

Ed Koch/Queensboro Bridge Upper Deck Replacement Contract 10 #BRC231F



Source: Google

December 2019



Outline

- Bridge History
- Existing conditions - Main Bridge and Ramp
- What will be done - Project Scope
- What we hope to achieve - Project Goals
- How work will be done - Project Approach
- Construction schedule

Bridge History

- Construction began in 1901, opened to traffic in 1909
- Over a mile long, five span, double decked cantilever truss
- Designated a National Landmark in November 1973
- Bridge cross section changed over the years
- Bridge has carried:
 - Trolleys until 1930's
 - Subway trains until 1950's
 - A vehicular elevator to Roosevelt Island until 1955
- Bridge currently carries vehicular traffic, pedestrians and bicycles



Existing Conditions

- Bridge is over 100 years old
- Heavy traffic volumes
- Bridge rating is 4.214 out of 7 as of 2018
- Changes in bridge use over the years caused
 - Changes in bridge cross section
 - Additional weight on the bridge trusses
 - Heavier loads causing overstress in truss members



Existing Conditions – Current Traffic Volumes

Manhattan-bound	Weekday	Weekend
Average Daily Total Traffic	85,976 vehicles	83,021 vehicles
Average Peak Hour Traffic	5,944 vehicles	4,442 vehicles

Queens-bound	Weekday	Weekend
Average Daily Total Traffic	84,498 vehicles	85,348 vehicles
Average Peak Hour Traffic	5,302 vehicles	5,498 vehicles

Note: Peak Hour Traffic is the number of vehicles per hour in the peak period. Peak period is from 5:00 a.m. to 9:30 a.m. and from 3:30 p.m. to 8:00 p.m.

Average Daily Traffic Volume Comparison

Ed Koch Queensboro Bridge	Mario Cuomo Bridge
170,474 vehicles	140,000 vehicles

with other Manhattan Bridges/Tunnels

	Brooklyn Bridge	Manhattan Bridge	Williamsburg Bridge	Hugh L. Carey Tunnel	Midtown Tunnel	Ed Koch Queensboro Bridge
Inbound	48,379	43,999	56,048	30,280	45,777	84,347
Outbound	51,607	40,049	55,527	23,252	38,851	89,161

Project Scope

- Upper deck replacement on main bridge
- Upper deck rehabilitation on both approaches
- Structural steel rehabilitation
- Deck joints and barrier replacement
- Lighting and drainage improvements
- Incidental bridge painting
- Fire standpipe system

Project Goals

- Extend Upper Deck Service Life
Main bridge by minimum 50-75 years
- Lighter deck system
- Durable deck
- Increase Fire Suppression
- Limit public impacts



How work will be done

- One lane continuous closure (upper level only)
- Off peak limited two lane closures
- Crossover in Manhattan & Queens to maintain current ramp access operation
- South Outer Roadway & Lower Roadway open at all times during stages 1 – 6
- Reduce HOV operation by half hour (6:00 a.m. to 9:30 a.m.)
- 4 main construction stages & 2 cross over stages (6 total)

Pre-stage (July 2018 to October 2020)

Duration – 28 months

- Mobilization
- Test panel fabrication, off-site installation & testing
- Installation of under deck shield
- Temporary lighting
- Single lane closures in both directions overnight only

Stages 1 & 2 (Oct 2020 to June 2021)

Duration - 9 months

North Upper Roadway (Manhattan-bound Lanes)

Deck replacement & fire standpipe installation



Stage 1



Stage 2

Stages 3 & 4 (August 2021 to April 2022)

Duration - 8 months

South Upper Roadway (Queens-bound lanes)

Deck replacement



Stage 3



Stage 4

Stage 5 (June 2022 to August 2022)

Deck Replacement at Crossover Locations – 3 months

Stage 5A



Ongoing single lane closure and
Full ramp closure 8:00 pm to 5:00 am each night - Sunday nights to Friday mornings
8:00 pm to 2:00 pm Friday night to Saturday; Saturday night to Sunday

Stage 5 (June 2022 to August 2022)

Deck Replacement at Crossover Locations – 3 months

Stage 5B



Ongoing single lane closure and
Full ramp closure 8:00 pm to 2:00 pm Friday night to Saturday; Saturday night to Sunday

Stage 6A (September 2022 to October 2022)

Deck Rehabilitation at Approaches

Mainly overnight work



Ongoing single lane closure and
Full ramp closure 8:00 pm to 5:00 am each night

Stage 6B (September 2022 to October 2022)

Deck Rehabilitation at Approaches

Mainly overnight work



Ongoing single lane closure and
Full ramp closure 8:00 p.m. to 3:00 p.m. weekdays;
8:00 p.m. to 2:00 p.m. weekends

Summary of Project Schedule*

- Notice to proceed: July 2018
- Pre-stage period: July 2018 – October 2020
- Stages 1 to 6:

Alternate Continuous closures: October 2020 – October 2022

* Anticipated timeframe is subject to weather and field conditions

Mitigation for Lane Closures

- Traffic Agents up to 20 hours per day
- All ramp exits and entrances follow existing operation through crossovers
- 24 hour tow service on call in Manhattan and Queens
- Mitigation measures evaluated regularly and modified as required
- Contract has penalty and incentive/disincentive clauses for early closing and/or late opening of lanes

Community Outreach

- Maintain a notification network of stakeholders (local businesses, civic and community organizations, public service institutions, residents and travelling public)
- Social media – Twitter, Instagram, Facebook, Web Portals
- Public service updates – all media outlets
- Community liaison accessible via phone and email
- Information sharing with transportation partners

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NYSDOT

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Thank you

