

At a Glance

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Settling In

Early London was nestled between the Thames and North Thames rivers, east and south of the Forks. One of the challenges faced by the first settlers was crossing the water to London. That need grew as more people moved from the originally surveyed site to parcels of land across the rivers to the south and west.

In the early 1800s, the river was forded by foot, horse and cart. Canoe ferries were more reliable, particularly during the spring runoff, when oxen, cart and driver could be swept away by the powerful currents. Two separate ferry landings are known to have been in use near the Forks of the Thames in the early 1800s. Near the foot of what is now York Street, an American squatter named Miller operated one service. Just west of the present day **Wharncliffe Bridge**, the William Montague family had a boat landing.

Local legend was that an unusual and less reliable third ferry service was offered by the Beverlys. This family apparently suffered from fever and ague and because of their severe shivering they could ferry people across only when one of them was steady

enough to perform the service. It seems that travelers familiar with the Beverlys knew they were likely to be at their best in the late afternoon and would happily wait for them at the local tavern. Their landing was said to have been near Joshua Applegarth's hemp farm which was located to the east of what is now Mount Pleasant Cemetery.

Wooden Bridges

London's first bridge was **Westminster Bridge**. Built at the foot of York Street in the autumn of 1826 by contractor Levi Merrick, this span linked the new site of London to Westminster Township south and west of the Forks. The second, **Blackfriars Bridge**, was completed in 1831 and joined the north end of Ridout Street to the community of London West in London Township. Private subscriptions financed construction of Westminster Bridge but contributed only part of the two hundred and fifty pounds it cost to build Blackfriars Bridge. A district grant made up the rest.

Having only two river crossings into London proved useful during the

cholera outbreak of 1832, when the Reverend Mr. Boswell, an Anglican minister, stood guard at Blackfriars Bridge and warned travelers to stay away. During the Rebellion of 1837 and its aftermath, guards were posted on the two bridges and would not let anyone cross who could not give the password. Since the river was low enough to be easily forded on foot, the guards were the source of much amusement.

Mainly owing to the petition of the Reverend William Clarke, a congregational minister, Wellington Street Bridge was the next to be built in about 1840. Apparently Clarke had built a house on the river bank opposite his church which was on Wellington Street in town. Many people thought Clarke's choice for the site of his house was impractical, as he had to walk down to Westminster Bridge, cross the river, and then walk back along the opposite side. But his petition was successful and **Wellington Street Bridge** was constructed. This link between his house and church did not last long. In 1847, it was declared unsafe and ordered rebuilt. Nevertheless, in recognition of Clarke's efforts, the first and all subsequent bridges there have been



Clarke's Bridge

named after him.

A personal interest in having a bridge built was not so unusual for the times. Many residents who had set up homes on the other side of the river regularly petitioned for bridges to link their settlements with London. Because of the cost of construction and the need for constant repairs and replacements, these petitions were rarely granted. Frequently citizens had to organize something like a bridge building bee in which the community would cut the necessary wood and build the bridge. These early bridges were often hastily constructed and poorly built.

Regardless of who built them, there were never any guarantees that these early bridges were sound. **Victoria Bridge** at the south end of Ridout Street was built in 1848 and was washed away in the spring flood the same year. Rumor has it that lazy workmen cut off the top of the piles at night to avoid driving them all the way into the ground. No replacement bridge

was built at that site until 1863. In the meantime, residents had to rely on a canoe ferry during spring and fall and a **footbridge made of sugar casks and planks in the summer.**

Before the second **Victoria Bridge** was constructed, **Charles Hunt** built a private bridge from his house on the south side of the Thames across the river to his mill at the end of Talbot Street, fencing in the street allowance on the city side. He was sued by angry residents for closing a public right of way north of the river and lost the case. He was forced to open up his bridge and Talbot Street was extended through an orchard on his property to the river. The bridge did not last long, however, and eventually that new section of Talbot Street to the river was closed again by the city.

Spring freshets caused by heavy rains or melted snow frequently damaged bridges in London and made repairs necessary. Debris, buildings including garages and clubhouses, and

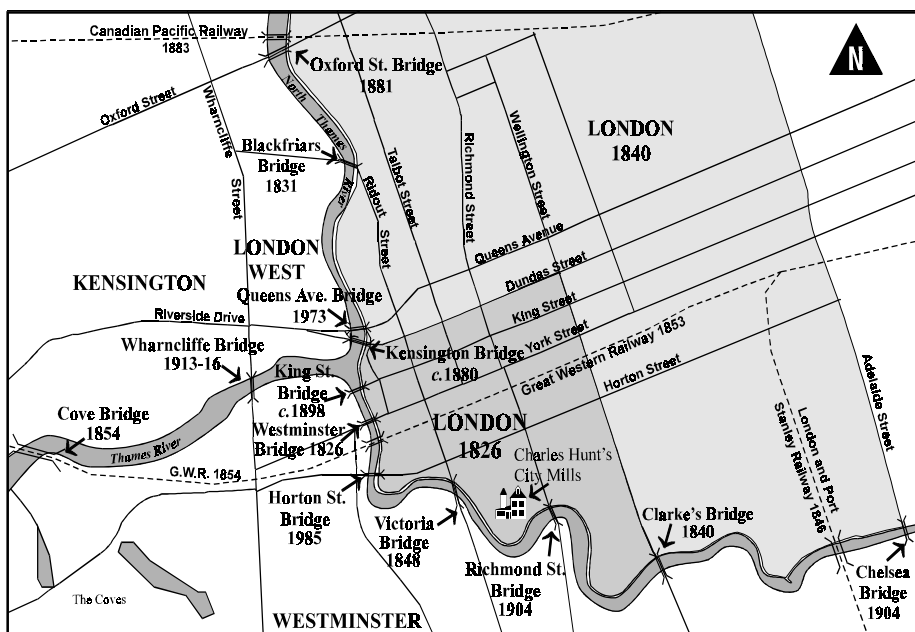
once even a cart and team of horses, were carried downstream and slammed into bridges. Westminster Bridge was chained to immense butternut trees on the river bank to avoid complete destruction during floods.

Although bridges were susceptible to damage or destruction when the river was in full flood, convenience prompted residents to petition for bridges at two new locations: one at the west end of Oxford Street and one at the west end of Dundas Street. Both petitions were granted in 1871, but financial constraints caused delays. **Kensington Bridge** was the first of the two built. **This bridge, one of London's last wooden bridges,** linked the downtown via Dundas Street with the district of Kensington to the west. The flood of 1883 destroyed this bridge and it was replaced with an iron bridge the following year, which was itself reconstructed in 1930.

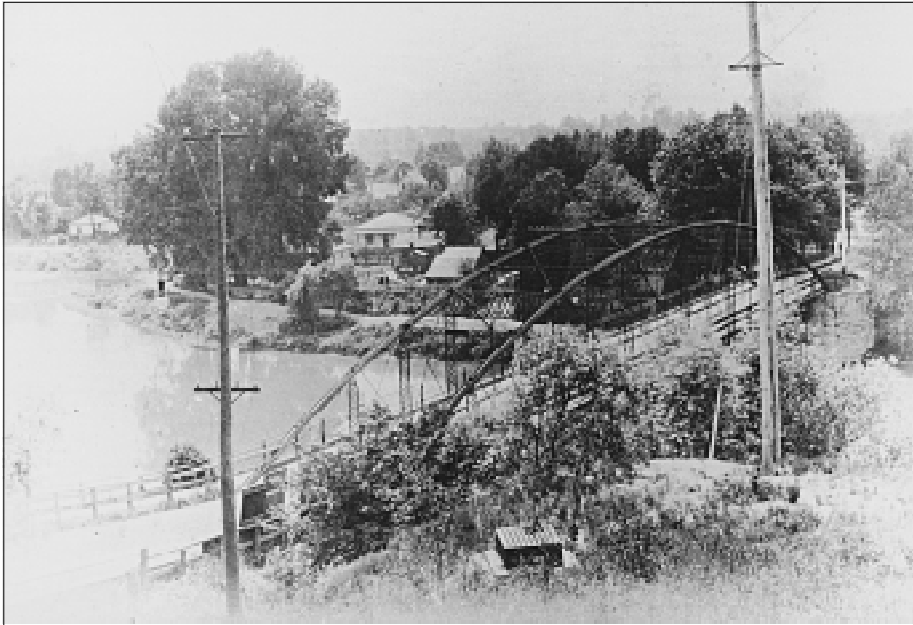
Railway Bridges

In the 1850s, London entered the railway age. **The Great Western, the London and Port Stanley, and the Grand Trunk Railways** all laid track during this decade and established routes which crossed the city. Three bridges were built to carry the tracks over the Thames. Since timber bridges had shown an alarming tendency to ignite when sparks flew from the train's engine or wheels, these bridges were constructed entirely of iron rather than timber reinforced with iron.

The first railway line operated by the Great Western Railway reached London from Hamilton in 1853. Bridges carried the rail line across the Thames near the Forks and across the



London's bridges close to the Forks.



Blackfriars Bridge

river again at the Coves en route to Windsor. It was just west of **Cove Bridge** that the steamship *Victoria* sank on Victoria Day, May 24, 1881. **The London and Port Stanley Railway** bridged the Thames just west of Adelaide Street in 1856. Later, in 1883, the Canadian Pacific Railway also extended its line between London and Windsor, in the process building a bridge across the North Thames River close to the Oxford Street road bridge.

Iron Road Bridges

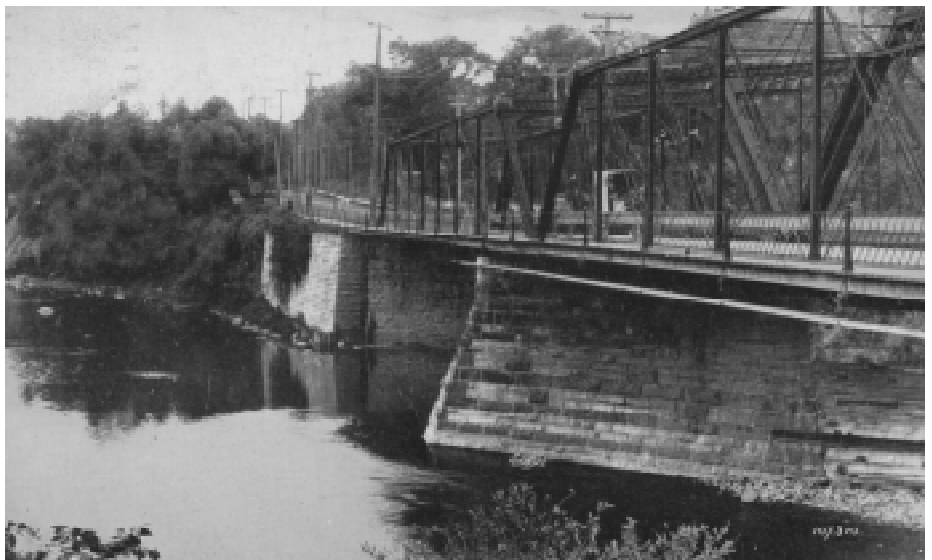
Years of reconstruction, repairs and near washouts convinced the people of London and the surrounding areas that they should look for more dependable bridges for their river. One solution came in the form of a mail-order catalogue and 4,050 kg (9,000 lbs.) of wrought iron. The Wrought Iron Bridge Company of Canton, Ohio offered pre-fabricated bridges by mail order. The iron spans were sent by rail, often accompanied by an engineer to

oversee construction. London's iron bowstring truss bridge, ordered to replace Blackfriars Bridge, was assembled in 1875. Interested townspeople watched ten teams of oxen repeatedly pull 40 tons of gravel across the bridge, and then agreed that the new structure seemed stable. Currently Blackfriars is the only bridge in London which has seen continuous use without massive repairs or reconstruction, requiring

only reinforced tension rods in 1950. This bridge has been designated as an historic site by the Province of Ontario.

Victoria Bridge also needed to be replaced in 1875. The wooden structure collapsed in a spring freshet the previous year, drowning two London residents, Miss VanWormer and Miss Elliot, who were standing on it at the time. The iron replacement bridge required repeated repairs and was reconstructed in 1926. However, the bridge provided a more permanent link to the south side of the river and settlement there grew as city residents moved into the pleasantly rural lands of what is now called Old South London.

Other bridges were also replaced by iron when they fell into disrepair or were damaged in floods but the cost of the new iron bridges was fairly high. Several settlements around London waited years before they were linked to the city by an iron bridge. **Oxford Street Bridge** was eventually built in 1881 but soon after was damaged in the flood of 1883. The bridge was reconstructed seventy-two years later, then widened in 1980. Westminster Bridge was also rebuilt with iron in



Victoria Bridge

1881, followed by **Clarke's Bridge** the next year. The flood of 1937 badly damaged Clarke's Bridge and it was reconstructed in 1974. Westminster Bridge did not undergo extensive reconstruction until 1977.

Brough's (Richmond Street) **Bridge**, on the North Thames River, was named for the Reverend Charles Crosbie Brough. Originally built out of wood and known as London Bridge, it was replaced in 1843 with an early iron suspension bridge, designed by Casimir Gzowski, who was by now a well-known engineer. To give the skeptical residents confidence in his new design, Gzowski had a battery of the Royal Artillery march to and fro across the bridge while he stood underneath. Since then this bridge has been replaced several times. Unlike



Vauxhall Bridge

other bridges which were named after the settlements they served, this bridge gave its name to the surrounding community. The village's name of Brough's Bridge was eventually lengthened to Broughdale in 1906.

By the late 1880s, records show eight bridges in London, seven of which were iron. The only remaining wooden bridge, which crossed the North Thames River at Adelaide Street, was replaced by iron in 1887, and reconstructed again

as a concrete structure in 1982.

Since the 1880s, many other bridges have been built. **King Street Bridge**, built in 1898, was the first bridge to carry a sewer line across to the west side of the river. King Street Bridge was closed to trucks and cars in 1948. It now serves as a foot/bikeway route linking the Riverforks community with downtown and providing a key connection in the recreational path system.

Building Bridges & Roads

In the early 1800s, settlers had little time to spend on bridge or road building. The first roads, which had been surveyed by the military, were often only partly cleared, and travel along them by foot, horseback or oxcart could be difficult. The trees felled in opening up these roads, however, provided the logs for building simple bridges and improving roads. A bridge could be constructed by placing two logs across a stream from bank to bank and laying more logs on top at right angles. Roads were improved by laying down logs and filling the cracks between them with gravel or earth. These "corduroy" bridges and roads could

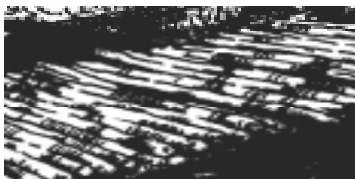
be built by unskilled settlers and were easily repaired. To span larger rivers, piers were built to support the sections of a bridge, but these were frequently taken out by ice jams or floods.

From 1841 to 1849, a total of 43 major bridges and many roads were built by the Department of Public Works in Canada West (southwestern Ontario), financed by loans from the British Government. In 1849, the Municipal Act was passed, placing the responsibility for roads and bridges entirely in the hands of towns and counties. Funds for this would have to come from property taxes. For the next 60 years little was done to maintain or improve roads and bridges as local governments had neither the money nor the expertise to take on this responsibility.

With the advent of the railways in the 1850s, erecting reliable bridges became a priority. Railway engineers devised stronger truss designs using

timbers and wrought iron, allowing bridges to safely carry much heavier loads. In subsequent years wrought iron gradually replaced timber in road as well as railway bridge construction. A few bridges were built of stone where there was a local source, such as in St. Marys.

In the early 1900s, the use of concrete reinforced with iron or steel allowed bridges to be built partly of local material, thus reducing the costs. It also permitted greater flexibility of design. Many of the more attractive twentieth century bridges are from this period. Nowadays most of our highway bridges are built using a standard design in reinforced concrete without any ornamentation. The recent city requirement of a 'character statement' for all new river bridges in London may provide an opportunity to choose more aesthetically pleasing designs that are in keeping with the surrounding landscape.



Looking at London's Bridges - Downtown Tour

Bridges from several eras can be seen in London close to the Forks of the Thames. Some of these bridges are the original structures at that crossing. Others are the most recent structure in a series of bridge replacements. A short walk takes you past the following eight bridges, north and south of the Forks.

• **Blackfriars Bridge**

First built: 1831 Rebuilt in iron: 1875. Kit assembled on site.

Design: Single span bow-string arch through truss with a span of 66.8 m (219 ft.).

Materials: Wrought iron trusses, reinforced in 1950 with steel stringers.

• **Queens Avenue Bridge**

First built: 1973.

Design: Three span continuous beam.

Materials: Reinforced deck over steel girders on reinforced concrete piers and abutments.

• **Kensington Bridge**

First built: 1880. Rebuilt: 1930.

Design: Three simple spans, pony trusses. Total span of 95.4 m (313 ft.).

Materials: Reinforced concrete deck over steel superstructure on reinforced concrete piers and abutments.

• **King Street Bridge**

First Built: 1897. Closed to vehicular traffic in 1947.

Design: Through truss main span with beam and slab end spans.

Materials: Wood walkway and trunk sewer over steel superstructure. Abutments and piers of masonry and concrete.

• **Westminster Bridge**

First built: 1826. Rebuilt: 1976.

Design: Single span beam and slab.

Materials: Reinforced concrete with structural steel box beams.

• **C.N. Railway Bridge**

First built: 1854. Rebuilt: 1899. Second track built: 1905.

Design: Double track, pin-connected deck truss.

Materials: Steel truss and stone abutments.

• **Horton Street Bridge**

First built: 1985.

Design: Twin, three span continuous variable depth voided slabs.

Materials: Post-tensioned concrete deck on reinforced concrete piers and abutments.

• **Victoria Bridge**

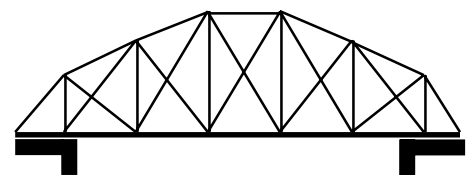
First bridge: 1848. Rebuilt: 1926, replacing the twin of the Blackfriars Bridge.

Design: Two simple spans, pony trusses. Span of 78.6 m (258 ft.).

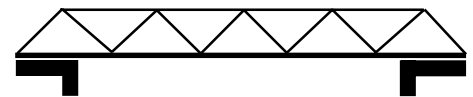
Materials: Reinforced concrete deck over steel superstructure. Abutments and piers of masonry and concrete.



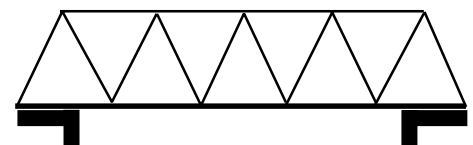
Ting Cartoon - 1956



Bowstring arch



Pony truss



Through truss



Deck truss

Twentieth Century Bridges MAIN SOURCES

More recent bridges include **Meadowlily Bridge** (built in 1910 and now closed to traffic), **Wharncliffe Bridge** (1913-1914) and **Byron Bridge**. This latter bridge, first built out of wood (possibly around 1825), was changed to iron in 1910 and reconstructed again in 1964 after the city annexed Byron. **Queen Street Bridge** was built much later, in 1973, and was twinned with **Kensington Bridge** to relieve some of London's traffic problems. The first **Vauxhall Bridge**, at the bottom of Egerton Street, was built in 1904 on the site of an 1837 bridge. It was nicknamed the 'talking bridge' because its rattling wooden planks frequently became loosened and clattered. The present Vauxhall Bridge was constructed between 1957 and 1958.

One of London's more elegant bridges was built in the 1930s to link Springbank Park to the E.V. Buchanan Thames Valley Golf Course. It is a single span suspension bridge with a timber walkway over structural steel. The sole remaining suspension bridge in London, it is expected to be rebuilt in 2000.

The 33 road, rail and foot-bridges over the Thames in London have had a varied history. Some of them have fallen out of use, and others have undergone major facelifts. Bridges offered a vital connection between the various settlements, and were seen as a lifeline to individual communities. When **Richmond Street Bridge** over the Thames was built in 1904, a street dance was held to celebrate its completion. Today's bridges tie London's neighbourhoods together and ease movement throughout the city. Yesterday's bridges, however, remain firm favourites. They offer interesting history, varied designs and each provides a unique perspective of the river.

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ADDITIONAL RESOURCES, SEE BOOKLET 8

ILLUSTRATIONS

- Masthead Scene*. Dana Irvine.
- Clarke's, Blackfriars & Vauxhall Bridge Photos*, Courtesy of London Regional and Historical Museums.
- Victoria Bridge Photo*, Courtesy of the London Room, London Public Library.
- Cartoon*, Courtesy of Merle Tingley and the London Free Press.
- Bridge Truss Illustrations*, courtesy of the Historic American Engineering Record, National Parks Service.
- Map of London Bridges, Corduroy Bridge Illustration*, Carol Shaw.

CREDITS

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