

A wide-angle photograph of the Brooklyn Bridge Promenade. The bridge's steel structure, including its massive stone towers and suspension cables, is visible. Pedestrians and cyclists are walking and riding along the wooden boardwalk. In the background, the New York City skyline is visible under a clear blue sky.

# BROOKLYN BRIDGE PROMENADE

Recommendation Report

December 2017

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# History and Background

# 1

# BACKGROUND

## Times Square in the Sky

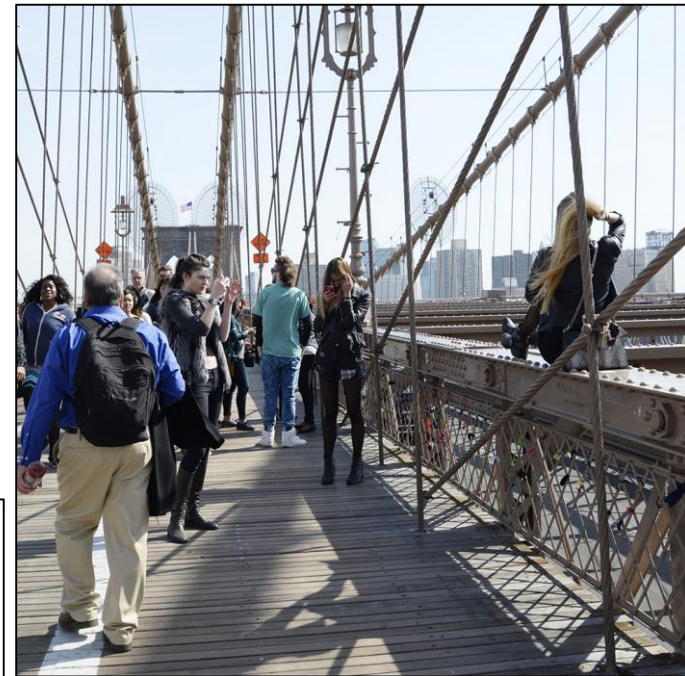
- The Brooklyn Bridge promenade is the number one tourist attraction in Brooklyn and in the top 5 for NYC
- From 2008 to 2015 pedestrian volumes increased 275% on weekends and cyclists increased 104%
- NYCDOT has received multiple requests to mitigate conflicts



August 8, 2012 / Brooklyn news

### Brooklyn Bridge should get wider pedestrian path and bike lane, pols say

BY ELI ROSENBERG  
The Brooklyn Paper



N.Y. / REGION

### Brooklyn Bridge, the 'Times Square in the Sky,' May Get an Expansion

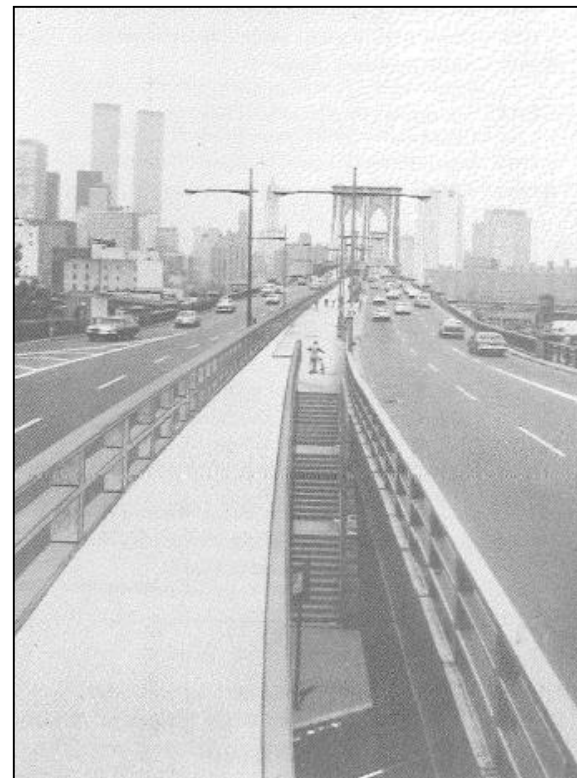
By WINNIE HU AUG. 8, 2016



# HISTORY

The Brooklyn Bridge has undergone many changes since opening in May 1883

- **May 24<sup>th</sup>, 1883** - Opened for horse-drawn and rail traffic with elevated promenade for pedestrians and cyclists
- **1898** - Roadway configured to allow trolley and carriages
- **1944** - Manhattan and Brooklyn terminals torn down, elevated trains removed
- **1945-1955** – Ramp from Brooklyn Queens Expressway to Brooklyn Bridge opened
- **1950** - Bridge closed for construction. Trolley tracks removed and traffic restricted to passenger cars. There are currently six lanes of vehicular traffic
- **1980s** - Ramp to Adams/Tillary St added. Stairs at towers removed
- **2017** – Capital reconstruction of Brooklyn bike/pedestrian entrance and on-street bicycle connections at Manhattan entrance completed easing access to promenade



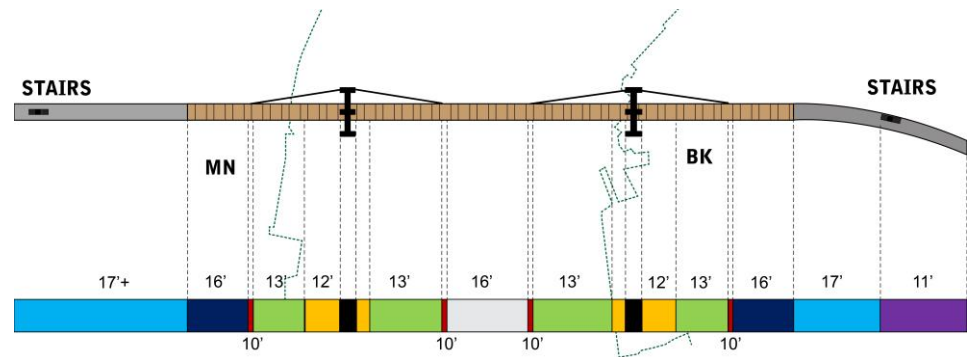
# PEDESTRIAN AND BICYCLE ENHANCEMENT STUDY GOALS

1. Greatly reduce conflicts between and enhance the safety of cyclists, pedestrians, and vendors on the promenade
2. Relieve overcrowding of existing promenade
3. Enhance the visitor experience of the iconic and historic Brooklyn Bridge promenade
4. Determine the structural feasibility of expanding the promenade deck

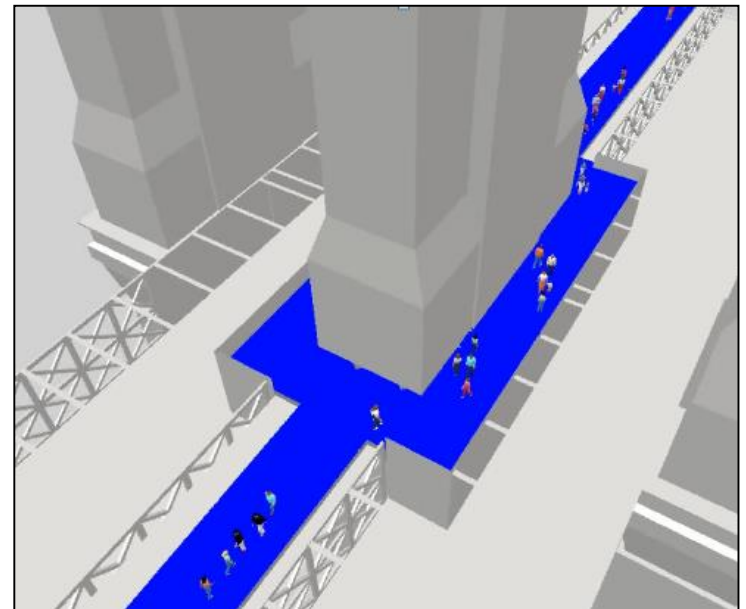


# METHODOLOGY

- NYC DOT identified 8 different typologies and analyzed geometric constraints, conflict points, overcrowding, and vendor activity
- Vehicular roadway traffic and pedestrian/bicycle promenade traffic flows were modeled to test alternative actions
- A consultant was hired to determine structural feasibility of proposals



*Promenade typologies color coded with corresponding widths*



*Pedestrian and bicycle traffic flow model*

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## Results of Consultant Study

# 2



# STRUCTURAL ANALYSIS FOR POSSIBLE PROMENADE EXPANSION

- In 2016 AECOM was hired to conduct a study of the structural feasibility of expanding the promenade deck between the towers
- Analysis showed that while the expanded promenade itself would add additional weight, the greatest increase would come from added pedestrian volume and live loads related to their presence
- **Results of the study recommend the inspection of cables before considering deck expansion.** This inspection will take roughly two years and is part of regular bridge upkeep

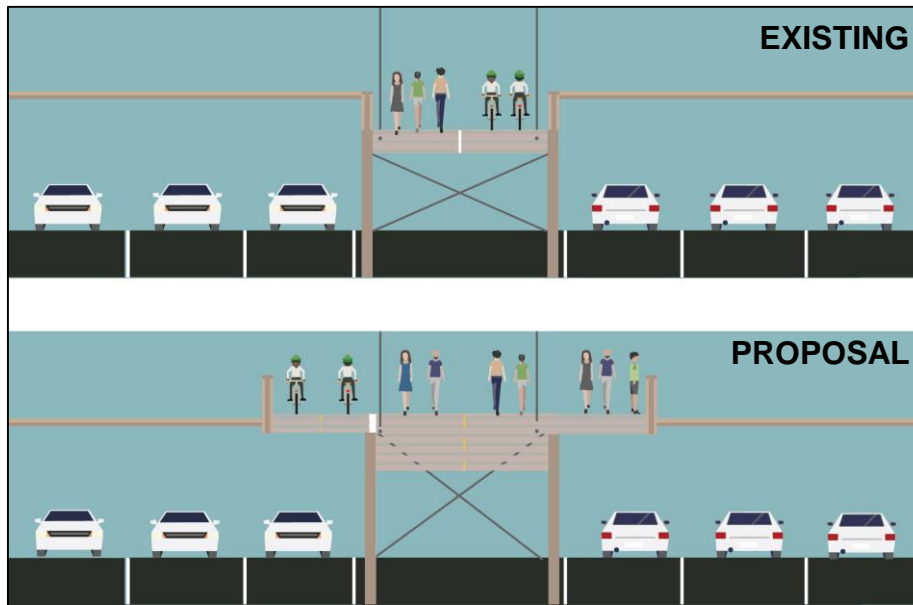


# POTENTIAL PROMENADE EXPANSION

- If cable analysis shows an expansion to be feasible and taking into account other bridge needs, the promenade will be widened when entire deck is raised to girder height as part of an upcoming contract



Conceptual Rendering



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## Additional Options Considered

# 3

# BROOKLYN BRIDGE VENDING REGULATIONS

## IN PROGRESS

- Vendors at the promenade entrances create bottlenecks that cause pedestrian traffic to spill over into the bike lane
- NYCDOT is working to draft rules to create vending restrictions, any rule changes will be subject to the City Administrative Procedure Act (CAPA) which includes a public review process
- When enforced, this action will address congestion on the most crowded section of the promenade
- Concession areas at various appropriate points on the bridge are being explored



# PARK ROW STAIRCASE *IN PROGRESS*

- “Under the Elevated” pilot project and partnership with Old Seaport Alliance
- Wayfinding graphics “wrap” on Brooklyn Bridge stairs at Frankfort St encouraging pedestrians to use the exit
- Increased pedestrian use of the stairwell could reduce crowding from Centre St



# PARK ROW, FRANKFORT ST TO CHATHAM SQUARE *IN PROGRESS*

## 2018 Street Improvement Project

- Re-open Park Row for pedestrians and bicycles
- Two-way protected bike lanes and 12,000 sq. foot pedestrian pathway will be installed along Park Row, connecting the Brooklyn Bridge stairway with Chinatown and Lower Manhattan
- Bus access will be maintained



# ROADWAY BIKE LANE OPTION NOT RECOMMENDED

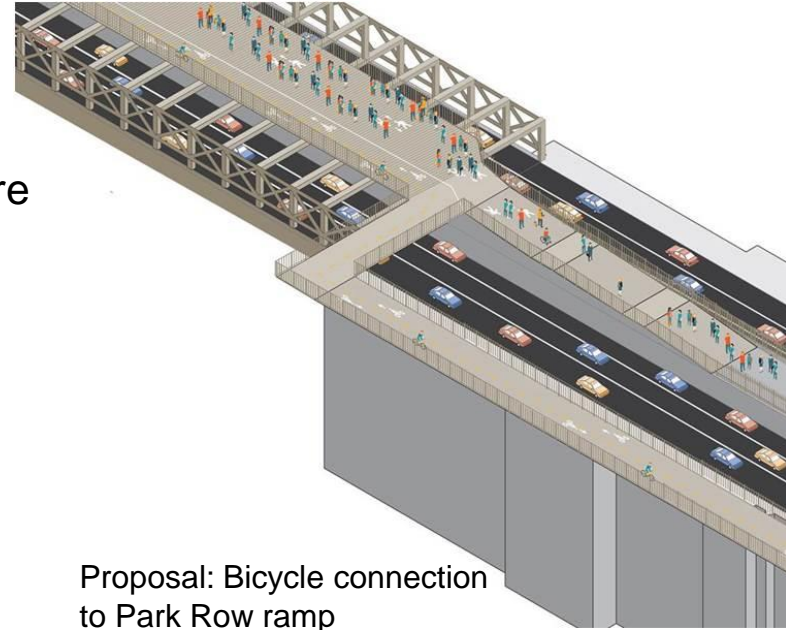
- NYCDOT investigated converting one inbound innermost lane to a roadway bike lane by merging the Sands/Pearl entrance ramp with the Tillary/Adams ramp, reducing three inbound lanes to two
- Traffic analysis showed the lane reduction cuts the vehicle capacity in half for both entrances
- This proposal is not recommended as the non-processed vehicles will spill back from the merge point which could result in a mile long queue on Adams St and have significant adverse effects on the downtown Brooklyn street network
- Additional drawbacks include maintenance challenges, emergency access concerns, and poor cycling experience



# PARK ROW RAMP BICYCLE CONNECTIONS

## EXPLORING

- NYCDOT is exploring the conversion of the closed Park Row exit ramp to a bike lane which would require a bike only cantilevered ramp or ground supported connection
- This connection will create a dedicated space for cyclists outside the most crowded section of the promenade and Park Row stairwell pinch point that can happen independent of the promenade widening



Proposal: Bicycle connection to Park Row ramp



Existing: Park Row stairwell



# PARK ROW BICYCLE CONNECTIONS

## *EXPLORING*

- Converting the closed Park Row exit ramp to a bike lane would provide a direct connection to the new Park Row protected bike lane completed in 2017 and the 2018 project re-opening Park Row under the Brooklyn Bridge



# NEXT STEPS

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- Pursue vending regulation changes specific to the Brooklyn Bridge
- Add on street Park Row connections
- Begin design on closed Park Row Ramp connection to promenade
- Initiate cable inspection



# THANK YOU!

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## Questions?



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