



**BROOKLYN**

**CONNECTIONS**

**BRIDGES OF BROOKLYN**

**PRIMARY SOURCE PACKET**

Student Name



## INTRODUCTORY READING

### Excerpt

There are 2027 bridges serving New York City, of which 76 are over water, 329 are used by railroads, 1011 are over land, and the rest are in parks, serve subways, or are private pedestrian bridges. Because the city is virtually an archipelago (only the Bronx is connected to the mainland), bridges are necessary for motor vehicles, trains, subways, and to a lesser extent pedestrians.

The first bridge in the city was the King's Bridge (1693; demolished and buried in 1917), a small structure of stone and timber that spanned Spuyten Duyvil Creek between Manhattan and what is now the Bronx. It was built by the Philipse family and a toll was required to cross it until 1759, when the Farmer's Free Bridge (demolished 1911) opened over the Harlem River and forced the King's Bridge to become free as well.

The early vehicular bridges provided access to the post roads leading to Albany (New York) and Boston but were of lesser use to most New Yorkers, who were concentrated in lower Manhattan and surrounded on two sides by water that could be crossed only by sloop, raft, canoe, or dinghy, and later by steam-powered ferry.

The city's economy depended on a system of waterborne transport that was frequently interrupted by ice and fog, prompting demands for more reliable links, especially between Manhattan and Brooklyn. In the 1850s builders of suspension bridges became confident of their ability to span the East River, and in 1883 John Augustus Roebling and his son Washington completed the Brooklyn Bridge, the first modern vehicular crossing over water in the region.

A period of extensive bridge building followed: the Williamsburg Bridge (1903), Manhattan Bridge (1909), and Queensboro Bridge (1909) were constructed over the East River, as were eight over the Harlem River. By 1910 bridges also spanned Dutch Kills, Newtown Creek, and the Gowanus Canal.

Severe cutbacks in bridge maintenance and repair in the 1970s and 1980s led to structural problems and occasional closings. In the late 1990s and in the twenty-first century the city began spending more than \$3 billion on major rehabilitations of many of the city's aging bridges, including the Manhattan, Queensboro, Williamsburg, and Brooklyn bridges.

**CITATION:** "Bridges." *The Encyclopedia of New York City*. Kenneth T. Jackson, ed. New Haven: Yale University Press, 2010.



**Document 1:** "New York Harbor." *Harper's Weekly*. Nov 1873. Print.

1. Describe what you see in Document 1.

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2. How do you think people travelled between Brooklyn and Manhattan before the Brooklyn Bridge was built? Based on this image, do you think it was safe?

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3. During the winter, the river would sometimes freeze. How would this kind of weather affect the ability to travel between Brooklyn and Manhattan before the Brooklyn Bridge was built?

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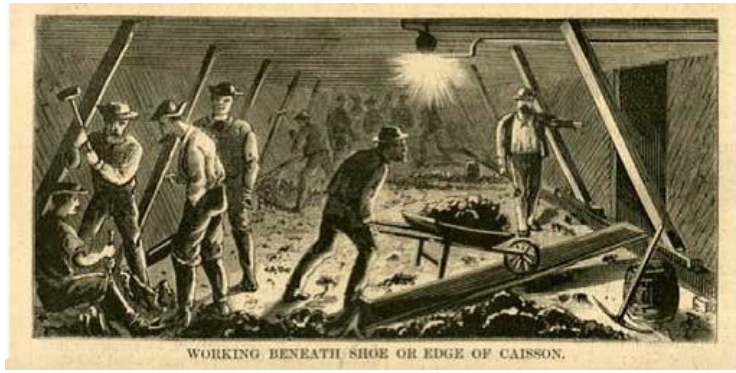
4. Examine the boats in Document 1. How might the Brooklyn Bridge have decreased the number of boats in the harbor?

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WORKING BENEATH SHOE OR EDGE OF CAISSON.

*Working beneath shoe or edge of caisson.*



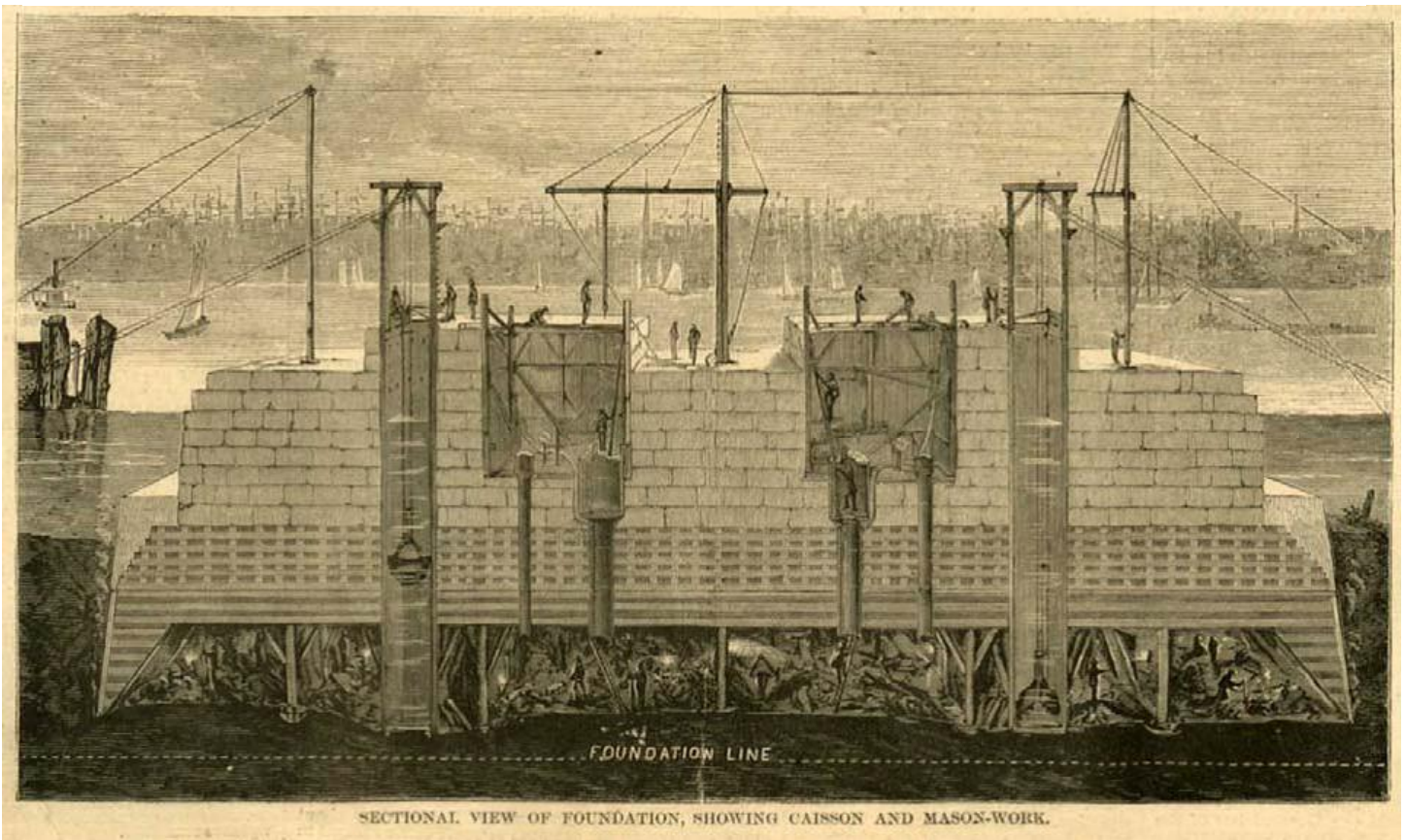
AIR CHAMBERS FOR THE INGRESS AND EGRESS OF WORKMEN.

*Air chambers for the ingress and egress of workmen.*



SENDING UP DÉBRIS THROUGH THE WATER SHAFT.

*Sending up debris through the water shaft.*



SECTIONAL VIEW OF FOUNDATION, SHOWING CAISSON AND MASON-WORK.

*Sectional view of foundation, showing caisson and mason-work.*

**DOCUMENT 2:** "The East River Bridge." *Harper's Weekly* 17 Dec. 1870. Print.

1. Examine Document 2. Why does it look like the workers in these images are underground?

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2. Look at the illustration labelled “sectional view of foundation.” Describe what you see:

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3. Based on your observations of Document 2, what do you think the conditions were like for workers in these illustrations?

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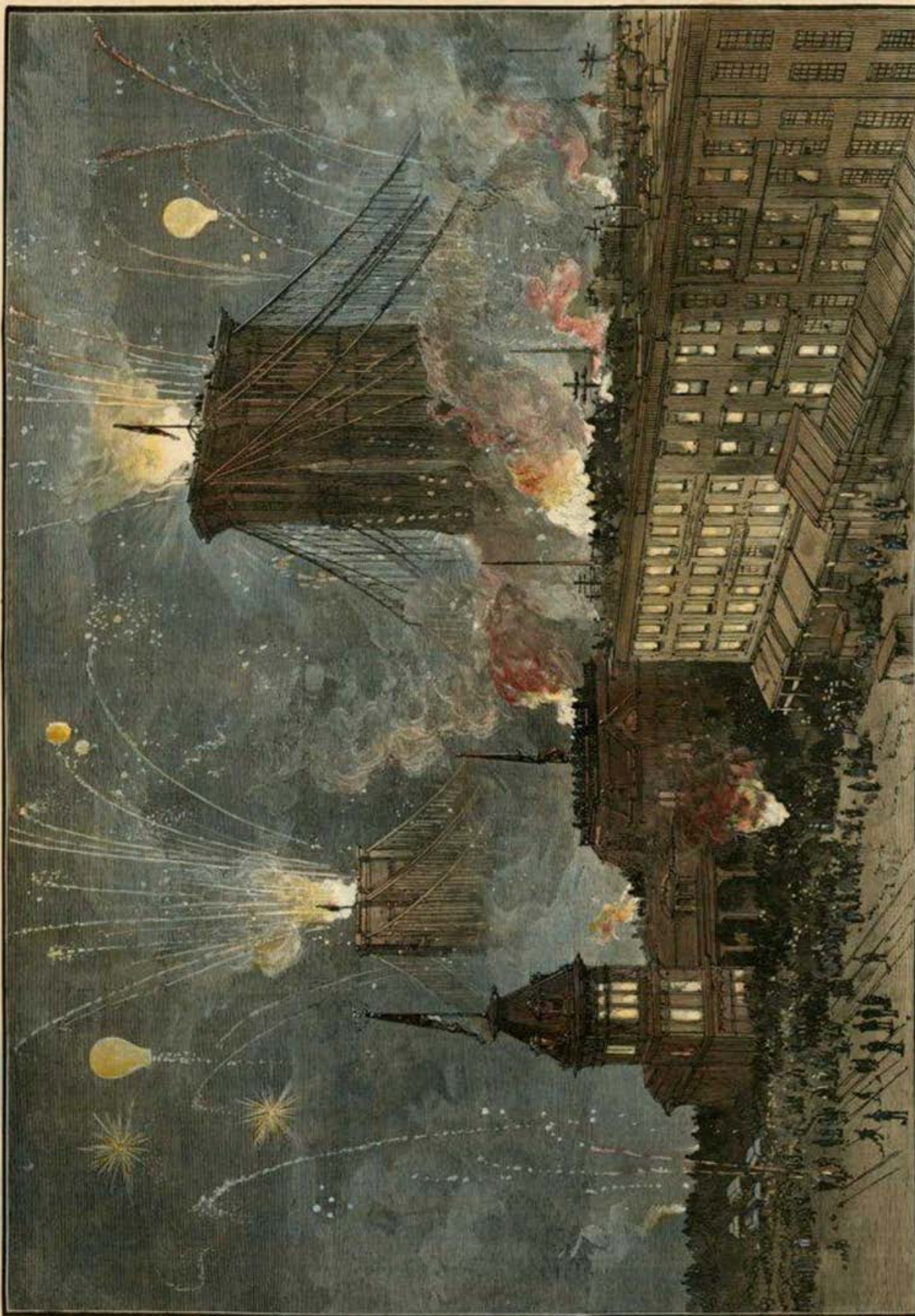
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THE GREAT BRIDGE—FIREWORKS AND ILLUMINATION, FROM THE BROOKLYN SIDE.—DRAWN BY CHARLES GARDNER.—(SEE PAGE 343.)

Document 3 - "The Great East River Bridge – Fire-works and Illumination, from the Brooklyn Side." Harper's Weekly 2 June 1883.



1. Look at Document 3. What is being celebrated in this illustration?

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2. Based on the image in Document 3, how do you think people felt about the Brooklyn Bridge?

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3. How does the Brooklyn Bridge compare to other buildings in Document 3?

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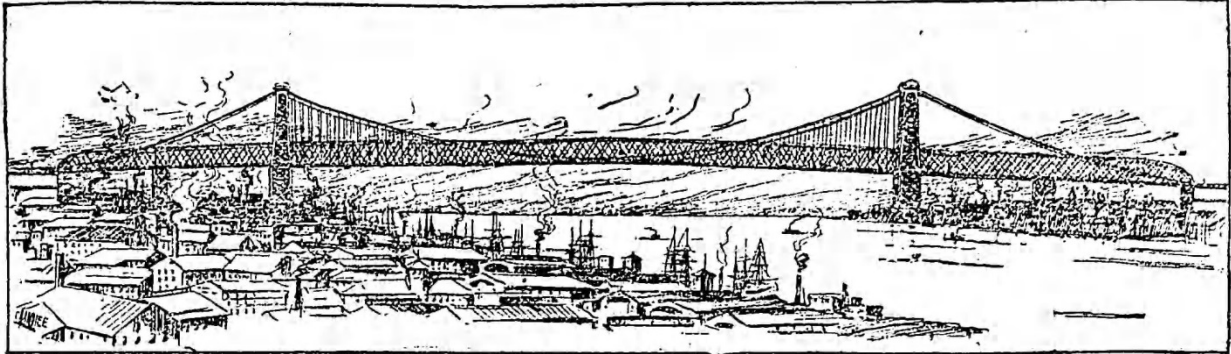
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**Document 4:** "Building the New East River Bridge." [Excerpt.] *The Brooklyn Daily Eagle*.  
3 May 1896.



THE NEW EAST RIVER BRIDGE.

## BUILDING THE NEW EAST RIVER BRIDGE.

How the Gigantic Engineering Task Is to Be Successfully Accomplished.

**W**ITH a population of 300,000 in the eastern district, financial interests involving nearly \$40,000,000 within a radius of a mile from the entrance to Broadway ferry, the necessity for speedier communication with New York became so apparent that the new East river bridge commission was organized under the provisions of chapter 789 of the laws of 1895. The act was approved by the governor on May 27, 1895 and six commissioners were appointed, three by the mayor of New York and three by the mayor of Brooklyn. Mr. Schieren appointed Andrew D. Baird, James A. Sperry and Henry Batterman. Mayor Strong appointed Salem H. Wales, Francis B. Thurber and Richard Deeves. The commission organized on June 26, when

*Transcription:*

### **Building the New East River Bridge**

How the Giant Engineering Task is to be Successfully Completed

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1. Read Document 4. What does the author say is a necessity?

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2. What year is Document 4 from?

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3. What year was the Brooklyn Bridge completed? HINT: look at Document 3.

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4. How long was it from the time that the Brooklyn Bridge being completed before Document 4 was written?

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5. Look at the drawing in Document 4, and compare it to Document 1. What is similar? What is different?

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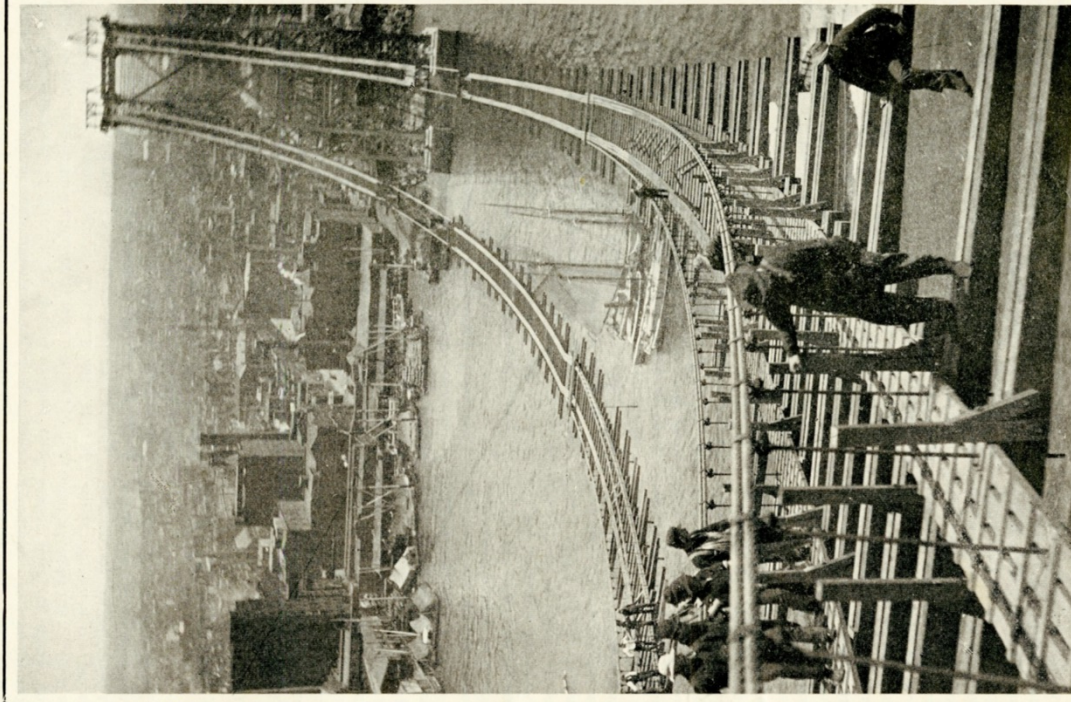
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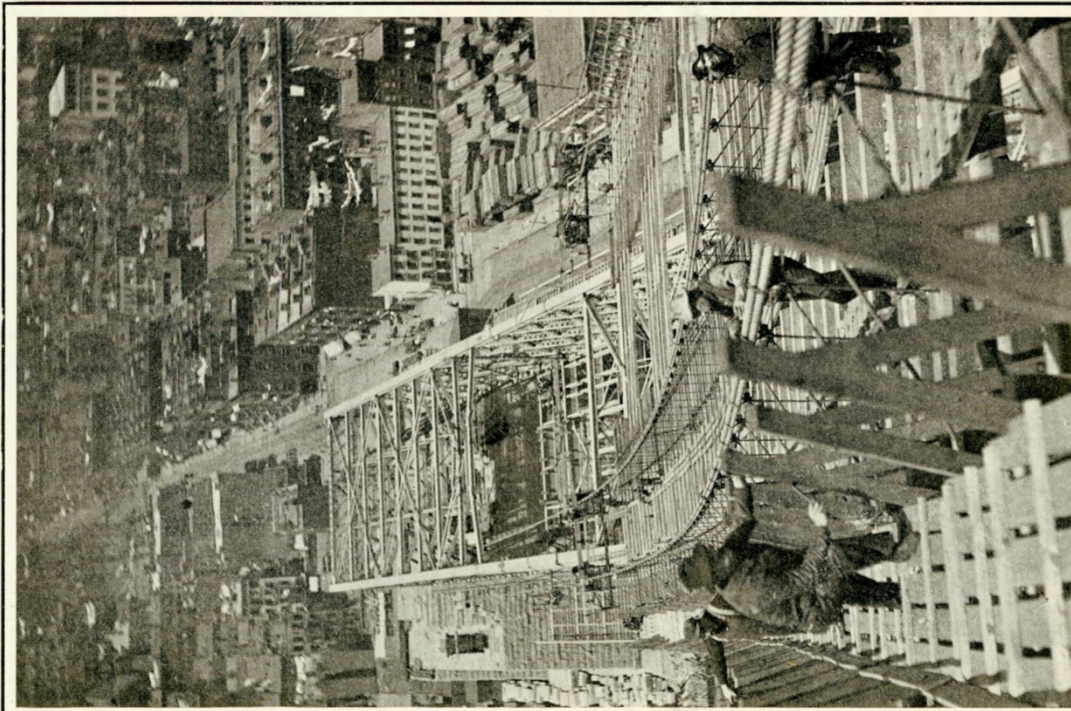
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**Document 5:** "Spanning the East River with the World's Greatest Steel Suspension Bridge." *Leslie's Weekly*, undated. Brooklyn Prints Collection, Brooklyn Public Library – Brooklyn Collection.



THE FOOT-BRIDGES FROM ABOVE, LOOKING TOWARD THE BROOKLYN SHORE.



WORKMEN STIFFENING THE WIRES SUPPORTING THE FOOT-BRIDGES ON THE NEW YORK SIDE.

**SPANNING THE EAST RIVER WITH THE WORLD'S GREATEST STEEL SUSPENSION BRIDGE.**

COMPLETION OF THE FOUR TEMPORARY FOOT-BRIDGES WHICH ARE TO BE USED IN ASSEMBLING THE ENORMOUS CABLES PHOTOGRAPHED FOR "LESLIE'S WEEKLY" BY A. B. PHELAN AND R. L. DUNN.—[SEE PAGE 62.]

1. Look at the photographs in Document 5. Describe what you see. Write three details about the people, three details about the buildings, and three details about the bridge:

**People:**

- a.
- b.
- c.

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**Buildings:**

- a.
- b.
- c.

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**Bridge:**

- a.
  - b.
  - c.
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2. According to the title under the photographs in Document 5, what kind of bridge is this? What is it built from?

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3. Imagine you are one of the men in the photograph. How do you think it would feel to stand there? Describe this feeling:

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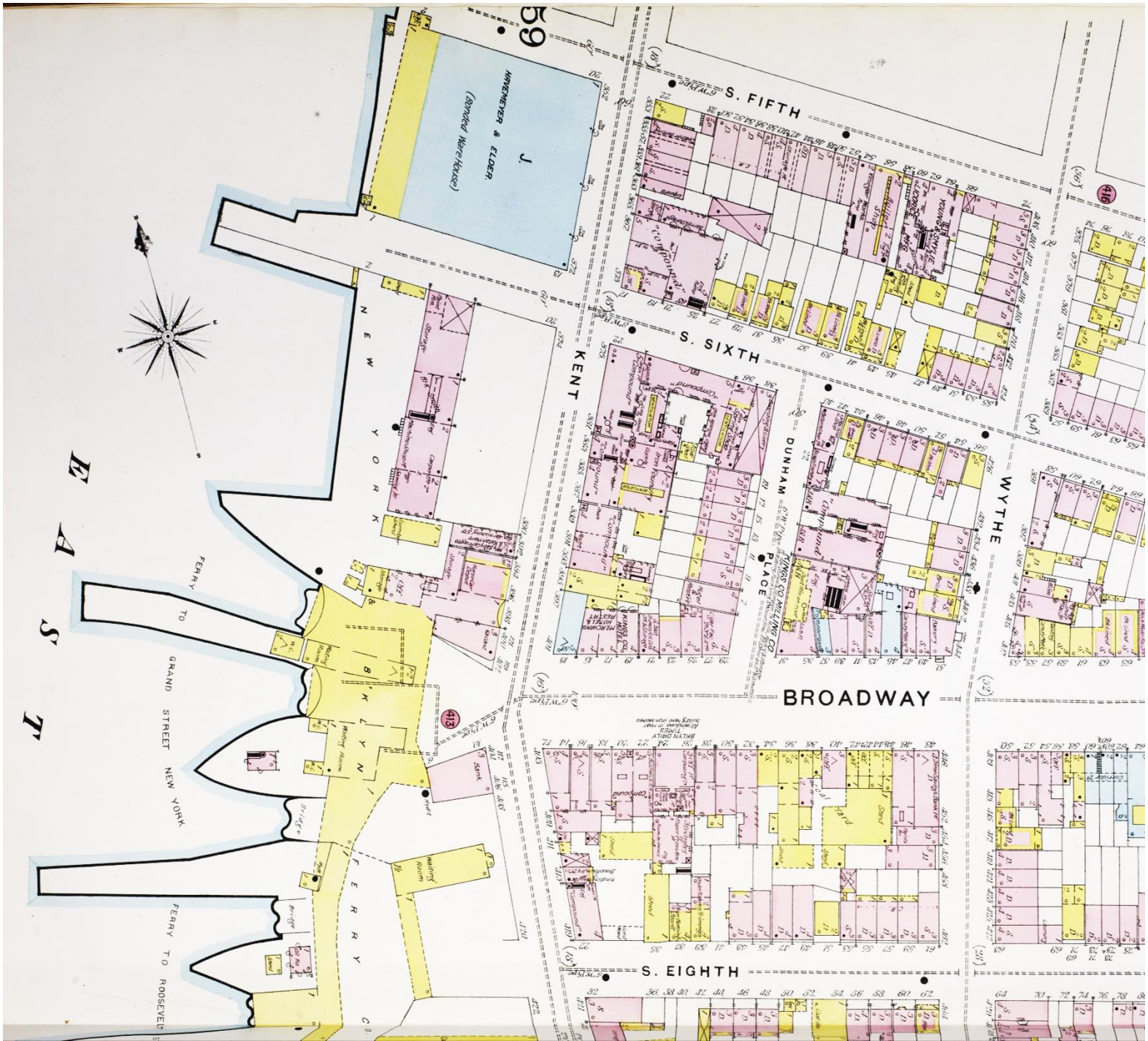
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Document 6a: "Sheet 60L." Insurance Maps of Brooklyn, New York. Volume 3, 1887.



Document 6b: "Sheet 6." Insurance Maps of Brooklyn, New York. Volume 3, 1918.





1. Look at Document 6a. Find S. 5<sup>th</sup> Street and S. 6<sup>th</sup> Street. Describe what you see between those streets (hint: colored squares are buildings):

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2. Look at Document 6b. Find S. 5<sup>th</sup> Street and S. 6<sup>th</sup> Street. Describe what you see between these streets on Document 6b:

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3. Look for the dates on Documents 6a and 6b. Write them here:

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Document 6a:

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Document 6b

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How many years between the two?

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4. Explain what changed from Document 6a to Document 6b. What **impact** do you think this had on people who lived nearby?

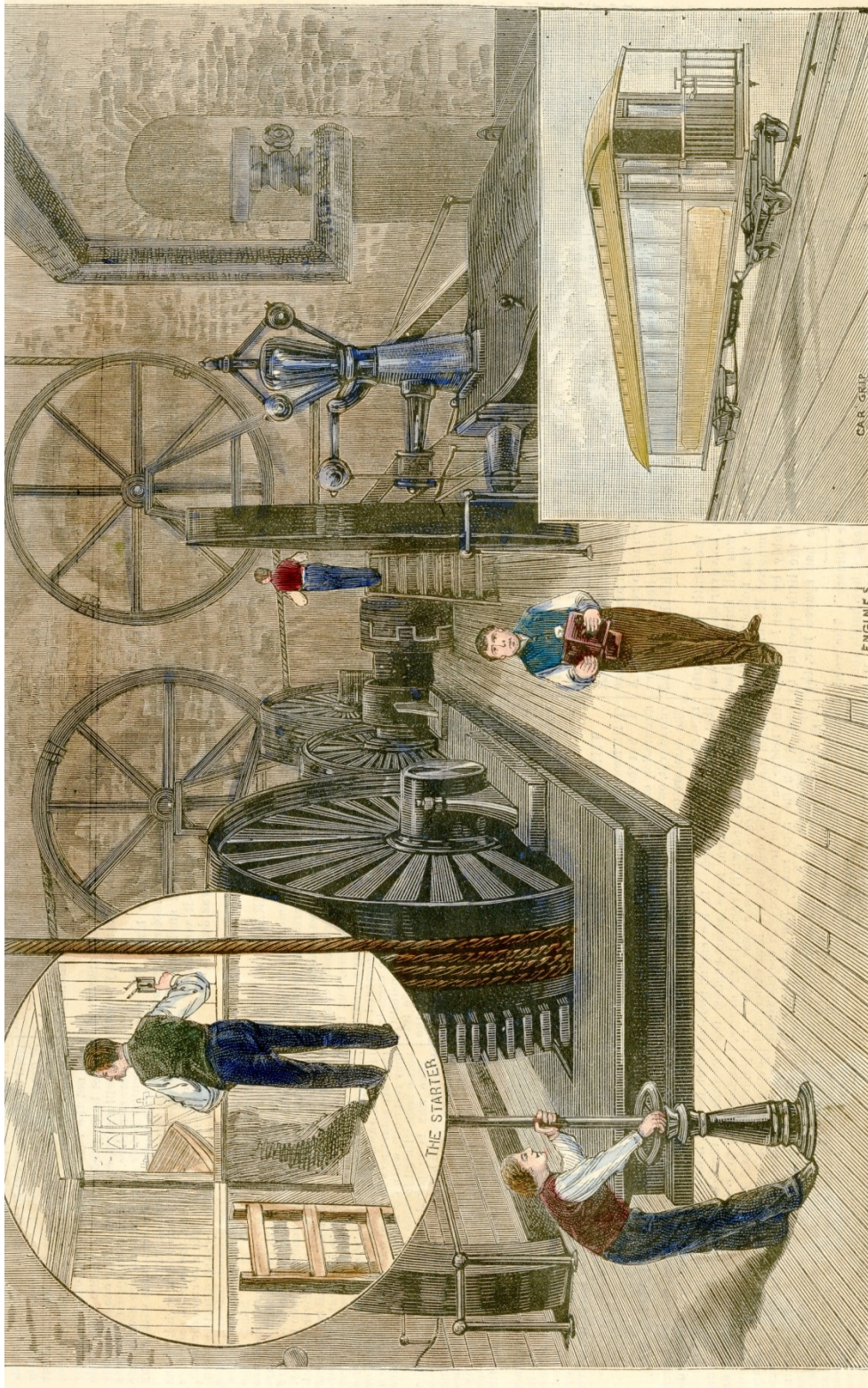
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**Document 7:** *Method of Working the Car-Cable of the East River Bridge.* Undated. Brooklyn Prints Collection, Brooklyn Public Library – Brooklyn Collection.



NEW YORK. — METHOD OF WORKING THE CAR-CABLE OF THE EAST RIVER BRIDGE. — FROM SKETCHES BY A STAFF ARTIST. — SEE PAGE 6.

1. Look at Document 7. Describe the equipment that you see in this drawing.

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2. Examine the people in Document 7. What kinds of work are they doing?

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3. According to the title of Document 7, what is the equipment in this drawing used for?

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4. The kind of transportation across the bridge that is shown in Document 7 no longer exists. In your opinion, why do you think that might be?

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### The Manhattan Bridge.

The report of Bridge Commissioner Best to the Brooklyn Transportation League, that the Manhattan Bridge will be completed in 1908, is cheering to Brooklyn. It is the biggest bright spot in the immediate outlook for adequate transportation facilities for this borough. This bridge is to be, roughly, as much larger than the Williamsburg Bridge as that structure is larger than the old Brooklyn Bridge, and when it is once opened and fully equipped with railroads the crowding in the daily rush between the boroughs ought to be brought to an end. Just what plans for express service the completion of this bridge will bring into being cannot be told yet. Since the Manhattan subway has been operated the belief has grown up that the only really swift transit must be by four-track underground roads. But the plans for subways to Brooklyn have not yet provided any direct four-track subway plan between the boroughs which will give any such opportunity for express service as that offered by the many tracks which this Manhattan Bridge will carry. There is in the air the idea of a broad sixty foot tunnel between City Hall Park and Atlantic and Flatbush avenues, but no such plan has been submitted to any committee of the Rapid Transit Commission yet and the Manhattan Bridge certainly offers a better opportunity for express service than the two-track subway now being dug, which is the only underground relief yet adopted for Brooklyn.

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1. Read the first paragraph of Document 8. What is the “biggest bright spot” in the future of transportation for Brooklyn?

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2. Document 8 is about the Manhattan Bridge. According to the second paragraph, will this bridge be bigger than the Williamsburg bridge, or smaller?

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3. According to the third paragraph of Document 8, will there be any subway tracks across the Brooklyn Bridge?

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4. In your own words, why are people excited about the Manhattan Bridge?

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**Document 8a:** "Marine Parkway Bridge." *Brooklyn Daily Eagle*, circa 1938-1951.



## Marine Parkway Bridge Opens.

Two important civic purposes are served by the opening today of the new \$6,000,000 Marine Parkway Bridge over Rockaway Inlet, connecting Brooklyn with the rebuilt Jacob Riis Park in Queens. It opens the way for many thousands of city dwellers to a new and spacious bathing beach, and it provides an important link in the Brooklyn circumferential boulevard system, which will eventually skirt the western shore of the borough, extending from the proposed new Battery tunnel on the north to the Long Island parkways.

Its inauguration by Mayor LaGuardia and the chief officials of the city, accompanied by land parades from both Brooklyn and Queens, as well as demonstrations from the water and the air, is most timely in view of the great need for additional recreational facilities this Summer. It not only furnishes another close connection between the two sister boroughs, as did the recent opening of the crosstown section of the Independent Subway, but it offers a direct lane of travel for motor vehicles that no longer have to resort to ferries, or go far out of their way through Queens and over the Cross Bay Boulevard to get to the beach. It also provides direct access between Riis Park and Marine Park, which will ultimately be the largest recreation area in Brooklyn.



1. Document 8a shows the Marine Parkway Bridge. According to the caption, what world record does it hold?

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2. Document 8b describes the opening of Marine Parkway Bridge. According to this article, how much did it cost to build the bridge?

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3. According to Document 8b, what beach did the Marine Parkway Bridge provide access to?

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Document 9: "Narrows Bridge." *New York Times*. 5 October 1947.

# NARROWS BRIDGE

## Staten Island Crossing Proposal Revived

**T**HE proposal by City Construction Coordinator Robert Moses to build the long-talked-of bridge between Brooklyn and Staten Island across the Narrows has special significance for motorists from Long Island who head for New Jersey beaches in the summer and for Southern vacation lands in the winter.

If the bridge proposal should be approved it probably will be some years before motorists can hope to use the short cut. Officials of the Triborough Bridge and Tunnel Authority, which would build and operate the crossing, say that in its present stage there are no estimates available as to the cost, the amount of preliminary work required, and how long actual construction of the bridge would take.

The bridge, which would be built from the Fort Hamilton area in Brooklyn to Fort Wadsworth in Richmond, would provide the missing link in a direct highway connection between Long Island and the mainland to the South and the West. It would reduce the distance between those areas by nine to thirteen miles and enable motorists to avoid many congested city sectors.

The new bridge would also prove a benefit to Manhattan drivers. Motorists returning from New Jersey shore points at the end of summer week-ends are often delayed by traffic jams on the Pulaski Skyway or the approaches to the Lincoln and Holland tunnels. These delays could be avoided by making use of the new bridge which would be reached by continuing along New Jersey highways to the Outerbridge Crossing and traversing Staten Island along the new highways now in the planning stage. Once across the Narrows Bridge motorists would continue along the Belt Parkway, go through the Brooklyn-Battery Tunnel, which is now under construction, and then take either the East Side or West Side express highways to points in mid-town Manhattan.

Travelers coming from the South and West also would benefit from the new system. They could by-pass congested metropolitan sections en route to Long Island or even to New England points.

### PROPOSED STATEN ISLAND BRIDGE

The map illustrates the proposed bridge route from Fort Hamilton in Brooklyn, New York, to Fort Wadsworth in Richmond, New Jersey. It shows the bridge crossing the Narrows between Upper New York Bay and Lower New York Bay. Key locations include Newark, Elizabeth, Bayonne, Manhattan, Richmond, and various points on Staten Island like Keyport, Matawan, Red Bank, Eatontown, and Asbury Park. Existing infrastructure such as the Goethals Bridge, Bayonne Bridge, and the Brooklyn-Battery Tunnel (under construction) are also marked. A scale bar indicates 5 miles.

*Transcription*

## **NARROWS BRIDGE**

### **Staten Island Crossing Proposal Revived**

The proposal by City Construction Coordinator Robert Moses to build the long-talked of bridge between Brooklyn and Staten Island across the Narrows has special significance for motorists from Long Island who head for New Jersey beaches in the summer and for Southern vacation lands in the winter.

If the bridge proposal should be approved it probably will be some years before motorists can hope to use the short cut. Officials of the Triborough Bridge and Tunnel Authority, which would build and operate the crossing, say that in its present stage there are no estimates available as to the cost, the amount of preliminary work required, and how long actual construction of the bridge would take.

The bridge, which would be built from the Fort Hamilton area in Brooklyn to Fort Wadsworth in Richmond, would provide the missing link in a direct highway connection between Long Island and the mainland to the South and West. It would reduce the distance between those areas by nine to thirteen miles and enable motorists to avoid many **congested** city sectors.

The new bridge would also prove a benefit to Manhattan drivers. Motorists returning from New Jersey shore points at the end of summer weekends are often delayed by traffic jams on the Pulaski Skyway or the approaches to the Lincoln and Holland tunnels. These delays could be avoided by making use of the new bridge which would be reached by continuing along New Jersey highways to the Outer-bridge Crossing and **traversing** Staten Island along the new highways now in the planning stage. Once across the Narrows Bridge motorists would continue along the Belt Parkway, go through the Brooklyn-Battery Tunnel, which is now under construction, and then take either the East Side or West Side express highways to points in mid-town Manhattan.

Travelers coming from the South and West also would benefit from the new system. They could by-pass congested **metropolitan** sections en route to Long Island or even to New England points.

1. Look at Document 9. Why might residents of Brooklyn like to see a bridge built between Brooklyn and Staten Island?

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2. Read the transcription of Document 9. According to the first paragraph, what travelers would benefit from a bridge to Staten Island?

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3. Based on the image in Document 9, why do you think the area where the bridge was built is called “the narrows?”

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4. According to the last paragraph of Document 9, what areas could travelers bypass if this new bridge was built?

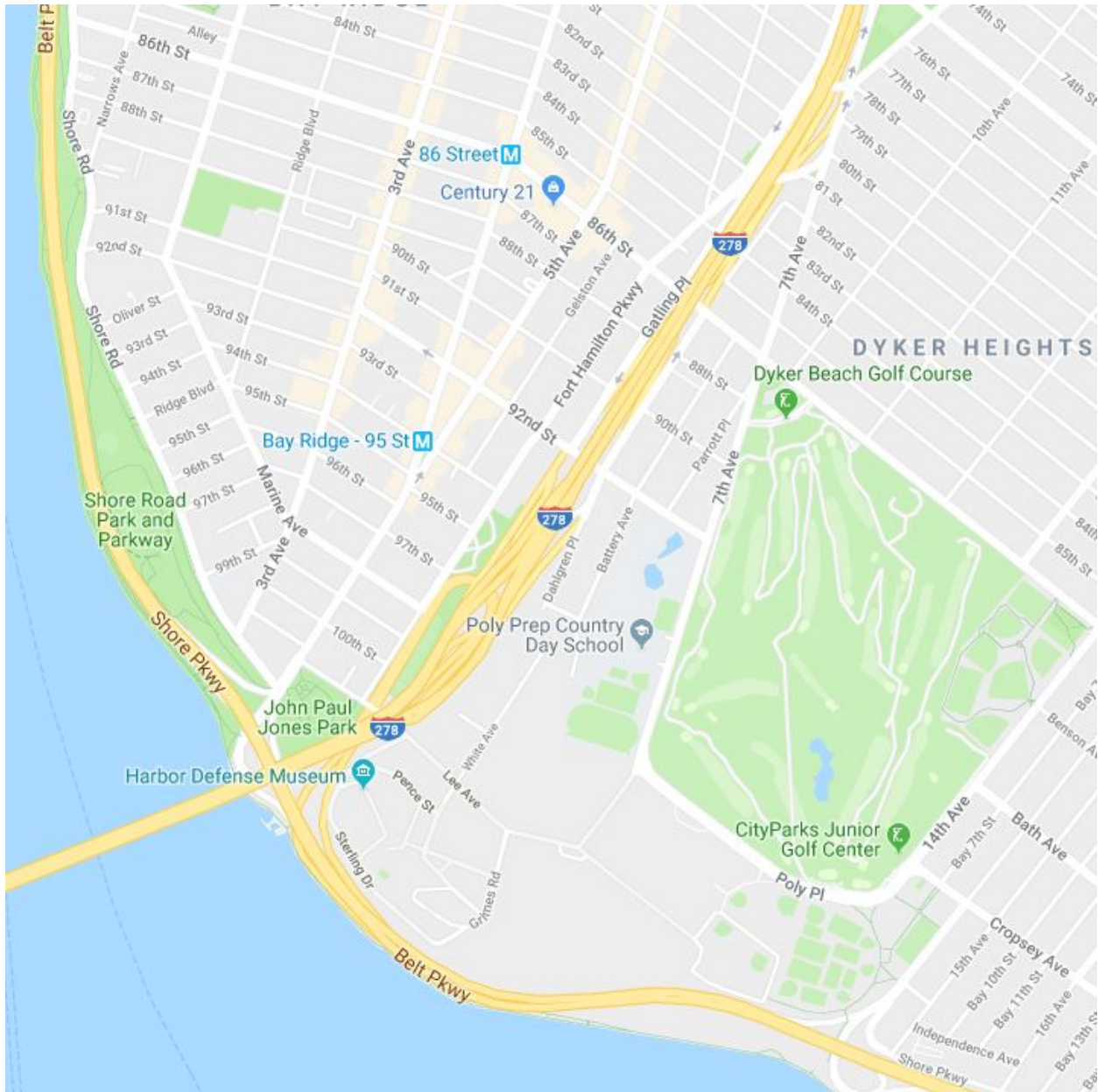
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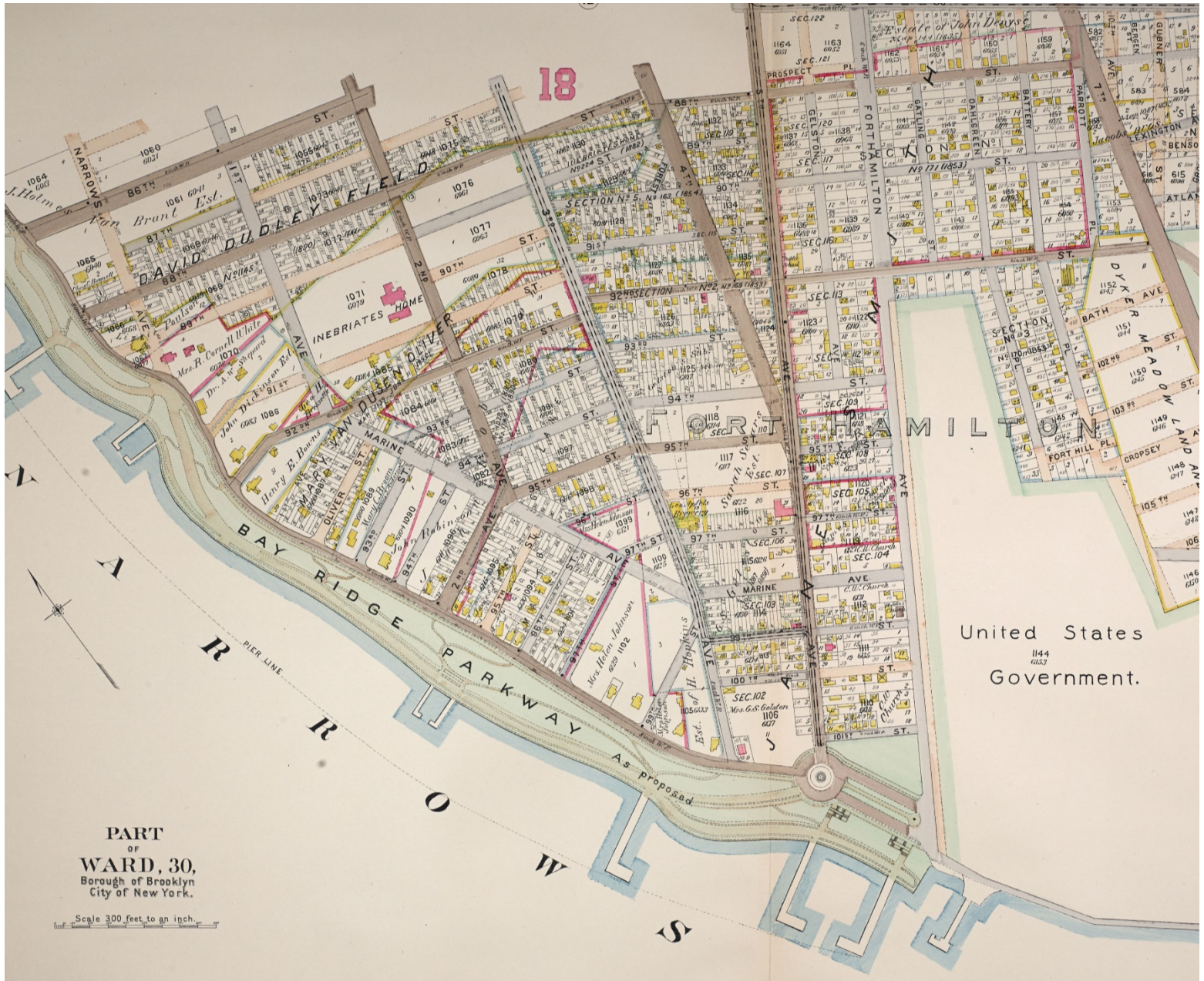
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**Document 10a:** Excerpt, Sanborn Maps. Accessed online through Brooklyn Public Library.



**Document 10b:** "Sheet 14." *Atlas of the 29th, 30th, 31st, and 32d Wards; Borough of Brooklyn; City of New York 1898.* Accessed through Fire Insurance Maps Online through Brooklyn Public Library.



1. Look at Document 10a. What is the highway number on the road that becomes a bridge?

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2. Look at Document 10b. Find Fort Hamilton Ave. What do you see beside it?

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3. How is the area near Fort Hamilton Ave different between Document 10a and Document 10b?

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4. From your observations of Documents 10a and 10b, what caused the changes between the two?

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5. Based on your observations, what impact has the community experienced by changes that occurred between the two maps?

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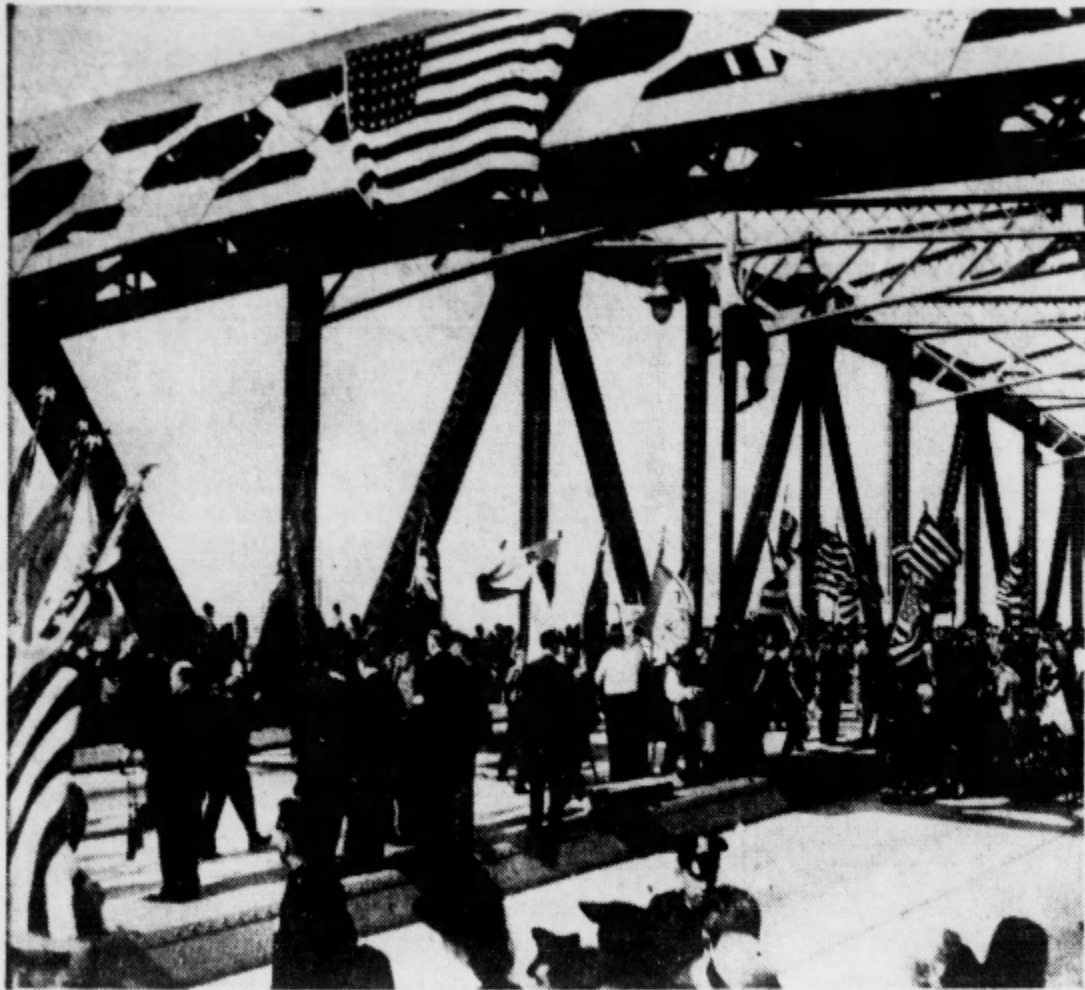
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Document 11a: "Bridge formally named." *Brooklyn Daily Eagle*. 23 Sept 1940.

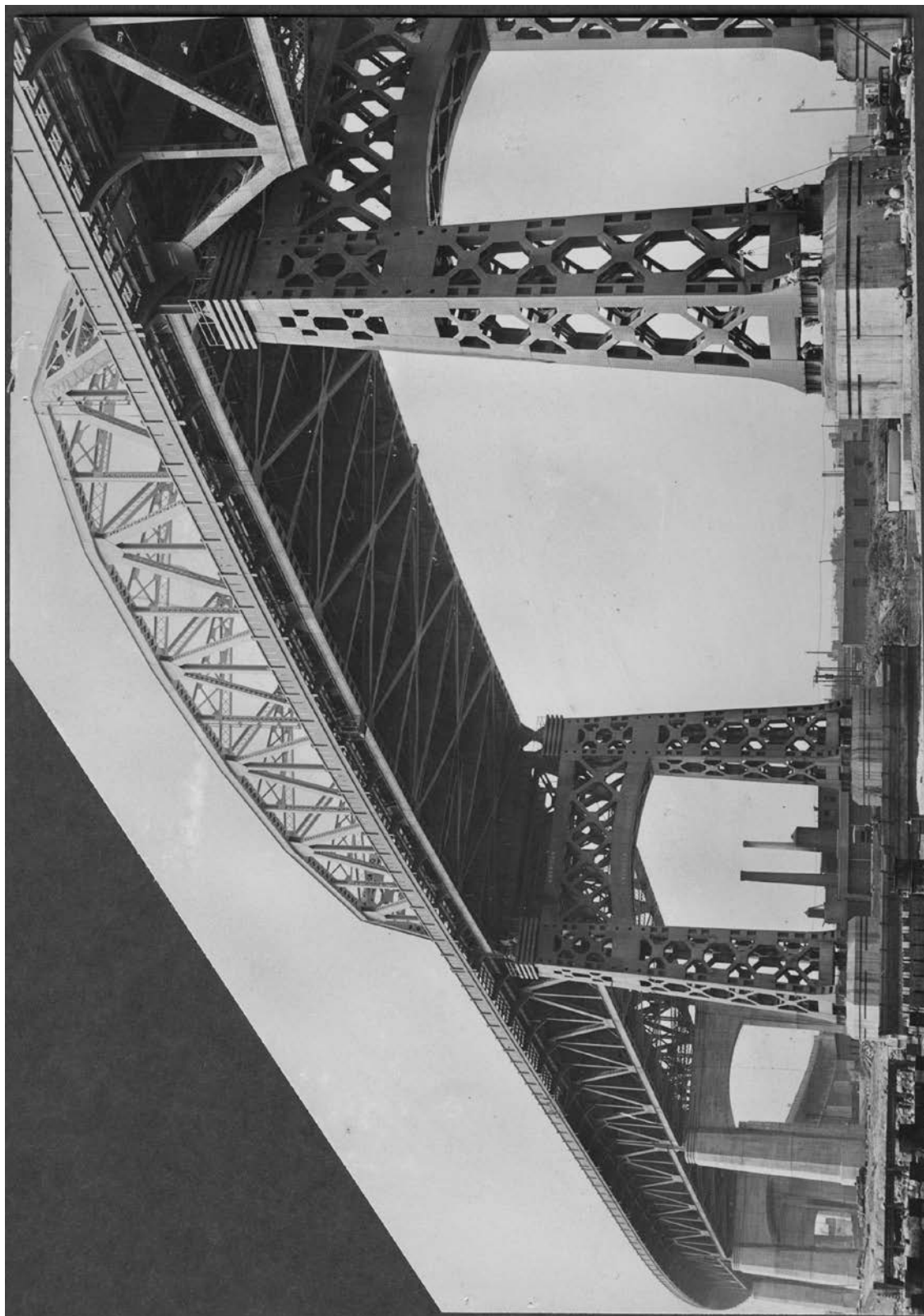
26<sup>w</sup> BROOKLYN EAGLE, MONDAY, SEPT. 23, 1940



Wide World photo

**BRIDGE FORMALLY NAMED**—Representatives of Polish and American religious, civic and fraternal groups took part in a parade and other ceremonies yesterday as the Kosciuszko Bridge was formally named by Mayor LaGuardia. The \$6,000,000 structure over Newtown Creek had been known unofficially as the Meeker Avenue Bridge until July 10 when the city voted to name it for the great Polish hero.

**Document 11b:** *Kosciuszko Bridge*. 4 August 1939. Brooklyn Daily Eagle Photographs, Brooklyn Public Library, Brooklyn Collection.



1. Look at Document 11a. What is the name of this bridge? According to the photo caption, what was the previous name of the bridge?

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2. According to the caption of Document 11a, who did the city name the bridge for?

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3. Examine Document 11b. Describe the bridge in this photo:

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4. Why would you guess that it was important for the bridge in Document 11b to be high above the water? What reasons would you suggest?

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**Document 12:** “New Kosciuszko Bridge Makes Its Big Debut at Opening Ceremony.” *Brownstoner*. 1 May 2017. <https://www.brownstoner.com/development/new-kosciuszko-bridge-opens-brooklyn-queens/>

Driving in on Franklin Delano Roosevelt’s 1932 Packard, Governor Cuomo officially marked the opening of the new Kosciuszko Bridge on Thursday, April 27.

New York City’s first new bridge in more than a half-century opened last week on the Brooklyn/Queens border, as the completed first half of the Kosciuszko Bridge reconstruction project was unveiled in a ceremony.

The new cable-stayed bridge was built adjacent to the rusting, 78-year-old traffic nightmare that carries the BQE over the Newtown Creek between Maspeth and Greenpoint.

“The old bridge did its job well but it is structurally and operationally obsolete, it has been for a long time,” Cuomo said. “The delays have been legendary. The first time I heard my father use expletives was on this bridge.”

The structure, twin cable-stayed spans, is the first new bridge built in New York since the Verrazano-Narrows Bridge was completed in 1964. The Queens side of the bridge holds five lanes of traffic while the Brooklyn span holds four. The first phase that is now open will hold three lanes of traffic in both directions until the second phase is complete in 2020.

The old bridge was supposed to accommodate about 10,000 drivers a day, according to Cuomo, but now approximately 180,000 drivers use it. Once completely finished, the new iteration is supposed to reduce delays by 65 percent.



1. Read Document 12. According to the headline, what bridge has been replaced?

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2. According to Document 12, what border does this bridge cross?

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3. Look at the photograph in Document 12, and compare it to Document 11b. What is the same? What is different?

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## GLOSSARY

**Congested:** blocked up

**Impact:** the effect of something

**Metropolitan:** related to a city, or a city area

**Traverse:** to cross