TOLL REVISION APPLICATION
By
TAMAR BRIDGE AND TORPOINT FERRY JOINT COMMITTEE

Transport Charges &c (Miscellaneous Provisions) Act 1954
Tamar Bridge Acts 1957 to 1998

STATEMENT OF CASE

In respect of the Tamar Bridge and Torpoint Ferry

Planning Inspectorate Reference: DPI/N1160/24/12

1. INTRODUCTION

1.1 This Statement relates to an application made by the Tamar Bridge and Torpoint Ferry Joint Committee (TBTFJC) to the Secretary of State for Transport for authority to increase the toll charges.

1.2 The aim of the TBTFJC is to provide its customers with a safe, effective and efficient service 24 hours a day 365 days a year, while at the same time planning for future demands.

1.3 As a result of inflation, increasing maintenance costs, the costs of funding a range of major improvement projects and a failure of traffic to recover to the levels experienced pre-pandemic, expenditure is now exceeding income from tolls. The service is therefore running at a loss with severely depleted reserves and without additional income will not be sustainable.

1.4 In order for the TBTFJC to continue to deliver the service and meet customer expectations, it is necessary to raise all tolls by some 15.4%, as a matter of urgency.

1.5 This Statement supplements the application formally submitted on 2 May 2024 provides the particulars of the case to be submitted on behalf of the Applicant, together with a list of charts and documents that may be referred to or submitted in evidence on behalf of the Applicant in support of the case at the Public Inquiry.

2. INQUIRY STATEMENT OF CASE

2.1 The Applicant's Proofs of Evidence will be based upon the following:

(a) Description of the undertaking and setting

(b) Legal framework

(c) Engineering matters

(d) Finance

2.2 Although the above statement of case is as comprehensive as possible, the right is reserved for the Applicant to refer to any other matters which are judged relevant and important to these issues.

3. DOCUMENTS

3.1 The following documents may be referred to as part of the Applicant's Statement of Case:

The Transport Charges &c (Miscellaneous Provisions) Act 1954
The Tamar Bridge Acts 1957, 1979 and 1998.
Application for Revision of Tolls
Draft Tamar Bridge and Torpoint Ferry Order
Proofs of evidence of: Mr David List (General Manager – Tamar Bridge and Torpoint Ferry Joint Committee)
Mr Stephen Baron (Chartered Civil Engineer Technical Director AECOM Ltd)
Ms Geraldine Baker (Cornwall Council Strategic Finance Manager)
Mr Tim Hope (Principal Naval Architect, BCTQ)

Each of the 4 witnesses will offer evidence to the Inquiry.

Appendices

(as per the documents appended to the Proof of Evidence of Mr David List):

	TITLE	Appendix Number
1	**TBTF Income, Expenditure & Reserves 1996-2028 (Table)**	**1**
2	**TBTF Income, Expenditure & Reserves 1996-2028 (Graph)**	**2**
3	**TBTF-Audited-Statement-of-Accounts-2020-21**	**3a**
4	**TBTF-Audited-Statement-of-Accounts-2021-22**	**3b**
5	**TBTF-Audited-Statement-of-Accounts-2022-23**	**3c**
6	**TBTF Car & Light Goods Toll Levels 1982 - Present**	**4**
7	**tolled direction traffic 1985-2023**	**5**
8	**TBTF monthly Eastbound traffic volume pre & post Covid**	**6**
9	**Local Partnerships Review Final Report**	**7**
10	**TBTFJC Business Plan 24-25**	**8**
11	**Income Expenditure Forecast 2024-2040 no revision (graph)**	**9**
12	**Income Expenditure Forecast 2024-2040 no revision (table)**	**10**
13	**TBTFJC Meeting 7 September 2023 Future Financing Report**	**11**
14	**Public Consultation leaflet 2023 (A4 version)**	**12a**
15	**Public Consultation Questionnaire 2023 (A4 version)**	**12b**
16	**TBTF Financing the Crossings 2023 - Consultation Results Report**	**13**
17	**TBTFJC Meeting 8 December 2023 Future Financing Report**	**14a**
18	**TBTFJC Meeting 8 December 2023 Future Financing Report app 4**	**14b**
19	**TBTFJC Meeting 8 December 2023 Future Financing Report app 5 supplementary**	**14c**
20	**TBTFJC Meeting 8 December 2023 Minutes**	**15**
21	**Income Expenditure Forecast 2024-2040 with Revision (table)**	**16**
22	**Income Expenditure Forecast 2024-2040 with Revision (graph)**	**17**
23	**Bridge All Class cash tolls - comparison with other crossings**	**18**
24	**Ferry All Class cash tolls - comparison with other crossings**	**19**
25	**Illustrative toll increases with RPI datum mar10 to Feb 24**	**20**

TOLL REVISION APPLICATION
By
TAMAR BRIDGE AND TORPOINT FERRY JOINT COMMITTEE

Transport Charges & (Miscellaneous Provisions) Act 1954

Tamar Bridge Acts 1957 to 1998

REBUTTAL STATEMENT

In respect of the Tamar Bridge and Torpoint Ferry

Planning Inspectorate Reference: DPI/N1160/24/12

1. INTRODUCTION

This Statement relates to an application made by the Tamar Bridge and Torpoint Ferry Joint Committee (TBTFJC) to the Secretary of State for Transport for authority to increase the toll charges.
As would be expected, a number of objections have been received.
Although the TBTFJC has responded to many individual complainants, to further assist the Inquiry an overall response to the complaints received, which focuses on the key themes, is set out, below.

2. EFFECTS OF COVID AND TRAFFIC REDUCTION

The impact of Covid on traffic and revenue is questioned, but its undoubted legacy has clearly been evidenced as part of the application. Indeed, the contemporary baseline version of the financial model without toll revision is represented in tabular form at Appendix 9 and graphically at Appendix 10. Quite simply, income forecasting was perceived as a low- risk element of the undertaking's financial modelling as a result of stable and predictable traffic levels, but this changed radically when the pandemic took hold. Covid has clearly been the most significant single factor that has reduced income. Traffic levels are still only approximately 90% of pre- Covid levels and these levels have now been relatively stable for 17 months; due, most likely, to long- term changes in working arrangements and an increase in home and remote working and decrease in essential journeys into offices, and increased use of home deliveries.

3. INEFFICIENT MANAGEMENT

It is claimed by objectors that traffic has dropped by just under 9%, whilst revenue has increased by 58% over 6 years. Accordingly, the efficiency of management has come under attack, with four high level expenditures being specifically criticised (despite three of them actually being capital projects, where costs will be spread over time); each of which will be addressed in turn:

i. Toll Booth Replacement

These assets are 18 years old and have reached a stage where water ingress has become problematic and this is already affecting service delivery. Repairs in situ are disruptive to operations, so a process is underway whereby a new booth is fitted out offsite and then swapped with an existing booth, which will then be refurbished and fitted out offsite and exchanged with another existing booth. This process will be repeated until the sixth booth is replaced. This is the most cost-effective and least disruptive methodology. While the undertaking does have the aspiration to move to open road tolling, without toll booths, it will take several years to achieve that and this work is therefore essential.

ii. The Learning Centre

It is suggested that this is a luxury facility that is not needed. This facility provides significant value to the community and application of social value assessment tools indicates the investment is achieving a 4:1 benefit: cost ratio in terms of social value. The Tamar Bridge Act 1998 Act specifically identifies educational purposes as an authorised expenditure. To put it into perspective, this activity accounts for just 1% of revenue.

iii. Ferry Decarbonisation study

This project fits with the next zero carbon strategies of the parent authorities; both have tasked the TBTFJC to look at this and it supports their aspirations. As an operator, implementing this project at the mid-life of the existing vessels also gives valuable insight into the development of replacement vessels.

iv. Bridge Fire Protection

Major bridge fires elsewhere in the UK and overseas have demonstrated the significant risk posed by vehicle fires and this risk is likely to be escalated by the switch to electric vehicles. Mitigating this risk is essential.

4. COST OF LIVING/ IMPACTS ON LOCAL RESIDENTS & BUSINESSES

Much has been made of unfair additional costs to local residents, who may make numerous local trips across the bridge, due to work, school or health care commitments.

Again, the TBTFJC recognises that for regular users, the proposal adds an additional living expense, but it must be realised that similar increases in the cost of goods and services impacts on the funding of the Tamar Bridge and Torpoint Ferry.

The proposed increase is similar to the increase in RPI cost of living experienced since the last toll increase. If approved by the Secretary of State, the application will mean a cash toll of £3.00 for cars. The discounts for pre-paid crossings using the TamarTag scheme will continue to be 50% of the full toll, resulting in a tag toll for cars and vans of £1.50.

Tolls for other vehicles will broadly increase pro rata, with the exception being an increase of the motorcycle toll charged at Torpoint Ferry, from 50p to £1.00.

The operation, maintenance and improvement of the two crossings is funded from toll income and the cost of delivering a safe, reliable service has already resulted in expenditure exceeding income. Clearly this is not a sustainable position and the increase being sought is essential to ensure the delivery of the service into the future. The crossings operate on a "user-pays" principle and it is considered that this spreads the cost of running the crossings fairly across the range of users.

The readily accessible 50% discount offered for pre-payment, using the TamarTag electronic tolling scheme, is amongst the highest pre-payment

discounts offered by any tolled crossing in the UK. Objectors have suggested giving residents increased advantage: limiting discounts to "locals;" increasing discounts for the same group, ending the toll for locals, applying a low fee based annual pass for the same group or charging non-locals much more. However, there is no discussion about the limitations, such as the administration involved in checking eligibility for "local" benefit, the difficulties in proving eligibility for some (no Council Tax bill, V5 in company name, for instance) or the impact on the current tag customers, who would lose out if more benefit was given to some.

5. SALTASH COUNCIL TAX/ PARKING CHARGES

Whilst the TBTFJC acknowledges that Council Tax and alleged parking charge rises in Saltash serve to place an additional living expense burden on the residents of the town, there can be no direct link between these additional expenses and the funding of the Tamar Bridge and Torpoint Ferry and consequently it would be unfair to cite this as a valid reason to not allow the application being considered.

6. SEVERN RIVER CROSSINGS

A direct comparison has been made with the Severn River Crossings, which, since 17 December 2018, has removed tolls. This is entirely misleading, given that Severn River Crossings is now owned and operated by the UK Government, who have chosen to subsidise crossings. Plymouth City Council and Cornwall Council jointly own and operate the Tamar Bridge and Torpoint Ferry and are not aware of any proposals to change the ownership or funding arrangements currently in place.

7. THE BRIDGE HAS ALREADY PAID FOR ITSELF

Objectors have suggested that tolls were to be abolished on repayment of bridge construction loans. The need for ongoing funding beyond that milestone was recognised in the 1957 Act that allowed the authorities to build the bridge. This is the only documentary record of what it was anticipated should happen after

the original build cost was repaid, with no other record from that time of opposing views from either local or national sources. It does appear that claims of a policy to remove tolls after the build cost had been settled are somewhat of a myth and nothing more substantial.

8. COST OF NEW BRIDGE BUILDING

Objections have continued to refer to the new bridge building, suggesting that it was an unnecessary expense that can be linked directly to a resulting need for a toll increase. This is simply not true.

The building of the new offices and control centre was subject to detailed scrutiny by both parent authorities (Cornwall and Plymouth Councils), with a robust business case made to both senior officers and Councillors in each authority. There was a clear need to provide an adequate control room for tunnel and bridge operations and to provide adequate space for complex tolling, traffic control and ICT equipment. The previous office building, built as part of the original construction, was structurally failing and did not have the appropriate back-up power and fire suppressant systems. Early advice was taken on commercial options which were not positive, in part because of capacity, access and egress difficulties associated the site. A visitor centre has, however, been opened, with support from the Heritage Lottery Fund.

Arguably, the decision many years ago to build the original facility to an austere brief has had a consequence. The much-improved building is required if the operation of the crossings is to continue into the future as a sustainable operation. In any case, should the build project have not gone ahead, the underlying deficit position would still exist.

9. BRIDGE USERS SUBSIDISE THE FERRY, BUT DO NOT USE IT

Objectors have suggested that it is unfair to expect bridge users to subside a ferry service that they do not use. The bridge and ferry are operated together as a single business unit. Relative tolls at the two crossings were one element of the public consultation exercise in July 2018. The issue as discussed at length

during workshops and at formal meetings. Members decided to retain parity of tolls, which is a position endorsed by the Full Councils of Plymouth and Cornwall. The Inspector's Report which followed the 2010 Public Inquiry associated with our last application to increase tolls recognised that it is within the Committee's powers to make such judgements.

10. TOLLING CAUSES TRAFFIC DELAYS

Objectors have suggested that tolling causes traffic disruption and delays. An intention to minimise queuing has been realised by the very successful TamarTag electronic toll system, which is used for 60% of all tolled crossings and 80% of tolled crossings in peak periods. The geometry of the approach lanes means that most booths must offer manual options, even after the introduction of contactless payment options later this year. Plaza capacity is actually very similar to that of the approach roads.

11. CONCLUSION

Despite various objections having been received, the TBTFJC remains confident that the evidence it has provided as part of this application will serve to reassure the Inspector in terms of why such representations should be afforded only very limited weight when the substantial merits of the application, in its entirety, are considered.

6 September 2024

TOLL REVISION APPLICATION
By
TAMAR BRIDGE AND TORPOINT FERRY
JOINT COMMITTEE

Transport Charges &c (Miscellaneous Provisions) Act 1954

Tamar Bridge Acts 1957 to 1998

PROOF OF EVIDENCE
OF
DAVID LIST

In respect of the Tamar Bridge and Torpoint Ferry

Planning Inspectorate Reference : DPI/N1160/24/12

My name is David List. I have a Bachelor of Science Honours Degree in Civil Engineering and a Masters Degree in Business Administration. I am a Chartered Engineer and a Fellow of the Institution of Civil Engineers, and have 48 years of experience working as a civil engineer and manager. I am the General Manager of the Tamar Bridge and Torpoint Ferry and have been in post for 27 years.

My career started as a graduate engineer with Redditch Development Corporation, gaining experience on a range of civil engineering projects. I achieved Chartered Engineer status at the age of 25, and spent the following 16 years working in Hong Kong on roads, reclamation and bridges projects. I took up my current position in 1997 and have since had overall responsibility for the operation, maintenance and improvement of the two crossings. In my 27 years at Tamar Bridge and Torpoint Ferry I have also undertaken the role of project director for a range of major projects including replacement of the Torpoint Ferries, the introduction of electronic tolling, and the Bridge Office Development.

I am a founding member of the UK Chain and Cable Ferry Forum and also a member of various national forums for bridge operators and toll operators. I am also one of the two appointed Europe representatives on the Permanent Body of the International Cable Supported Bridge Operators' Association.

1. INTRODUCTION

1.1 The Inquiry relates to an application made by the Tamar Bridge and Torpoint Ferry Joint Committee to increase its toll charges.

1.2 The Tamar Bridge and Torpoint Ferry are in public ownership, being owned jointly by Cornwall Council and Plymouth City Council, both unitary authorities. These two authorities appoint members to the Tamar Bridge and Torpoint Ferry Joint Committee (TBTFJC) which acts as the governing board, using powers delegated by the Joint Authorities.

1.3 The Tamar Bridge and Torpoint Ferry Joint Committee is responsible for the operation, maintenance and improvement of the two crossings.

1.4 The Tamar Bridge and Torpoint Ferry are operated together as a joint undertaking on a 'user-pays' principle funded from toll income.

1.5 Both the bridge and the ferry provide access and egress to and from Cornwall and Devon for vehicular traffic, cyclists and pedestrians.

1.6 To date the construction, operation, maintenance and improvement of the crossings have all been financed from toll income, and the toll charges remain amongst the lowest for estuarial crossings in the UK.

1.7 That fact would remain so with the proposed increases.

2. LEGAL FRAMEWORK

2.1 The Tamar Bridge and Torpoint Ferry are administered under the provisions of the Transport Charges & c (Miscellaneous Provisions) Act 1954 (TCMPA), and The Tamar Bridge Acts of 1957 to 1998 inclusive.

2.2 The relevant sections of the TCMPA are as follows:-

- Section 6(1) which states that this section shall apply to any independent statutory undertaking, being (c) a ferry undertaking and (d) an undertaking engaged in the maintenance of a bridge.

- Section 6(2) states that "An application may be made to the Minister at any time –

  (a) by the undertakers or

  (b) by any person, or any body representative of persons, appearing to the Minister to have a substantial interest

  for the revision of any of the charges which the undertakers are for the time being authorised to demand and take in pursuance of any statutory provision; and if on any such application the Minister is satisfied that under the circumstances then existing it is proper so to do, he may, subject to the provisions of this section, make an order revising in such manner as he may think fit, with effect from such date as may be specified in the Order ……."

- Section 6(3) states "In making any order on an application under this section, the Minister shall have regard to the financial position and future prospects of the undertaking and shall not make any revision of charges which in his opinion would be likely to result in the undertaking receiving an annual revenue either substantially less or substantially more than adequate to meet such expenditure on the working, management and maintenance of the undertaking and such other costs, charges and expenses of the undertaking as are properly chargeable to revenue, including reasonable contributions to any reserve, contingency or other fund ……"

2.3 The relevant sections of the Tamar Bridge Act 1979 are:-

- Section 13 which states:

  For Section 43 (Tolls) of the Tamar Bridge Act 1957 there shall be substituted –

43 – (1) The Authorities may demand take and recover in respect of all or any class of traffic crossing the river by the bridge or by the ferry –

(a) in both directions; or
(b) in one direction only;

tolls not exceeding those specified in the Tamar Bridge and Torpoint Ferry Tolls (Revision of Charges) Order 1971, subject to any further orders made under Section 6 of the Transport Charges & c (Miscellaneous Provisions) Act 1954, and for any other services rendered by the Authorities in connection with the bridge or the ferry such reasonable charges as they may think fit; Provided that –

(a) different tolls may be demanded taken and recovered in respect of the bridge and the ferry undertaking respectively;
(b) no tolls shall be demanded or received from any pedestrian using the bridge or ferry.

- Section 14 which states

"For Section 46 of the Tamar Bridge Act 1957 there shall be substituted – (1) The tolls and charges by this Act authorised to be demanded and taken shall be paid to such persons and at such places

(a) on or near the bridge; or
(b) upon or near to the ferry beaches or upon the floating bridges, vessels or boats

and in such manner and under such regulations as the Authorities may appoint

2.4 The relevant sections of the Tamar Bridge Act 1957 as amended are:-

- Section 43(2) which states that "If application is made to the Secretary of State under the Transport Charges & c (Miscellaneous Provisions) Act 1954 for the revision of any tolls or charges which the Authorities are for the time being authorised to demand or take in respect of traffic crossing the river by bridge or by the ferry, the bridge and the ferry shall be regarded as one undertaking for the purpose of Section 6(3) of the said Act of 1954.

- Section 44 which states "Authorities may from time to time provide set up maintain and remove such toll houses toll gates offices and other conveniences in connection with the undertaking as may be necessary or convenient.

- Section 70(1) states that "A Joint Committee of the Authorities shall be appointed under and subject to the provisions of the Local Government Act 1972 relating to Joint Committees and –

  (a) all matters relating to the discharge of the function of the Authorities under this Act shall stand referred to such Joint Committee and

  (b) there shall be delegated to such Joint Committee all the powers of this Act conferred upon the Authorities ……"

3. ASSETS

3.1 Delivery of the service at the two crossings relies on our key assets – the Tamar Bridge and the Torpoint Ferry and their respective associated infrastructure.

Tamar Bridge

3.2 The Tamar Bridge was the first significant post war suspension bridge and at the time of construction was the longest bridge in the UK.

3.3 The Bridge's main span (between towers) is 332 metres and with side span and approach span the whole structure is 642 metres long.

3.4 The original structure was essentially a conventional suspension bridge, symmetrical both longitudinally and laterally, save for the main movement joints being at the west tower.

3.5 Since opening in 1961 the bridge has been maintained to the necessary statutory and industry best practice standards.

3.6 Between 1998 and 2001 the bridge underwent major improvements when it was both strengthened and widened by adding an additional traffic lane and dedicated pedestrian/cycle lane to ensure adequate load carrying capacity for the future.

3.7 The improvement works were undertaken successfully while the crossing remained open to live traffic – a world first. This led to the project winning a British Construction Industry Award in 2002.

3.8 In 2006 the tolling function was upgraded with major refurbishment of the toll plaza, including a new canopy and the introduction of electronic toll collection.

3.9 Over the last three years a range of projects have been completed including suspension system remedial works, LED street lighting and Phase 2 repainting.

3.10 The core issue for the future is continuing to deliver a safe, reliable and efficient service that is able to cope with demand and meet user expectations. In addition to routine maintenance and inspections there will also be cyclical and ad hoc projects in the future. Specific significant activities and projects at the Bridge scheduled over the next four years include supplementary cable works, the next phase of repainting, toll booth refurbishment and fire protection and open road tolling. Our longer

term capital programme over the next 20 years includes a full Bridge repainting programme and resurfacing.

3.11 Engineering issues at the bridge are more specifically dealt with in the Proof of Mr Stephen Baron.

Torpoint Ferry

3.12 There has been a formal ferry service between Torpoint and Devonport since 1791. In 1922 Cornwall County Council took ownership of the ferry operation and in 1957 the ferry crossing became part of the new statutory organisation which was established to build the Tamar Bridge and subsequently operate the two crossings as a single business.

3.13 In 2004/05, the current generation of three vessels replaced craft that were then over 40 years old. The vessels continue to be maintained in compliance with Lloyds Classification requirements and are certified by the Marine and Coastguard Agency.

3.14 The ferry crossing is the busiest estuarial ferry crossing in the UK, enabling the transit of approximately 2 million vehicle crossings of the Tamar each year and approximately 0.5 million pedestrian crossings annually. The craft operate 24 hours a day, 365 days a year, providing the vital link between Torpoint and the Rame Peninsula with the City of Plymouth. This 24 hour operation is considered essential to provide links from south-east Cornwall with a range of services particularly medical services at Derriford Hospital.

3.15 As at the bridge, the core issue for the future at the ferry is continuing to deliver a safe, reliable and efficient service that is able to cope with demand and meet user expectations. As at the Bridge, in addition to routine maintenance and inspections there will also be cyclical and ad hoc projects in the future. Specific significant activities and projects scheduled over the coming years include refits for each vessel every five years to stay in Class and meet the requirements of the Maritime and Coastguard

Agency, chain gantry replacement, ferry decarbonisation, upgrade of the ferry marshalling areas and in due course replacement of the vessels, which is likely to be around 2035.

3.16 Engineering issues at the ferry are more specifically dealt with in the Proof of Mr Tim Hope.

4. BACKGROUND

4.1 The TBTFJC monitors the financial position of the undertaking on a continuous basis, including forecasting of income and expenditure, and present reports on the financial position to quarterly meetings of the TBTFJC. Other than a brief period of borrowing from the Joint Authorities in 2000 and 2001, the Joint Authorities have held modest reserves in relation to the undertaking since the completion of the major project to strengthen and widen the Tamar Bridge in 2001. The history of the undertaking's income, expenditure and reserves since 1996 is illustrated in tabular and graphical form at Appendices 1 and 2. In addition, the latest three years of the undertaking's audited accounts (2020/21,2021/22 and 2022/23) are attached at Appendices 3a, b and c. A history of toll increases since 1982 is shown at Appendix 4.

Unforeseen Changes to Financial Model

4.2 The organisation maintains a contemporary financial model which looks ahead as far as 2050 and is used as a tool to monitor and forecast financial sustainability. This model is reviewed and updated on a regular basis. The short-term model is considered by TBTFJC at quarterly meetings and the longer-term model at *ad hoc* finance workshops.

4.3 Our previous toll revision application was submitted in April 2022. At that time our reserves were already depleting, and we reduced the discount on our pre-paid TamarTag tolls in May 2022 to generate additional income, pending approval to increase cash tolls. Secretary of State approval for increases to cash tolls was gained in November 2022 and cash tolls were

increased in January 2023, and pre-paid discount levels then reverted to 50% of cash tolls. At the time of the last application in April 2022, the next toll increase was not forecasted to be needed until as late as 2034/35.

4.4 That forecasting made key assumptions which at the time seemed prudent:

- cost inflation of 3.5% during financial year 2022/23, reducing to 3% in the short-term before returning to the 2% level targeted by the Bank of England in the long-term
- salary budgets would increase at no more than 0.5% more than assumed cost inflation
- traffic levels would increase to 90% of pre-Covid levels during 2022 and, revert to 100% of pre-Covid volumes by April 2025

However, these have proven inaccurate for various geo-political, economic and business reasons which are clearly beyond our control.

4.5 With regard to cost inflation, the commencement of the war in Ukraine in 2022 triggered very high cost inflation in energy prices in particular, and goods and services in general.

4.6 With regard to salary budgets, Local]Government pay awards have also been higher than anticipated adding significantly to our payroll costs.

4.7 With regard to traffic levels, historically volumes used to be reasonably predictable as shown in Appendix 5, but we have not seen a return to pre-Covid levels, with traffic fairly stable for over 17 months at around 90% of pre-Covid levels. This can be seen graphically at Appendix 6. There is no evidence that can reliably support an assumption of traffic levels increasing in the foreseeable future. We believe that there have been long-term shifts in user travel behaviour due to increased home working and more home shopping deliveries, for instance; all against a backdrop of the general downturn in the national economy. This differential between

the 2022 traffic forecast and current forecasts represents approximately £1.6m per annum of previously anticipated income.

4.8 An additional overarching factor is that between April 2022 and Autumn 2023 the RPI rose very significantly, with annual inflation peaking at 14%. Unsurprisingly therefore we have seen significant increases in virtually every element of the costs in operating maintaining and improving the crossings.

4.9 Since the previous toll revision application, we have monitored key parameters very carefully to ensure that our financial model remains contemporary. By the beginning of 2023 it was already apparent that there was a developing risk that we would be operating in annual deficit from financial year 2023/24 onwards, depleting our modest reserves.

Local Partnerships Report

4.10 Within the same timeframe, in September 2022 the parent authorities commissioned consultant Local Partnerships (LP) to undertake an independent review of the crossings.

4.11 Key issues covered in the LP Report include:

- finance stability
- the role of national Government
- the role of National Highways
- strategic regional context
- long term sustainability
- climate Change
- carbon reduction
- governance
- local economies
- Transport Strategy – Public and River

4.12 The wider aim of the review was to provide assurance over the current operations and advice around TBTFJC's future activities and how those could be delivered.

Specifically, LP were asked to focus on:

- the efficiency and effectiveness of the current operating model
- an alternative approach to effecting toll increases
- the long-term financial future of the crossings.

The LP report can be found at Appendix 7.

4.13 The report found that the Tamar Crossings organisation is fit for purpose but supported the need to re-baseline toll levels and pursue indexation of tolls to ensure a sustainable financial future. Based on the report's findings and recommendations a sub-group of TBTFJC has been established to develop a forward strategy, and the Tamar 2050 Programme detailed below was established.

Tamar 2050 Programme

4.14 Historically the undertaking has maintained a four-year Strategic Plan supported by annual Business Plans. The most recent Strategic Plan covered the period 2018-2022 but in late 2021 a decision was made to defer the production of the next Strategic Plan until some consultancy work had been done to inform the way forward, namely the LP work detailed above. In October 2023 TBTFJC created a Strategic Sub-Group working on the next Strategic Plan which is anticipated to be finalised later this year. In the meantime, annual Business Plans have been produced and the latest of those for 2024/25 is attached at Appendix 8.

4.15 As a result of the LP Report recommendations and the undertaking's own initiatives, a programme of priority areas has been developed – the Tamar 2050 Programme - A programme of Transformation and Modernisation. This programme has the following nine elements and forms part of the undertaking's Business Plan:

- a transformational and efficient operation
- optimising income
- growing and investing in local talent and celebrating Science, Technology, Engineering, Mathematics and Medicine
- technology to improve effective toll operation
- political, business and local engagement – improving our connections with stakeholders
- keeping toll prices low and providing toll price certainty
- free-flow tolling
- carbon neutral ferry operations
- improved Tamar connectivity and access – the bigger picture

each with a specified timeframe. More detail on the Tamar 2050 Programme can be found within the Business Plan at Appendix 8.

4. JUSTIFICATION FOR TOLL REVISION

5.1 Financial sustainability is essential for the long-term resilient delivery of safe, reliable and efficient crossings. A regularly updated contemporary financial model is maintained not only for monitoring but also as a tool for considering tolling strategy options. The model uses detailed forecasts of income and expenditure over the medium term and makes higher level assumptions up to 2050, this horizon going beyond the procurement of another generation of Torpoint Ferries – the single largest capital project currently foreseen in the next 25 years.

5.2 The contemporary baseline version of the financial model without toll revision is represented graphically at Appendix 9 and in tabular form at Appendix 10. This shows the decline in reserves, going into a deficit position by the end of financial year 2025/26, and unacceptably low reserves at the end of this financial year 2024/25. The model incorporates some key elements and assumptions in respect of income, expenditure and reserves as detailed below.

5.3 It should be noted that the undertaking continuously closely monitors and updates its financial model, and since the time of this application many individual elements of the model have been updated to accurately reflect actual circumstances. It should also be noted that none of those changes have been fundamental or significant, and they have not had any material effect on the business case. For the purposes of consistency this evidence refers to the data provided within the toll application.

Income

5.4 The undertaking's income is almost completely derived from toll income, associated pre-payment account fees and non-payment penalty charges. Some income is received from other sources:

- National Highways – for the operation of the Saltash Tunnel element of the tidal flow traffic management system, and associated vehicle recovery services
- wayleaves – for telecommunications facilities on or crossing the Bridge
- advertising boards on the Ferries
- lease income from land north of the ferry at Torpoint
- coffee concession at the Bridge (mobile kiosk)
- charges for learning centre activities and tours

These total around £1.17m in the current year, equating to 7% of total income. Further commercial opportunities are being investigated, but based on previous investigations there is no likelihood that any potential proceeds would affect the need for a toll revision or its magnitude.

5.5 For decades leading up to 2020, income forecasting was historically perceived as a low-risk element of the undertaking's financial modelling as a result of very stable and predictable traffic levels, but this stability was radically changed by the Covid pandemic.

5.6 The most significant single factor that has impacted the financial model since 2020 has been the reduction in income as a result of the pandemic.

Now, four years after the first lockdown, traffic levels are still only approximately 90% of pre-Covid levels, and as stated above these levels have been relatively stable for the last 17 months and there is no evidence that can reliably support an assumption of traffic levels increasing in the foreseeable future.

5.7 Public consultation feedback (covered in more detail below) has also indicated that a significant percentage of users foresee a long-term shift in the number of crossings that they make as a result of factors such as increased home working, and this response supports the adoption of a conservative approach to traffic recovery forecasting. There is no indication that traffic levels will return to pre-Covid levels in the medium term, and therefore the financial model now incorporates static traffic levels going forward.

5.8 Income is a function of traffic levels in the various toll classes and the prevailing toll structure. It has been assumed that the percentages of traffic in the various toll classes will not change, and it has also been assumed that the percentage of users that get discounted tolls through pre-payment will also remain unchanged.

Revenue Expenditure

5.9 In response to the changes in the external operating environment, workshops for TBTFJC Members and officers took place on 10 February 2023 and 5 June 2023, providing Members with greater detail of the financial position and the options available to stabilise the organisation's finances. The workshops included a review of expenditure and the related impact of significant cost reductions on the levels and resilience of service provision.

5.10 Following a review of potential service level reductions, primarily at the Ferry, it has been determined that any significant savings could only be achieved by disproportionate reductions in service levels, and that the disbenefits to users far outweighed any savings. The workshops provided a

clear consensus from Members that current service levels should be maintained and that there should be no compromise in maintenance standards or resilience.

5.11 Inflationary pressures continue to affect revenue costs particularly in respect of fuel and energy. The following inflationary and interest assumptions have been used in the financial model:

Rates	**2024/25**	**2025/26**	**2026/27**	**2027/28 and beyond**
Pay Inflation	3.00%	2.00%	2.00%	2.00%
Inflation (other)	3.30%	2.20%	1.50%	1.50%
Interest (Receivable)	1.00%	1.00%	1.00%	1.00%
Interest (Payable) existing borrowing	4.65%	4.65%	4.65%	4.65%
Interest (Payable) new borrowing	3.38%	3.38%	3.38%	3.38%

Capital Expenditure

5.12 Both the Tamar Bridge and the Torpoint Ferry fleet are mid-life, and the undertaking continues to invest significantly in essential capital projects to optimise the service lives of the assets and thereby ensure resilient long-term service delivery. These capital projects are funded by borrowing, generally over 25 years. Recently completed projects include:

- Tamar Bridge Rocker Remedial Works Phase 1 - 2023
- Tamar Bridge LED Lighting - 2023
- Tamar Bridge Suspension System Remedial Works - 2023
- Tamar Bridge Protective Coating Phase 2 - finished 2021

- Tamar Bridge Resurfacing - finished 2021
- Torpoint Ferry Plym Refit – 2023 (5 year borrowing)
- Toll system modernisation upgrade – 2023

Together these projects represent over £20m of recent investment.

5.13 Future capital projects over the coming years have been reviewed and all remain essential, and these include the following in the next four years:

- Tamar Bridge Supplementary Cable Works
- Tamar Bridge Protective Coating Phase 3
- Tamar Bridge Toll Booth Replacement
- Torpoint Ferry Office and Workshop Refurbishment
- Torpoint Ferry Chain Gantry Replacement
- Torpoint Ferry Tamar and Lynher Refits 2024-25 (5 year borrowing)
- Torpoint Ferry Decarbonisation

Together these represent approximately £16m of essential future investment.

Reserves

5.14 The financial model has historically adopted a 'prudential minimum' level of reserves set at £2 million. This level was set over ten years ago and following a recent review it is now considered that £3 million is a more appropriate and realistic minimum level. However, due to the Covid pandemic and inflation, over the past few years toll increases have been unable to restore reserves to that level.

5.15 The financial model is used to ascertain when reserves are expected to drop to an unacceptable level and allow a lead time before that forecast date to undertake internal processes and the statutory toll revision process. Without any intervention, the current financial model forecasts reserve levels as shown in the table below:

forecast end-of-year reserves position £m				
2024/25	**2025/26**	**2026/27**	**2027/28**	**2028/29**
+0.506	**-1.196**	**-3.151**	**-5.236**	**-7.313**

5.16 TBTFJC has limited funds for investment, consisting predominantly of the modest reserves balance which is now decreasing rapidly. These funds have been deposited with Cornwall Council, which manages those funds. For budgeting and modelling purposes, it has been assumed that the very limited investment returns available through secure deposit and investment will continue.

5.17 Further detail on the undertaking's financial position is provided in the Proof of Mrs Geraldine Baker.

6 PROPOSED TOLL REVISION

6.1 As mentioned above, workshops for Joint Committee Members and officers took place on 10 February 2023 and 5 June 2023 providing Members with greater detail of the financial position and the options available to stabilise the organisation's finances. The financial model was used by members and officers at these workshops to explore various options:

- overall toll levels
- timing of toll revision elements – i.e. tag and cash
- discount rates for pre-payment
- vehicle classifications
- differential charging by time of day or season
- relative toll levels at the two crossings
- emissions based tariffs/discounts

6.2 At the meeting of TBTFJC on 7 September 2023 Members considered a report on future financing, with the report detailing five toll revision options including the 'do nothing' option. All of the toll revision options assumed that any increases would apply to all vehicle classes as uniform

percentages. That report can be found at Appendix 11. It was recommended by officers that Members determine a preferred toll revision option at that meeting to resolve the financial situation and undertake public consultation on that preferred option. However, Members chose to undertake public consultation on all five options and consider feedback at the next TBTFJC meeting on 8 December 2023 with a view to identifying a preferred option.

Public Consultation

6.3 Having established the additional income required to provide financial resilience, TBTFJC undertook comprehensive public consultation from 7-31 October 2023 to:

- explain to users and other stakeholders the general financial position
- explain why and when it was planned to increase tolls
- gather views on current and alternative tolling structures
- gather views on post-Covid travel behaviour

6.4 A total of approximately 31,000 users were actively approached at both crossings on Saturday 7 October and Tuesday 10 October to participate in the exercise. This established methodology provided feedback from a representative sample of those using the crossings. Responses were received from 3,173 of those directly contacted equating to a 10% response rate. A further 4,003 responses were received via the online survey available to the general public. Together the 7,179 responses provide a statistically reliable sample. Additional exercises took place during the period to sample pedestrian and cyclist users, and to invite feedback from key stakeholders, including significant business users, emergency services, MPs, transport authorities, user groups, local parish and town Councils, motoring and business interest groups. The questionnaire was also made available at offices and links to the online version of the questionnaire were provided on the Crossings' website. A copy of the explanatory leaflet and questionnaire are attached as Appendix 12a and 12b.

6.5 The overall number of responses was 7,179, which is more than double that of the previous exercise undertaken in 2022. Analysis of originating postcodes indicates that higher percentages of respondents listed a Saltash (PL12) or Torpoint (PL11) postcode compared to 2022 but there were lower percentages participating from postcodes associated with the city of Plymouth City than was the case in the earlier exercise.

The key areas generating the vast majority of responses were:

City of Plymouth	1,272 (20.3%)
Cornwall	4,509 (72.1%)

Within the 4,509 respondents from Cornwall the breakdown was as follows:

Former Caradon District (incl. areas below)	3,970 (63.5%)
Torpoint/Rame	649 (10.4%)
Saltash	1,980 (31.7%)

6.6 The key headlines from the public consultation report are as follows:

- 57% of respondents wanted no change in tolls, although the percentage of tag users making that choice dropped to 42% (ie a majority of tag users recognised that some increase was required).

- 19% indicated they wanted to increase bridge tolls for cars to £3.00 cash and £1.50 tag and ferry tolls to £4.00 cash and £2.00 tag with corresponding increases for other tolls.

- 14% opted for a £3.00 cash and £1.50 tag option without supplements at the ferry.

- 6% opted for the £3.20 cash/£1.60 tag option and the remaining 4% for the option with a reduced discount percentage.

- more respondents (44%) were in favour of increasing the TamarTag discount than favoured keeping the current 50% rate (42% of respondents) - this is a shift in view from 2022 when the largest percentage (47%) favoured current arrangements.

- a majority (56%) wanted charges to be higher at the ferry than the bridge - this reflects an ongoing shift, and a 6% shift since 2022.

- a majority (53%) were in favour of keeping the existing differentials between cars and larger vehicles which is a change from 2022 when the majority (56%) were in favour of increasing the differential.

- 63% of respondents were not in favour of differential tolls at different times of the day or week which is 1% more than was the case in 2022.

- the majority view (75%) was against lowering charges for low emissions vehicles, a slightly higher figure than in 2022.

- 20% of users indicated that their travel patterns would permanently change in the near future - of that group, 57% indicated that the change would result in fewer crossings.

- 56% of respondents offered comments, the most common categories being:

  no price increase/price decrease
  pursue central government for support
  lower charges for locals, higher charges for visitors
  abolish tolls

6.6 Commentary received was at a similar level to that received in the 2022 public consultation and raised similar themes. The number of email comments received was lower than those seen in previous exercises, but comments made very much reflected those made via questionnaires.

6.7 Details of the public consultation and its findings can be found at Appendix 13.

7 FINALISATION OF PROPOSED TOLL REVISION

7.1 Between September and December 2023, officers closely monitored the financial position and updated the financial model. At the TBTFJC meeting on 8 December 2023 officers presented a Future Financing report that

recommended a toll revision based on private car tolls of £3.20 cash and £1.60 for pre-paid TamarTag crossings. That report can be found at Appendix 14a, b and c. Following consideration of the public consultation findings and extensive debate, Members voted against the officers' recommendation, by the Chairman exercising his 'casting vote'. By way of majority vote, an application based on lower toll levels with private car tolls of £3.00 cash and £1.50 for pre-paid TamarTag crossings was approved. This option, representing a 15.4% increase in toll levels, provides a lower level of financial resilience than that proposed by officers, but gives greater recognition to the impact on users. Details of the preferred option's proposed toll levels for all vehicle classes are set out in the Notice of Application to Revise Tolls at Appendix 21. Minutes of the 8 December 2023 meeting recording TBTFJC's decision can be found at Appendix 15.

7.2 Due to the budgetary implications, the undertaking's governance process requires that TBTFJC's recommendation on toll revision is approved by both Joint Authorities' Full Councils, via their Respective Cabinets. At its meeting on 20 February 2024, Cornwall Council resolved that the application for the proposed toll revision be made on 15 April 2024. The public reports pack and minutes for that meeting can be found at the following links:
Agenda:

https://democracy.cornwall.gov.uk/documents/g12993/Public reports pack 20th-Feb-2024 10.30 Cornwall Council.pdf?T=10

Minutes :
https://democracy.cornwall.gov.uk/documents/g12993/Printed%20minutes%2020th-Feb-2024%2010.30%20Cornwall%20Council.pdf?T=1

At its meeting on 8 March 2024, Plymouth City Council resolved that the application for the proposed toll revision be made on 2 May 2024. The public reports pack and minutes for that meeting can be found at the following links:
Agenda:

https://democracy.plymouth.gov.uk/documents/g10523/Public%20reports%20pack%20Friday%2008-Mar-2024%2014.00%20City%20Council.pdf?T=10

Minutes:

https://democracy.plymouth.gov.uk/ieListMeetings.aspx?CId=276&Year=0

Both resolutions made provisions that where the application is successful but prior to the toll revision being implemented the Government provide funding to the Tamar Bridge which can be used to offset expenditure, then the proposed toll increase will either not be implemented or will be decreased in line with that funding (and the 55 day delay in making the application was to provide a window of opportunity within which it was hoped that Government would confirm or otherwise if there were any plans for the provision of funding for the undertaking – no such confirmation has been received).

7.3 The toll revision application assumed implementation on 1 November 2024, and the effect of that option on reserves would be as shown in the table below:

	forecast end-of-year reserves position £m				
	2024/25	**2025/26**	**2026/27**	**2027/28**	**2028/29**
without intervention	**+0.506**	**-1.196**	**-3.151**	**-5.236**	**-7.313**
with proposed revision	**+1.490**	**+2.336**	**+2.730**	**+3.104**	**+3.485**

7.4 The resulting financial model is illustrated in the table and graph at Appendices 16 and 17.

7.5 As can be seen, the proposed increase is forecast to generate only modest reserves and the model indicates that as things stand a further toll increase would be required by 2033. If, however, we were able to apply indexation to tolls then any further increases could be implemented under that mechanism if they become necessary.

7.6 It must be reasonably assumed that the timeline for implementation will not now be met, and it should be noted that any slippage of implementation beyond 1 November 2024 would adversely impact the income side of our financial model by approximately £200,000 per month.

8 COMPARATORS

8.1 The proposed tolls are considered reasonable in comparison with other tolled crossings around the UK. A table comparing Tamar Bridge tolls with those at other tolled fixed crossings is attached at Appendix 18, and a similar table comparing Torpoint Ferry tolls with other tolled inland waterway ferry crossings is attached at Appendix 19.

9 EFFECT ON USERS

9.1 In absolute terms, even with the proposed increase, toll levels are still considered to be relatively low, and a 50% discount scheme using electronic tolling (TamarTag) is accessible to all users willing to pre-pay for crossings with a modest initial pre-payment cost (£30 for an account for a single private vehicle), a monthly account fee of £0.80 and a low minimum threshold of only £10 of maintenance "top up" the account if paid online (£15 by other methods). TBTFJC believes that this discount level provides an appropriate balance between cash and pre-paid tolling taking into account the demographics of the crossings and the reliance on local facilities and employment for local people. This scheme is widely used with approximately 60% of crossings paid through this means.

9.2 Both the Bridge and the Ferry charge in one direction only, so a daily commuter using a TamarTag account to pay for a private car for five return

crossings per week at either crossing would incur additional weekly expenditure of £1.00 as a result of the proposed toll revision.

9.3 With regard to users and other stakeholders, one of the key elements of the Tamar 2050 programme is improved engagement. We have met with TTAG - Tamar Toll Action Group - as part of that improved engagement, and a wider catchment forum is being established in the coming months.

10 INDEXATION

10.1 TBTFJC is continuing in its pursuit of indexation of tolls for the very reasons that the Department for Transport (DfT) consulted on the subject over a decade ago, although at that time no action was taken by DfT. Indexation would facilitate the implementation of smaller more frequent increases in line with inflation, allowing users to plan their transport costs more easily, and provide Tamar Crossings with additional resilience against inflation, such as that recently experienced. If for example we had been authorised to apply indexation to tolls based on RPI since March 2010, the current toll level would still be at its current level of £2.60 but users would have experienced smaller increases and we would have had over £14m more income based on rounding down to the nearest 10p, and we would not be needing this proposed increase. If we had been allowed to round up to the nearest 10p then that extra income would have been over £19m. This example is illustrated at Appendix 20.

10.2 Our aim is to get indexation in place in the next few years and hopefully obviate the need for another toll revision application under the current procedure. The Joint Authorities are in the process of establishing support from local MPs in this respect.

11 FUNDING SUPPORT SOUGHT FROM GOVERNMENT

11.1 For at least the last four years TBTFJC Joint Chairmen and/or the Portfolio Holders of the Joint Authorities have pursued the UK Government for funding support for the crossings. Clearly had that support funding been

forthcoming the undertaking's financial position would have improved and the proposed toll increases could have been reduced or deferred.

11.2 In addition, the south-west's sub-national transport body, Peninsula Transport, is seeking funding from the Department for Transport on behalf of both parent authorities through two of its investment strategies – the third road investment strategy RIS3 and the next phase of the Major Roads Network programme MRN2. The former MP for South-East Cornwall Mrs Sheryll Murray MP also pursued such funding, supported by her fellow former MP, Mr Johnny Mercer MP.

11.3 TBTFJC and the Joint Authorities remain committed to the pursuit of support funding from the UK Government, which if obtained would moderate or obviate the proposed toll revision. This commitment was reinforced at the meeting of TBTFJC on 19 March 2024.

12 CONCLUSION

12.1 The TBTFJC recognises that any increase in tolls is unwelcome, but the unforeseen changes to both our income and our costs, both of which have been driven by external factors, are a reality that we have had to address in order to continue delivering a safe, reliable and efficient service. It is considered that the proposed toll increase is essential to meet forecast expenditure, and that this application incorporates the necessary justification and the associated financial and other information necessary to support that toll revision.

12.2 The effect of the proposed increases on a commuting car driver willing to pre-pay the modest advance payment and account fees for a pre-payment account and doing return crossings five times a week would be additional expenditure of £1.00 a week.

12.3 Even with the proposed increases the cash tolls would remain amongst the cheapest in the UK for self-funded estuarial crossings. With our readily accessible prepaid 50% discount scheme the revised tolls would be

significantly cheaper than on any other self-funded major estuarial crossing in the UK – and unsurprisingly nearly 60% of our crossings are paid by this means.

12.4 If the proposed toll revision is not authorised our current service levels would need to be reviewed with reduction a likely outcome, and essential asset maintenance might have to be compromised thereby threatening asset life and the long-term viability of service delivery.

TOLL REVISION APPLICATION
by
TAMAR BRIDGE AND TORPOINT FERRY JOINT COMMITTEE

Transport Charges & (Miscellaneous Provisions) Act 1954

Tamar Bridge Acts 1957 to 1998

PROOF OF EVIDENCE OF TIM HOPE and SIMON POTTER

In respect of the Tamar Bridge and Torpoint Ferry

Planning Inspectorate Ref: DPI/N1160/24/12

1. Introduction

The Torpoint ferry service is one of the two elements of the Tamar Crossings which is jointly owned and operated by Plymouth City Council and Cornwall County Council through the Tamar Bridge and Torpoint Ferry Joint Committee, the other of which is the Tamar Bridge, operates 24 hours/day and 365 days/year, with either one, two or three ferries running at any one time, on a schedule that is designed to meet traffic demand.

A service has been in place on this route between Torpoint in Cornwall and Devonport in Devon since 1791. The current fifth-generation fleet of double ended Roll on/roll off and Passenger (RoPax) chain ferries were commissioned by Fergusons shipyard over 2004 and 2005.

The Tamar Crossings are operated within the bounds of the Tamar Bridge Acts 1957 to 1998.

Tamar Crossings continues to plan for the longer term through the approach laid out in the Strategic Plan 2018 to 2022 and its mission, values and success criteria.

1.1. Structure of this Proof

In this Proof of Evidence we shall review the following technical areas:

- The long-term maintenance regime for the fleet of three 73 metre double ended Torpoint ferries that entered service in 2004/2005 comprising: Plym II, Tamar II and Lynher II.
- The associated budget forecast, provided for our consideration by Tamar Crossings.
- The potential impact of the Tamar 2050 programme on the Torpoint Ferries.

1.2. Expert Witness

Established in the 1840s, Houlder has been closely associated with the marine and ship building industry ever since.

Houlder is a consultancy business founded on naval architecture and marine engineering, providing practical industry expertise to clients worldwide. We advise, design, engineer and implement solutions to the current challenges of the energy transition, the shift away from fossil fuels towards cleaner energy in the marine sector, in particular the decarbonisation of ships and shipping and cleanly exploiting offshore resources. We are specialists in engineering design, clean technology and technical consultancy for the marine and offshore environments. Houlder has a proven track record of supporting specialist vessel newbuild and refit procurement in both the public and private sector. Our ongoing work includes design and engineering support to commercial shipping companies and government clients such as Isle of Man Shipping Company, Wightlink, British Antarctic Survey, Shell and the UK Ministry of Defence for two major shipbuilding projects, the new Fleet Solid Support ships and the Type 31 General Purpose Frigate.

This Proof was prepared by Tim Hope and Simon Potter, both of Houlder Ltd. Tim Hope is a Principal Naval Architect and has over twenty five years' experience in the design, build, operation and maintenance of a range of vessels, including several chain ferries. Simon Potter, also a Naval Architect, currently holds the role of Director, Sustainability Advisory has over twenty five years' experience in the design, build, operation and maintenance of a range of vessels.

1.3. References

[1] Toll Revision Application - Proof of Evidence 2019.
[2] Tamar Bridge and Torpoint Ferry Strategic plan 2018-2022.
[3] Tamar Bridge and Torpoint Ferry Joint Committee 2024-2025 Annual Business Plan.

2. Operations and Maintenance Regime

2.1. Tamar Crossings approach

The Torpoint ferry service operates 24 hours/day and 365 days/year, with either one, two or three ferries running at any one time, on a schedule that is designed to meet traffic demand. There is slight seasonal variation of service with 1320 crossings a week in the summer and 1290 in the winter season. If required one

ferry can be taken out of service Monday to Thursday (09:30-14:00) for maintenance purposes and also potentially at the weekends.

The engineering support model used for the Torpoint ferry service is typical of that utilised throughout the marine industry.

Routine maintenance and defect rectification is managed utilising a Computerised Maintenance Management System (CMMS) incorporating a Planned Maintenance System software (PMS) that covers the three ferries and the facilities infrastructure and is undertaken by the Tamar Crossing's ferry technical team of nine suitably qualified and experienced technicians. The Ferry Manager and Ferry Engineering Manager report directly to the General Manager.

The high level of complexity of some of the equipment and systems in the ferries, and the fact that many Original Equipment Manufacturers (OEMs) do not release the level of technical data required for equipment operators and maintainers to diagnose and rectify certain defects, necessitates Tamar Crossings' direct engagement with OEMs to service and repair these systems.

The ferries are refitted every five years to enable the completion of tasks that require the ferries to be dry-docked and also to enable the completion of the Lloyds Register (LR) Bottom and Special Surveys.

As per the strategic goal, the overall intent is that maintenance programmes are designed to ensure that assets achieve the maximum achievable lifespan and continue to provide appropriate service to contemporary standards and expectations. An appropriately conservative approach is taken towards routine maintenance, given the appreciation of the impact of any unreliability in service. Major projects are structured in such a way that the impact on users is minimised, whilst maintaining value for money and accounting for safety considerations.

2.2. Surveys and Inspections

The ferry fleet are kept 'in Class' with Lloyd's Register (LR) and are also inspected annually by the Maritime and Coastguard Agency (MCA). It should be noted there is no statutory requirement for the ferries to be in class and that the MCA's 'Code of Practice for the construction, machinery, equipment, stability and operation of Chain/wire ferries acting as a Floating Bridge, carrying passengers and vehicles' is adopted by the chain ferry operators across UK on a voluntary basis. Engagement with these two organisations gives Tamar Crossings an independent third party assessment and assurance that the ferries are both materially sound, and that they are being operated safely.

The surveys completed by LR are as follows:

2.3. Full Survey

- Annual Survey – conducted afloat.
- Intermediate/In Water survey – conducted mid-way between refits utilising divers to inspect the outer bottom of the vessel for structural and coating defects, as well as looking at all sea water inlets and hull appendages.
- Bottom Survey – completed in dry dock every five years.
- Special Survey – normally completed in conjunction with the bottom survey every five years.

2.4. Machinery Inspection

- Continuous inspection of machinery – through periodic planned visits.

2.5. Statutory Requirements

- Marpol VI (Air) – engine emissions checked for compliance.
- The annual survey completed by the MCA that is required to enable issue of the 'Chain Ferry Certificate' includes inspection and demonstration of (among others) the following:
- All fixed and portable fire-fighting systems and equipment.
- Lifesaving equipment including life rafts, flotation devices, throw lines, smoke and flare markers.
- Safe operation of machinery, including operation of the watertight sliding door between the two engine rooms.
- Review of the safety management systems.

2.6. Planned Maintenance

At the highest level of summary, the three ferries are considered structurally sound but are aging, necessitating considerations for electrical obsolescence to be accounted for.

The Currently service reliability is approximately 99% which is in line with organisation's KPI. The last quarter from 4th May to 31st July showed 99 lost trips out of 15,567 which does achieve the 99% reliability target.

The three-ferry service provides a level of operational flexibility, allowing for optimised maintenance benefits. The timetable utilises three main operational profiles; Short, Long and Continuous.
The timetable schedule allows for one ferry maintenance from 9:30 -14:00 Monday to Thursday and there is also opportunity at weekends to remove a ferry from service for maintenance.
Planned maintenance undertaken is designed to both minimise the risk of system and equipment failure and to maximise system and equipment reliability and availability. This has been achieved through the articulation of maintenance tasks done and the periodicity at which these tasks need to be carried out. The execution of tasks is typically carried out by the Ferry Technical Team with the assistance of sub-contractors and OEM staff as appropriate.

2.7 Staffing

The organisational structure at Tamar Crossings is mature and has clear expectations of role requirements and responsibilities for all defined roles.
The Ferry team is split into an operational and a technical team. There is a current apprenticeship scheme in operation to train maintenance and operations technicians.
Key roles around Electrical, Mechanical and Shipwright are maintained in-house along with multiskilled capability to cover the likes of carpentry and plant operations.
It should be noted that there is potentially strong competition from larger local companies such as Babcock International, who can afford to pay higher wages for similar skillsets.

2.8 Scope and Periodicity of Maintenance

Both the scope and periodicity of planned maintenance are normally derived during the design of an item of equipment or a system and recognises the operating environment and context in which the equipment or system is being utilised.

2.8.1 Periodicity

The three main groupings that define when maintenance is completed are:

- Calendar – maintenance based on a given date/time interval, for example, hourly routines through to multi-annual routines.

- Utilisation – maintenance undertaken when a given number of running hours are completed or a number of operational cycles has been reached for a given item of equipment.

- Condition – maintenance completed when a condition parameter is reached, for example, a critical dimension due to general wear and tear has been reached or an item of equipment or system parameter, such as a pump discharge pressure or bearing vibration reaching a level that is operationally unacceptable.

Tamar Crossings technical staff undertake the planned preventative maintenance as described above effectively and efficiently, and constantly review the maintenance to ensure the scope and periodicity of maintenance is appropriate and delivered in a cost effective manner to assure the resilience of this important service. It is also considered that the utilisation of OEMs is essential, appropriate and cost effective, in the provision of support to particular, specialist and complex, systems and equipment.

2.9 Preventative maintenance

Current maintenance campaigns include 40,000 hourly overhaul on the diesel engines. Three have been completed so far, with one more scheduled in the near future. This does not cause a disruption to service as the ferries do not require all installed diesel generators to be running to meet the required propulsion and hotel loads.

Maintaining the chains is a major ongoing task. Replacement chains are scheduled every three years, with one set being replaced each year. This is a good example demonstrating how the Ferry Team augment their own skills with temporary expertise, in this case extra dockyard riggers, to enable self-installation to be carried out for each 650 metre chain.

2.10 Continuous improvements and updates

As part of the drive to manage reliability and obsolescence there is a systematic approach to appropriate and timely upgrade works to improves safety, welfare, operability, regulatory compliance and efficiency.

2.10.1 Known Issues

The location of the crossing route between Torpoint and Devonport does bring about a number of operational challenges.

River and tidal flows as well as waters containing debris can cause cooling issues through fouling and blockages.

Noise emissions are always of concern, particularly with regard to noise in the chain tunnels through passage of the chain and also the ramp landings on the slipways. Workable and practical solutions for both continue to be sought.

Operability of the onboard Sewage Treatment Plants (STP) is an ongoing issue as the volume of biomass in the system is insufficient.

2.10.2 Modifications

There is an ongoing programme of modifications being carried out, primarily to improve safety, efficiency and operability including as examples:

A. Safety
   - Stairs – to improve passenger exterior deck access.
   - Access to prow arms for safe maintenance when working at height.
   - EV Battery Fires on board – working with the Fire Brigade on procedures.

B. Efficiency
   - Sea Chests - Cooling water flow efficiency improvement. Strainer reconfigured with holes. rather than slots plus deflector plates to help keep debris clear.
   - IT Network improvements - Wireless connectivity for tolling.

- Sheave improvements - torque correctly, correct grease, managing max wear proactively.

C. Operability

- Smoothing deck upstands to minimise risk of car damage.
- Seating – replacing wooden slats with long lifespan recycled composite material.
- Disability access - internal doors swing both ways.
- HVAC updates for welfare and habitability in crew working spaces.

2.10.3 Upgrades

Upgrades are more definitive changes and usually replacements of equipment being made to the ferries and supporting infrastructure to improve system resilience, future operability and reliability and to ensure ongoing compliance.

Onboard

- Drive system component obsolescence & upgrades.
- Macerator refurbishment.
- Fuel sampling Upgrade - Driven by class to be possible at each engine not just centrally.
- Voith drive wheel coupling.
- Reinforcement of chain tunnels.

Ashore

- Shoreside Weight Gantries.

2.11 Reactive Maintenance and Repairs

Reactive maintenance is occasionally required, for example, two incidents have occurred over the last 2 years requiring a ferry to be out of service for 3-4 days to undertake repair.

A recent incident involved a chain becoming dislodged from a sheave, causing significant damage to both the sheave and its support structure. As a result, the ferry was out of service for six hours.

2.12 Refits

There is a requirement to place each ferry in a dry-dock every five years to complete the scheduled survey and refit regime. Currently, there are three locations on the UK south coast with dry-docking facilities large enough to accommodate the length and breadth of the Torpoint ferries:

- Babcock International, Devonport.
- BAE, Portsmouth.
- A&P, Falmouth.

Both of the former are Royal Navy facilities and neither has tendered for the recent refits during an open tender procurement exercise. The only tenderer was A&P Falmouth and following extensive scrutiny of their response to tender and pre-contract award meetings by Tamar Crossings, A&P Falmouth were again awarded the current three ferry refit package which runs through to 2025.

It should be noted that the next closest dry-dock facilities would be in Swansea and Cherbourg but these alternative facilities have been discounted on the basis of the cost and time of towing each vessel. In addition, these alternative facilities would require careful consideration due to the potential increased exposure to open sea conditions for which these vessels have not been designed and the risk of a vessel being weather bound which would impact the service.

The process that Tamar Crossings use to produce the refit specification has been reviewed and found to be thorough and appropriate. The process involved review of the previous refit specification with the addition of any lessons identified, as well as inclusion of work arising from known issues and defects on each particular ferry at the time of compiling the specification.

Potential obsolescence issues have been addressed at refit with the replacement of older equipment and systems that cannot be completed with the facilities at Torpoint.

The cycle of refits that are currently being undertaken are the mid-life refits and are the second as part of the five yearly cycle now permitted by LR survey

requirements (the refit periodicity was previously required by LR every three years).

In addition to the 'standard' major dry-dock related tasks of survey and recoating of the outer bottom, inspection and overhaul of hull valves, and replacement of cathodic protection systems, the most significant dry-dock dependent work package is the complete overhaul of the vessel prows. Collectively the ferries complete around 1320 crossings of the river every week which results in the prows being subjected to many more cycles compared to other more conventional ferry installations and have some 2 million vehicles passing over them every year. This means the number of operations and the level of traffic contributes to significant wear and tear to every component of the prow system.

The mid-life refit work packages carried out in the previous refit cycle were significantly greater than any previously undertaken for the fleet. For current and subsequent refit cycles the overriding requirement when making decisions on what to include in the refit work package remains to provide a fleet of vessels that will be in the material state required to operate the service effectively and safely, and to build in resilience of the service for the next five years until the next round of refits. As an example, for the recent Tamar II refit, work was undertaken to replace stairways and deckhead linings, along with improvements for efficiency and operability.

There also remains the option to incorporate decarbonisation ambition in the next cycle of planned refits.

2.13 Stores and Spares

The range and scale of stores and spares held is considered appropriate for completing the planned maintenance tasks in accordance with the stated periodicities, and for timely rectification of defects that have potential to impact on the service. The quantity and value of held parts is significant and does include large items such as major items of the propulsion equipment and bow ramps that have potentially long lead times and high impact on service provisions. Tamar Crossings also review stores and spares held and recognise the evolving issues around availability and supply lead times. The Stores are being upgraded to integrate with the CMMS system

Some suppliers are common with other operators, but Tamar Crossings operate their own procurement strategies.

3 Decarbonisation

Tamar 2050 includes a project commitment to reduce carbon emissions by 2030. A decarbonisation project to look at the feasibility of decarbonising the existing ferry design was completed in 2023. The current ferries are already "electrified" and do have potential space onboard for additional and alternative technologies to be incorporated, including increasing the existing number of solar panels and other means of harvesting electrical energy such as chain braking regeneration. There is certainly opportunity to make progress on reducing ferry energy demands and emissions ahead of vessel replacement and potential to benefit from alignment with other multi-modal public transport systems within the region.

Any additional technology or alternative fuels may bring the requirement for additional staffing skills, a broader supply chain and an increased maintenance burden. There is currently intent to maximise the use of alternative funding opportunities, for example through Innovate UK, to minimise the burden of net zero ambition impacting future financial needs.

4 Environmental

Tamar Crossings continues to be particularly conscious of environmental issues and the need to further minimise the impact of the service on the immediate marine environment and wider community. Some of the key actions that have been implemented and continue to be improved include:

- Review and rationalisation of the paint schemes used on the ferries which are most environmentally friendly within the bounds of the operating context and which also minimise wastage in the application processes. This includes adoption of more environmentally friendly and cleaner water blasting processes when in dry dock

- Continued use of pressure washing instead of brushing to clean the slipways. This has resulted in the reduced use of algaecides to almost minimal levels whilst achieving a better level of cleanliness than previously experienced and hence providing a safer transit to and from the ferries for all of the service users.

- Maintaining momentum to not only remain compliant in disposal of waste but to continue increasing the proportion of waste recycled and minimising that sent to landfill.

Specific policies are followed for the disposal of oils, wood, dry waste, batteries and seaweed for example. Old mooring chains are still upcycled for other purposes once their three year life is completed.

Power generation remains a large part of providing the Torpoint services and the ferries consume around 400,000 litres of diesel a year in operation. Care is already being taken to operate diesel generators as efficiently as possible, improve the smooth running of chain guidance mechanisms, as well as to reduce visible exhaust emissions. Further direct carbon emission reductions are targeted – currently 1008kg per year. There is scope to further increase the use of solar panels on the South facing areas of the ferries.

However, it should not be forgotten, that a well maintained and modern chain ferry remains a very efficient means of moving goods by water and is much more energy efficient than a traditional ferry vessel.

5 Future Outlook

We continue to be in a period of rapid change; post COVID travel; climate change risks; energy transition uncertainty; rapidly increasing technology rollouts and a more informed customer. The long life of the ferries as an asset ensure that further change is likely to occur before we reach planned replacement in the 2030's.

5.1 Capacity

The ferries are currently limited to carrying 18 tonnes by the local road infrastructure limits. This is well below the design specification which requires the ferries to be capable of loading 44 tonne lorries. This means that inherently there is spare capacity to deal with the increased popularity of EV vehicles which tend to be larger and heavier than equivalent internal combustion engine vehicles. This has the added effect of also increasing potential wear on deck structures and in particular deck coatings, not least due to the torque characteristics of electric vehicles.

It should be noted though that overall traffic numbers remain below pre-COVID levels and it is not clear yet when or if we will see a return to previous values.

5.1 Impact of Energy Transition

The energy transition presents at the very least a high level of uncertainty about what the future might bring. We will see a change in customer habits, vehicle types, use patterns and safety hazards. These will all have to be incorporated into the existing ferries. Work has already been done on understanding the impact of battery fires on both passengers and the integrity of the ferry. Other fuels, whether use in vehicles or onboard the ferry may will bring other hazards around toxicity and flammability.

The other impact of the energy transition that will continue to evolve is the regulatory regimes. The drive to get to net zero ferries will increase, as will the need to be joined up with the local energy ecosystem. There is not likely to be a single correct technical solution to achieve a net zero chain ferry but instead decisions will have to be joined up with other stakeholders on the river and in the surrounding regions. The supporting supply chain will have an ever-increasing impact at a corporate level as we seek to understand and address emissions obligations.

5.2 Role of Technology

Many of the solutions going forward will continue to be aimed at transforming the safety, efficiency and operability of the ferry service, be it for tolling or

automation for example, and will rely on implementing new technologies. This will most likely come with increased system complexity and potentially equipment count.

This brings challenges at the human level, both for operations and maintenance as often new skills are needed, with procedures to be written and alternative ways of working adopted. Tamar Crossings already has a significant local social impact and is potentially well positioned to help support the evolution of local skills into the future.

6 Budget Forecasting

The three ferries are currently 20 years into their service lives. The current forecast from 2025 to 2040, shows a mix of standard revenue expenditure on operational maintenance and fuel along with currently planned capital expenditure around the likes of ferry refits, chain upgrades and chain tower and anchor point replacements. Future capital expenditure is predominantly around carbon neutral ambition in the run up to 2030, the next round of 5 yearly refits and then into the replacement ferries 2033 through to 2035 with 2040 taking us into the first refit periods for the sixth-generation ferries.

This forecast does assume a level of business as usual and assumes that the ongoing fuel and maintenance requirement of any chosen decarbonisation opportunities does not fundamentally vary from a cost perspective.

7 Conclusion

Based on the information provided and the issues reviewed, the Torpoint Ferry fleet is maintained to the necessary standards to ensure the vessels remain materially sound and safe. This maintenance satisfies the requirements of LR and the MCA, while also ensuring the resilience of the service across the Tamar River and upholding the values established by the Joint Committee.

There are also preparation works underway to prepare ferry decarbonisation strategy options to align with the stated strategic Tamar Crossings ambitions, including Tamar 2050.

The level of technical expertise and experience is appropriate for the provision of engineering support to a service such as this, and that the management of that support is effective.

Overall, the engineering support management conforms to good industry practice and expenditure to date and forecast expenditure is considered fair and reasonable.

There is a clear awareness of managing obsolescence and enhancing provision for maintaining existing vessels through to planned fleet replacement in 2033 onwards.

The fact that the vessels are already electric propulsion maximises flexibility for adopting near term cleaner energy opportunities and the vessels have plenty of capacity deadweight wise for changes in traffic make up.

The Torpoint Ferry team is committed to maintaining its capabilities through a robust approach that starts with apprenticeships and extends upwards. This ensures they continue to fulfil both their social responsibilities and service provision roles.

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TOLL REVISION APPLICATION
By
TAMAR BRIDGE AND TORPOINT FERRY JOINT COMMITTEE

Transport Charges &c (Miscellaneous Provisions) Act 1954

Tamar Bridge Acts 1957 to 1998

PROOF OF EVIDENCE
OF
STEPHEN BARON

In respect of the Tamar Bridge and Torpoint Ferry

Planning Inspectorate Ref: DPI/N1160/24/12

1.0 INTRODUCTION

1.1 Qualifications and Experience

1.1.1 My name is Stephen Baron. I am a Chartered Civil Engineer and a Member of the Institution of Civil Engineers. I have a Bachelor of Engineering degree from Imperial College, London and Masters degree in Construction Management from Leeds University.

I have over 35 years' experience of bridge design and construction work. I commenced my career in 1987, working for Sir Owen Williams and Partners consulting engineers and remained with the company until 1994, working on highway and light rail transit bridge design and construction supervision.

I was then employed by Cleveland Bridge and Dorman Long Technology for 11 years, between 1995 and 2006, in the role of Project Engineer, working on the construction engineering of major international suspension bridges including Tsing Ma bridge in Hong Kong, Jiangyin bridge in China and the Carquinez bridge in the USA.

In 2006 I joined AECOM Ltd as an Associate Director and I am now a Technical Director of the company, having held this position for 14 years. My role involves me working with major suspension bridges, cable stayed bridges and other steel bridges. This has included the design review of the Izmit Bay suspension bridge, design review and construction engineering checks of the high risk components of the recent Queensferry Crossing of the Forth Estuary and a client advisory role on the specification for the Northern Spire bridge in Sunderland. I also had a long association with the ongoing maintenance of the M48 Severn Bridge Main Cables.

1.1.2. I first became involved with the Tamar Bridge during the design of the Strengthening and Widening cantilever construction temporary works in 1999 and 2000, during my employment with Cleveland Bridge. Between

2006 and the present day I have been regularly involved in the provision of the inspection and maintenance technical services contracts for the Tamar Bridge . I have been the Project Manager for most of that period and since 2019 I have become the AECOM Project Director for those services. I am closely familiar with the structure and its recent inspection and maintenance history.

1.1.3 AECOM's role does not include setting of Tamar Bridge inspection, maintenance, or capital expenditure budgets. My commentary therefore relates to the comparison between the TB budget information I have been provided with, and our technical advice given to date in the course of our inspection and maintenance scheme work.

1.2 Structure of this Proof

1.2.1 In this Proof of Evidence I shall address the following technical areas:

- Inspection regime of the bridge and associated budget forecast
- Maintenance regime, proposed works and associated budget forecast

I previously gave evidence at the 2019 Inquiry and I have structured this evidence submission similarly, but with all of the relevant updates.

2.0 INSPECTION REGIME

2.1 Introduction

2.1.1 The standard approach for UK Highway structure maintenance for many years was set out in document BD63/17 of the Highways England Design Manual for Roads and Bridges. This was updated to a new document called CS450 in 2020 and revised in 2021. That document describes the required approach using safety inspections, general inspections, principal inspections, special inspections and inspections for assessment (when required).

The overarching principles for the inspections remain:-

"**1**. To detect in good time any defect that may cause an unacceptable safety or serviceability risk or a serious maintenance requirement in order to safeguard the public, the structure and the environment and to enable remedial action to be taken.

2. To provide information that enables the management and maintenance of a stock of structures to be planned on a rational basis in a systematic manner, in order to support the achievement of the objectives of the Overseeing Organisation.

3. To ensure that inspections are undertaken by suitably experienced and competent staff."

These complementary inspections processes for highway structures have historically been arranged around a 6 year principal inspection cycle and this is the regime that has been followed by the Tamar Bridge.

Former BD63/17 and current CS 450 recognises that major structures can require specific inspection requirements and the document permits the agreement of such structure specific approaches with the Overseeing Organisation.

2.2 TBTFJC Approach

2.2.1 In compliance with CS450, the Tamar Bridge now operates with a 6 year cycle, risk-based, rolling programme of inspections. The key benefits of these inspections are that they:

- Maintain the minimum coverage of every component over the 6 year period
- Allow greater inspection focus and frequency on components that are known to be or suspected to be more problematic or of a higher risk nature

- Allow efficient and economical usage of competent inspection staff
- Minimise disruption and impact to bridge users arising from the activities of those inspection staff.
- Allow specific tailoring of the three overarching principles of inspection to suit the particular circumstances at the Tamar Bridge.

2.2.2 The average cost of the structural inspections regime including special inspections was previously around £100k per annum as per support documentation of the 2019 Toll Revision Inquiry, which was considered by me to be reasonable. I did not identify the current equivalent in this financial model, but expect it would be similar with some inflation to 2024 and more beyond.

2.2.3 There are four suspended inspection gantries mounted on the structure and these require specialist inspection and maintenance on a six year cycle. This service is provided by a specialist contractor and the budget provision is based on historical record, which is a reasonable approach. Due to their age, the gantries are approaching the point where maintenance costs will start to increase steadily and replacement will need to be considered. This is again under review in 2024 and indicative assessment suggest increasing costs of around £100k pa for 2024 and 2025 and averaging £70k pa from 2026-28.

2.2.4 There are also routine safety inspections and regular "walkthrough" inspections, electrical inspections, drainage inspections and dehumidification system inspections, all of which are necessary and were previously considered in the budget provisions. Additionally, there can be requirements for supplementary labour to assist with the enabling of inspections.

2.2.5 The total budgetary provisions for all inspections averaged to approximately £250k per annum in 2019 and this was considered by me to be a realistic and sufficient minimum projection for a structure of this nature and history. With increasing age, this inspection cost may need to increase. Again, I could not identify the current equivalent in the 2024-

40 financial model summary, but expect it would be similar with some inflation to 2024 and more beyond.

3.0 MAINTENANCE REGIME

3.1 Introduction

3.1.1 The maintenance requirements of the bridge comprises routine ongoing minor maintenance tasks, together with a series of planned maintenance and replacement activities. Both types of activity also require contingency provisions.

3.1.2 In accordance with the overarching principles of CS450, the inspections provide the raw information which forms the basis for the decisions and recommendations for maintenance. These recommendations constitute one of the significant inputs into the process of making a decision to implement a maintenance scheme. The other inputs are safety, consideration of the disruption effects of the proposed maintenance and, of course, maintenance budgetary constraints.

3.1.3 Since 2010, the Tamar Bridge have been undertaking a gradual process of transition, moving away from reactive maintenance and more towards a system of risk-based planned maintenance. This approach has also been adopted by other major bridge owners and maintaining authorities. The process is now becoming well established in 2024 as part of the third Technical Services Contract I believe that this continues to be a sensible strategy by the Tamar Bridge and one which should ultimately lead to higher structural and safety reliability, together with greater predictability of required maintenance budgets. This approach remains likely to continue to grow in relevance as the structure ages.

3.2 Routine maintenance

3.2.1 This generally encompasses cleaning, minor painting, minor repairs and securing and tightening type operations. These activities are undertaken

regularly and a good understanding of the requirements for this has been acquired by considering the bridge maintenance history. The budget provision in 2019 was the order of £650k per annum and that was considered very reasonable relative to the extent of the structure that has to be maintained. Based on my experience and knowledge of other bridges I would expect there to be a need for this routine maintenance budget to rise in the future as the Tamar Bridge progresses to age. I did not identify the current provision but expect it would have increased, at least with inflation to 2024, and more beyond.

3.3 Proposed Planned Maintenance

3.3.1 The planning timescale for specific maintenance schemes has recently been 5 years. The current period is therefore 2023/24-2027/28, and there are a number of ongoing and future schemes contained within it. I refer to the TB financial model spreadsheet "Bridge" tab, which is a summary build-up behind the information provided in Appendix 16 Income Expenditure Forecast 2024-2040 of the Toll Revision Application. All of these schemes are familiar to me and arise from the recommendations made in previous inspection reports and special inspection reports. Anticipated timescales are reasonable though not necessarily fully consistent with the current version of the maintenance masterplan for the bridge, which is regularly updated with the output of the 6 yearly phased inspections cycle. We have also provided indicative timings for longer-term maintenance and replacement items as part of that documentation. I have excluded commentary on any items relating to the Bridge Offices or the Ferries (themselves), which are not part of my area of experience but will deal with each in turn:

"Current programme"

3.3.2 Bridge Access Improvement Works Phase 4. These are important upgrades that will enable more efficient and safer general inspection and maintenance of the whole structure. They are part of a longer-term programme to maintain and upgrade the original 1960s access

provisions. I believe the residual £250k to be a reasonable estimate of the likely minimised requirements into 2025.

3.3.3 Main cable remedial works. This is a provision for partially identified works that are currently being investigated in 2024 and planned for implementation from 2025. They will be high priority works to protect the integrity of the main cable system. The provisional value seems just reasonable but is likely to be a lower-bound estimate based on current knowledge. There is some likelihood that a further season could be required at potentially similar (additional) budget.

3.3.4 Bridge LED Lighting is not part of the scope of work I am involved with.

3.3.5 Bridge Resurfacing works phase 2. These are understood to be allowances for retention on the 2021 contract. £203k may be appropriate for that scope.

3.3.6 Rocker / pendle remedial works. These are priority works to key structural moving components of the bridge which are over 60 years of service life. A significant value-optimisation approach was followed for these planned works. The identified remaining £400k seems reasonable from our understanding of the forecast cost for the current scope of work.

3.3.7 Supplementary cable remedial work. This relates to identified and planned remedial action for specific cable stays. The objective of this work is to maximise the residual life of these 2001 Strengthening and Widening components which have yet to reach their originally planned design life. The remaining £1,500k is likely to be reasonable for the 5 year timescale to 2027/28. A significantly more expensive cable stay replacement programme is likely to be required beyond 2028 but the timing may be pushed further to the future if the works to 2028 are more successful.

3.3.8 There are some other items that have been identified in maintenance recommendations for which I have not seen a specific budget provision in the material provided. These are for articulations (bridge bearings), gantry runway remedials, and bridge drainage. It may be that these have been assumed to be partly contained within the routine maintenance discussed in 3.2.1. If so, that may result in some overall underestimation of potential maintenance costs.

"Indicative future programme"

3.3.9 Bridge protective coating provisions average at a reduced £0.7m per annum for 2024 to 2027, together with a further contingency of £1.5m understood to be part of a separate revenue expenditure provision. These figures are without indexation and are only consistent with maintaining the minimum condition of the remaining structure. I believe they are just sufficient for that purpose. This scheme has previously provided a good value solution since 2015 and it has been recommended to increase the maintenance activity when budget permits. The longer-term provision for full re-coating from around 2031 appears reasonable and is consistent with current assessment of the condition. The amount of £25m over 3 years may be optimistically low.

3.3.10 Bridge structural fire protection is an issue where we have been undertaking investigation and development work including benchmarking against other structures. This work is not concluded but a recommendation for some new risk mitigation works is likely. The provision of £3.5m from 2024 appears to be reasonable for the potential scope of protection works under consideration but the timescale would probably be longer.

3.3.11 Bridge resurfacing. It is noted that this along with paint are the only longer-term capital budget provisions beyond 2028. The timing of the provision appears reasonable and the cost of £7m may be reasonable based on an indexed estimate from the more recent scheme.

3.3.12 It is noted that the "Cap Prog" tab also makes reference to Ferry Gantry Tower replacements. AECOM have had a limited role in assessing these like for like replacements that have arisen from decisions based on our previous structural inspection findings in 2021. The provisions for 2024-25 look reasonable for these items. The timescale will be driven by Ferry refits which lie outside of our work scope.

3.3.13 There were previously quite a number of minor items and subdivisions of lesser importance which did not exceed £0.5m in total and were considered relevant in the round, without requiring detailed investigation. I did not find similar detail for 2024 but presume it is included within the total.

3.3.14 In summary, I find the budget provisions to be reasonable and reflective of the scope of works that I believe is likely to be required or has already been recommended in the period up to 2028 except where I have commented above. I did not find any specific provision for contingency on unforeseen maintenance requirements arising from currently undetected deterioration or accidental damage situations up to 2028. I understand this contingency is addressed by other arrangements.

3.3.15 The scope of works required beyond 2028 is not fully covered in the budgets I reviewed – other than with isolated entries for paint and resurfacing costs as commented above. There are a number of foreseeable significant additional expenditures including access gantry replacement and cable hanger replacement and parapet replacements that are likely to fall into that timescale and a budget provision would seem advisable. The level of certainty of these costs is inevitably lower than for costs in the immediate 5 year timeframe, which leads to a related issue previously noted in the 2019 review. Although there are no specifically formalised engineering recommendations for that period, it will still be necessary to have an appropriately indexed figure to cover inspections and routine maintenance. There will also be a requirement for a suitably robust contingency to fund recommendations that are not yet known about, but which can be anticipated to arise from the next 5

years of inspections. Retrospective consideration of the last decade on this structure and experience from other structures highlights the growing importance of such budget contingency, so as to ensure safety and the minimisation of disruption on strategic structures.

3.3.16 In review of the total budgetary provisions for inspections and maintenance of the structure I did not find items that exceeded the likely scope required following technical recommendations that we have made. Where I have observed in this statement that further sums and provisions were expected by me, but not identified, in the financial materials I was asked to review, then I understand that Tamar Crossings also have revenue expenditure budgets and contingency provisions not seen by me. I presume that some or all of the items so commented are contained within those other budgets.

TOLL REVISION APPLICATION
BY
TAMAR BRIDGE AND TORPOINT FERRY JOINT COMMITTEE

Transport Charges &c (Miscellaneous Provisions) Act 1954

Tamar Bridge Acts 1957 to 1998

PROOF OF EVIDENCE OF
GERALDINE JANE BAKER ACA, LLB (Hons)

In respect of the Tamar Bridge and Torpoint Ferry

Planning Inspectorate Ref: DPI/N1160/24/12

1 Witness Details

1.1 I, Geraldine Jane Baker, am a qualified accountant (Associate of the Institute of Chartered Accountants of England & Wales) with over 24 years post qualification experience working within the private and public sector. I undertook my accountancy training within an audit firm, and then worked as a Financial Accountant in the private sector for a health and fitness company and a train operating company, once I qualified. I have worked for Cornwall Council since 2003 and my current role is Finance Analyst Manager. This involves providing advice for both revenue and capital projects, developing financial models and forecasts, financial governance and technical accounting implementation.

1.2 For the last six years, I have represented Cornwall Council's statutory finance officer (known as the Section 151 Officer) in relation to the Tamar Bridge and Torpoint Ferry Joint Committee. This involves the provision of financial advice to Members, the General Manager and other staff on matters relating to the Joint Committee which has recently included the Independent Local Partnership Review which took place in 2023. I am independent of the General Manager, although there is a close working relationship.

1.3 I have been involved in the development of the long-term financial model on which the toll revision application was based and have overseen the development of the financial aspects of the application.

2 Financial Background

2.1 The Tamar Bridge and Torpoint Ferry Joint Committee has, since its inception, been run as a self-financing joint undertaking, in line with the requirements of the Tamar Bridge Acts of 1957 to 1998.

2.2 The joint nature of the undertaking has been important in enabling resources to be shared optimally between the bridge and ferry operations. Additionally, the joint nature of the undertaking allows for the management of the bridge and ferries as a single business with lower operational costs and management overheads than might otherwise be the case.

2.3 The financial position of the Joint Committee over recent years is clearly shown in Appendix 1 below. These show, for the period since the financial year 2015/16, the levels of income (incorporating pervious toll revisions), expenditure and reserves of the Joint Committee. Over this period, there has been significant capital investment on both the bridge and ferry assets, including bridge protective coating (£8.3m), bridge resurfacing (£4.7m), suspension system remedial works (£7.2m) and Ferry Refitting (£5.6m). The future capital programme (until 2039/40) includes over £80m of further investment including ferry decarbonisation (£3.0m), bridge structural fire protection upgrade (£3.5m), ferry replacement (£45.0m) and bridge resurfacing (£7.0m).

2.4 The Joint Committee does not have the ability to borrow in its own right. However, the parent authorities are empowered to borrow on the Joint Committees behalf and this is how the majority of the capital programme is financed. The Joint Committee has agreed borrowing terms with Cornwall Council with interest based on the Public Works Loan Board 50 year annuity rate plus 40 basis points as at the 31 March, on a reducing balance basis.

2.5 A financial model is used as a tool for considering tolling options using detailed forecasts of expenditure up to 2040. This model was used as the basis for a workshop held to brief Members of the parent authorities, following which the process of making a toll revision application was commenced.

2.6 The cost of running the crossings has increased faster than anticipated at the last toll revision with significantly higher inflation (compared to the forecasts) and traffic levels still below those achieved in 2019/20 (pre-Covid) and anticipated to remain below historic levels. The result of these factors being that its reserves are forecast to be reduced to around £0.506m by the end of the current financial year if the toll is not increased, and then reducing further to a deficit position of £1.196m by the end of 2025/26. This is below the £3.0m considered by the Joint Committee to be a reasonable minimum level of reserves. Without a toll revision, the undertaking would not be able to continue to fund its operations, with reserves completely exhausted by the end of the financial year 2025/26 and requiring parent authority support.

2.7 For this financial year the approved budget includes the following forecast cost:-

- £5.7m to operate and maintain the bridge;
- £6.9mto operate and maintain the ferries;
- £0.8m of corporate costs (this includes the purchase of additional tags and bank charges) and;
- £5.3m of financing costs arising from completed capital programme works.

Against these costs, amounting to £18.7m in total, the Joint Committee's current schedule of tolls and other income was forecast to generate £17.5m, leaving a significant shortfall of £1.2m, whilst this is within the forecast reserve balance at the end of March 2025. However the ongoing future deficits would deplete the reserve to zero before the end of the following year (2025/26).

2.8 The main proposal is to raise the cash toll for a car (charged for travel in an easterly direction only) from £2.60 to £3.00 and for other classes of tolls to increase by a similar proportion (15.4%). There are no proposals relating to changes in the classification of vehicle types. The last change to the tolls was in January 2023.

2.9 Both crossings operate a 50% concession rate for crossings paid in advance using an electronic tag and it is intended that this arrangement should continue; i.e. a concessionary fare of £1.50 for a car compared to £1.30 at present. Thus, for a regular commuter (5 days per week), the additional cost would be £1.00 per week or approximately £48 per year.

2.10 The increase in tolls is forecast to raise approximately £2.4m in additional income (for a full year) and it is this would bring the Joint Committees total reserves above the £3.0m target minimum level by the end of 2027/28. Assuming inflation and other costs are in line with the model, the reserve was not forecast to drop below the minimum £3m target until 2033/34. This was based on the assumption that the toll revision would be implemented from 1 November 2024. For every month this is delayed, it results in £0.2m of lost income which negatively impacts on the forecast reserve position. Whilst some of the impact on the reserve will aim to be mitigated by close cost management and delayed defrayal of spend, it is not a long-term solution which can only be resolved by realising additional income if current service levels are to be maintained.

3 Scrutiny of the Joint Committee

3.1 It is worth pointing out the scrutiny arrangements surrounding the Joint Committee's finances. The Joint Committee is not a company, has no shareholders and is not permitted to use any surplus it produces other than for the purposes of operating and maintaining the two crossings and supporting cross-Tamar transport initiatives. Its budget reports and annual accounts are prepared by Cornwall Council staff and are presented to the Joint Committee at their quarterly public meetings, for scrutiny by locally elected councillors. The minutes of those meetings and approval of the budget (which is taken annually) are then considered by both parent authorities; again in public, at full Council meetings following Cabinet recommendations.

3.2 The Joint Committee is also subject to a regular annual programme of checks by Cornwall Council Internal Audit function and its annual accounts and value for money arrangements are subject to a separate annual audit.

3.3 Papers from all Joint Committee meetings, the annual accounts, the annual audit findings and information about the financial model used as a basis for the toll revision application are all freely available on the websites of the parent authorities and/or that of the Joint Committee.

4 Conclusion

4.1 The level of scrutiny through Joint Committee meetings and the annual audit, provides assurance that the crossings operations are being well managed with strong financial control and understanding, and the robust financial model ensures that there is an accurate assessment of future financial requirements.

Appendix 1 (Appendix 17 of revision application)

Tamar Bridge and Torpoint Ferry

Income and Expenditure Actuals, Approved Estimates and Planning Estimates to 2039/40 With Toll Revision

									APPROVED MEDIUM TERM FINANCIAL PLAN															
	ACTUAL 2015/16 £	ACTUAL 2016/17 £	ACTUAL 2017/18 £	ACTUAL 2018/19 £	ACTUAL 2019/20 £	ACTUAL 2020/21 £	ACTUAL 2021/22 £	ACTUAL 2022/23 £	*REVISED ESTIMATE* 2023/24 £	*ESTIMATE* 2024/25 £	*FORWARD ESTIMATE* 2025/26 £	*FORWARD ESTIMATE* 2026/27 £	*FORWARD ESTIMATE* 2027/28 £	PLANNING ESTIMATE 2028/29 £	PLANNING ESTIMATE 2029/30 £	PLANNING ESTIMATE 2030/31 £	PLANNING ESTIMATE 2031/32 £	PLANNING ESTIMATE 2032/33 £	PLANNING ESTIMATE 2033/34 £	PLANNING ESTIMATE 2034/35 £	PLANNING ESTIMATE 2035/36 £	PLANNING ESTIMATE 2036/37 £	PLANNING ESTIMATE 2037/38 £	PLANNING ESTIMATE 2038/39 £	PLANNING ESTIMATE 2039/40 £
Operational																									
Income	(11,087,042)	(11,091,000)	(10,924,000)	(11,124,000)	(11,868,000)	(12,617,000)	(13,304,000)	(15,420,000)	(17,555,000)	(18,530,302)	(20,014,454)	(20,029,145)	(20,056,165)	(20,073,836)	(20,154,362)	(20,172,831)	(20,191,712)	(20,211,015)	(20,230,750)	(20,250,926)	(20,271,553)	(20,292,643)	(20,314,205)	(20,336,250)	(20,358,790)
Expenditure																									
Corporate	421,261	424,000	458,000	462,000	641,000	533,000	677,000	408,000	690,000	813,033	760,964	774,793	792,088	803,969	816,028	828,269	840,693	853,303	866,103	879,094	892,281	905,665	919,250	933,039	947,034
Bridge	2,941,878	3,340,000	4,009,000	3,685,000	3,713,000	4,024,000	3,790,000	4,623,000	5,250,000	5,482,498	5,352,463	5,468,416	5,557,517	5,649,595	5,743,228	5,838,443	5,935,268	6,033,731	6,133,859	6,235,681	6,339,227	6,444,527	6,551,610	6,660,507	6,771,251
Ferry	5,011,035	4,297,000	4,671,000	5,742,000	5,268,000	5,004,000	5,293,000	6,051,000	6,525,000	6,912,161	7,052,659	7,216,283	7,383,019	7,517,269	7,654,004	7,793,268	7,935,111	8,079,580	8,226,725	8,376,597	8,529,245	8,684,724	8,843,085	9,004,384	9,168,676
Learning Centre							100,000	104,000	142,000	229,000	235,000	164,000	167,000	169,505	172,048	174,628	177,248	179,906	182,605	185,344	188,124	190,946	193,810	196,717	199,668
	8,374,174	8,061,000	9,138,000	9,889,000	9,622,000	9,561,000	9,860,000	11,186,000	12,607,000	13,436,692	13,401,085	13,623,491	13,899,624	14,140,338	14,385,307	14,634,609	14,888,320	15,146,521	15,409,292	15,676,716	15,948,878	16,225,862	16,507,756	16,794,648	17,086,629
Operational (Surplus)/Deficit	**(2,712,868)**	**(3,030,000)**	**(1,786,000)**	**(1,235,000)**	**(2,246,000)**	**(3,056,000)**	**(3,444,000)**	**(4,234,000)**	**(4,948,000)**	**(5,093,610)**	**(6,613,369)**	**(6,405,654)**	**(6,156,541)**	**(5,933,498)**	**(5,769,055)**	**(5,538,222)**	**(5,303,392)**	**(5,064,494)**	**(4,821,457)**	**(4,574,209)**	**(4,322,675)**	**(4,066,781)**	**(3,806,449)**	**(3,541,603)**	**(3,272,161)**
Capital Expenditure financed from Revenue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MRP (415021.99010)	995,434	1,042,241	1,109,000	1,445,000	1,727,000	1,942,000	2,931,000	2,914,000	2,970,000	3,589,000	4,016,000	4,032,000	4,060,000	3,979,696	3,612,616	3,426,616	3,409,949	3,743,283	4,676,616	5,276,616	5,399,208	4,921,800	4,921,800	4,921,800	4,921,800
Interest on Loan (415021.98141)	790,478	797,000	801,000	1,180,000	1,352,000	1,423,000	1,450,000	1,656,000	1,499,000	1,698,000	1,851,000	1,880,000	1,722,000	1,572,963	1,429,793	1,411,211	2,119,891	1,972,305	3,314,173	3,120,229	2,927,879	2,751,936	2,575,993	2,400,050	2,224,107
Capital Funding	**1,785,912**	**1,839,241**	**1,910,000**	**2,625,000**	**3,079,000**	**3,365,000**	**4,381,000**	**4,570,000**	**4,469,000**	**5,287,000**	**5,867,000**	**5,912,000**	**5,782,000**	**5,552,659**	**5,042,409**	**4,837,827**	**5,529,841**	**5,715,588**	**7,990,789**	**8,396,845**	**8,327,087**	**7,673,736**	**7,497,793**	**7,321,850**	**7,145,907**
Interest on JC Balances (415021.98219)	(9,545)	(9,000)	(2,000)	(9,000)	(5,000)	(2,000)	0	0	(10,000)	(5,000)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Adjustments/Restatements	0	0	0	0	0	0	0	24,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(Surplus)/Deficit on Undertaking before Reserve movements	**(936,501)**	**(1,199,759)**	**122,000**	**1,381,000**	**828,000**	**307,000**	**937,000**	**360,000**	**(489,000)**	**188,390**	**(746,369)**	**(493,654)**	**(374,541)**	**(380,839)**	**(726,646)**	**(700,396)**	**226,449**	**651,094**	**3,169,331**	**3,822,635**	**4,004,412**	**3,606,955**	**3,691,344**	**3,780,248**	**3,873,746**
Reserve Movements																									
Balance B/Fwd	**(2,987,000)**	**(3,923,501)**	**(5,123,260)**	**(5,001,000)**	**(3,620,000)**	**(2,792,000)**	**(2,485,000)**	**(1,548,000)**	**(1,188,000)**	**(1,677,000)**	**(1,488,610)**	**(2,234,979)**	**(2,728,633)**	**(3,103,174)**	**(3,484,013)**	**(4,210,659)**	**(4,911,054)**	**(4,684,606)**	**(4,033,512)**	**(864,181)**	**2,958,455**	**6,962,867**	**10,569,822**	**14,261,166**	**18,041,414**
Net movement for year	(936,501)	(1,199,759)	122,000	1,381,000	828,000	307,000	937,000	360,000	(489,000)	188,390	(746,369)	(493,654)	(374,541)	(380,839)	(726,646)	(700,396)	226,449	651,094	3,169,331	3,822,635	4,004,412	3,606,955	3,691,344	3,780,248	3,873,746
	(3,923,501)	(5,123,260)	(5,001,260)	(3,620,000)	(2,792,000)	(2,485,000)	(1,548,000)	(1,188,000)	(1,677,000)	(1,488,610)	(2,234,979)	(2,728,633)	(3,103,174)	(3,484,013)	(4,210,659)	(4,911,054)	(4,684,606)	(4,033,512)	(864,181)	2,958,455	6,962,867	10,569,822	14,261,166	18,041,414	21,915,160
Net Balance	**(3,923,501)**	**(5,123,260)**	**(5,001,260)**	**(3,620,000)**	**(2,792,000)**	**(2,485,000)**	(1,548,000)	(1,188,000)	(1,677,000)	(1,488,610)	(2,234,979)	(2,728,633)	(3,103,174)	**(3,484,013)**	**(4,210,659)**	**(4,911,054)**	**(4,684,606)**	**(4,033,512)**	**(864,181)**	**2,958,455**	**6,962,867**	**10,569,822**	**14,261,166**	**18,041,414**	**21,915,160**