

THE HISTORY OF TOWER BRIDGE

In the middle of the nineteenth century, traffic over London Bridge and Blackfriars Bridge increased enormously and the Toll Bridge at Southwark, privately owned by the Southwark Bridge Company, did little to relieve the pressure of traffic. In 1849 the Corporation entered into negotiations with the company to purchase Southwark Bridge, but negotiations foundered on the question of price.

Public agitation against tolls in general resulted in the setting up of a Committee of the House of Commons and its report of July 1854 recommended the removal of tolls from all roads and bridges.

Shortly after, in 1855, the Metropolitan Board of Works was set up, and one of its specific responsibilities was to improve roads and bridges. The Corporation conferred with the new authority on the question of Southwark Bridge from time to time without reaching a solution and, in 1864, resumed negotiations direct with the Southwark Bridge Company, resulting in the company agreeing to free the bridge from toll if the Corporation would reimburse them. Accordingly it was officially opened as a toll-free bridge by the Lord Mayor in March, 1866. Subsequently, agreement was reached to buy the Bridge for £200,000 and the purchase was completed in June 1868.

Unfortunately, the siting of the approach roads of Southwark Bridge and the steepness of their gradients were a serious deterrent to traffic, and even the freeing from the toll did not result in sufficient use to ease the pressure on London Bridge.

Thus it was that the need for a new crossing east of London Bridge was continually urged on the Corporation and on the Metropolitan Board of Works, it not being clear at that time which authority would eventually be responsible. In 1871, a report to the Bridge House Estates Committee estimated that one third of the population of the whole Metropolis lived to the east of London Bridge and urged additional cross-river facilities for them and for future needs of the area, but no action was taken. In 1874, after a number of petitions from local traders, the Court of Common Council instructed the Bridge House Estates Committee to consider and report on the best means of providing increased capacity for traffic over London Bridge. In January 1875, the Ward of Candlewick presented a resolution urging the necessity for additional facilities, and in June, a

deputation from business houses was received and again the urgency of the matter was stressed.

A further reference from the Court to the Bridge House Estates Committee instructed the Committee to consider any possible means of relieving the growing congestion on London Bridge, and in December of 1875 the Committee reported on various schemes and recommended the widening of London Bridge. The following month yet another petition was presented by the "Merchants and Traders largely interested in the conveyance of goods in and around the eastern part of the City of London" referring to the proposed widening of London Bridge and strongly urging the provision of an additional bridge near, or to the east of, the Tower. This petition was immediately referred to the Committee with instructions to weigh the relative advantages and costs of a bridge over the river or a tunnel beneath it, and authorising the Committee to confer with the Government about the proposals. Shortly thereafter, a separate committee - The Special Bridge or Subway Committee - was formed and took over from the Bridge House Estates Committee all relevant references.

This special committee examined at least ten alternative schemes in addition to the widening of London Bridge. These included two low-level bridges with different forms of swing opening for the passage of ships into the Upper Pool; a moveable or rolling bridge shuttling constantly across the river, leaving part free for navigation at all times; a further bridge near the east side of London Bridge and connected to it at both ends and at intervals throughout its length; a high level bridge with hydraulic hoists at each end, eliminating the need for expensive compensation for property on long approaches; a high level bridge with a spiral ascent on the south side; submerged railway lines with a "deck" above high water level moving on them; a submerged cast-iron archway cum tunnel on the river bed; a further high level bridge; and paddle-wheel ferry boats.

The Committee reported recommending that, subject to sufficient funds being available, a bridge over or a subway under the Thames should be constructed east of London Bridge, also recommending that they should be empowered to examine means of fulfilling this and to advertise for further designs. Consideration of this report was adjourned for further information, and in May, 1877, they reported further giving the necessary details and strongly recommending some form of low-level bridge, which report was agreed by the Court. In reaching the conclusion that a new bridge was preferable to widening the existing London Bridge the Committee had the benefit of a detailed analysis made by the City Architect of traffic

movements across London Bridge monitored by the Commissioner of Police and comprehensive details of all shipping passing into the Upper Pool.

In March, 1878, the Engineer to the Metropolitan Board of Works reported to that body proposing a high level bridge with a clearance of sixty-five feet. This was adopted by the Board and presented by them in a Bill to parliament. This Bill was successfully opposed by the Corporation and by the Thames Conservancy Board as its restricted height would have cut out a large part of the river traffic without adding adequately to the facilities for land traffic.

The City Architect then concentrated on the design of a low-level bridge on the bascule principle, with a centre span of some three hundred feet bridged by two hinged platforms to be raised by steam or hydraulic power. In his report to the Committee he outlined the several advantages of this type of construction as follows: easy gradients for land traffic; economy of construction with little encroachment on either bank thus showing considerable savings for compensation for property compared with a high level bridge; a wider and unobstructed passage for shipping compared with a swing bridge; ease and speed of working by the machinery proposed; and architectural merit, the chief features being capable of being designed to produce a picturesque effect.

The Committee incorporated this recommendation in a report to the Court, the estimated cost being £750,000. Unfortunately, the report was not adopted and the matter lapsed for several years, notwithstanding continued public agitation for a new bridge. Then in January 1879 the Special Bridge or Subway Committee was dissolved and its outstanding references transferred to the Bridge House Estates Committee once again.

In June, 1881, the Metropolitan Board of Works proposed a conference to consider further the question of a new crossing, and it was held in October of that year. The Board was still strongly in favour of a high-level bridge and no agreement was reached. It was recorded by the Board that the Bridge House Estates Committee of the Corporation came to the conclusion that the need for a further crossing was not apparent enough for the Corporation to take action in the matter.

The following May a public meeting was held at the Mansion House to protest against further delay in improving the flow of traffic over the river. During the rest of 1882 and 1883 the Bridge House Estates Committee

considered the various alternatives anew and the Court agreed to a Bill being promoted in parliament for the establishment of a free ferry at the site of the present Tower Bridge.

1884 was the year of decision. In March of that year there were three Bills before parliament:- firstly, The Metropolitan Board of Works (Thames Crossing) Bill; secondly, The (Duplex) Tower Bridge Bill, introduced by private promoters; and thirdly, the Corporation's own Lower Thames Steam Ferries Bill.

These three Bills were considered by a Select Committee of the House of Commons, who, on 4th July, reported to parliament "Your Committee are of the opinion that two crossings are required and should be sanctioned by parliament. The one a low level pivot swing bridge at Little Tower Hill; the other a subway at or near Shadwell" and the Select Committee went on to express the hope that the Corporation might be induced to undertake the construction of the bridge and the Metropolitan Board of Works a subway at Shadwell.

On 24th July, the Bridge House Estates Committee reported agreeing generally with the Select Committee's conclusions and recommended to the Court of Common Council that a low-level bridge with mechanical opening or openings be erected at Irongate Stairs at the end of Little Tower Hill out of money to be raised on the credit of the Bridge House Estates and that they should be empowered to obtain a design or designs together with an estimate of costs with a view to an application being made to parliament later that year.

A deputation of the Committee inspected a number of mechanical bridges in this country and in the Low Countries and the City Architect reported again to the Committee on designs for a swing bridge and a bascule bridge. On 28th October, only three months after the last reference from the Court, the Committee were able to submit a detailed report including designs and estimates of the two proposals, and strongly recommending the adoption of the bascule bridge at an estimated cost of £750,000. The Court of Common Council adopted the Committee's recommendations and the Remembrancer was instructed to take steps to promote the necessary bill in parliament.

The bill was prepared with all speed and considered by parliament in the spring. In spite of strong opposition by wharfingers it received its third reading in July and was sent to the Lords. There it was decided to insert

a clause in the Bill reserving the right of occupiers of riverside premises whose trading was adversely affected to appeal to arbitration on the matter of compensation. It received Royal Assent on 14th August 1885, and in September the Court authorised the Bridge House Estates Committee to carry it out. The City Architect, Horace Jones, and John Wolfe Barry, an engineer who had been advising the architect on the plans, were appointed to supervise, and work began on site on 22nd April, 1886. Thus some twenty years of discussion had at last begun to bear fruit.

The design chosen was basically similar to that recommended by the Committee in 1878 and rejected by the Court. The modified design incorporated provision for pedestrians at high level, and alterations were made to the size and siting of the piers. The width between parapets was to be 50 feet and the gradients not to exceed 1 in 40 on the approaches. The height of the underside of the lowered bridge was to be 29 ft above high water, the same as London Bridge, and the underside of the arch with the bascules raised 125 feet - some 30 feet more than the height of the tallest ship then using that part of the river.

On 21st June, 1886, the foundation stone was laid by the Prince of Wales on behalf of the Queen, with due pomp and ceremony - more pomp and more ceremony than even my fellow historians are used to today.

The original Act of Parliament empowered the Corporation to construct the bridge within four years, and it may not come as a surprise to some of my learned fellows - the Chairman of the Barbican Development Committee for example - that further Acts had to be passed to extend the allotted time first by four years to August 1893, and then by a further year to 1894. It was completed at a final cost of £1,184,000 and on 30th June 1894 it was formally opened by the Prince of Wales to thunderous cheers from the large crowds assembled and the roar of the guns of the Tower.

In 1917 consulting engineers were appointed to review and report on modernising the machinery of the Bridge and, having completed a detailed investigation, made a very comprehensive report recommending the retention of the existing system since they estimated that little saving in running costs would result from electrification. A similar report by consulting engineers in 1925 reached the same conclusion and made the same recommendation. In April 1931, the Superintending Engineer reviewed the matter and reported that he saw no reason to differ from the

recommendations of the consultants in 1917 and 1925, and further reports from the Superintending Engineer in October 1946 and March 1951, left the position unchanged.

But conditions were now changing considerably. In July 1894, 655 openings of the bascules were recorded, allowing the passage of 846 ships, 660 of them steamers and 186 sailing craft. By 1955 the number of vessels had dropped to around 200 a month and continued to decline as trade in the river moved downstream. By 1970, the Upper Pool had ceased to attract ocean-going ships and the bascules were now only raised for maintenance or ceremonial occasions. It is very sad to see further docks being closed as trade continues to leave the Port of London, once the greatest in the world and responsible for the very growth of this City.

On the merger of the Bridge House Estates Committee with the City Lands Committee in 1968, responsibility for the bridges was transferred to the Planning and Communications Committee. In the face of the rapidly dwindling use of the Upper Pool, consideration had long been given to the future of Tower Bridge, concurrently with a study of the need for a further crossing downstream from the Tower, in which central government and the Greater London Council were concerned as well as the Corporation. In the autumn of 1970, the Planning and Communications Committee recommended to the Court that Tower Bridge should be retained as an opening bridge and be supplemented by an additional crossing downstream from it. The infrequent openings of the bascules coupled with the high fuel and labour costs tilted the balance in favour of electrification and the Court sanctioned the modernisation of the machinery, including changing to electrical motive power, with a consequent considerable saving in staffing, maintenance and running costs.

The 1885 Act of Parliament governing the construction of Tower Bridge stipulated that the public should have free access to the high-level pedestrian walkway, but it was not long before it became apparent that the infrequent use made of this facility did not justify the expense of maintenance and supervision. In 1906, parliamentary approval was obtained for the closing of the walkway, although it was not in fact closed until 1909. The re-opening of the walkway to the public has been under consideration for some time, and last year the Court agreed a proposal to re-habilitate and improve the walkway and its access, with a view to making a small charge for its use to defray the cost of the improvements and supervisory staff. Tenders for this work have already been put out and,

subject to the approval of the Court, it should be possible for work to start later this year, to be completed in time to open for public use on 1st April 1982. The magnificent views of the Metropolis from the high walkway should be an irresistible attraction to the many millions of tourists visiting the nearby Tower of London each year, and users of it will also be given the opportunity of seeing the machinery, both old and new.

Tower Bridge has in every way fulfilled the hopes of its designers and promoters. The design and construction of the bridge and its motive power are outstanding examples of Victorian craftsmanship, and the bridge has regularly carried loads far greater than were envisaged at the time of its construction, with the minimum obstruction to river traffic. The machinery for raising the bascules (and here I should add in parenthesis that I make no reference to the control equipment, about which one of my fellow historians has a far more intimate knowledge) - the machinery is as good today as it was in 1894 and never failed in its task. It is fitting that a complete set of the duplicated engines and pumps is to remain on permanent exhibition alongside their modern counterparts.

Tower Bridge today is so well known to you all that I have dealt with its pre-history rather than its history, and I make no apology for that. Those of my fellow historians who have been involved over the last twenty-five years in discussion about yet another crossing down stream may perhaps have felt that "plus ça change plus c'est la même chose". Although they may perhaps take heart from being reminded that Tower Bridge was, in fact, built in the end, certain vital conditions are very different today. Historians will remember that the estimated cost of Tower Bridge in the report adopted by the Court of Common Council in 1884 was £750,000, exactly the same as the very similar bridge proposed by the Special Bridge or Subway Committee six years before but rejected by the Court. In the early 1970s the Corporation offered to be responsible for the cost of a new crossing, then estimated to be of the order of £20M. Estimated cost at today's prices is thought to be in excess of £100M, quite beyond the scope of the Bridge House Trust funds, and it will be interesting to see what the new report from the Greater London Council, recently foreshadowed in the Press, will recommend. In addition to this runaway inflation, the Fund has been adversely affected by the Development Land Tax and the proposed repeal of this tax in the near future may well be too late to affect the position materially.

In support of his proposals for a bascule bridge the City Architect did, as I have already mentioned, refer to the fact that this type of construction would lend itself to bold architectural treatment and make a worthy landmark, but I am sure even he could not have foreseen the impact it would have, and the affectionate regard in which it would come to be held, not only by Londoners, not only by the British people, but by countless millions world-wide to whom it symbolises this great City.

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