

# historic structures

## Fort Point Channel

A Link to the Past – A Bridge to the Future

By Luis F. Lemaitre



Old Northern Avenue walkway

### Northern Avenue Bridge

Starting at the Northern end, or the mouth of the channel, one finds the first bridge... the *Northern Avenue Bridge* turntable drawbridge. The bridge, still in operational condition, sits on a large circular turntable pier that allows the bridge to rotate horizontally about the center. The beautiful superstructure ironwork, still in place, was the motive for great controversy in the year 2000 when the city intended to tear it down. Pedestrian organizations, as well as local papers and historical organizations, all rallied to save the bridge. During our research, the author encountered two organizations on the internet, [pedestrians.org](http://pedestrians.org) and [savethebridge.com](http://savethebridge.com), both dedicated to saving the Northern Avenue Bridge.

Today, the bridge is utilized exclusively as a pedestrian bridge, and its future looks promising as such. Studies have been undertaken to make the bridge a more attractive walkway between the new Moakley Federal Courthouse on the South Boston side and downtown Boston. The option of walking across the New Northern Avenue Bridge, which is further along the channel, is a different experience than walking across the old bridge, with its beautiful and intricate iron latticework support structure. The entire bridge, including the central turntable, could be put to use by some enterprising mind, offering varied opportunities, such as a marina, tourist attraction, shopping mall, and the like.

The city is contemplating raising the bridge grade to allow the necessary clearance for recreational boating, which is the only use reserved for the channel today. When one strolls across the wooden planks surrounded by the

iron lattice, you feel transported back in time, away from the pace of modern life found at either end of the bridge, and you understand those ephemeral organizations that raised their voices to save the bridge had something going for them.



Congress Street Bridge detail of bascule system

### Congress Street Bridge

The *Congress Street Bridge* is of the bascule type, and is located south of the Northern Avenue Bridge and of the New Northern Avenue Bridge. The iron work, large concrete above grade counter weight, and large toothed gear remain in place along with the bridge house. This bridge carries pedestrian traffic, both from locals and tourists as well as vehicular traffic. With a delicate superstructure and large counter weight, it is especially pedestrian friendly. The Children's

The Fort Point Channel area in Boston is unique in many ways; it was the location for the infamous "Boston Tea Party", and it has been the scenario for countless happenings in the Boston historic scheme. Although only two miles long, before the advent of the automobile as the main transportation system, wool, molasses and Gillette razor blades were carried out to sea by ships from the wharves on the shores of the Fort Point Channel. Physically, it has been the geographical boundary that separates the South Boston waterfront district from the financial district, or downtown Boston.

The development of the City of Boston Convention Center, area hotels, a new federal district court, improved port facilities, museums, and a plethora of the most diverse activities in the South Boston side of the channel have imposed a load on the four existing means of pedestrian and vehicular communication between the city and this area, the *Northern Avenue Bridge*, the *New Northern Avenue Bridge*, the *Summer Street Bridge*, and the *Congress Street Bridge*.

**"Three of the four bridges are drawbridges..."**

The Fort Point Channel area is unique in several ways; not only in its national history, but civil engineering history as well. Three of the four bridges are drawbridges, built between 1899 and the early 1900's. Each utilizes a different method for opening and closing, and all three are within a five minute walk from each other. It would be difficult to find elsewhere three types of drawbridges so close to each other, all spanning the same body of water.



Old Northern Avenue Bridge



*Congress Street bascule system bridge*

Museum, which attracts a lot of visitors, is located at the South Boston end of the bridge. The Boston Tea Party Museum, which includes a permanently berthed replica of the ship involved in the tax revolt, is located at mid span. Even on a warm and humid midsummer day, you can find some respite from the pressure of the city just by walking across this bridge.

The massive toothed gears and the overhead section are an interesting sight, even to the casual observer. They convey a sense of times past and represent a period in Boston's history when it was considered an important industrial, center of which the Fort Point Channel was an essential component. The clearance under the bridge is minimal, allowing the passage of small recreational craft and barges at low tides. The future of this bridge is uncertain. A recent engineering study revealed the bridge to be suffering under the duress of heavy traffic.

## Summer Street Bridge

The *Summer Street Bridge* is the southernmost of the four bridges. It is also the most unique, but at the same time less note worthy to the common pedestrian. It is a horizontal slider, in which two sections of the bridge slide horizontally away from center along rails set at 45 degrees from the center line. The iron wheels



*Summer Street slider system bridge*

of the carriage system are exposed, as well as the rails. Although non-functional, they provide aesthetic and historic appeal.

The bridge was restored approximately ten years ago. It is now a continuous steel span with four traffic lanes and pedestrian walkways, in which the

kingpost truss and piers were kept as historical elements. Its clearance is also limited, and offers the same passage for small craft and barges as the Congress Street Bridge. Unlike the turntable and bascule bridges, the horizontal slider offers no overhead visual relief from the elements; human scale is lost when there is only the sky and tall buildings above.



*Summer Street Bridge slider system detail*

## New Northern Avenue Bridge

The bridge to the future found in this quartet, the *New Northern Avenue Bridge* or, if called by its official name, *Evelyn F. Moakley Bridge*, is located approximately 150 feet south of the old Northern Avenue Bridge and 300 feet before the Congress Street Bridge. It is the first structure built by the Massachusetts Highway Department

using the segmental construction technique. It consists of two spans of prestressed I-beams and three spans of continuous post tensioned haunched concrete box girders. Meeting clearance over the channel, and at the same time aligning with the street system, was no easy task for planners. The end result is a handsome structure, which does not detract from the historical surroundings. At the same time, it

serves the purpose of handling vehicular and pedestrian traffic for this section of Boston's waterfront. The New Northern Avenue Bridge stands in stark contrast to the historical steel structures on either side.



*The New Northern Avenue Bridge in the foreground; Old Northern Avenue Bridge beyond*



*New Northern Avenue Bridge*

## Historical Ingenuity

The preservation of the area as a link to Boston's past is a task that should not be taken lightly. To find within a city block three fine examples of the ingenuity of drawbridge design and the engineering that goes with it is truly amazing. This history should be passed along to the history buff and casual passerby; it would astonish more than one to learn that all drawbridges were not created equal.

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