

Tamar Crossings Newsletter

No. 6 October 2021



Welcome to the latest edition of Tamar Crossings

As we move further into October I am very pleased to confirm that the Bridge resurfacing project remains on schedule to be completed by the end of this month. The new surfacing has been laid on all five lanes, as well as the toll plaza, and work is now taking place to complete work on replacing the movement joints, and installing the lane studs and lane markings.

We recognise the impact the project has had on people using the Bridge and living in surrounding areas and would like to thank everyone for their patience while the resurfacing has been carried out. The new surfacing should provide safe and effective surfacing that will last at least 20 years. We are currently working closely with our contractor to try and complete these final stages

as quickly as possible so we can open all four traffic lanes ahead of the projected completion date.

This month we will also be celebrating the 60th anniversary of the Tamar Bridge with a range of exciting events and activities taking place during the week commencing 18th October to lead up to this very special milestone in the history of the iconic structure on the 24th.

These activities include special tours of the under-bridge structure and a balloted tower-top tour, as well as a number of family animation workshops. You can find out more on the Bridging the Tamar website: <https://www.bridgingthetamar.org.uk>

Kind regards

David List, General Manager

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Meet our new Joint Chairs



Following the local council elections in May, there are now two new Joint Chairs for the Tamar Bridge and Torpoint Ferry Joint Committee: Councillor Jonathan Drear, who is the Joint Chair representing Plymouth, and Councillor Martin Worth who represents Cornwall.

Councillor Drear was first elected to Plymouth City Council in 2007 and continues to represent Budshead Ward in the north of the city. He became Deputy Lord Mayor in 2009-2010 and is currently the City Council's Cabinet Member for Transport and Highways.

He has lived in Torpoint and Plymouth since 1969, and, like many people living in this area, his parents were in the Royal Navy. Although now retired, Councillor Drear worked in the travel industry for over 40 years, living overseas and travelling to many countries during this period. He met his wife while working for an airline, and she now works in the shipping industry.

He is very proud to have been elected as a Joint Chair of the Committee. "It is both an honour and a great responsibility to be working with staff, officers, elected members and various agencies to maintain the Tamar Bridge and Torpoint Ferry" he said. "Both crossings are vital strategic gateways, connecting the national strategic highways to Devon and Cornwall on behalf of communities, daily commuters, bus, coach, taxi and the haulage operators. Funded almost entirely by toll income, which is used to operate, maintain and improve the bridge and ferries, the crossings carry around 18 million vehicles a year (16 million on the bridge and 2 million on the ferries), and are rightly recognised as uniquely important and vital to the economy of the region."

Councillor Worth is the same age as the Tamar Bridge and actually attended the grand opening of the crossing in his pram!

Growing up in Saltash, the River Tamar was an integral part of his childhood. "I looked up to the magnificent Royal Albert Railway Bridge that my father worked on as an engineer, and now, 60 years later I am proud to be the Joint Chair, representing Cornwall Council on the Joint Committee" he said.

After an early career working in his music shop in Plymouth, Councillor Worth became an Area Manager for Pye/ Phillips Consumer Electronics. With his wife, a lecturer at CFE Plymouth, also driving daily from their first home at Hatt to drop off their eldest daughter at her nursery on the Hoe, the couple have always appreciated the importance of the Bridge in people's day-to-day lives.

Although the family moved to Kent in 1989, their roots have always been in Cornwall. They came home at every opportunity, never missing a Cornish Christmas, with their children excitedly looking out for the first sight of the Bridge - the landmark to herald their homecoming. In recent years, they have returned to South-East Cornwall and are now enjoying living by the river in Cargreen, once again appreciating the beauty and significance of the Tamar Bridge in their lives.

Whilst taking on the role of Joint Chair immediately before the start of work on the resurfacing project may have been something of a 'baptism of fire', Councillor Worth says he has wholeheartedly taken on the challenge. "I continue to appreciate how fortunate we all are to have such an amazing bridge that has served us so well for 60 years to Plymouth and beyond" he said. "I look forward to many more years of safely crossing the Tamar and securing the future of all our journeys."



We are keen to hear what you would like to see in future editions so please let us know at trisha.hewitt@tamarcrossings.org.uk



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Counting down to the completion of the Tamar Bridge resurfacing project

With less than a month to go until the scheduled completion of the resurfacing works, we are delighted that the project remains on track and are working closely with our contractor to finish the final elements – the road markings and the replacement studs as quickly as possible.

This has been a real team effort. From our bridge engineering team, contractor VolkerLaser and the specialist resurfacing team Aeschlimann, to the control room staff, traffic management teams, toll booth collectors and shuttle bus and vehicle recovery drivers, everyone has worked incredibly hard to ensure that the project is completed on time and to manage traffic flows on the bridge and surrounding roads.

We recognise that this has been a difficult period, both for people using the bridge and for local residents and businesses, and thank everyone for their patience and understanding during these essential works.

Below is a reminder of the works which have taken place since the start of the project on 1 June.

Some images of the damaged and cracked surface of the bridge deck before the start of the resurfacing works. Work on the project officially began on 1 June with VolkerLaser cutting core holes into the deck on the south cantilever to double check the existing surface depths in readiness for the planing work. They also installed netting on the parapets to prevent any debris falling when the planing began.



Planing – the first stage in the resurfacing process – removes the majority of the existing surfacing material using a specialist road planer machine. A thin 8 - 10 mm layer of the surfacing is left bonded to the steel deck so that the deck is not damaged by the aggressive teeth on the planer. This remaining layer is then removed either by

hand using mechanical hand tools or using a large flat blade on a suitable digger/dozer machine.

Once the planing had been completed on the south cantilever, a rubber wheeled digger (known as a 'rubber duck'), and a bobcat, a small highly manoeuvrable machine were used to remove remaining material at the kerb interfaces. This provided a clean surface so engineers could inspect the steel deck and welds for cracks or damage.



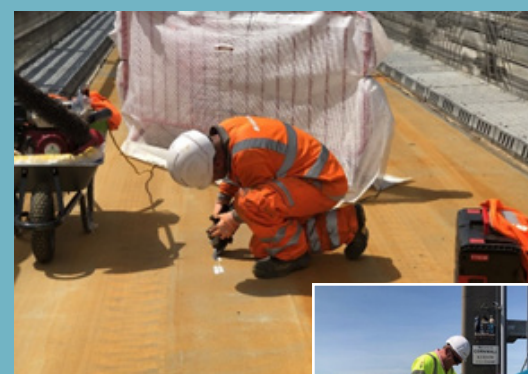


This was followed by a specialist blasting contractor removing the last 8-10mm of deck material with a high pressure water jetting system. Work also began on preparing the surface of the north cantilever at this time.

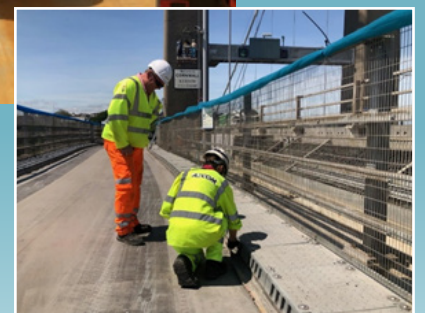
The exposed surface of the steel deck was then inspected by engineers to assess the extent of any surface repairs which may need to be carried out. Once these inspections were completed, welding was carried out to repair damaged areas. Carrying out welding repairs on an orthotropic steel deck is much more complex and time consuming than traditional welding processes and requires the use of specialist staff and equipment.



Engineers inspecting and testing the reinforced concrete anchorage areas at the east and west ends of the bridge using a specialist electronic device called a concrete covermeter. This accurately locates the reinforcement and measures the amount of concrete covering the steel. The concrete anchorages create a transition area from standard road construction to the steel bridge decks and require a different inspection and preparation method before the waterproofing can be applied.



A member of the specialist team employed to carry out grinding works tackles an area of damaged deck plate.



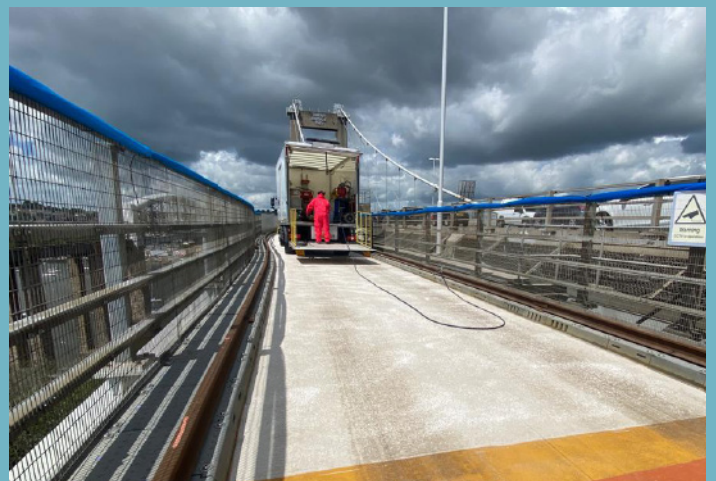
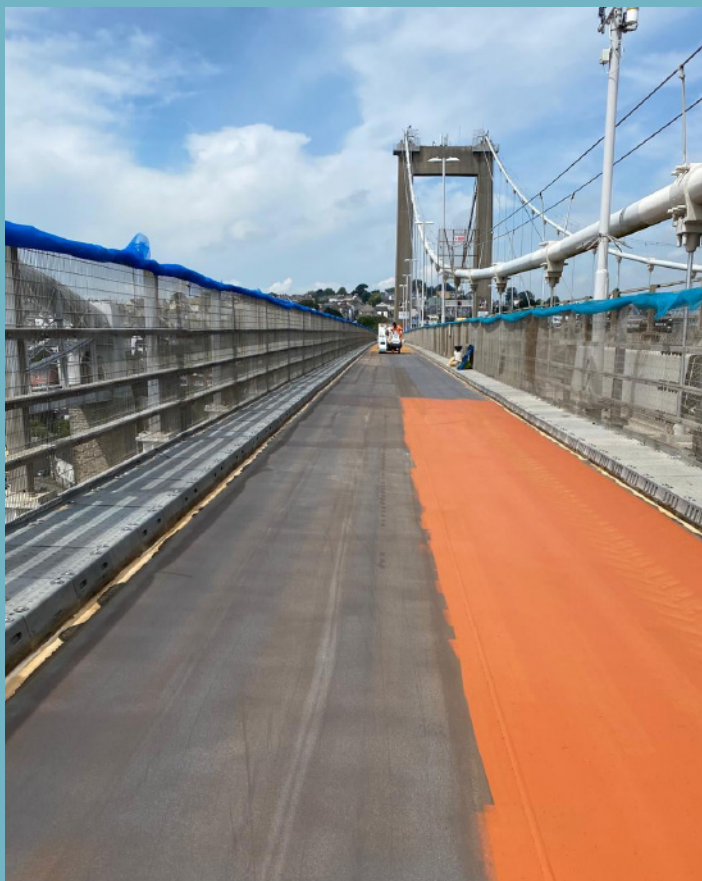
Once the surface of the deck has been prepared, primer is applied to the deck to protect the steel from corrosion ahead of the water proofing process. It is essential that the primer is applied at the correct thickness. If the primer is applied too thickly it will not cure properly, causing solvents to become trapped in the paint which, in turn, affects how well the next two layers of waterproofing and new surfacing material perform.

Once the primer has cured, two layers of waterproofing are applied to provide additional corrosion protection. A 'tack-coat' is then applied to help the surfacing material bond to the waterproofing material. This creates a composite surfacing system.

The surfacing material is laid in two thin layers using a special surfacing machine that runs on rails. A specialist, asphalt material is used to resurface the steel deck. At just 45mm thick, this layer is much thinner and, therefore, much lighter than the materials used in standard road construction. The rails are set to deliver the correct material thickness while also providing a smooth running surface.

Laying the new surface is a highly complex process requiring approximately 200 tonnes of new Gussasphalt material and taking more than 12 hours to complete.

The first phase of the project was successfully completed on 22 July - a week ahead of schedule, enabling four vehicle lanes to be open as normal to ease congestion over the first weekend of the school holidays.

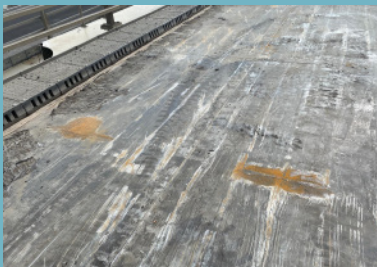


Work on the second phase – on the main deck – began on 22 July. This followed exactly the same phased process as on the north and south cantilevers.

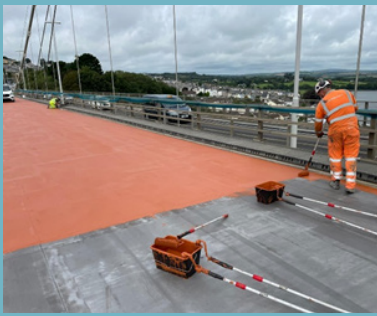
Work on resurfacing the north side of the main deck was completed on Friday, 27 August, enabling four traffic lanes to be provided over the bank holiday weekend.

Work on the south side of the main deck began on 31 August, with the final layer of resurfacing material laid at the end of September.





As well as resurfacing the traffic lanes, VolkerLaser have also resurfaced the toll plaza and bridge approaches. As this involved working on areas of 'ordinary' road construction rather than on the steel deck of the bridge, there was no need for specialist steel deck preparations or the application of waterproofing materials, enabling the top 100mm of existing surfacing material to be removed and reinstated relatively easily with conventional surfacing equipment. It also meant



that these works could be carried out overnight so that there was full booth availability during the day.

Work has also been taking place to replacing the four movement joints across the main deck. These joints are a vital part of the structure of the bridge, allowing it to expand and contract through changes in temperature and to handle the effects of traffic and wind loadings.

This work, together with road markings, are due to be completed within the next two weeks, with the project remaining on schedule to be completed by the end of October.



Cyanotypes and seaweed

The Bridging the Tamar Learning Centre has been working in partnership with local Community Interest Company Fotonow to work with young people in Plymouth and Saltash and explore the Tamar Bridge's history, its presence today, and the environmental landscape.

The creative media programme has connected young people with the history of the bridge and they have learnt new skills in photography, filmmaking and audio recording. Young people have taken part in photo walks, portrait sessions and visiting the bridge itself. One particular highlight was seeing young people experience the bridge through the eyes of a drone during a Barefoot Project youth session.

Students from Riverside Primary School and young people from Barne Barton made cyanotype prints using images they had taken of the bridge and inspired by

archive images. Cyanotype is a photographic printing process discovered in 1842 which involves producing a white image on a deep blue background. The students used seaweed to create images and later made digital negatives to create completely new artworks. Students from Marjon University are supporting documentary and design aspects of the project work.

Music

A music project has also been taking place, with local bands creating new music videos about the bridge. The young people involved in these use a range of genres including electronica, R&B and the inclusion of dance.

Events

During the week of 18th October there will be a series of events leading up to the Anniversary on 24th. There will be a free webinar hosted by ICE South West's Plymouth and Truro City Clubs on Tuesday 19th October 1-2pm. This will explore how things have changed over six decades and consider what the next sixty years might bring. <https://www.ice.org.uk/events/tamar-bridge-60-webinar>.

There will be special tours below the bridge and a balloted tower-top tour. During half-term there will also be some family animation workshops to create a piece to celebrate the anniversary of the Bridge.



To get in touch contact visit@tamarcrossings.org.uk. <https://www.bridgingthetamar.org.uk/>
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Preparing for emergencies

Last month we joined with fire crews from Torpoint and Liskeard to carry out a joint emergency exercise on the Torpoint Ferry.

It is important for us to review and test our Emergency Response Plans to ensure that they remain workable and deliver the resilience and performance needed to meet both our current and future organisation requirements.

Some of our ferry staff are also members of Torpoint's retained fire station crew. This relationship gives our organisation closer ties with local emergency services, making it easier to arrange exercises like these.

The live exercise ran for over an hour and allowed us to test our fire and communication procedures as well as providing Cornwall Fire and Rescue teams with search and rescue training opportunities specific to the ferry.

Speaking after the successful completion of the exercise Response Station Manager Mark Goldsmith said "This exercise gave our fire crews from Torpoint and Liskeard an opportunity to familiarise themselves with a Torpoint Ferry and attend a realistic fire scenario in the engine room. It also allowed us to liaise with Tamar Crossings staff in the early stages of a fire scenario and test both of our procedures.

On any incident we attend, our crews will carry out simultaneous activity which involves our incident commander gathering as much information as possible from the Ferry staff about the location of the fire, what is on fire, if there is anyone missing and their last known location and what is the best route to the fire. All the time that is happening the rest of the crews are setting up breathing apparatus points, securing a water supply and laying hose ready for firefighting to take place.

Wearing breathing apparatus within any ship or boat is an arduous task due to the tight hatches and narrow ladders

that have to be negotiated but also the heat from any fire is intensified due to the nature of it being bottled up in a metal ship's compartment.

This exercise gave our breathing apparatus teams the opportunity to negotiate those hatches and ladders and understand the difficulties involved with this type of environment without the added pressure of the intense heat. Some of the breathing apparatus wearers haven't worn them in this type of environment before, so this was invaluable experience for them.

I would like to thank Tamar Crossings for providing us this opportunity and look forward to further partnership working."



Celebrating the 60th anniversary of the Tamar Bridge

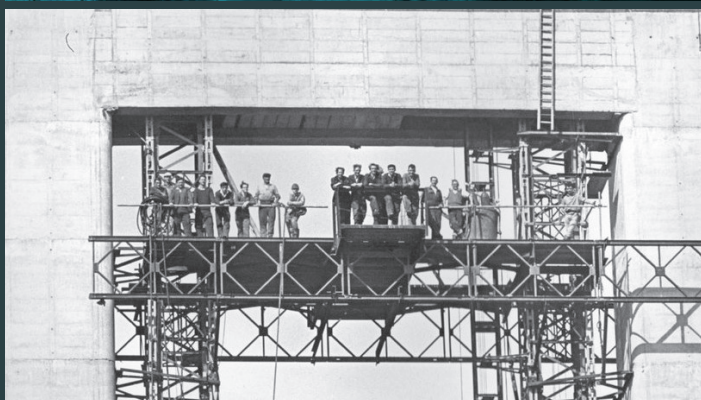
This year the Tamar Bridge celebrates its 60th anniversary with a range of exciting events and activities taking place at the end of October to mark this very special milestone in the history of the iconic structure.

The first major suspension bridge to be constructed in the UK after the Second World War, at 335 metres (1,099 ft long) - it was the longest suspension bridge in the country when it was opened in 1961.

Designed by Mott Hay and Anderson, and constructed by Cleveland Bridge and Engineering Company, construction began in July 1959, with the bridge finally opening to traffic on 24 October 1961. The £1.5 million bridge, owned and operated jointly by Cornwall Council and Plymouth City Councils, was officially opened by the Queen Mother on 26 April 1962.



Start of the excavations in September 1959.
(Nicholas Horne for Tamar Crossings)



Plymouth Tower complete (Ann Robinson collection)



The unfinished bridge that is open to traffic
(Nicholas Horne for Tamar Crossings)

In 2001 the Tamar Bridge became the world's first suspension bridge to be widened from three to five lanes using cantilevers, and the world's first suspension bridge to be widened and strengthened while remaining open to traffic. The improved structure was officially re-opened by Princess Anne on 26 April 2002 - forty years to the day after it was first officially opened by her grandmother.

In 1961 the bridge was used by approximately 4,000 vehicles a day. Today over 50,000 vehicles use the crossing on a busy day - over 16 million vehicles a year - ten times the number carried in the early years.

Oral histories

During the summer, members of the public have contributed some fascinating stories about the Bridge which will form part of the Bridging the Tamar archive. Some of them colourfully illustrate what life was like on a construction site 60 years ago. Some of these will be shared publicly in a special exhibition in the Visitor and Learning Centre so that visitors and locals can enjoy them.

Here are some extracts from their stories:

Mike Pascoe: "My Mum asked me, 'you're not afraid of heights Mike are you?'. They're offering £100 a week for people to paint the cables. I got the job and off I went. We had only been a third of the way down when the foreman called us back down on his loud hailer. ... When we went across there to the Unigate Dairy the people in charge there said 'we got a really bad problem'. And they had speckles of paint in their milk! Well the paint that we used was lead based. Because we had to drink two litres of milk a day to counteract if we had the fumes of the paint.

Terry Parker: "My first week's wages at seventeen was One Pound Seventeen and Four-pence which is about £1.70 and I got a £1 a week danger money. There were probably a hundred, two hundred men working on site two hundred feet up with no toilet facilities. They employed an Irish labourer whose nickname was 'Jim the ****'. His job was to go and empty various buckets places across the whole of the bridge section. They had a twenty foot motor boat continually cruising up and down the river in case anybody did fall in. There was me at seventeen sat on two scaffold planks, two hundred and fifty feet over the Tamar, drilling $\frac{3}{4}$ inch worth width holes into a cast steel structure!

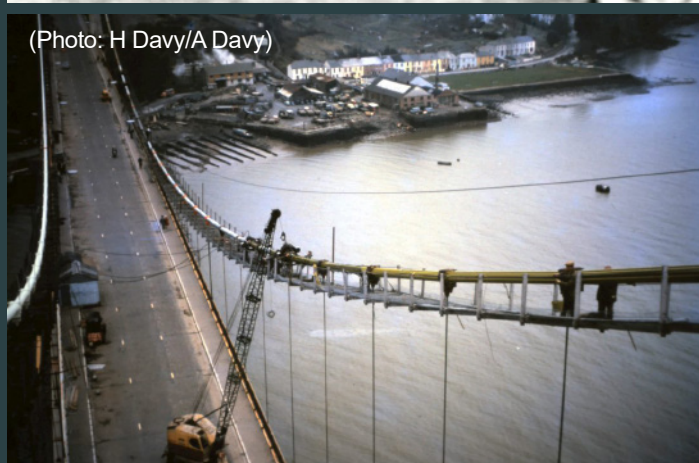
Photographs

People have also loaned donated or shared some extraordinary old photographs of the bridge.

(Photo: H Davy/A Davy)



(Photo: H Davy/A Davy)



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