Rochester Bridge Trust Review 2021-2023

ROCHESTER BRIDGE TRUST

Welcome from the Senior Warden

DEREK BUTLER | Senior Warden

It was an honour earlier this year to be elected to a post that was created more than 600 years ago, at the time of the Rochester Bridge Trust's foundation in 1399.

Together, the 13 unpaid members of the Court of Wardens and Assistants oversee the work of the Trust and contribute experience gained from our professional lives. Between us, we have expertise in engineering, property management, financial investment, transport planning, agriculture, history, academic research, education and more. We are ably assisted by a team of dedicated, salaried staff, and together we are committed to upholding the Trust's values of independence, leadership, focus on the long-term view and environmental responsibility.

Seven members of the Court are appointed from the community by the Trust, together with three nominated by Medway Council, two by Kent County Council and one by Maidstone Borough Council, representing the geographical area that had historic responsibilities for maintaining Rochester Bridge.

This year, we said farewell to our longest serving member, Paul Harriott, who retired in May after 43 years of service. We also welcomed two new Assistants: John Farmer, a Chartered Engineer and a Member of the Institution of Civil Engineers, and Dr Helen Pascoe, a teacher and senior education leader with a particular interest in inspiring young women into STEM-based careers. Their appointment followed an in-depth governance review which highlighted those areas – in particular education – where the Court needed strengthening. The additional expertise they bring will prove invaluable in ensuring the Trust continues to operate to the highest standards.

The Rochester Bridge Trust is a unique survivor of the historic system of providing bridges. It is the only major medieval bridge trust that is independent of local government and still serving its original purpose – to provide crossings of the River Medway free of charge to the public.

The Trust's vision is that a safe and well-maintained crossing at Rochester will be provided in perpetuity. I hope this review gives an insight into our work to achieve this vision over the past two years.

The Origins of the Trust

After the fall of the Roman Empire, the task of maintaining the bridge – which had been built soon after the Roman conquest in 43 AD – fell to parishes and manors across a large part of Kent and Medway.

The responsibilities were laid out in the Bridge Work List, the earliest surviving copy of which appears in a 12th century register of the Bishop of Rochester.

The Roman bridge stood – although much repaired – for 12 centuries. Then in 1381 a flood finally swept it away.

Following construction of a replacement crossing – the medieval bridge – in 1399, letters patent of Richard II formed the parishes into a Commonalty and charged them to elect two Wardens to oversee maintenance and repair of the bridge.

Reforms in the reign of Elizabeth I and again in 1908 saw an increasing number of Assistants elected to support the Wardens. In 1999 a new Charity Commission scheme established the Court arrangements we have today.

This Deed of Confirmation, dated 21 November, 1588, and sealed with the great seal of Elizabeth I, reconfirms the ownership of the lands and tenements granted to the Wardens and Commonalty of Rochester Bridge by Richard II on 6 February, 1399, and confirmed by Henry IV on 5 November, 1401.

Bridges past and present

The bridge built over the River Medway by the Romans lay on the main road running from London to Dover. Consisting of nine stone piers, deep foundations and a flat timber roadway, this is believed to have been the first major Roman bridge in Britain.

The medieval bridge was built 100 yards upstream of its predecessor, close to where the Bridge Chapel still stands. It was a stone arch bridge consisting of 12 piers and a roadway paved with ragstone, with one opening crossed by a wooden drawbridge. The crossing was designed by the foremost mason and architect of the day, Henry Yevele. Construction was paid for by Sir John de Cobham and Sir Robert Knolles, who persuaded other benefactors to give land and property for its perpetual maintenance – they were, in effect, the founders of the Rochester Bridge Trust. Income from these endowments has been used to maintain the river crossing ever since.

The medieval bridge required continual maintenance. In the late 18th and early 19th centuries a large-scale modernisation programme was carried out, widening the bridge and creating a great central arch to ease the passage of road and river traffic. This work was led by leading civil engineers of the day – Daniel Asher Alexander, John Rennie the Elder and Thomas Telford.

Modernisation was not enough. In the 1850s the Trust used its funds to completely replace the bridge with a cast-iron Victorian structure that took the road back to the line of the original Roman crossing. The new bridge had three arches and a swing bridge over a ship's passage so that boats with fixed masts could navigate upriver. It was designed by eminent engineer Sir William Cubitt. At the same time, the Trust used much of the stone from the old medieval bridge to build Rochester Esplanade and the river walls.

The medieval bridge was modernised to include a great arch.

Rochester Bridge today

Today's bridges

Just 50 years after the Victorian bridge's completion, collisions from river traffic meant it needed refurbishment and by 1909 it had suffered so much damage that a major renovation was required.

What is today known as the Old Bridge is the result of significant alterations to the Victorian crossing. The roadway was raised and the cast iron arches under the bridge were replaced with steel bowstring-shaped trusses above. This work was carried out at no cost to the public – the £95,887 expenditure being funded from the proceeds of the original medieval endowment.

Around half a century later a second bridge was needed, as the growth of modern road traffic meant the road network struggled to provide enough capacity. This time, the Trust utilised the foundations of a disused railway bridge to build the New Bridge. Between the two road crossings a further Service Bridge was created, and these are the three structures the Trust owns and maintains today.

The Bridges at a Glance

circa AD43-1381

The Roman Bridge

The Roman bridge crossed the River Medway on the line of Watling Street, the main Roman road running from London to Richborough and Dover on the Kent coast. It was built soon after the Roman conquest under Claudius.

1391-1856

The Medieval Bridge

It took from 1383 to 1391 for the medieval stone crossing to be constructed as a replacement for the Roman bridge that had collapsed in 1381. The Rochester Bridge Trust was founded at this time.

1856-1914

The Victorian Bridge

A cast-iron arch bridge, this was constructed when it was realised the medieval bridge could no longer meet the needs of river and road traffic. At this time the swing bridge was also installed.

1914-present

The Old Bridge

Between 1911 and 1914 the Victorian bridge was reconstructed to become the striking, well-loved, crossing we have today.

1970-present

The New Bridge

An increase in road traffic saw the need arise for a second river crossing, and so the New Bridge was built using the foundations of a former railway bridge.

1970-present

The Service Bridge

Between the two road bridges, the Service Bridge carries pipes and cables for essential services across the river.

Maintaining the Bridges

The three bridges undergo a constant programme of inspection, care and maintenance to ensure they are kept to the very highest standards in terms of safety, utility and appearance. All work is carried out with greenhouse gas emissions constantly reviewed and reduced to be as low as possible, enabling routine maintenance to be Net Zero Carbon.

Routine care and maintenance of the bridges is carried out for the Trust by contractor FM Conway. Conway's staff will be seen working on the bridge throughout the week on highway, footway and structure cleaning and repairs; drainage maintenance; and street lighting maintenance. Ensuring good day-to-day maintenance can prevent or postpone the need for major intervention. Trust staff supervise all work carried out on the bridges.

In addition, the bridges underwent a significant, multi-million pound refurbishment in 2019/2020. The project involved a range of upgrades including structural repairs and strengthening; renewal of parapets; waterproofing and resurfacing; renovation of historic ornate lighting; aesthetic illumination; and public realm enhancements. The bridges are now in excellent condition to provide safe crossings for many decades to come.

Activities over the past two years have included:

- painting of the lower section of the bowstring-shaped trusses and sealing the lower chord;
- installation of further deterrent measures to prevent roosting by feral pigeons;
- completion of riverbed and topographical surveys and a review of bridge security;
- development of designs for remedial works to the Island Pier of the Old Bridge and its access gantry;

Maintenance is carried out at Net Zero Carbon and almost always at night to minimise disruption to road users.

- undertaking inspections of the more inaccessible parts of the bridges using remotely-operated drones;
- achievement of Net Zero Carbon for routine bridge maintenance, including the introduction of an electrically-powered workboat, the use of low carbon diesel fuel and the installation of electric vehicle and plant charging points.

Looking ahead, over the next two years the Trust plans to:

- carry out river wall repairs in the Rochester Service Well;
- paint the upper sections of the bowstring-shaped trusses on the Old Bridge;
- work with the statutory undertakers to improve maintenance of their equipment in the service bridge;
- install improved maintenance access to the Island Pier of the Old Bridge;
- carry out a feasibility study into options for strengthening the downstream cantilever of the New Bridge and widening the footway to enable more segregation between pedestrians and cyclists.

As its primary charitable objective is to provide the crossing of the Medway for all road users, including cyclists and pedestrians, the Trust goes to great lengths to minimise the duration and extent of any footway and carriageway closures. For safety reasons, lane or footway closures are sometimes unavoidable but, wherever practicable, works are carried out at night or during off-peak periods.

Unfortunately, the Trust has no influence over the traffic signal junctions at each end of the bridges or the connecting highways but it is able to control the activities carried out by statutory undertakers on the bridges themselves to ensure their work does not unduly disrupt travel.

Ancient Charity, Modern Values

The winner of the inaugural Phil Tindall Memorial Medal, Richard Brooks.

The Trust has a relentless focus on quality, best practice and aims to be an exemplar practitioner in the field of bridge management by sharing learning with others and inspiring them to do likewise.

This expertise was recognised in 2023 when – in acknowledgement of its achievements in carbon reduction – an independent panel of bridge and engineering specialists chose the Trust as winner of the Bridges Management category in the annual Bridges Awards, which honour outstanding achievement in UK bridge projects.

Earlier success was achieved at the inaugural Bridges Awards in 2021 when the Rochester Bridge Refurbishment Project was crowned the winner in the refurbishment category and won or was shortlisted in countless other awards schemes for this project. In the same year, the Women's Engineering Society named the Bridge Clerk, Sue Threader, as one of the Top 50 Women in Engineering. In October 2023, she was appointed a Board Member of the City Bridge Foundation, a medieval charity which looks after Tower, London, Blackfriars, Southwark and Millennium Bridges.

The Trust is keen to share its expertise with other engineers. As well as being an active member of the national Bridge Owners Forum and lecturing at conferences, it regularly hosts visits from organisations as diverse as the University of Cambridge, the Worshipful Company of Engineers and Clifton Suspension Bridge Trust.

To help promote professional development in the industry, the Trust launched two new initiatives in 2023: the Phil Tindall Memorial Medal, an award for individuals who mentor young engineers and named after a former consultant to the Trust who inspired many newcomers to the profession over his 40-year career; and a bursary to help lesser-paid engineers seeking accreditation under the Bridge Inspector Certification Scheme.

Commitment to best practice extends to how the Trust operates as an organisation, with a strong emphasis on good governance and effective oversight by members of the Court of Wardens and Assistants. Actions over the past year have included a full review of all policies and the development of a new Strategic Plan for the period 2023-29.

A delegation from the Worshipful Company of Engineers, during a visit to Rochester Bridge.

Looking to the future

To help ensure there continues to be a bridge at Rochester in perpetuity, the Trust is committed to developing the next generation of civil engineers. The Trust's support for education dates back over 150 years and includes establishing and funding Maidstone Girls Grammar School and Rochester Grammar School, as well as providing major funding for the boys' grammar schools. In recent decades it has founded a professorship in Bridge and Tunnel Engineering and provided research funding to higher education institutions.

Current initiatives include the Rochester Bridge Trust Arkwright Engineering Scholarships. These support academically outstanding young people with an interest in civil engineering by providing them and their schools with additional funding and access to career and development opportunities such as site visits and networking events. The Trust also runs the Spence Agricultural Scholarship (named after a former Senior Warden), which grants the recipient £1,500 a year for three or four consecutive years, when studying for a BSc degree in agriculture.

Learning About Bridges volumes 1 and 2 teach children the principles of bridge building.

The Let's Build a Bridge activity is taken to schools and challenges children to construct a model bridge that is large enough for them to walk across.

To complement the Arkwright programme, in autumn 2023, the Trust launched the Harriott and Telford Engineering Scholarships designed to support entry into civil engineering education. The first is named after longstanding Court member Paul Harriott and the scholarship is open to non-selective state school pupils living or studying in Medway, Maidstone and Tonbridge & Malling who intend to study A-Levels in mathematics and physics and/or design & technology. The Telford Scholarship is for pupils from selective schools. Successful applicants will receive £300 a year for two consecutive years, while studying for their A-Levels, and their school will receive a one-off payment of £400 to be put towards STEM education.

A new initiative in 2024 will see the Trust support a residential summer school for young people on bridge and highway engineering in association with the Smallpeice Trust and the University of Kingston.

There is also a focus on introducing younger children to engineering and the Trust has a team of education officers who go into schools and community groups to offer bridge-building activities. A revised and extended edition of the accompanying book of lesson plans, Learning about Bridges, was launched in November 2023 – this is supported by lion mascots Langdon and Leonie.

In summer 2023, the Trust launched its 'Let's Build a Bridge' activity programme. This gives children aged nine and over the opportunity to make practical use of what they have learned in the classroom by building a bridge that's large enough for them to walk across.

Over a 12-month period, 7,000 children took part in the Trust's educational activities and 27,000 visitors came to the Learning About Bridges exhibition, which featured a world record breaking model bridge made of interlocking bricks that filled the Nave of Rochester Cathedral. A new family engineering education event in Rochester Cathedral is planned to take place in summer 2024.

In both 2022 and 2023, the Trust sponsored and provided activities as part of the Living Land event for schools at Detling Showground, organised by the Kent Agricultural Society.

To access the Trust's free learning materials and find out more about education events visit **www.rochesterbridgetrust.org.uk**

Open doors

The fully accessible Bridge Chapel and Chamber are open to visitors on selected days.

The evening lecture programme continues to be popular.

Hard Hat Tours were launched to overwhelming popularity, swiftly leading to a waiting list for almost double the number of places available.

In October 2022, the Trust was able to open its doors to the public for the first time since the pandemic, having completed a comprehensive refurbishment of the medieval Bridge Chapel and Victorian Bridge Chamber. An important part of the refurbishment works, which won a City of Rochester Society Conservation Award, involved the transformation of the buildings in terms of accessibility.

Since then, the buildings have hosted an array of events that have attracted thousands of visitors. The programme of activities has included exhibitions – the first one, on archaeology, attracted 3,000 people; public lectures; and participation in the annual Heritage Open Days week. This year, the latter included hard hat tours under, inside and over the Trust's bridges to find out more about the engineering involved in the structures. The programme of lectures, tours and open days will continue next year.

Public engagement is also carried out via an ongoing communications programme using channels such as X (formerly Twitter), Facebook and Instagram as well as traditional media outlets.

News and information about the Trust is published on the main website at **www.rbt.org.uk** and the education website at **www.rochesterbridgetrust.org.uk**

Resources

Approximately 4,750 acres of the agricultural estate is used for arable farming, such as this land at Harple Farm, Detling.

During the late 14th and early 15th centuries, benefactors endowed the Trust with land and property in London, Essex and Kent.

Achieving its mission without any recourse to public funds requires the Trust to ensure it continues to exercise its values of independence, leadership, a focus on the long-term and environmental responsibility. This requires strong risk management, prudent financial control and an investment in quality throughout all aspects of the Trust's work. The Trust engages the support of a specialist actuary to assist with its long-term financial planning and the accumulation of reserves necessary to meet maintenance costs and ultimate replacements for the bridges.

The original medieval donations have grown into a portfolio worth £119.5m as of 31 March 2023. The investments are divided between direct property holdings and various financial instruments. The balance between the two is currently approximately 65% direct property and 35% financial investments.

Many new properties have been added to the portfolio over the years and the Trust now has holdings in Kent, Medway, West Sussex, Suffolk, Cambridgeshire, Lincolnshire and West Yorkshire. The portfolio includes industrial, retail, residential, commercial and over 6,500 acres of agricultural land.

The land, buildings and structures of the property estate are repaired, improved and developed so that they continue to generate the resources which fund the Trust's work. Work is under way to move more of the estate administration in-house, and bring about further improvements in the quality of property management.

The majority of financial investments are managed for the Trust by Rathbones and there is a balanced portfolio of funds and individual stocks. Some indirect property fund holdings and cash are directly managed by the Trust.

Recent turbulence in the economy and the uncertain geopolitical climate make it difficult to predict future financial performance, but strong management and the diversity of the investment portfolio puts the Trust in the best possible position to take a very long-term view of its financial position. This is helped by the extended periods between major bridge expenditure.

In the last financial year, losses of £1.3m on financial investments were more than offset by a gain of £2m on property investments.

Income and expenditure over the past two financial years has included:

	2021/2022	2022/2023
Expenditure on bridge maintenance	**£0.9 million**	**£1.57 million**
Expenditure on investment property (essential repairs and improvements)	**£2.3 million**	**£1.83 million**
Expenditure on grants and other charitable activities	**£0.5 million**	**£0.53 million**
Incoming funds (mainly investment income and rents)	**£3.38 million**	**£3.42 million**

The ongoing restoration of the Shorts Scion Floatplane is being supported the Trust, with plans to put the finished plane on public display in Medway.

The Grants Programme

Rochester Bridge Trust's main charitable purpose is to provide crossings of the River Medway.

However, when surplus funds allow, it makes money available to support education and conservation projects in the fields of engineering, agriculture and heritage. These grants are offered to charities in Kent and areas close to its landholdings elsewhere.

Recent recipients have included St John Fisher Catholic School (interpretation boards), St Mary Magdalene Gillingham Green (restoration of the tower of a 12th century church), Octopus Foundation (donation towards teaching equipment), The Folkestone Leas Lift Company (restoration of a passenger carriage for the funicular railway), the Bridge Owners Forum (website development), and Habitats & Heritage (Sir Joseph Bazalgette's Mausoleum).

Work has continued at Medway Aircraft Preservation Society to restore a Shorts Scion Floatplane so that it can be placed on public display.

Following a review of the grants policy, a budget of £1 million has been allocated for grants and other charitable purposes over the coming two years.

The Trust will consider applications linked to areas such as education and research – particularly in relation to civil engineering, history and agriculture; the River Medway; carbon reduction and sequestration; equality and diversity in engineering, construction and agriculture; the historic fabric of heritage sites; and the promotion of traditional crafts linked to the built environment and agriculture. Full details can be seen at **www.rbt.org.uk/grants/**

Cutting Carbon

Following the adoption of a Carbon Reduction Plan in 2021, a major focus has been on minimising emissions and achieving Net Zero Carbon across all activities.

Bridge management achieved Net Zero Carbon status in April 2022 and emissions have since been cut by a further 30 per cent. Emissions have been reduced by 88% for core activities compared with the 2018 baseline through changes to working practices, more sustainable transport, moving away from fossil fuel plant to electric equipment and biofuel, and switching to renewable power.

In-house activities achieved Net Zero status in April 2023. The Bridge Chapel and Bridge Chamber are now 100% powered by renewable electricity, with gas connections removed and discontinued.

To offset the minimal residual carbon, the Trust has embarked on a tree-planting programme, creating a new native species mixed woodland – known as Wardens' Wood – at Detling.

A second carbon sequestration woodland will be planted in 2024.

Looking ahead, there will be a continued effort to reduce the carbon emissions of the supplies provided to the Trust, with the aim of achieving carbon neutrality for these activities from 1 April 2024.

The Bridge Clerk has been active in sharing the Trust's methodology and achievements in carbon reduction, particularly with other bridge-owning organisations. The Trust won a national award for its achievement in reducing carbon emissions in bridge management at the Bridges Awards 2023.

Wardens' Wood has been planted to offset residual carbon. When first planted, the saplings were protected by biodegradable tree guards.

The introduction of an electric boat has led to a 95% reduction in carbon emissions compared to a petrol-powered vessel.

This recently acquired painting is an early Victorian watercolour showing the medieval bridge after it had been modernised.

Archives and art

The Trust's archives began with 14th century Wardens' account rolls and estate records, and continue to be added to with records arising from the current business. Included among the documents are parchments, coloured estate maps and legal documents bearing the royal seals of kings and queens, including Henry VI and Elizabeth I.

Many paintings and photographs are also preserved, illustrating the changing nature of Rochester Bridge and the rich history of the Trust. Access to the archives is available to the public by appointment.

The archive catalogue will be available to search on the Trust's website in early 2024 and is expected to be extensively used by historical and family history researchers.

The Trust is also custodian of a considerable collection of antique pieces of furniture acquired over its 600-year history. These range from a large Arts & Crafts table made by Robert 'Mouseman' Thompson and relics of the medieval bridge to a pencil sketch by renowned artist J M W Turner and a selection of antique clocks. A number of the paintings and antiques can be viewed by the public during the ongoing programme of Bridge Chamber and Bridge Chapel open days.

The Mouseman table was made specially for the Bridge Chapel. The table itself and two of the accompanying chairs are engraved with a mouse to indicate the maker.

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