

A stylized graphic in teal and white. At the top, a white circular shape with a teal outline is partially cut off by the top edge. Below it, a white path or river flows downwards and to the right, ending in a series of five parallel teal lines that suggest a crossing or a bridge. The background is white with teal geometric shapes on the left and bottom.

CROSSING THE RIVER

BRIAN COOKSON

TRANSWORLD
BOOKS

About the Book

Some of the most beautiful views of London are those from the many bridges which span the River Thames. Millions of people cross over the Thames every day but most are too concerned with reaching their destination to notice the structures they use, let alone consider their history or the risks taken in building them.

Triumphs of architecture and engineering, London's bridges have inspired artists as diverse as Dickens and Monet. From the elegant Richmond Bridge to the Gothic, quintessentially British Tower Bridge, they have formed the backdrop to battles, rebellions, pageantry and mysteries for two millennia. *Crossing the River* tells these stories, including the assassination of a dissident with a poisoned umbrella on Waterloo Bridge; the apparent suicide of 'God's Banker', an Italian financier with links to the Vatican, the Masons and the Mafia; and the *Marchioness* tragedy and its controversial aftermath.

Featuring illustrations and photographs old and new, this book will undoubtedly increase the reader's knowledge and appreciation of the bridges and the people who built them, and thereby enhance the pleasure of seeing them, whether at leisure or stuck in a traffic jam.

Contents

Cover

About the Book

Title Page

Dedication

Map

List of Illustrations

Acknowledgements

Preface

Introduction

1. Richmond and Twickenham

2. Kew

3. Chiswick and Barnes

4. Hammersmith

5. Putney and Wandsworth

6. Battersea and Chelsea

7. Vauxhall and Lambeth

8. Westminster

9. Charing Cross

10. Waterloo

11. Blackfriars

12. Millennium Bridge

13. Southwark and Cannon Street

14. London Bridge

15. Tower Bridge

Picture Section

Appendix 1: Thames Bridges Summary

Appendix 2: Bridge Basics

Notes

Sources

Index

About the Author

Copyright

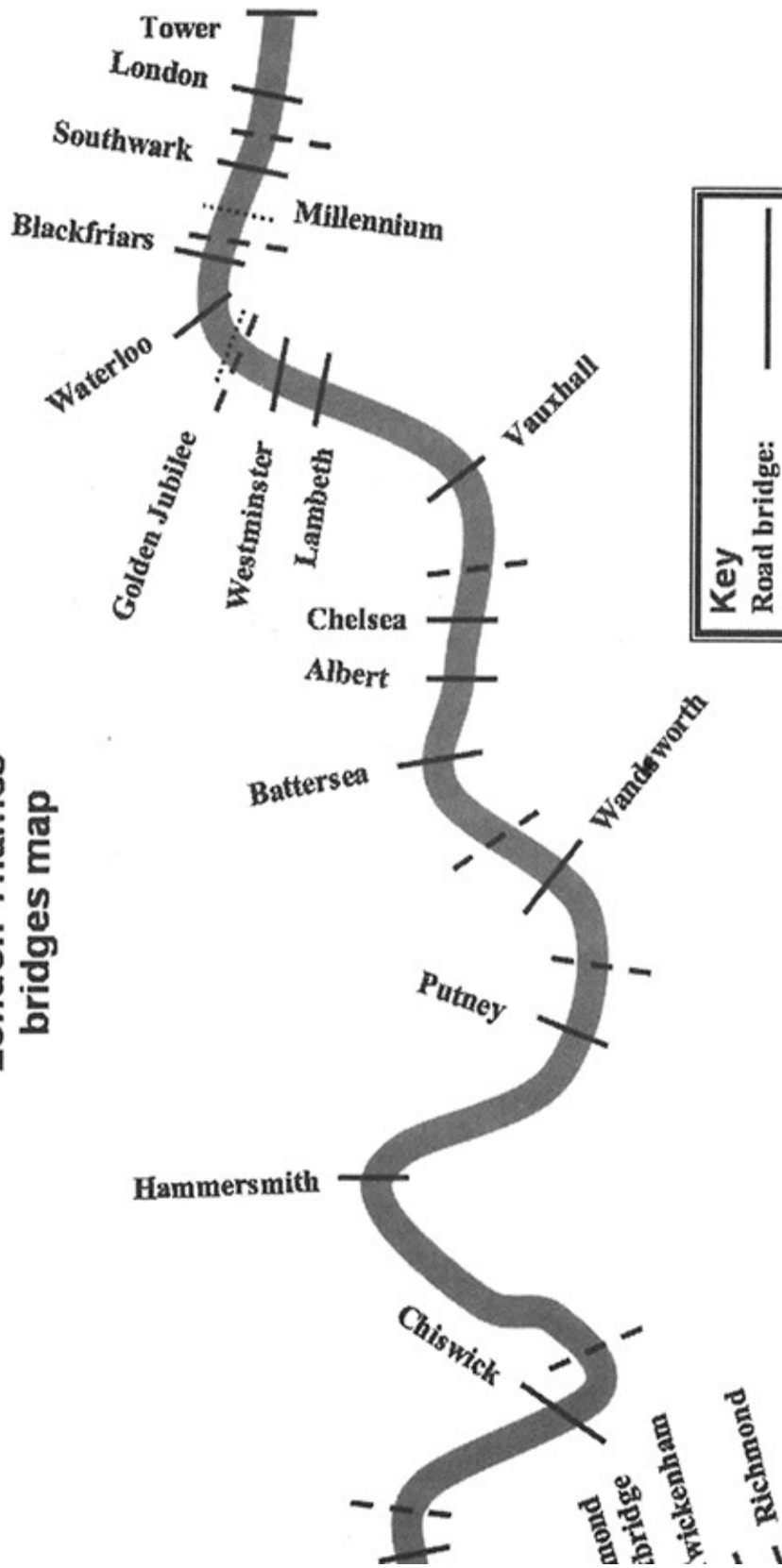
CROSSING
the
RIVER

The History of London's Thames River Bridges
from Richmond to the Tower

BRIAN COOKSON

***Dedicated to Richard and Sarah, and their
families***

London Thames bridges map



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Illustrations

1780 view of Richmond Bridge
Richmond Bridge with boats
Flooded towpath by Richmond Bridge
Richmond Railway Bridge
Twickenham Road Bridge
Richmond Footbridge, Lock and Weir
Wooden Kew Bridge of 1759
Stone Kew Bridge of 1789
Kew Bridge of 1903
Kew Railway Bridge
Chiswick Bridge
Barnes Railway Bridge
William Tierney Clark plaque
Hammersmith Bridge of 1827
Boat Race crowds on Hammersmith Bridge
Bust of Joseph Bazalgette
Coat of arms on Hammersmith Bridge
Hammersmith Bridge today
Fulham Bridge
Fulham Bridge with the aqueduct
Bazalgette's Putney Bridge
Putney Railway Bridge
Wandsworth Bridge
Battersea Railway Bridge
Old Battersea Bridge
Bazalgette's Battersea Bridge
Albert Bridge at night
The notice to troops at Albert Bridge
Old Chelsea Bridge

Chelsea Bridge of 1937
Grosvenor Railway Bridge
Vauxhall Bridge of 1816
Vauxhall Bridge of 1906
Vauxhall Bridge overlooked by the MI6 building
Old Lambeth Bridge
Lambeth Bridge of 1932
Pineapple obelisk at Lambeth Bridge
Sixteenth-century map of London
1750 engraving of the old Westminster Bridge
Westminster Bridge of 1862
Westminster Bridge's Coade stone lion
Brunel's Hungerford Suspension Bridge
Statue of Brunel
Hungerford Railway Bridge
The 1951 Festival of Britain site under construction
Golden Jubilee Bridge
Waterloo Bridge of 1817
Old Waterloo Bridge and Hungerford Suspension Bridge
Waterloo Bridge with Somerset House
City skyline viewed behind Waterloo Bridge
Blackfriars Bridge of 1769
Blackfriars Bridge with St Paul's Cathedral
Blackfriars Bridge river-pier capital
Blackfriars Railway Bridge
Old station plaques preserved in Blackfriars Railway Station
Millennium Bridge under construction
Southwark Bridge of 1819
Southwark Bridge today
1864 view of Cannon Street Railway Bridge
Cannon Street Railway Bridge today
1814 Frost Fair with Blackfriars Bridge
Seventeenth-century engraving of Old London Bridge
London Bridge old and new in 1832
Remaining arch of Rennie's London Bridge

London Bridge with City skyline
Ships crowding by London Bridge
Tower Foot Tunnel entrance
Tower Bridge's high-level footways
The raising of Tower Bridge's bascules
The operation of the bascules
Tower Bridge's engine house

Plates

Richmond Bridge
Richmond Footbridge, Lock and Weir
Chiswick Bridge
Tierney Clark's Marlow Bridge
Ornamental shields on Battersea Bridge
Lambeth Palace from Lambeth Bridge
Chelsea Bridge galleon lamp-post
Albert Bridge
View from Westminster Bridge
Embankment Place and Hungerford Bridge
Golden Jubilee Bridge
Headless columns of the former LCDR Bridge
Insignia of the LCDR by Blackfriars Bridge
Millennium Bridge
George III's coat of arms from Old London Bridge
Tower Bridge suspension chains

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Preface

Thousands of us cross over the River Thames in London every day. Most often we are too concerned with traffic congestion and the need to reach our destination to notice the structures of the bridges we use, let alone consider their history or the efforts and dangers that went into building them. However, as a London Blue Badge Guide, I am frequently made aware that when people do have time to look around, it is the views of the river from the bridges and many of the historic bridges themselves that most inspire them. London's Thames bridges constitute an irresistible subject of study, combining history with the romance of the imposing structures bestriding the powerful flow of England's longest river. There is something about the concept and appearance of a bridge that excites the human imagination. John Betjeman once wrote that it is difficult to make a bridge look ugly, although he did add wryly that this was achieved in the case of the iron railway bridge over the Thames at Charing Cross.

Lengthy books have been written about individual Thames bridges. Other books cover all the bridges from the source to the sea, or include other types of crossing, such as tunnels and ferries, and so have to limit their descriptions of each bridge to the basic facts. In this book, I have devoted a full chapter to each of the main bridges or groups of bridges on the tidal Thames within the area of Greater London, starting at Richmond and ending at Tower Bridge. Each chapter covers the historical background, why the bridge was built, problems in obtaining finance and approval, bridge design and construction, and, finally,

subsequent developments up to the present day. I have also included historical illustrations as well as current photographs to show how the bridges and the river itself have changed over the years.

The book is aimed at the enquiring layperson rather than the professional engineer. I do, however, include what I hope will be intelligible descriptions of some of the technical aspects of bridge design along with the important statistics on each bridge in the appendices.

The diversity and vibrancy of modern London seems to be reflected in the idiosyncratic variety of its river bridges, from the eighteenth-century classicism of Richmond Bridge and the nineteenth-century Gothic extravaganza of Tower Bridge to the streamlined elegance of the twenty-first-century Millennium Bridge. My aim is to increase the reader's knowledge and appreciation of these bridges, their rich history and the people who built them, and thereby enhance the pleasure of experiencing the bridges, whether at leisure or stuck in a traffic jam.

Introduction

Half a million years ago during one of the many ice ages that beset the British Isles, glaciers dammed the flow of a massive river to the north of present-day London. This caused the river to burst through the Goring Gap in the Chiltern Hills, pursuing its way to the North Sea roughly along the course of the current River Thames.

Archaeological excavations provide evidence of many prehistoric human settlements on the north and south sides of the river. Even more fascinating are finds of elephant and hippopotamus bones in Trafalgar Square. These animals would have been able to cross the river by wading or swimming, and people would doubtless have used fords and boats to do the same from early times.

Until recently, it was assumed that the ancient Britons had not built any bridge crossings and that the first bridge to be constructed over the Thames was the Roman wooden bridge sited just downstream of today's London Bridge. However, in 2001 Channel 4's *Time Team* in conjunction with the Museum of London Archaeology Service (MoLAS) investigated some wooden stakes that had emerged from the river-bed upstream of Vauxhall Bridge and established that they were almost certainly the remains of a Bronze Age walkway over the Thames. This early bridge must have disappeared by the time Julius Caesar invaded Britain in 55 BC, as Caesar describes in his *Commentaries* how his army had to ford the Thames - the name given to the river by Caesar himself. He states that it was fordable in only one place, and although historians believe this was at Westminster or Brentford, there is no way we can be sure

exactly where it was. What is certain is that the Thames was much wider, and in places shallower, than it is today and that much of the flood plain through which it flowed was marshy. The Romans finally conquered Britain in AD 43 and established Londinium on the firm stretch of high ground on the north bank of the river, opposite a low area of dry ground on the south bank. There they built a wooden bridge across the river just downstream of the present London Bridge.

The fate of the bridge after the Romans left Britain in 410 is unknown. From the tenth century, records start to appear with references to a wooden London Bridge at this site. In 1209, the wooden bridge was finally replaced by a stone one – the world-famous inhabited Old London Bridge with its houses, shops and even a chapel. Supported on 19 arches, amazingly it lasted over 600 years. It has often been said that the history of London is inextricably bound up with the river and, as we will see, it is also strongly reflected in Old London Bridge and its successors. This was the only bridge over the Thames in the central London area until the completion of Westminster Bridge in 1750. A wooden bridge had in fact been built in 1729 at Putney, but this was not really part of London at the time. The overcrowding of Old London Bridge suggested there was a dire need for a new bridge from at least the seventeenth century, when London started its massive expansion to the west.

The reason why it took so long to construct any other bridge was down to politics and finance rather than need or technology. Although Old London Bridge was always the preferred method of crossing between the north and south banks of the Thames, it also presented difficulties for those who used the river for transporting people or cargo. For centuries, watermen had offered their services from the many stairs on both sides of the river, taking people across the Thames as well as from place to place along its banks.

In general, river transport was popular well into the nineteenth century compared with the dirty, smelly and often dangerous roads. However, Old London Bridge proved especially dangerous to river traffic because of the swift flow of the tide through the narrow gaps between its arches, and many watermen and their passengers drowned in the passage. So the watermen saw bridges as obstructions, and to protect their interests they formed the powerful Company of Watermen, which received the Royal Charter in 1555. In addition, the City Corporation, which owned Old London Bridge, wished to preserve its monopoly on a bridge crossing so as to prevent trade from moving westwards. A combination of these vested interests managed to delay the approval of a new bridge at Westminster for nearly a century.

Once the precedent of a new crossing had been established at Westminster in 1750, several stone bridges across the Thames were approved and built in the eighteenth and early nineteenth centuries, including Robert Mylne's Blackfriars and James Paine's Richmond bridges. A great change occurred in bridge building with the coming of the Industrial Revolution and the construction of the world's first iron bridge, over the River Severn at Coalbrookdale, in 1779. Following the construction of London's first cast-iron bridge at Vauxhall in 1816, there was a profusion of bridge building using a variety of materials including cast iron, wrought iron, traditional stone and, later in the nineteenth century, steel. The coming of the railways contributed to this activity although it must be said that most of the railway bridges were utilitarian rather than beautiful. Many of London's bridges were initiated and financed by private enterprise and tolls were charged to recoup the investment. In 1879, the last bridges to charge tolls were finally bought out and all came under some form of public ownership.

The result of all this bridge building was that by 1900 there were eighteen road bridges, nine railway bridges and two footbridges over the Thames in London. As with London itself, there was no strategic plan and the pattern of crossings was somewhat haphazard. Moreover, all the road bridges had been built for the age of the horse and so most were inadequate for modern traffic. The other major problem was that, despite the involvement of famous engineers such as Brunel, Rennie and Bazalgette, most of the bridges failed to stand up to the fierce battering they received from the ebb and flow of the twice-daily tides, which reach speeds of up to 14 mph. Up until 1832, the tidal effect would have been much less severe because Old London Bridge, with its 19 arches, acted as a sort of weir. In fact, the flow of the tide was reduced to such an extent around Old London Bridge that the Thames often froze over in winter, leading to a succession of Frost Fairs, during which booths were set up on the frozen river, oxen were roasted and printing presses produced certificates for customers to record their attendance. The year 1814 saw the last of the Frost Fairs. Rennie's five-span replacement London Bridge of 1831 no longer slowed the tide enough for the river to freeze over, nor indeed to protect the upstream bridges from the tide's onslaught.

Apart from the eighteenth-century Richmond Bridge, made of stone, and the much later, nineteenth-century Albert and Tower bridges, all these early bridges have had to be rebuilt over the years, sometimes more than once. Often there has been considerable public protest when these historic structures have had to be pulled down. For instance, in the 1940s, there was outrage when the decision was taken to rebuild Rennie's popular Waterloo Bridge, which had been described by the sculptor Canova as the noblest bridge in the world. However, like the others, it finally had to come down and be replaced by

today's more stable and traffic-friendly bridge of reinforced concrete.

Tower Bridge was completed in 1894. After that, apart from the Millennium Bridge of 2001, no new bridges have been built over the Thames in the central London area, and only a few have been built further upstream. When looking back at what happened to the numerous Thames crossings in Greater London, we are more amazed by the longevity of Old London Bridge - the very first stone bridge - than we are by the much shorter lives of its followers. Bridge construction presents many difficult problems to the engineer, especially when crossing a fast-flowing river like the Thames. Even in modern times, mistakes are made: for instance, the famous wobble experienced on the Millennium Bridge by the crowds who walked across at its opening in 2001. Thus it is particularly impressive that Old London Bridge lasted over 600 years despite the much more primitive technology available in medieval times.

Many of the engineering considerations involved in bridge building are technical and of little interest to the layperson. However, it is worth mentioning some major decisions that had to be made in designing these London bridges. Choice of material has been important, but this has depended on the technical advances of the day. Roughly speaking, it is true that stone was used until the end of the eighteenth century, iron and, later, steel in the nineteenth century, and in the twentieth century there was increasing use of reinforced and pre-stressed concrete. In general, improved materials allowed longer spans to be designed. The longest spans are usually found in suspension bridges, the first of which in London was William Tierney Clark's Hammersmith Bridge, completed in 1827, with a central span of 422 feet. One clear advantage of a longer span is that it enables river traffic to pass through more freely, but unfortunately, in the case of Hammersmith Bridge the road deck was slung so low that

tall ships could only pass through at low tide. The benefit of a long span has to be weighed against the cost, as it is usually expensive to build. Design of the spans has to be considered along with the choice of the type of bridge (arch, beam, suspension, cantilever, cable stay, bascule and so on). All of these types are represented on the Thames. Brief descriptions of each type are contained in the appendix on Bridge Basics.

Perhaps the most crucial engineering decision was how to build the foundations of the bridge supports. Although the Thames is quite shallow at low tide, the difference in depth between low and high tide is about 21 feet at London Bridge and, as mentioned above, the ebb and flow of the tide can reach the considerable speed of 14 mph. The river-bed is mainly clay with variable coverings of gravel and sand. Clay is about the worst type of ground on which to build any foundations. It is estimated that it can bear about 40 times less weight than rock. Therefore it is essential to drive down deep into the river-bed to provide as firm foundations as possible for the bridge piers. This has been done by driving wooden piles into the river-bed for supports, as with Old London Bridge. For the longer spans of the later bridges, this method would not have provided a firm enough base. The two main techniques used were cofferdams and caissons. Cofferdams are made by driving wooden piles or, more recently, sheet steel, into the river-bed to form an enclosed space which can be pumped dry and filled with concrete or other strong material to provide the foundations on which to build the piers. A caisson is a sort of prefabricated cofferdam which has to be sunk into the river-bed either by dredging or excavation.

Once the bridge is completed it is subject to the problem of scour, whereby the flow of the water carries away material from the bridge supports over the years. As we will see, inadequate foundations have been the cause of the demise of many of London's Thames bridges. With the

greater understanding of these issues available to the builders of the replacement bridges, it is to be hoped that the current structures will prove more long-lasting.

Today, there are 18 road bridges, 9 rail bridges and 3 footbridges over the Thames between Richmond and the Tower of London (mainly in similar positions to the bridge landscape of 1900). In addition, there are 15 tunnels carrying foot passengers, road vehicle traffic or London Underground trains under the Thames in the Greater London area, although many of these are to the east of Tower Bridge. No other major city has so many river crossings. It seems that land traffic interests have now won a complete victory over the proponents of river traffic. Although this trend has gathered momentum since the eighteenth century, many people regret it has gone so far and that the Thames is so little used as a highway today.

Looking to the future, it is likely that most bridge-building activity will be to the east of Tower Bridge, as there are plans to expand housing and stimulate economic growth in these underdeveloped areas. Strategic proposals are being considered, including one for a crossing at Thamesmead, but so far no decision has been made. The following chapters examine London's river crossings, starting at the oldest existing bridge at Richmond in the west and working eastwards, ending at the most dramatic of all - Tower Bridge.

CHAPTER 1

Richmond and Twickenham

Of all the stately works of man that we can enjoy as we voyage up the river to Oxford, there are three that stand out from all the others. These are Windsor Castle, Hampton Court and Richmond Bridge. Built of white stone of five arches which increase in height and span to the centre arch and crowned with stone balustrades and supported by rounded buttresses, this bridge of 1780 [*sic*] is indeed a thing of beauty.

This quotation from an undated article by Mr Donald Maxwell¹ encapsulates the sense of aesthetic pleasure experienced by all who see this elegant Palladian structure which spans the Thames in the beautiful setting of Richmond riverside. Although only the seventh bridge to be built on the lower reaches of the Thames, it is the oldest remaining structure, as all the other earlier ones have had to be replaced. Over the years, Richmond Bridge has proved inadequate to convey all the traffic requiring to cross the river in the area and has been supplemented by three further bridges, which are designed to be functional rather than beautiful. The first of these is the Richmond Railway Bridge, built in 1848. This was followed by the Richmond Footbridge, Lock and Weir in 1894 and the Twickenham Road Bridge in 1933. Each proved controversial at the time, but today they are accepted as essential to the local economy and the preservation of the environment.

Richmond Bridge

Richmond Bridge replaced a ferry which from medieval times had provided a crossing for horse-drawn vehicles and pedestrians at about the same location on the river. The first mention of the ferry dates from 1443, in the reign of Henry VI, but it was almost certainly in existence from the time of Edward III's development of the Manor of Shene where he built himself a palace in the previous century. The ferry was always the property of the Crown and was leased to servants of the Crown or royal favourites to run it. Usage of the ferry will have increased considerably after Henry VII rebuilt the old palace, which was severely damaged by fire in 1499, and at the same time changed the name of the manor from Shene to Richmond, after his estates in Yorkshire. We even have fascinating records of his son Henry VIII's expenses, which indicate that he regularly spent money on the ferry. One record for December 1537 reads: 'Paid to Perkins of Richmond for the ferrying of the Princess and her servants arriving from Windsor - six shillings.' As the ferry, though leased, belonged to the monarch, this seems an uncharacteristically just act by the old autocrat. The princess referred to was the future Elizabeth I when she was four years old. She herself will doubtless have used the ferry often, as Richmond was her favourite palace and it was there that she died in 1603. There is a sad parallel between the deaths at Richmond of Elizabeth I and Edward III. Both had their rings cut off their fingers - Edward's by his thieving mistress, Alice Perrers, and Elizabeth's so that it could be delivered into the hands of James VI of Scotland to ensure the succession.

During the seventeenth and eighteenth centuries, Richmond developed into a thriving and fashionable town, although Henry VII's magnificent palace became neglected and was pulled down. The area kept its royal connections, however, and was the favourite country resort of George II

and Queen Caroline. The Queen built the imposing terrace on Richmond Green known as Maids of Honour Row for her ladies-in-waiting. Sir Joshua Reynolds, first president and founder of the Royal Academy, and Johann Christian Bach, the composer, both lived here for some time. Richmond also became a favourite riverside destination for tourists from London as it could be reached by coach in less than three hours. Chalybeate springs were found on Richmond Hill and a spa was developed there. Unfortunately, it soon became too popular, especially with rowdy groups who did not confine themselves to imbibing the health-giving waters. Mrs Susanna Houblon, the daughter of the first governor of the Bank of England, lived nearby on Richmond Hill. She bought the main buildings in 1763 and closed down the spa, which had become a nuisance to the local inhabitants. In 1768, the Theatre Royal was built on Richmond Green, replacing an older theatre on Richmond Hill. It was opened by David Garrick and attracted some of the most famous actors of the day, including Edmund Keane and Sarah Siddons.

Whereas Richmond was in the county of Surrey, Twickenham on the opposite side of the river was in the county of Middlesex. The Middlesex bank was less developed, but much favoured by aristocrats, artists and writers. Alexander Pope was among the first to build himself a villa here, in 1719. Later, Henrietta Howard, the mistress of George II when he was Prince of Wales, built a Palladian villa at Marble Hill and Horace Walpole, author and son of Prime Minister Robert Walpole, designed the extraordinary Gothic villa at Strawberry Hill. Pope's villa has long since vanished apart from the rather sad remnants of his famous grotto, but Marble Hill and Strawberry Hill still survive. Of the several artists who lived in Twickenham at this time, two were very much connected with the Thames and its bridges - Samuel Scott and his pupil

William Marlow, who both painted central London river scenes in the style of Canaletto.

As a result of the developments here on both banks of the Thames, the need for a bridge to replace the ferry was becoming overwhelming. Horace Walpole records a number of occasions on which he had problems crossing the river by the ferry. Once, after dining in Richmond, he was forced to travel to Kew to cross back to Strawberry Hill via the new wooden bridge there because the river was too swollen for the Richmond ferry to operate. On another occasion, he did use the ferry but the darkness of the night, the rapidity of the current and the drunkenness of the bargemen nearly resulted in disaster. The first person to take action was none other than William Windham, to whom George II had granted the lease on the ferry until 1798. Windham had been the sub-tutor to the King's younger son, the Duke of Cumberland, who became notorious as the 'Butcher of Culloden', as he massacred the defeated Jacobites at the end of the 1745 rebellion. Windham was also husband of one of the King's former mistresses and therefore doubly qualified as a servant of the Crown. He had sub-let the ferry to Henry Holland and saw an opportunity to make a profit for himself by building a bridge to meet the increased demand for crossing the river. In 1772, he proposed a parliamentary Bill to allow the construction along the course of the ferry of a wooden bridge with nine arches, the design of which is still held in the British Museum.

The proposal caused uproar among the local inhabitants, which was typical of the many campaigns which have disturbed the apparent calm of Richmond's riverside environment over the years. A group was set up to fight the proposal for a variety of reasons. The inhabitants were incensed that the profits would accrue to a single individual, William Windham, and exclude other potential investors; and they wanted the bridge to cross the river at Water Lane near the centre of the town, where the

approach was much less steep than at Ferry Hill as proposed by Windham. However, their main fury was directed at the design of the bridge and its construction in wood. In a letter to the *Lloyd's Evening Post* of 18 February 1772, an anonymous writer railed, 'What a cat-stick building must this be ... Methinks I heard Old Thames groan to be so vilely strode.' William Windham seems to have buckled under this pressure, as he withdrew his Bill and left the field open for the inhabitants to put forward their alternative proposal, which formed the basis of the Act of Parliament which received Royal Assent on 1 July 1773.

The Act nominated 90 commissioners who were to be responsible for building and maintaining a bridge of stone construction. The commissioners included the landscape gardener Lancelot 'Capability' Brown, the writer Horace Walpole, the actor David Garrick and Sir Charles Asgill, the local MP and a former Lord Mayor of London, who had recently presided over the removal of the houses from Old London Bridge. The Act also gave a number of key directions to the commissioners. Concerning finance, it was stipulated that no tax of any sort should be levied. The level of tolls was laid down, varying from two shillings and sixpence for a coach drawn by six horses to one halfpenny for a foot passenger, or one penny if pushing a wheelbarrow. Compared with the average wage of a skilled craftsman of about 12 shillings a week, the tolls seem high, but they were similar to the tolls charged for other contemporary bridges and the ferry it was about to replace. The ferry was to be shut down on the completion of the bridge, and Henry Holland received the generous compensation of £5,350. The Act also laid down the punishment for anyone convicted of damaging the bridge. Convicts were 'liable for transportation to one of His Majesty's colonies in America for seven years'. However, the colonies decided to declare independence in 1776, a

year before the completion of the bridge, so this punishment could never be handed out. There is no record of what did happen to transgressors, although, of course, Australia quickly replaced America as the normal destination for convicts.

The most controversial stipulation of the Act was the definition of the location of the bridge, which was to be 'at the Ferry or as much lower down the river as the Commission can settle'. As already stated, the inhabitants really wanted the bridge to be built at Water Lane so that access would be conveniently flat. The descent from Ferry Hill to the river was so steep that laden wagons were unable to use the ferry and had to cross further upstream via Kingston Bridge. The steepness of the incline had in fact created a business opportunity for a local woman who provided chairs for people to rest on midway up the slope. For this she was paid a few halfpence. Unfortunately, the land opposite Water Lane was owned by Henrietta, Duchess of Newcastle, the granddaughter of John Churchill, Duke of Marlborough, and she had made up her mind that she did not want the Middlesex bank approach road built anywhere near her country mansion. She proved a far more powerful and obdurate opponent than William Windham. In the end, the commissioners had to give way and agreed to start construction at the bottom of Ferry Hill, which is the site of Bridge Street today. The steepness of the slope did cause problems for users of the new bridge, and this was only alleviated in the nineteenth century, when the dip was filled in as much as possible so as to lessen the incline from 1 in 16 to 1 in 33.

Among the first decisions made by the commissioners was to choose to use Portland stone as the main construction material and to appoint James Paine as the architect, with Kenton Couse as his assistant. Strangely, there is no record of any competition for these appointments.



James Paine (1717-89)

Paine was the son of a carpenter from Andover. He trained as an architect in London, where he caught the attention of Lord Burlington, the leading proponent of the fashionable Palladian style of architecture. Burlington had built his famous Palladian villa at Chiswick, but had strong Yorkshire connections and had designed the Assembly Rooms at York. Most of Paine's commissions were in the north of England, where he designed Doncaster Mansion House and worked on the restoration of many great country houses, often in conjunction with Capability Brown, who redesigned the landscapes. He also designed a few houses in London, including Dover House in Whitehall, now the home of the Scottish Office.

With Sir Robert Taylor, Paine was considered the leading Palladian architect following the death of William Kent. However, he had built only one bridge. This was at Shardlow over the River Trent in 1760. Couse does not appear to have had any experience with bridges and it is therefore remarkable that their combined efforts should have stood the test of time so well. After completing Richmond Bridge, Paine did go on to design three further bridges over the Thames, the last of which was at Kew, which is covered in [Chapter 2](#).



Construction was put out to tender and a contract was signed on 16 May 1774 for Thomas Kerr to build the bridge for the sum of £10,900. It was now time to raise the money to pay him and cover all the other expenses such as building the approaches and compensating local landowners. The method chosen was known as a 'tontine', named after Lorenzo Tonti who had originated the idea in France in the 1650s. The sum of £20,000 was raised by the sale of shares which paid an initial annual dividend of 4 per cent. As each investor died, his or her share was divided between the survivors until the last survivor received the whole of the dividend, amounting to £800 per annum. When there were no more survivors, dividends would cease. In order to avoid fraud, the investors had to sign an affidavit declaring that they were still alive before they could receive the dividend, which was paid biannually. The list of shareholders held in Richmond Local History Library

contains an unusually large number of investments made in the name of children. It is not therefore so surprising that the last survivor did not die until 1859, at the age of 86, having received the maximum £800 for the last five years of her life. Her identity is not known although she will have been one of the 20 investors listed as still alive in the register of 1843. Richard Crisp relates an amusing story about one of the investors, an elderly lady:

[She] called on the paymaster, William Smith, for her biannual dividend and found it was the same as her previous one. She exclaimed in a discontented tone, 'What, has no one died since I was last here - all still alive?' But it was the last time she complained. When the dividends were next due, death had removed her, thus adding to the amount to be shared by those that survived her.²

Strangely enough, the shares could be sold, although the purchaser relied on the survival of the original investor to receive the dividend. In 1833, an advertisement appeared for sale to the highest bidder of a £100 share 'currently paying £14 per annum. The nominee is a lady of 69 years of age and in good health.'

Construction of Richmond Bridge started in August 1774 and the commissioners asked if the Prince of Wales would perform the ceremony of laying the first stone. Whether for lack of interest or because the Prince had another engagement, the request was turned down, so it was agreed that Henry Hobart, the leading active member of the Commission, should lay the first stone. Work progressed without notable incident apart from some complaints that the solid abutments at each end of the bridge would impede navigation and the general feeling among the commissioners that the contractor, Thomas Kerr, was proceeding too slowly. However, money was running out and a second tontine for an additional £5,000 was raised on 4 November 1776.