OUTLINE

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IV. Promenade Typologies & Issues
V. Deck to Girder Relationship
VI. Initial Improvement Concepts
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BROOKLYN BRIDGE

Times Square in the Sky
I. BROOKLYN BRIDGE – TIMES SQUARE IN THE SKY

The Brooklyn Bridge is more than a way to get from point A to B. It is a destination.

- Picture taking
- Sitting
- Talking
- Communicating
- Performing
- Selling/Buying
I. BROOKLYN BRIDGE – TIMES SQUARE IN THE SKY

No formal system for providing services to Bridge visitors
TIMES SQUARE IN THE SKY

Average Peak Hour Volumes
Spring 2008 vs. Spring 2015

- Pedestrian volumes have increased 20% in the PM and 275% on the weekend from May 2008 to May 2015

- Bicycle volumes have increased 66% in the AM and 93% in the PM from May 2008 to May 2015

Typical Weekday Volumes

- 100,000 Motor vehicles
- 10,000 Pedestrians
- 3,500 Cyclists

DOT Bi-Annual Pedestrian Counts (Spring)
AM counts averaged: 7-9AM, PM counts averaged: 4-7PM, Weekend counts averaged: 12-2PM
LIVES OF THE BROOKLYN BRIDGE
- **May 24th, 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
- **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 to Towers Removed
Brooklyn Bridge: Reconstruction of the promenade began in 1982. Controversy over design resulted from conflicting user demands. Handicapped and bicycle groups were in favor of replacing all four stairways with ramps. Preservationists contended that the existing steps were an integral part of the promenade and must remain. After a public hearing in May, 1982, the Landmarks Preservation Commission approved the removal of the stairs and construction of a fully ramped promenade. Reconstruction of the promenade between the two towers took place between August and December, 1982. A temporary walkway was installed eight feet above the existing promenade to allow pedestrians and bicycles to cross the Bridge during reconstruction. After the Brooklyn Bridge centennial celebration in May, 1983, a new 10' to 12' wide bikepath will be constructed at the Brooklyn approach in conjunction with promenade reconstruction between the towers and land (See Photo 12). This will eliminate the need to carry bicycles up or down a 3-level staircase of over 30 steps.
PROJECT OVERVIEW
BROOKLYN BRIDGE PROMENADE

Goals

• Relieve overcrowding of existing promenade
• Enhance the visitor experience of the iconic and historic Brooklyn Bridge promenade
• Greatly reduce conflicts between and improve safety of cyclists, pedestrians, and visitors on the promenade
PROCESS

1. **Initial Assessment**
   DOT has performed an initial assessment of the Brooklyn Bridge existing conditions, issues, and opportunities

2. **Consultant Study Tasks**
   Aug ‘16 -- Feb ’17, $370k
   a) Structural Analysis
   b) Conceptual Design Development
   c) Historical Preservation Implication Study
   d) Conceptual Cost Estimate

   If feasible

3. **Design & Construction**
   a) Potentially via upcoming/planned bridge capital contract
PROMENADE TYPOLOGIES & ISSUES
Concrete Approaches - 2365 feet: 35%
Wood Deck Approaches - 750 feet: 11%
Wood Deck with Cables – 1,510 feet: 23%
Tower Ramps - 540 feet: 8%
Towers - 109 feet: 2%
Crown – 355 feet: 5%
Trunk Cable Bases - 114 feet, 2%
Brooklyn Curve - 910 feet: 14%

The width of the bike/pedestrian promenade changes frequently. The majority of the pathway varies from 10’ to 17’
1. CONCRETE APPROACHES

Widest area, but pedestrians coming up from stairs must cross over bike lane to enter promenade.
1. CONCRETE APPROACHES

Staircase creates pinch point. Bikes traveling at high downhill speed do not have space to pass bikes entering the bridge.
CONCRETE/ WOOD DECK TRANSITION

- Benches: narrow pedestrian space
- Wooden promenade with adjacent girders
- Concrete pathway

WOOD DECK APPROACHES
CONCRETE APPROACHES

- 17'
- 16'
- ~13'
- 17'
- 16'
- 10'
- 10'
- 10'
- 10'

nyc.gov/dot
Width of 16’ is generally acceptable for a shared use path.

Stopping for picture taking creates pinch points and conflicts with walking and cycling.
3. WOOD DECK WITH CABLES

Cable supports connect inside of fence narrowing effective width of pathway.

Cyclists shy a foot away from cables, further reducing effective width.
4. TOWER RAMPS

Approaching tower, fence moves from outside of cables to inside, narrowing path further.
Pedestrians cross bike lanes for photos and views at Tower expansion.
6. CROWN

Approaching the Manhattan tower at the crown is the most popular section for stopping & taking photos.
7. TRUNK CABLE BASES

Narrowest point on bridge is at trunk cable bases where the path is 10’

Iconic view for photos at narrowest point on bridge
8. BROOKLYN CURVE

Narrow path, excess space on north side of fence to accommodate staircase
DECK TO GIRDER RELATIONSHIP
The majority of the wood deck is 4' below girders except at the towers and tower ramps.

Height relationship between promenade and girders
RAMP UP TO GIRDER HEIGHT

TOWER RAMPS – 15.5%

Pathway ramps up to girder height approaching towers
INITIAL IMPROVEMENT CONCEPTS
OPPORTUNITY FOR ADDITIONAL SPACE

Pathway expands on top of girders around towers

Potential pedestrian space

AT GIRDER HEIGHT – 5.5%
Potential expansion over girders

Rendering shows new space between towers only, concepts beyond towers will be explored.
**BETWEEN TOWERS CONCEPT**

**Crown**

**Wood Deck with Cables**

- Build pedestrian decks over roadway girders
  Option 1: Dual Deck or Option 2: Single Deck
- Midpoint ramps and stop controlled crossings allowing pedestrian access across bike path.
- Support stopping/resting activities, consider light touch concessions and Citibike station

**EXISTING**

**CONCEPT**

One or both sides

**Conceptual Rendering**
5 Towers

- Add stop controlled crosswalks to existing markings to calm cyclists and allow pedestrian access.
- Support stopping/resting activities, consider light touch concessions and Citibike stations
TOWER APPROACH CONCEPT

2 Wood Deck Approaches
3 Wood Deck with Cables
4 Tower Ramps

- Build pedestrian deck over roadway girders or length of cables

If needed to limit additional weight new pedestrian deck can be forgone for Wood Deck Approaches that are 16’ wide with no wires. Consider shifting centerline to add space for pedestrians.
CONCRETE APPROACH CONCEPT

1 Concrete Approaches

**Short Range:**
- Reallocate existing even split between bikes and pedestrians to 10’ for pedestrians and 7’ for bikes.
- Add seasonal fence to reduce conflicts

**Long Range:**
- Build out of elevated cantilevered walkways

EXISTING

SHORT RANGE

LONG RANGE
STAIR PINCH POINT CONCEPT

7 Stair Pinch Points

- **Brooklyn Stairs** - Add stop controls and crossings to manage speed/conflicts.

- **Manhattan Stairs** - Explore feasibility of closing & covering stairway.
BROOKLYN CURVE CONCEPT

- Room to reallocate roadway space and/or unused promenade space to widen pedestrian/bicyclist path
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