the structural integrity and long term durability of the bridge and associated approach roads and land. It is also to ensure the safety of users and those that have to maintain and operate the bridge. The programme also ensures that all statutory obligations and standards are met and that delays to users are minimised.

The Tay Road Bridge is subject to a detailed inspection regime in accordance with the Management of Highway Structures – A Code of

## Spending Review 2010 – evidence gathering: capital programmes

Practice and the Design Manual for Roads and Bridges. Required Capital expenditure and projects are identified through the inspection process and through Best Practice. A long-term capital programme is in place and projects are prioritised according to need to allow the TRBJB fulfil its obligations to maintain the Tay Road Bridge in a safe and serviceable condition.

Proposals for large-scale individual capital projects are considered by the Tay Road Bridge Joint Board within the context of its long-term capital programme. Board approval is required to proceed with such projects.

The capital programme will deliver certainty of the provision of service for all vehicles using the bridge every year over the Spending Review period, linking businesses, communities and visitors from Fife, Dundee, Perth and points beyond.

Capital Scheme	2011/2012	2012/2013	2013/2014	2014/2015	Total
Pier Collision Protection	11,000	10,010	315	0	21,325
<b>TOTAL</b>	11,000	10,010	315	0	21,325

This scheme makes up by far the largest proportion of the capital funding requirement across the spending review period and is critical in ensuring the future of the Tay Road Bridge. This work is essential to mitigate the risk of ship impact on the Bridge. Each year that the work is not carried out represents an increased risk to the bridge. The Tay Road Bridge has been struck three or four times and has been subject to a number of near misses.

**TRBJB has borrowing powers. They have agreed to investigate the impact of using these powers during the current SR period for the Pier Collision Protection project. (This may increase their revenue requirement.)**

This project has not yet been committed and greater certainty on the cost of the scheme will be available in the coming weeks.

### **Support economic recovery and contribute to delivering sustainable economic growth**

Maintenance and safe operation of the Tay Road Bridge will enable it to continue to operate at current level of service thereby contributing to the national indicator of;

- Reducing the proportion of driver journeys delayed due to congestion

As well as supporting the following national outcomes;

- We live in a Scotland that is the most attractive place for doing business in Europe.
- We value and enjoy our built and natural environment and protect it and enhance it for future generations;

### 3. Expected impact on the programme of reduced capital budgets

Please provide an assessment of the impact on the delivery of policy outcomes and specific outputs if funding was to be reduced significantly below the level you have projected in Section 1 of this template. Please be as specific as possible about the potential impact on delivering the **Scottish Government's key policy goals** and any reductions in the capacity to deliver a viable service.

#### Committed Spend

Advanced Warning Signs will require a payment of £15K in 2011/12

#### Risks and Proposals for Managing the Capital Programme over SR 2010

*The table below should be read in conjunction with TRBJB 20 Year Capital Plan attached.*

Project Title	Projected Outcome	Potential Impact on Projected Outcome of reduced funding	Proposal	Key Priority
Replacement of Expansion Joints	Joints maintained in good condition with rolling programme of repairs	Deterioration of condition of joints Potential failure of nosings, seals and rails Increased potential for water and debris ingress to inaccessible areas between box girders with subsequent problems to steelwork Potential for claims against the TRBJB for damage to vehicles from deteriorated joints and adjacent surfacing. Also an increased safety risk to drivers using the bridge. Increased accidents may also result in driver delay due to congestion.	Nil	1
Advanced Warning Signs	Ongoing maintenance of existing signs. Replacement of signs at Tayside House and Custom House to suit the new road layout of the Dundee Waterfront Development. Improved operational functionality through improvements in sign technology	Deterioration of condition of signs with possible loss of functionality New signs required as part of the Dundee Waterfront Development as existing are not in a condition to withstand ongoing removal and re-erection. Inability to utilise new sign software to improve functionality.	Smooth expenditure over two financial years	2

## Spending Review 2010 – evidence gathering: capital programmes

North Approach Viaduct Remedial Works	<p>Works required to remaining half joints on the North Approach Viaducts to be carried out at the same time as Dundee Central Waterfront promoted tie in works to the approach spans.</p> <p>Works include waterproofing and sealing of half joints and potential replacement of half joint bearing strips depending on condition.</p>	<p>Deterioration of condition of half joints leading to weight restrictions being applied.</p> <p>Current assessment requires a condition factor of 0.9 to be maintained.</p> <p>Damage to structure through water ingress. Potential delays due to congestion if this work is not carried out and restrictions have to be applied. Also impact on road haulage sector if detours are required.</p>	Nil	1
Carriageway Resurfacing	<p>Carriageway renewed and condition improved – existing surfacing is original laid in 1966.</p> <p>Waterproofing of deck surface to be carried out at same time.</p>	<p>Deterioration of surfacing</p> <p>Reduced skid resistance with possible increase in accidents</p> <p>Increased risk of potholes and potential for claims against the TRBJB for damage to vehicles</p> <p>Damage to structure through water ingress.</p>	Nil	1
Paintwork to Box Girders	Interim maintenance painting and subsequent full repainting of box girders to maintain protection to steel box girders in salt laden environment	Increased period of maintenance painting to maintain protection at vulnerable areas of box girders. This approach is in keeping with the Scottish Government's environmental and best value objectives by taking a "whole life" approach to maintenance.	Delay major works by increased maintenance painting	2
Inspections and Repairs to Columns	<p>Undertake Principal Inspections, by roped access, at prescribed intervals</p> <p>Undertake repairs recorded during inspections</p>	<p>Increased inspection frequency beyond that recommended in the DMRB / Management of Highway Structures – A Code of Practice</p> <p>Increased potential for deterioration to concrete resulting in more extensive and costly repairs in the future. This approach is in keeping with the Scottish Government's environmental and best value objectives by taking a "whole life" approach to maintenance.</p>	Nil	1
Gantry Miscellaneous	Gantries are reaching the end of their serviceable life. Ongoing maintenance to keep gantries serviceable until new gantries can be installed and	<p>Potential reduction in working life of gantries</p> <p>If gantries become unserviceable then work would have to be carried out from carriageway level at</p>	Undertake additional inspection and	2

## Spending Review 2010 – evidence gathering: capital programmes

	commissioned	considerable cost in terms of access plant and traffic management.  Ongoing restrictions to traffic to facilitate use of deck based access equipment resulting in congestion and delay.	maintenance to prolong life of gantry	
Replacement Gantries	To replace existing gantries at end of useful life	If replacement gantries not installed and if the existing cannot be economically maintained then the TRBJB would have no permanent means of access to undertake inspections, repairs, painting etc. Gantries are also used to assist Contractors install scaffold etc on major contracts, helping to reduce cost to the TRBJB. This option would not be available to TRBJB and would result in subsequent increase in Contract costs.	Defer procurement of new gantries	2
CCTV/Ice Detection/ Cathodic Protection (CP) Monitoring	Ongoing maintenance and future replacement of key components	Potential increase in down time in CCTV and weather monitoring systems leading to reduction in ability to react to incidents and bad weather situations. Reduction in capacity of CP system to provide adequate protection to columns against corrosion. Could result in increased accidents as there is a lack of ability to monitor conditions on the bridge and to put advisory signs in place.	Smooth expenditure over two financial years	2
Safety Boat	Ongoing maintenance to extend working life of safety boat with planned replacement in 2014/15	Potential reduction in working life of boat. If safety boat becomes unserviceable TRBJB would not be able to use gantries over water to undertake inspections, painting, assist contractors etc	Undertake additional inspection and maintenance to prolong life of safety boat	2
New Vehicles	Maintaining fleet in good order by programme of regular replacement of vehicles	Increase in period between replacements. Potential increased repair and servicing costs. Potential loss of operational capability if vehicles become unreliable. This could lead to a reduction in the ability to clear the carriageway of debris or stationary vehicles resulting in congestion and delay.	Defer replacement of vehicles by one year	2

## Spending Review 2010 – evidence gathering: capital programmes

Miscellaneous Projects	Sum to cover minor projects that arise and to provide a contingency sum	Reduced ability to deal with reactive works	Reduce amount set aside for reactive works	2
Scour Protection	2009/10 scour survey and report completed. 2011/12 allowance was for scour protection works to be carried out at same time as pier collision protection works. Provisional allowances made in later years	These works are now included within the Pier Collision Protection Works project so the £200k allowance can be removed subject to confirmation of sufficient funding within the Pier Collision Protection Works.	Remove separate item from programme if it can be accommodated within the PCPW scheme	1
Pier Collision Protection Works (PCPW)	Provision of protective measures to navigation spans to prevent ship impact. TRBJB Corporate Risk Register indicates that this is the highest ranked risk likely to affect the TRBJB's ability to fulfil its function	Increased risk of ship impact incident which could result in collapse of a number of spans with subsequent potential loss of life, disruption to strategic route on national road network and substantial rebuilding costs.	Nil	1

See attached table detailing approved and revised Capital Expenditure Requirements for SR 2010.



TAY - CSR 2010  
preparation revised b