

# 2023 Interim Repairs



Public Presentation

2022



# Agenda

**Introductions**

**BQE 2023 Construction Project Overview**

**Need for BQE Interim Repairs**

**Weekend Closures/Detours**

**Discussions/Action Items**

# BQE – Project Area

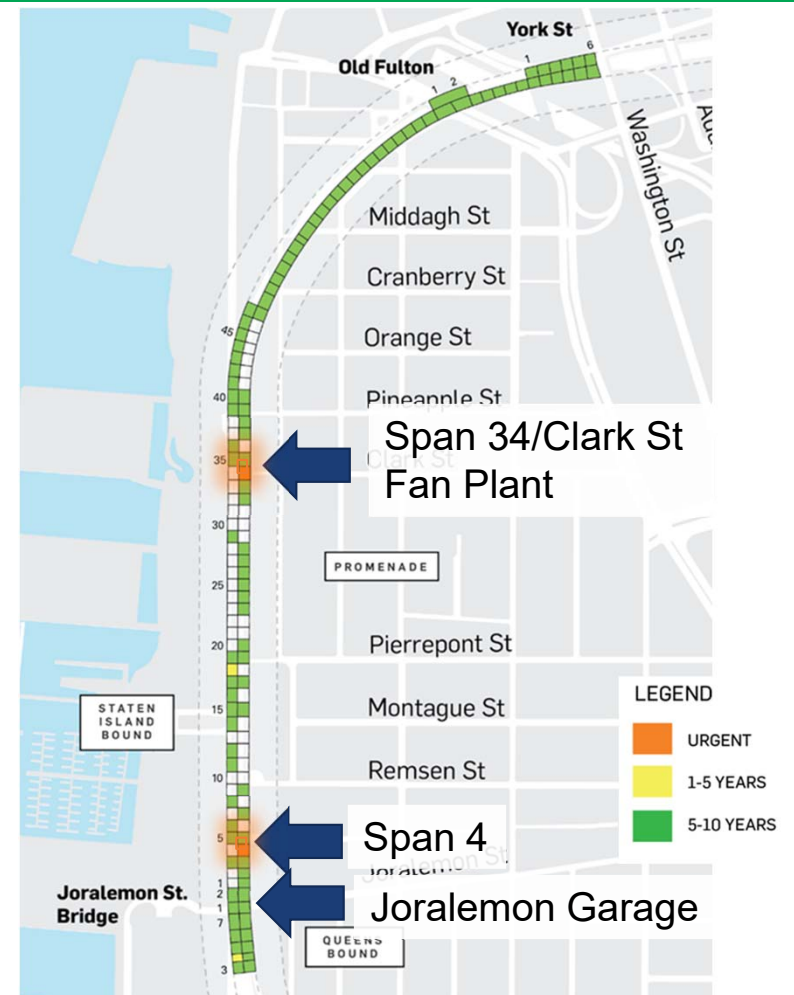


# BQE Project Overview

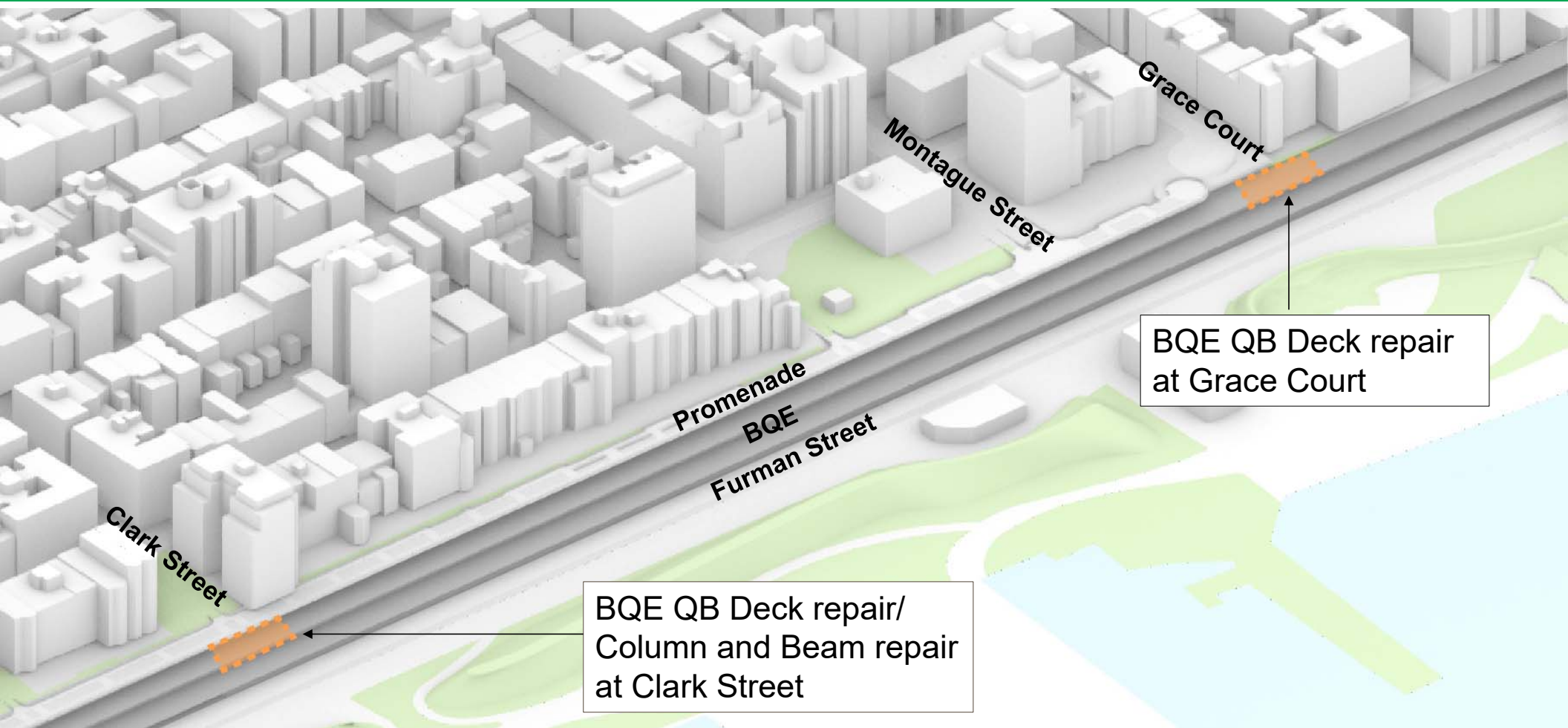
- **Safety is our number one priority.**
- NYC DOT and outside engineering partners (C2Smart) are closely tracking the city-owned structure to ensure we stay ahead of potential safety issues.
  - **In-Person Inspections by DOT Engineers.** Quarterly visual inspections detect any localized cracking, concrete spalling, steel corrosion, and other visible flags
  - **Constant Monitoring via Sensors.** Sensors and specialized instruments monitor changes in global stiffness, concrete cracking, and vibrations
  - **Truck Weight Monitoring.** Weigh-In-Motion technology provides real time measurement of truck loads. Automated enforcement starting by early 2023
  - **Analysis and Modeling:** DOT and outside engineering partners (C2Smart) are using data from monitoring to assess structure's current condition and to model its future condition

# BQE Project Overview

- **Components require immediate attention**
- **Addressing immediate needs will allow us to maintain traffic flow**
- **Components Requiring Immediate Attention**
  - Span 34 (Clark Street)/Clark Street Fan Plant
  - Span 4 (Grace Court)
  - Joralemon Street Garage

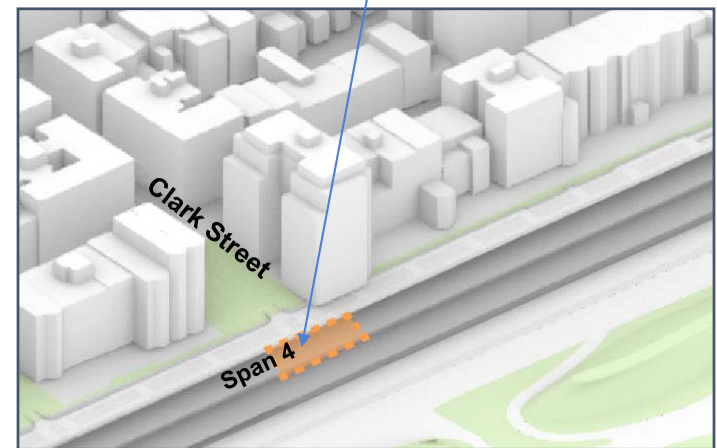
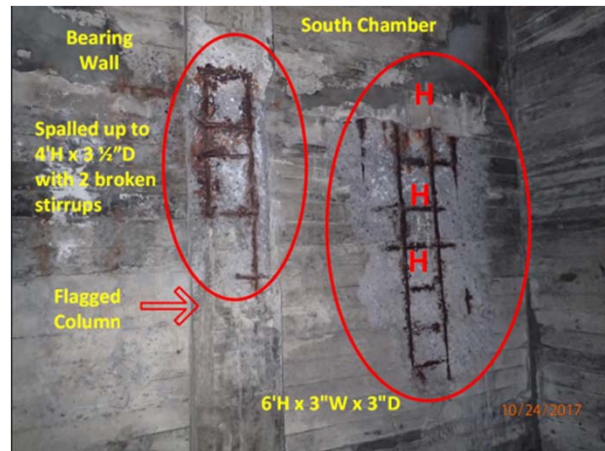


# BQE – Interim Repair Area Context



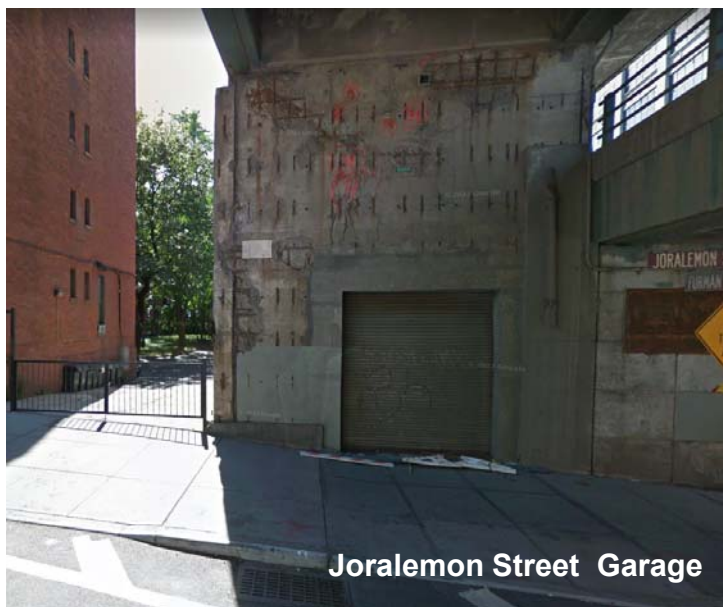
# Clark Street Fan Plant

- Structural repair inside the chamber that houses the fan plant
- Work is concurrent with planned BQE closures
- Coordination with MTA, which owns fan plant



# Joralemon Street Garage

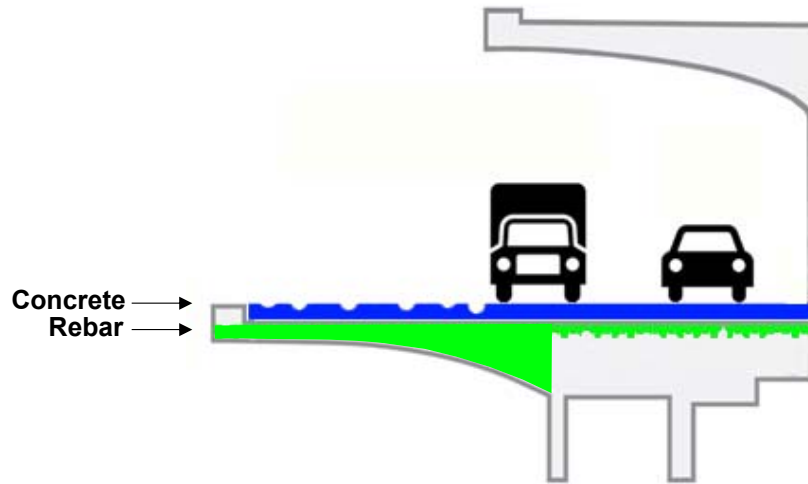
- Structural repair inside the chamber that houses the garage
- Work can happen without BQE closures
- Crews can access work area via local street





# BQE Repair Challenges

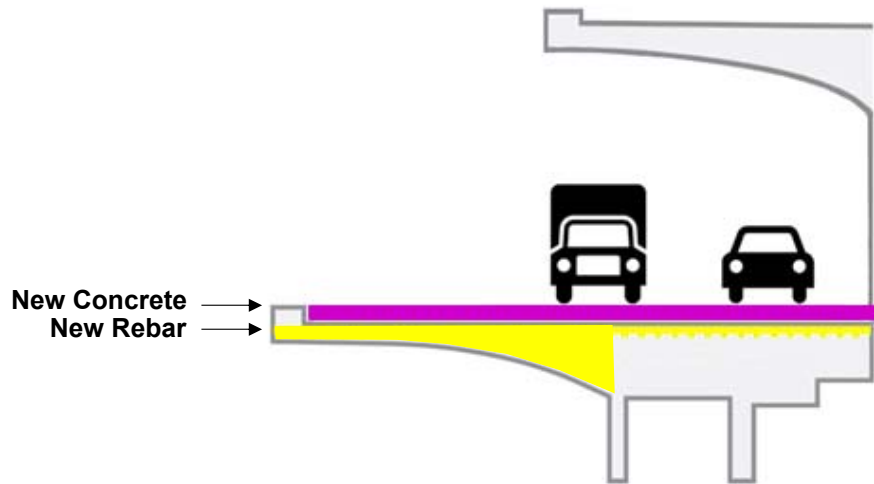
### Current BQE Condition



**Remove deteriorated concrete and rebar**

- Legend
- Existing Concrete
  - Existing Rebar

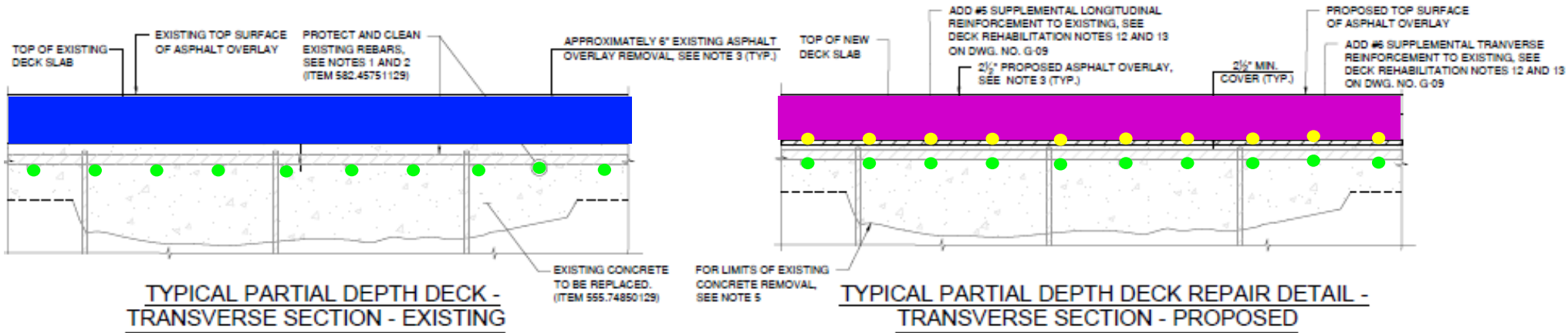
### Required BQE Repairs



**Repair concrete and rebar**

- Legend
- Concrete Repair
  - Rebar Repair

# Queens Bound Interim Deck Repair



## Existing Condition

Legend

- Existing Asphalt
- Existing Rebar

## Proposed Condition

Rebar added, not replaced

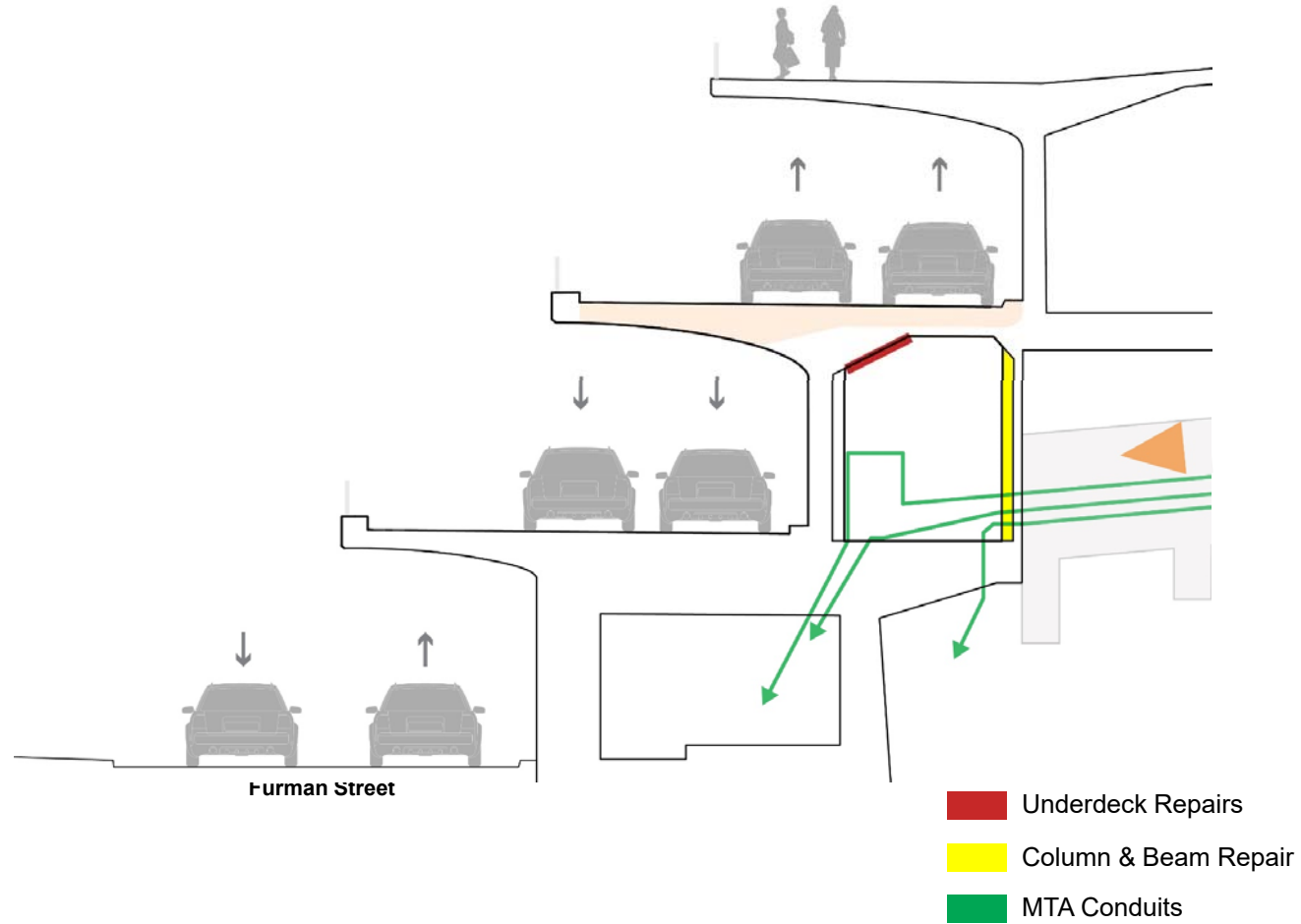
Legend

- Asphalt Overlay
- Supplemental Reinforcement

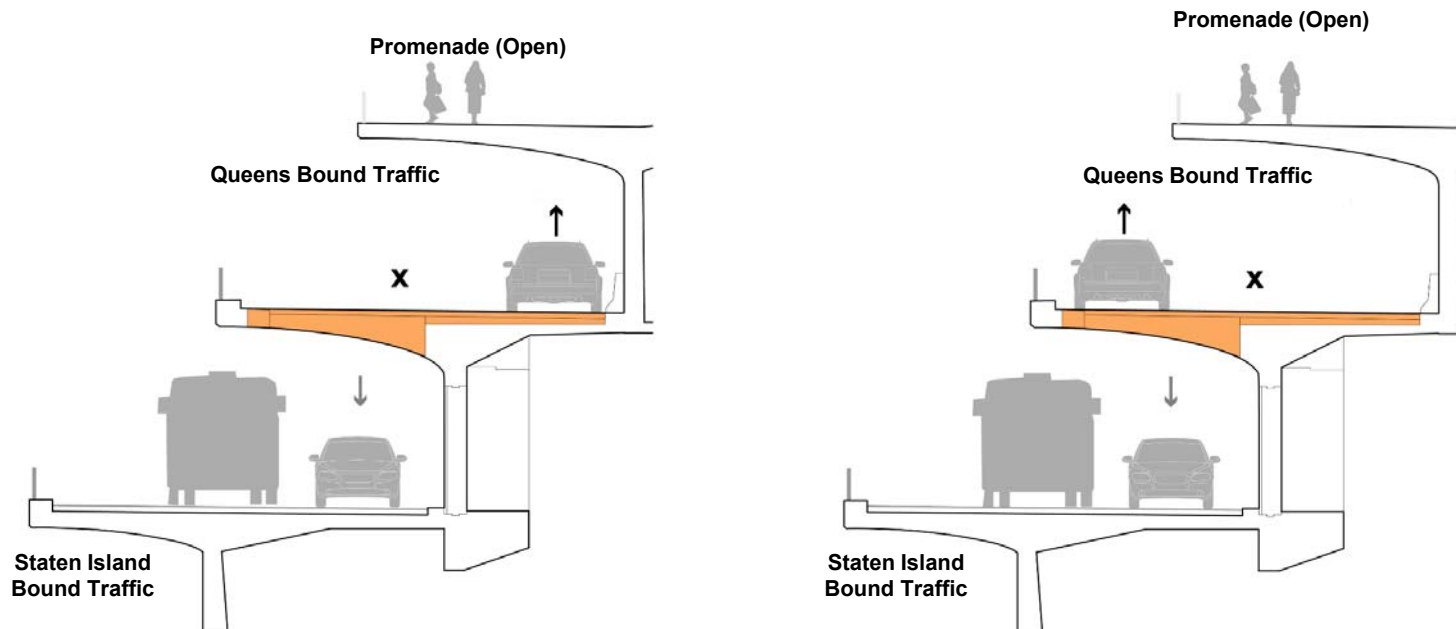
# Queens Bound Interim Repairs at Clark Street



Column & beam repair



# Construction Staging



## Preparation Work (Night-Time)

- Remove deteriorated concrete
- Add steel plates for support in preparation
- No daytime work

*Two level highway restricts areas to shift traffic during construction*

# First Weekend Closure

**Full closure of all Queens-Bound lanes with BQE traffic to exit at Atlantic Ave**

**One lane open in the Staten Island Bound direction**

**Closures between Saturday 2AM to Monday 4AM**

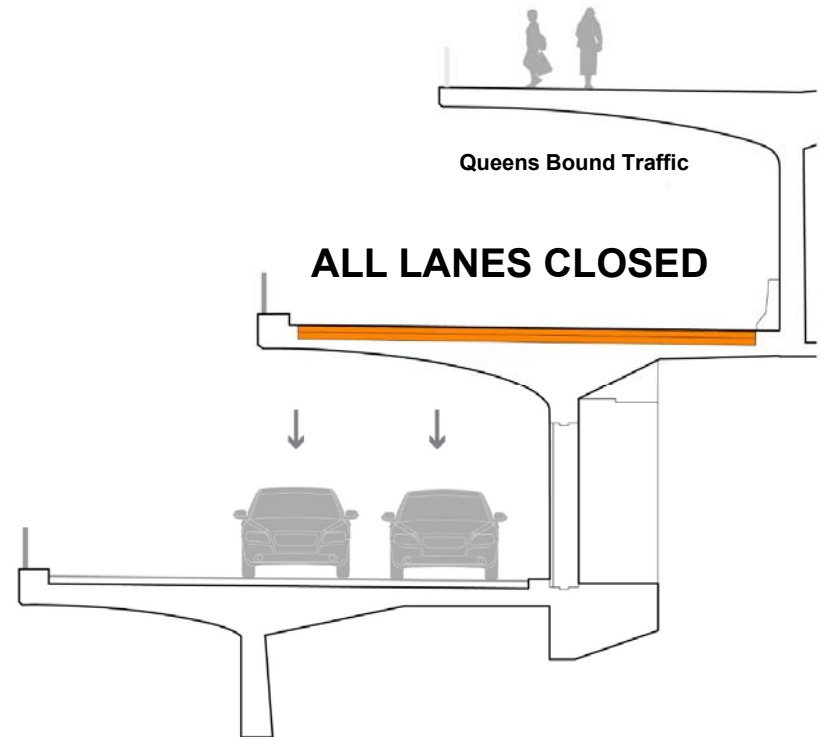


## Second and Third Weekend Closures

**Full closure of all Queens-Bound lanes with remaining BQE traffic to exit at Atlantic Ave**

**All travel lanes on the Staten Island-Bound direction will be open**

**Closures between Saturday 2AM to Monday 4AM**



## Weekend Closures (3 Total, Mar. - Oct.)

- **Weekend 1:** Queens-bound and Staten Island-bound closures
  - QB: Full Closure
  - SIB: 1 Lane Open
- **Preparation Work Continued**
- **Weekend 2:** Queens-bound closure only
  - QB: Full Closure
  - SIB: No Closure
- **Preparation Work Continued**
- **Weekend 3:** Queens-bound closure only
  - QB: Full Closure
  - SIB: No Closure
- **All Weekend Closures**
  - Entrance ramps along QB will be closed and detour routes will be provided
  - Traffic Enforcement Agents (TEA) and Pedestrian Managers will be provided
  - Variable message signs (VMS) will be provided in locations approved by EIC
  - Prospect Expressway Bus/HOV barrier

# Mitigation Measures

## Mitigation Measures During Closures

- Encourage alternate modes of transportation where possible
- Traffic agents at key intersections
- Pedestrian managers at key locations
- VMS signs informing travelers of closures/detours
- Adjustments to lane configurations
- Turn restrictions at select intersections
- Emergency services stationed at BBP
- Coordination with FDNY/NYPD/EMS
- Noise mitigation
  - Sound blankets and monitoring sound levels
- Dust mitigation

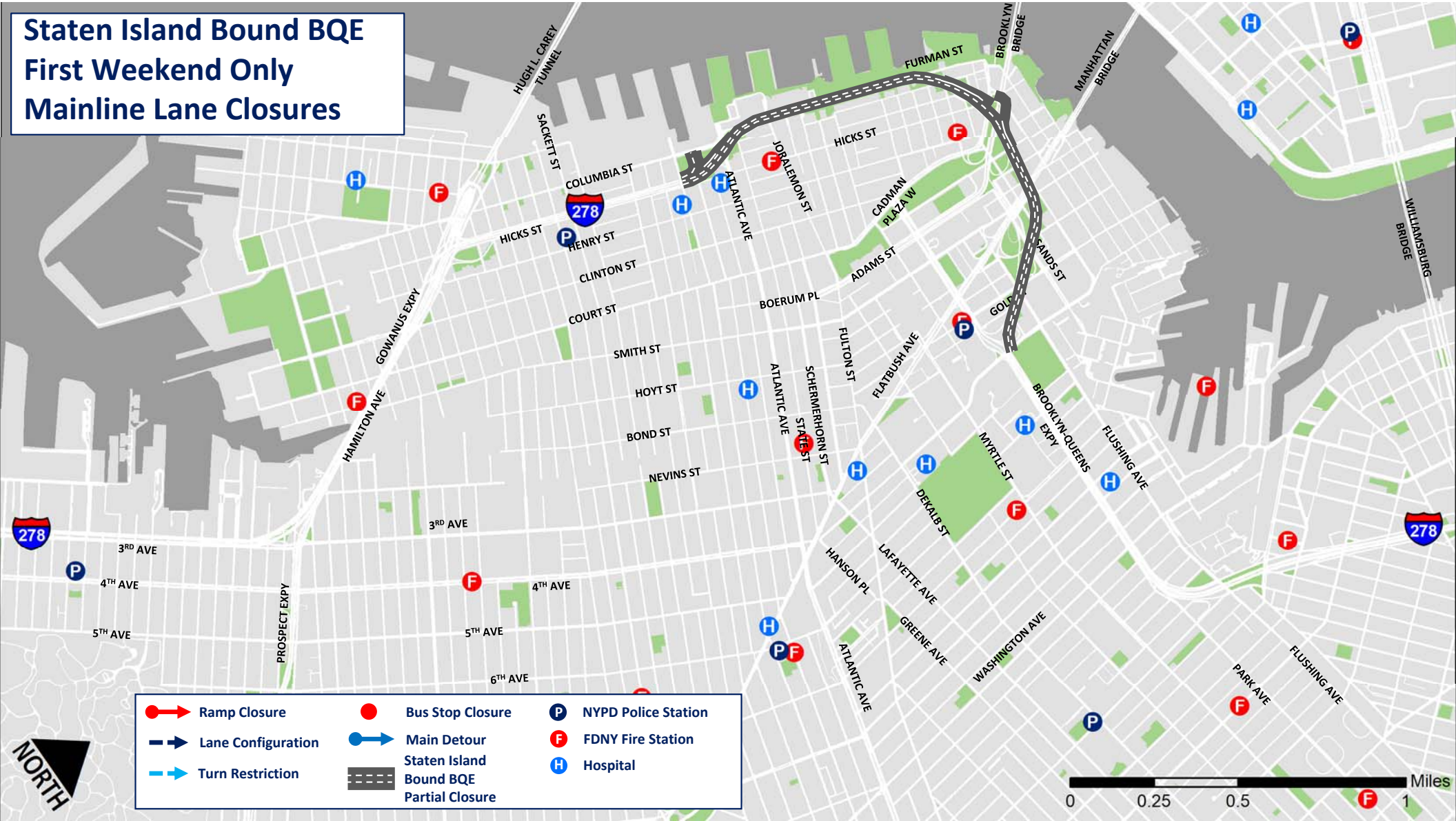




# Weekend 1 Only

## Staten Island-Bound Closures

# Staten Island Bound BQE First Weekend Only Mainline Lane Closures



|                    |   |                     |
|--------------------|---|---------------------|
| Ramp Closure       | Bus Stop Closure                        | NYPD Police Station |
| Lane Configuration | Main Detour                             | FDNY Fire Station   |
| Turn Restriction   | Staten Island Bound BQE Partial Closure | Hospital            |



# Staten Island Bound BQE First Weekend Only Lane Configurations - Mitigation



|                    |   |                     |
|--------------------|---|---------------------|
| Ramp Closure       | Bus Stop Closure                        | NYPD Police Station |
| Lane Configuration | Main Detour                             | FDNY Fire Station   |
| Turn Restriction   | Staten Island Bound BQE Partial Closure | Hospital            |



# Staten Island Bound BQE First Weekend Only Lane Configurations - Mitigation

2 moving lanes (1 contra flow lane)  
on Furman St  
from Old Fulton St to Atlantic Ave










2 moving lanes  
on Atlantic Ave On Ramp  
from Columbia St to SIB BQE

Vine Street  
Entrance Ramp

Sands Street  
Entrance Ramp

Flushing Avenue  
Entrance Ramp

HOV slip ramp open to  
Hugh L. Carey Tunnel

|   |                    |   |   |   |                     |
|---|--------------------|---|---|---|---------------------|
|  | Ramp Closure       |  | Bus Stop Closure                              |  | NYPD Police Station |
|  | Lane Configuration |  | Main Detour                                   |  | FDNY Fire Station   |
|  | Turn Restriction   |  | Staten Island<br>Bound BQE<br>Partial Closure |  | Hospital            |



# Staten Island Bound BQE First Weekend Only Turn Restrictions - Mitigation



# Staten Island Bound BQE First Weekend Only Transit Changes



**Staten Island Bound BQE  
First Weekend Only  
Flushing Avenue  
Entrance Ramp Detour**



- |                    |   |                     |
|--------------------|---|---------------------|
| Ramp Closure       | Bus Stop Closure                        | NYPD Police Station |
| Lane Configuration | Main Detour                             | FDNY Fire Station   |
| Turn Restriction   | Staten Island Bound BQE Partial Closure | Hospital            |

0 0.25 0.5 1 Miles



**Staten Island Bound BQE  
First Weekend Only  
Sands Street  
Entrance Ramp Detour**





**Staten Island Bound BQE  
First Weekend Only  
Vine Street  
Entrance Ramp Detour**



**Staten Island Bound BQE  
First Weekend Only  
All Main Detours**



0 0.25 0.5 1 Miles



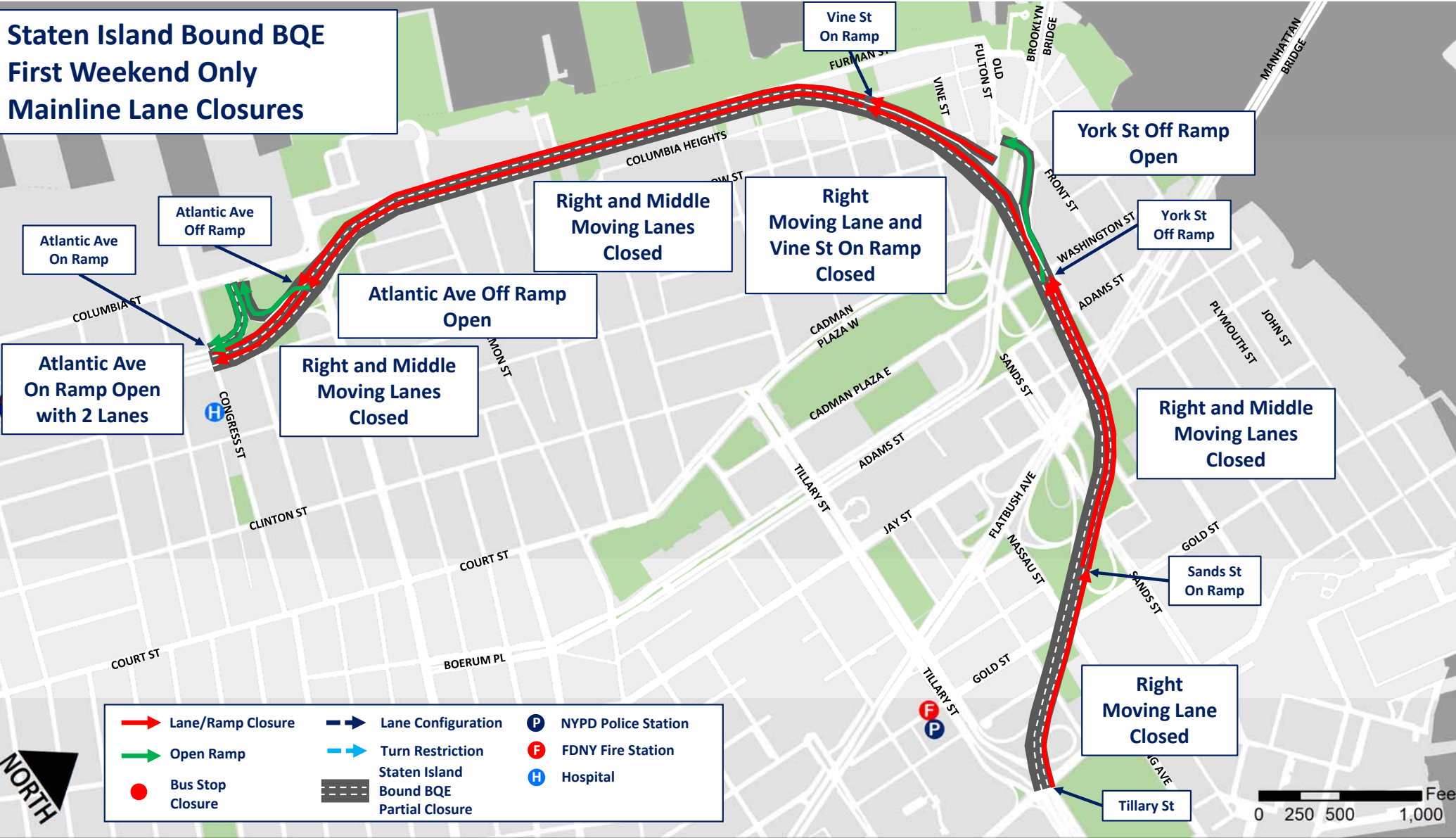
# Staten Island Bound BQE First Weekend Only Mainline Lane Closures



|  |                   |  |   |  |                     |
|--|-------------------|--|---|--|---------------------|
|  | Lane/Ramp Closure |  | Lane Configuration                      |  | NYPD Police Station |
|  | Open Ramp         |  | Turn Restriction                        |  | FDNY Fire Station   |
|  | Bus Stop Closure  |  | Staten Island Bound BQE Partial Closure |  | Hospital            |

0 250 500 1,000 Feet

**Staten Island Bound BQE  
First Weekend Only  
Mainline Lane Closures**



**Staten Island Bound BQE  
First Weekend Only  
Furman St Closures**










**Close NB Furman St travel lane  
from Atlantic Ave to Old Fulton St**

|  |                   |  |   |  |                     |
|--|-------------------|--|---|--|---------------------|
|  | Lane/Ramp Closure |  | Lane Configuration                      |  | NYPD Police Station |
|  | Open Ramp         |  | Turn Restriction                        |  | FDNY Fire Station   |
|  | Bus Stop Closure  |  | Staten Island Bound BQE Partial Closure |  | Hospital            |



**Staten Island Bound BQE  
First Weekend Only  
Furman St Closures**

**Open 2 SB travel lanes  
from Old Fulton St to Atlantic Ave**

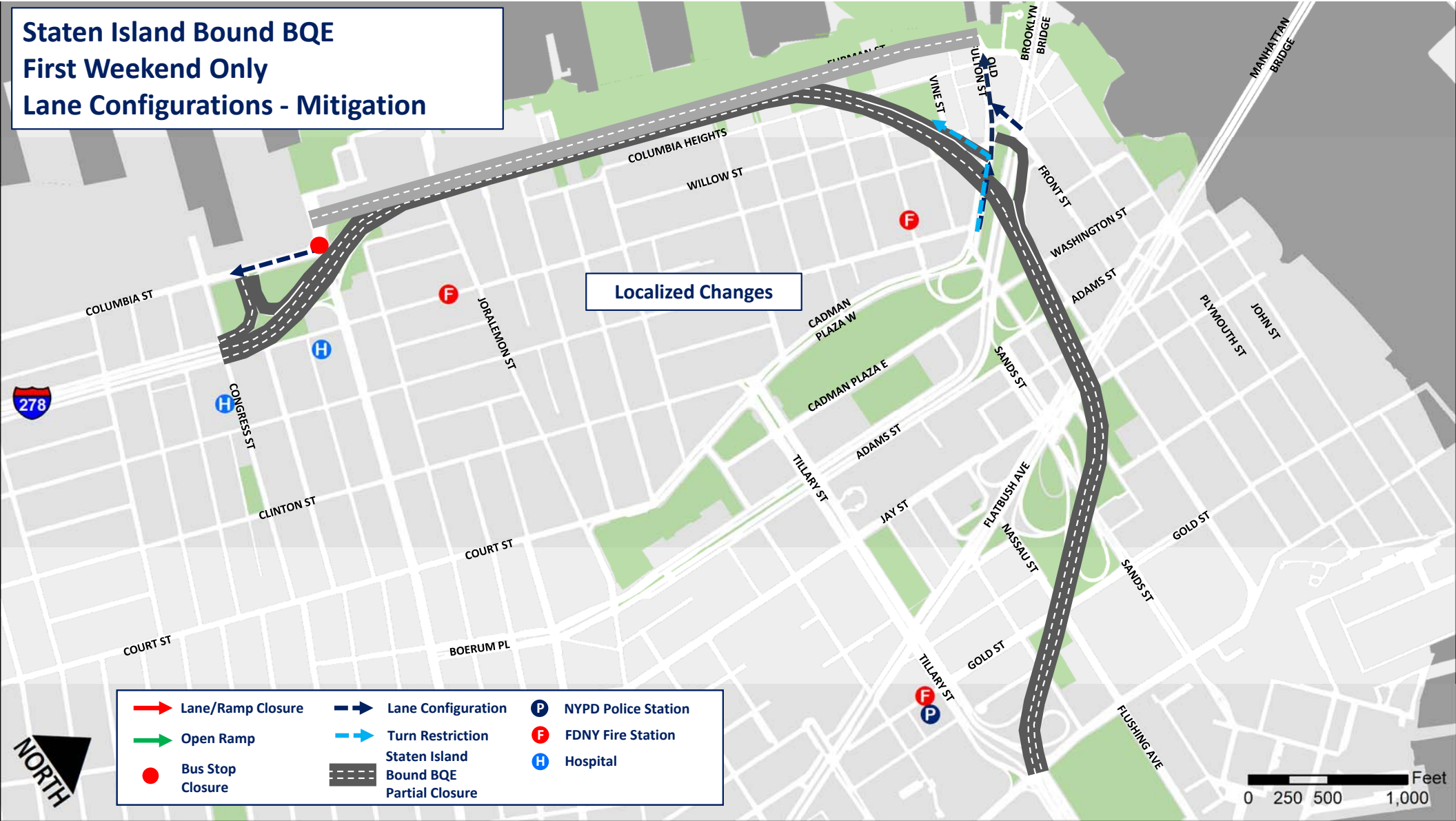
|   |   |   |
|---|---|---|
|  Lane/Ramp Closure |  Lane Configuration                      |  NYPD Police Station |
|  Open Ramp         |  Turn Restriction                        |  FDNY Fire Station   |
|  Bus Stop Closure  |  Staten Island Bound BQE Partial Closure |  Hospital            |



# Staten Island Bound BQE First Weekend Only Lane Configurations - Mitigation

## Localized Changes

|  |                   |  |   |  |                     |
|--|-------------------|--|---|--|---------------------|
|  | Lane/Ramp Closure |  | Lane Configuration                      |  | NYPD Police Station |
|  | Open Ramp         |  | Turn Restriction                        |  | FDNY Fire Station   |
|  | Bus Stop Closure  |  | Staten Island Bound BQE Partial Closure |  | Hospital            |

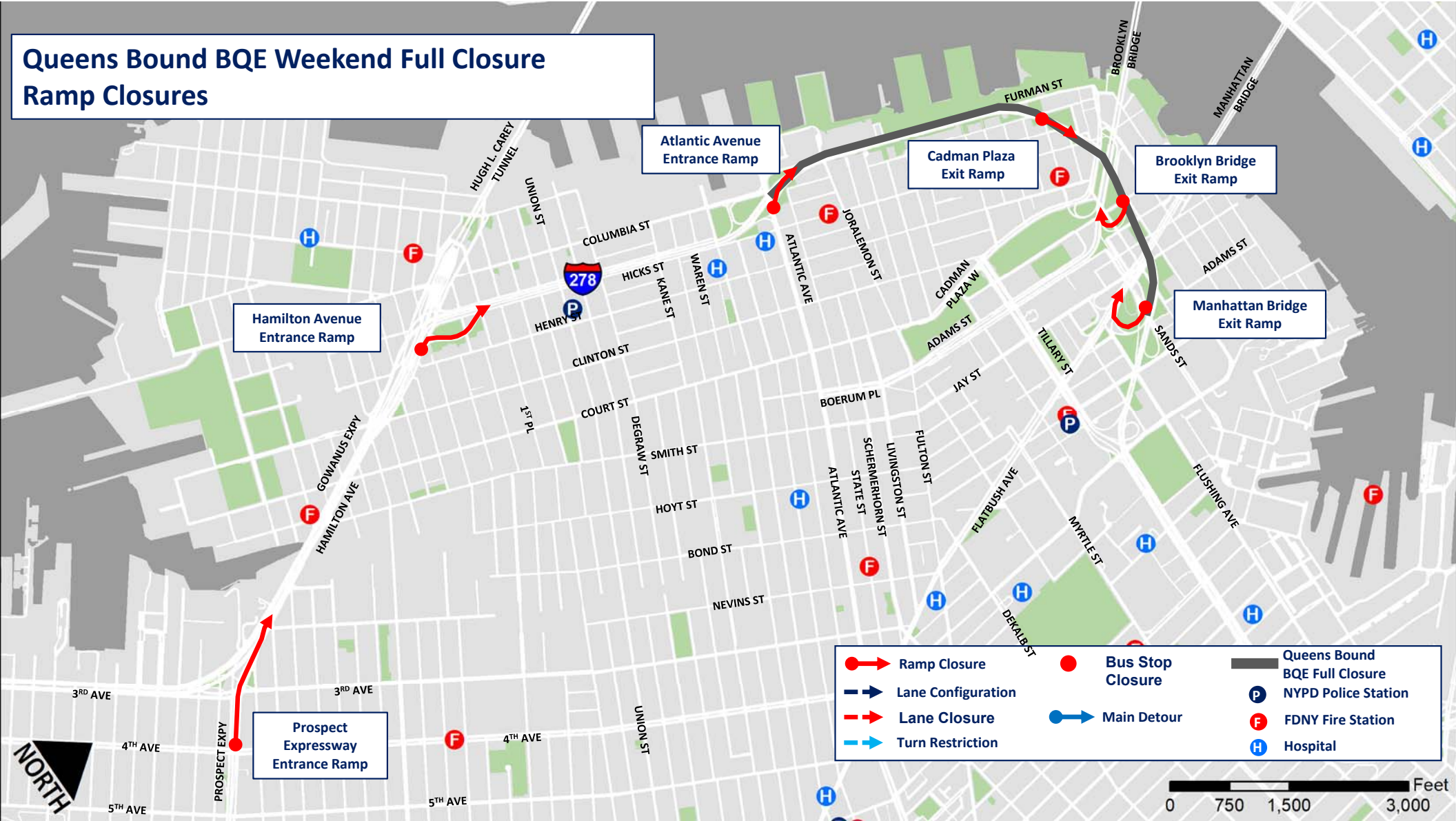


# All 3 Weekend Closures

## Queens-Bound Closures



# Queens Bound BQE Weekend Full Closure Ramp Closures



Hamilton Avenue Entrance Ramp

Atlantic Avenue Entrance Ramp

Cadman Plaza Exit Ramp

Brooklyn Bridge Exit Ramp

Manhattan Bridge Exit Ramp

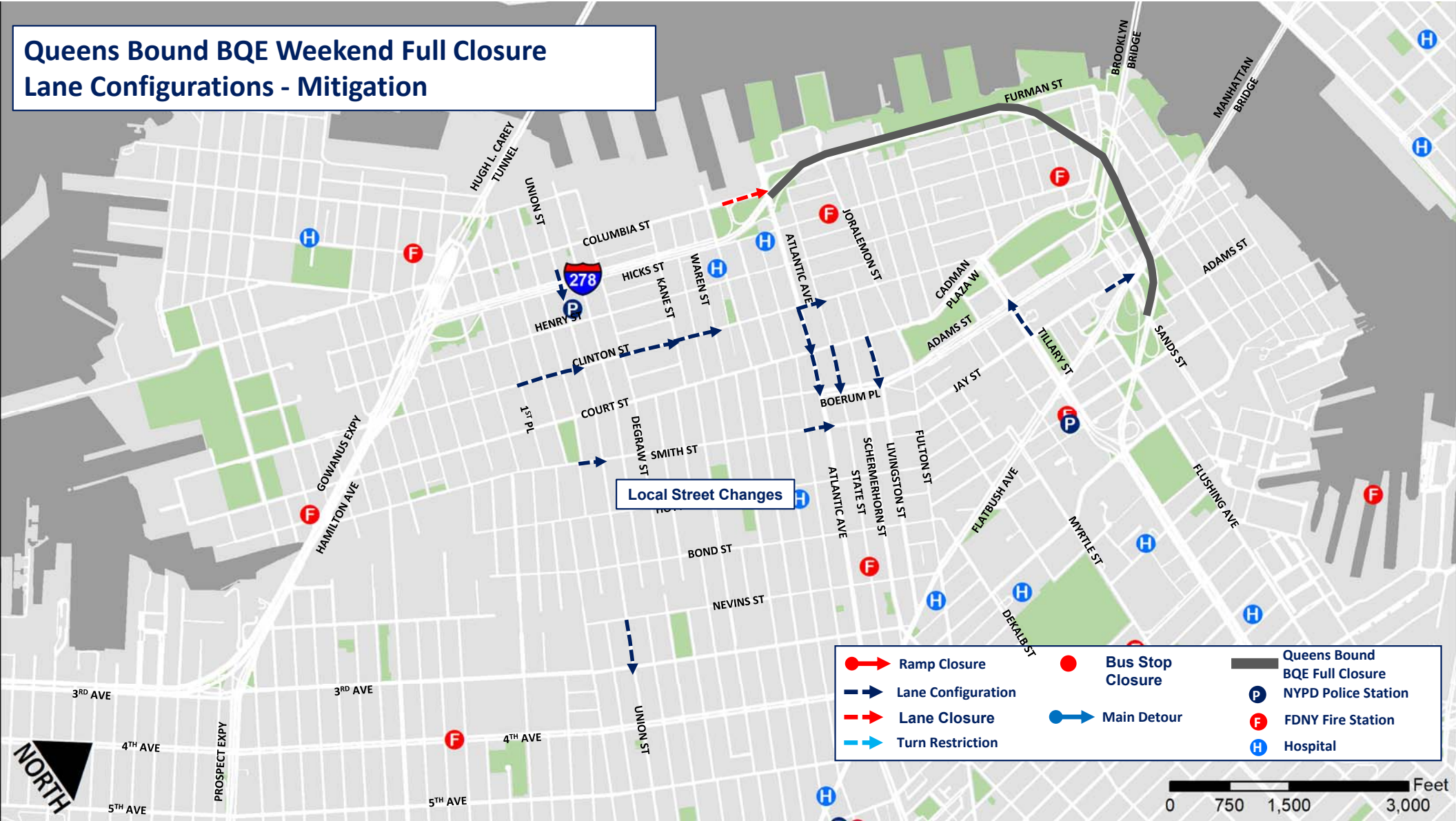
Prospect Expressway Entrance Ramp

- ➔ Ramp Closure
- ➔ Lane Configuration
- ➔ Lane Closure
- ➔ Turn Restriction
- Bus Stop Closure
- ➔ Main Detour
- Queens Bound BQE Full Closure
- P NYPD Police Station
- F FDNY Fire Station
- H Hospital

0 750 1,500 3,000 Feet

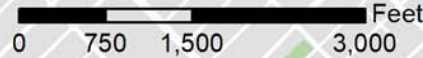


# Queens Bound BQE Weekend Full Closure Lane Configurations - Mitigation



Local Street Changes

- ➔ Ramp Closure
- ➔ Lane Configuration
- ➔ Lane Closure
- ➔ Turn Restriction
- Bus Stop Closure
- ➔ Main Detour
- P NYPD Police Station
- F FDNY Fire Station
- H Hospital
- Queens Bound BQE Full Closure

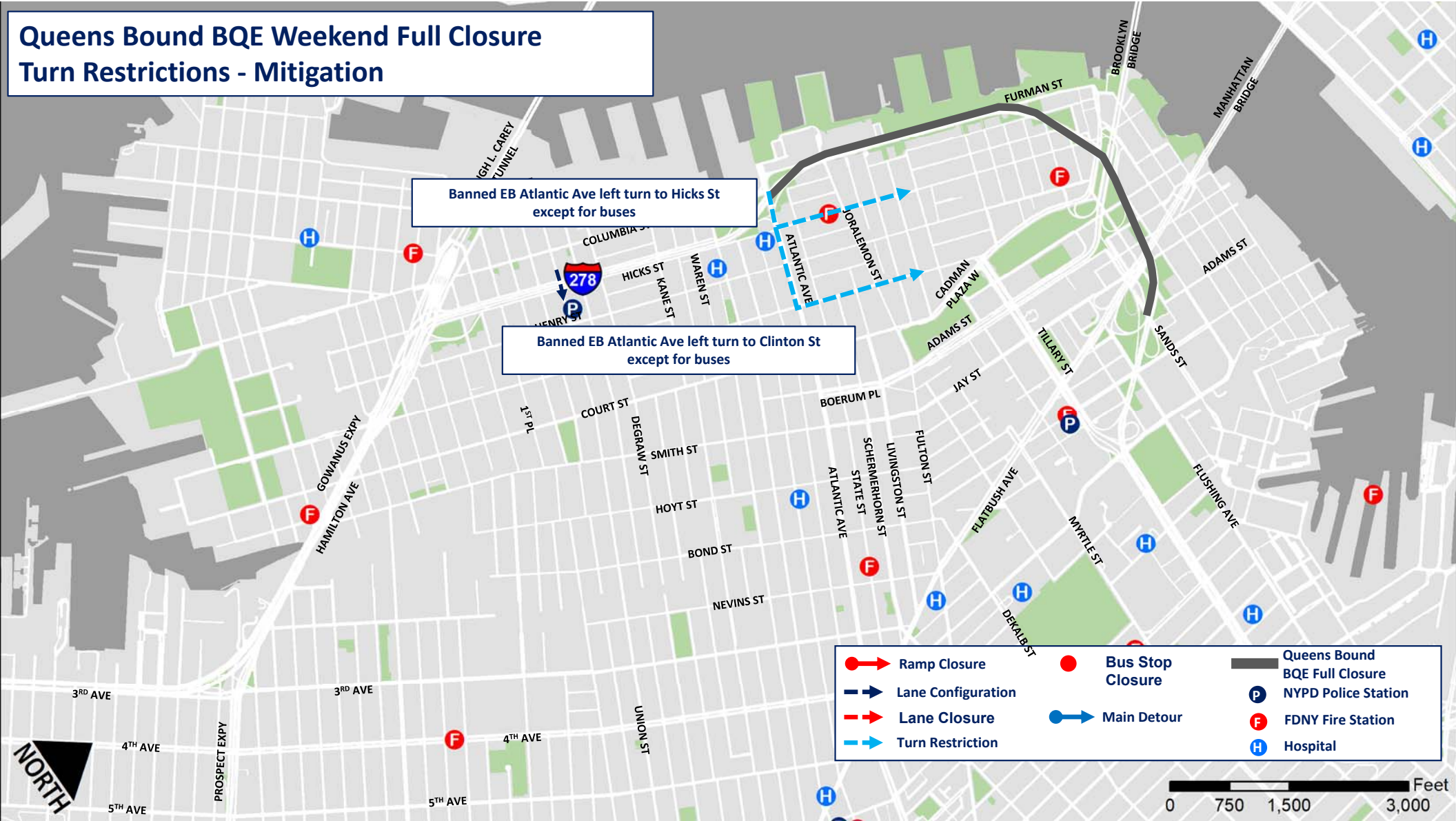


# Queens Bound BQE Weekend Full Closure Turn Restrictions - Mitigation

Banned EB Atlantic Ave left turn to Hicks St  
except for buses

Banned EB Atlantic Ave left turn to Clinton St  
except for buses

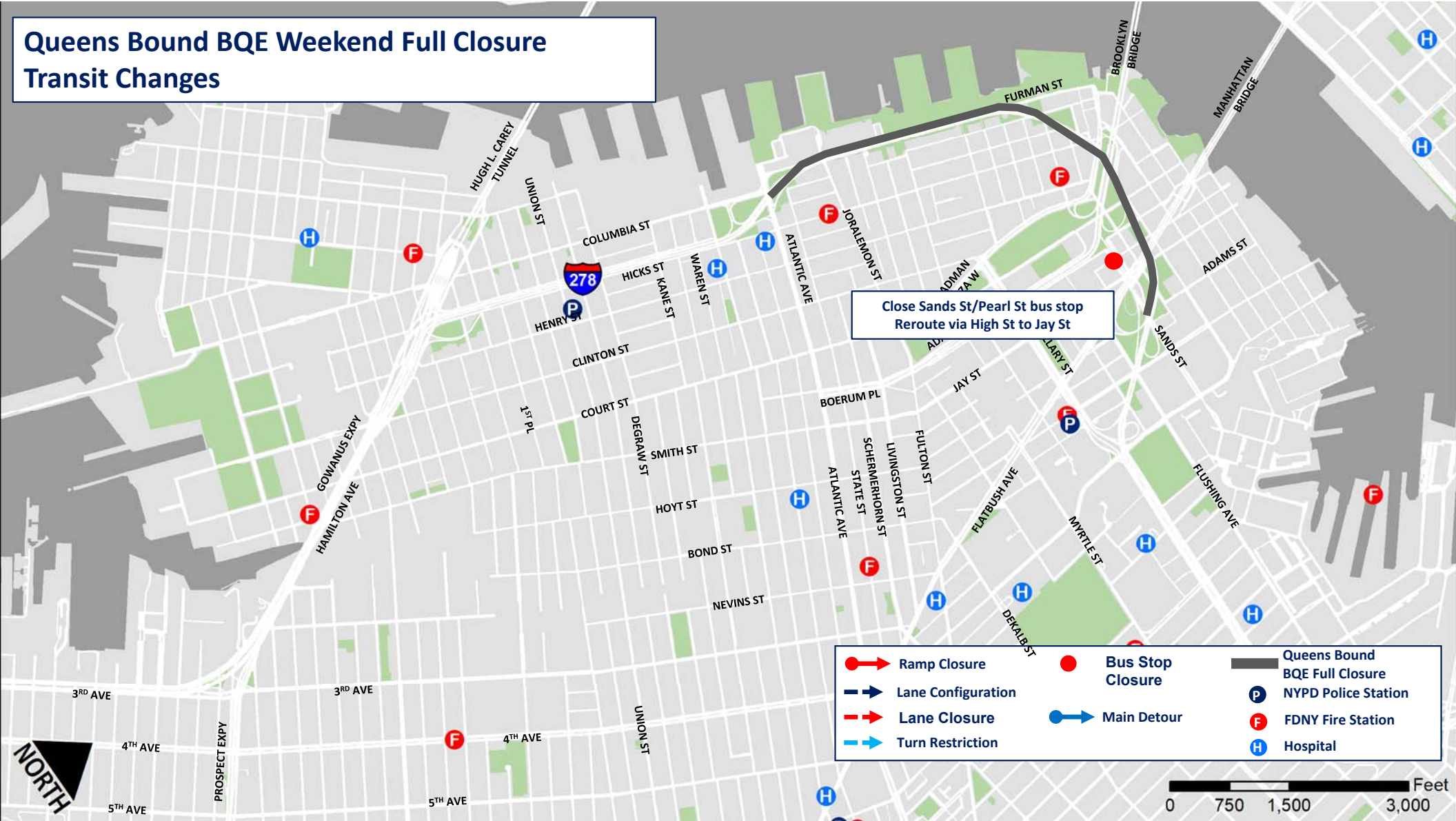
-  Ramp Closure
-  Lane Configuration
-  Lane Closure
-  Turn Restriction
-  Bus Stop Closure
-  Main Detour
-  Queens Bound BQE Full Closure
-  NYPD Police Station
-  FDNY Fire Station
-  Hospital



# Queens Bound BQE Weekend Full Closure Transit Changes

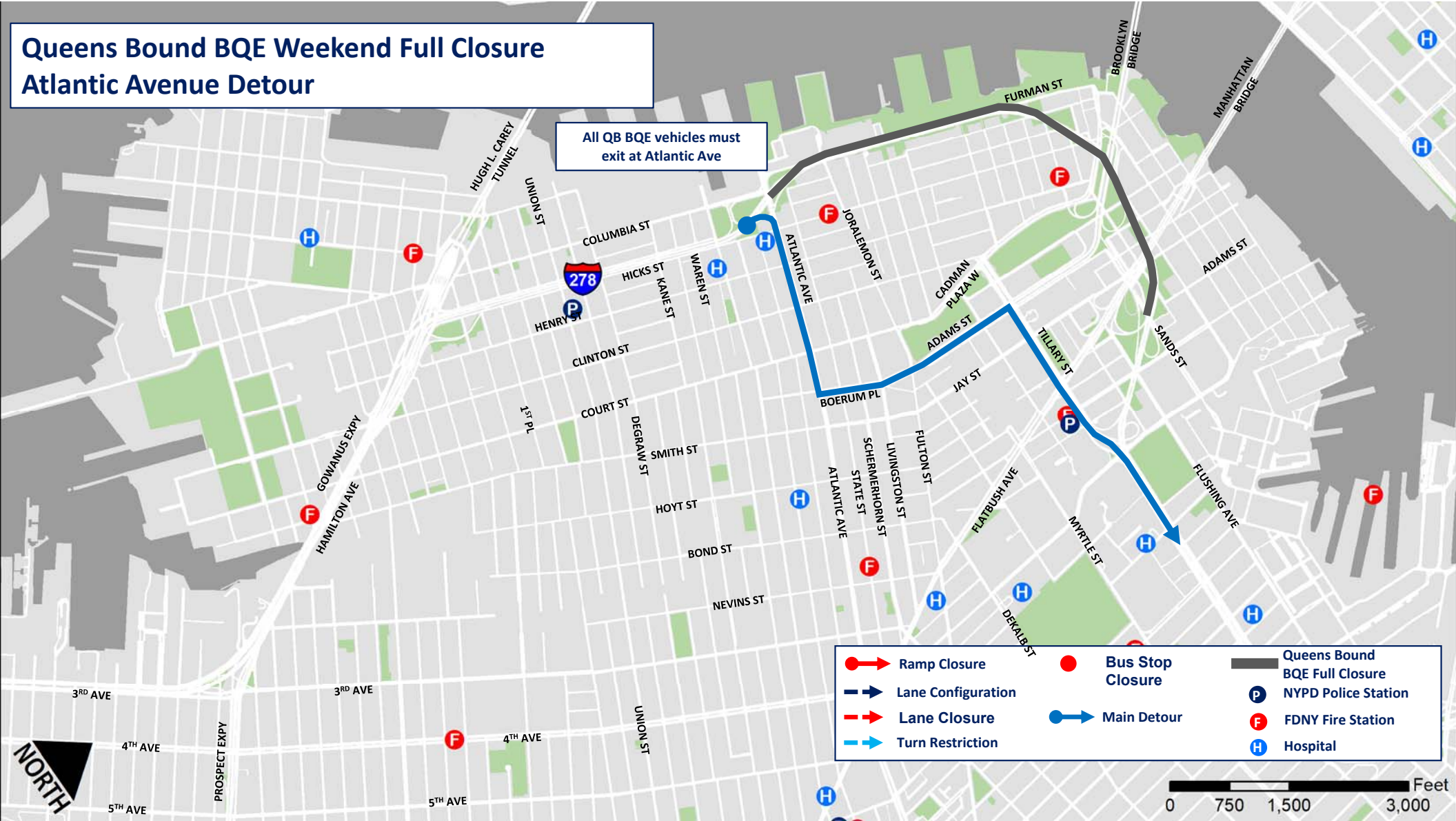
Close Sands St/Pearl St bus stop  
Reroute via High St to Jay St

- |   |                    |   |                   |   |                               |
|---|--------------------|---|-------------------|---|-------------------------------|
|  | Ramp Closure       |  | Bus Stop Closure  |  | Queens Bound BQE Full Closure |
|  | Lane Configuration |  | Main Detour       |  | NYPD Police Station           |
|  | Lane Closure       |  | FDNY Fire Station |  | Hospital                      |
|  | Turn Restriction   |   |                   |   |                               |



# Queens Bound BQE Weekend Full Closure Atlantic Avenue Detour

All QB BQE vehicles must exit at Atlantic Ave



- |                    |                   |                               |
|--------------------|-------------------|-------------------------------|
| Ramp Closure       | Bus Stop Closure  | Queens Bound BQE Full Closure |
| Lane Configuration | Main Detour       | NYPD Police Station           |
| Lane Closure       | FDNY Fire Station | Hospital                      |
| Turn Restriction   |                   |                               |

0 750 1,500 3,000 Feet

# Queens Bound BQE Weekend Full Closure 3rd Avenue Entrance Ramp Detour



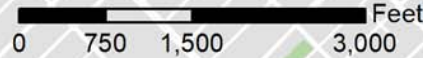
- |                    |                   |                               |
|--------------------|-------------------|-------------------------------|
| Ramp Closure       | Bus Stop Closure  | Queens Bound BQE Full Closure |
| Lane Configuration | Main Detour       | NYPD Police Station           |
| Lane Closure       | FDNY Fire Station | Hospital                      |
| Turn Restriction   |                   |                               |



# Queens Bound BQE Weekend Full Closure Prospect Expy Entrance Ramp Detour



|                    |                     |                               |
|--------------------|---------------------|-------------------------------|
| Ramp Closure       | Bus Stop Closure    | Queens Bound BQE Full Closure |
| Lane Configuration | NYPD Police Station | FDNY Fire Station             |
| Lane Closure       | Main Detour         | Hospital                      |
| Turn Restriction   |                     |                               |



# Queens Bound BQE Weekend Full Closure All Main Detours



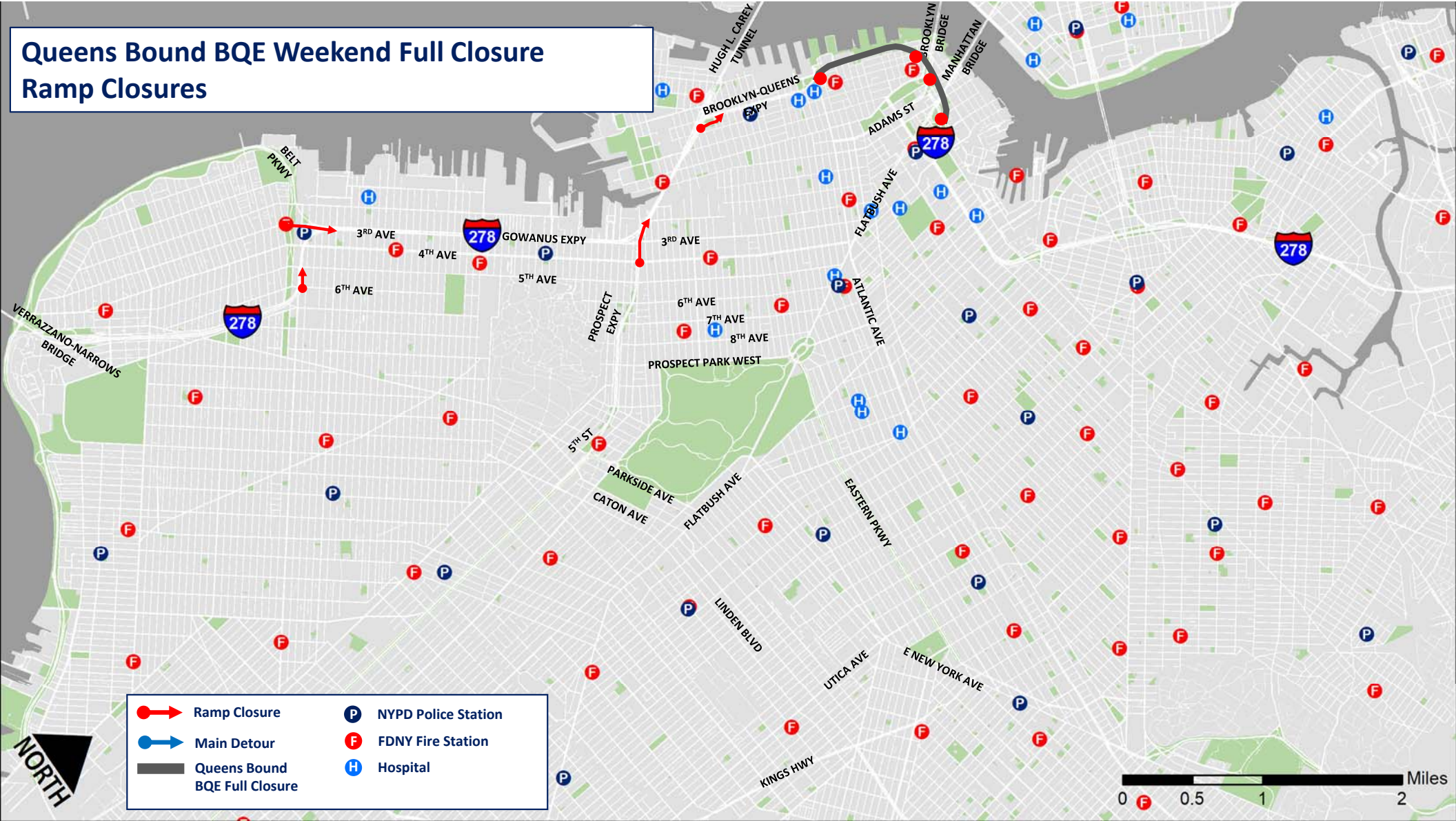
- Ramp Closure
- Bus Stop Closure
- Queens Bound BQE Full Closure
- P NYPD Police Station
- F FDNY Fire Station
- H Hospital
- Lane Configuration
- Main Detour
- Lane Closure
- Turn Restriction

0 750 1,500 3,000 Feet

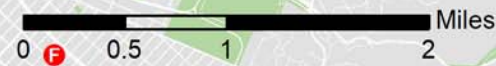




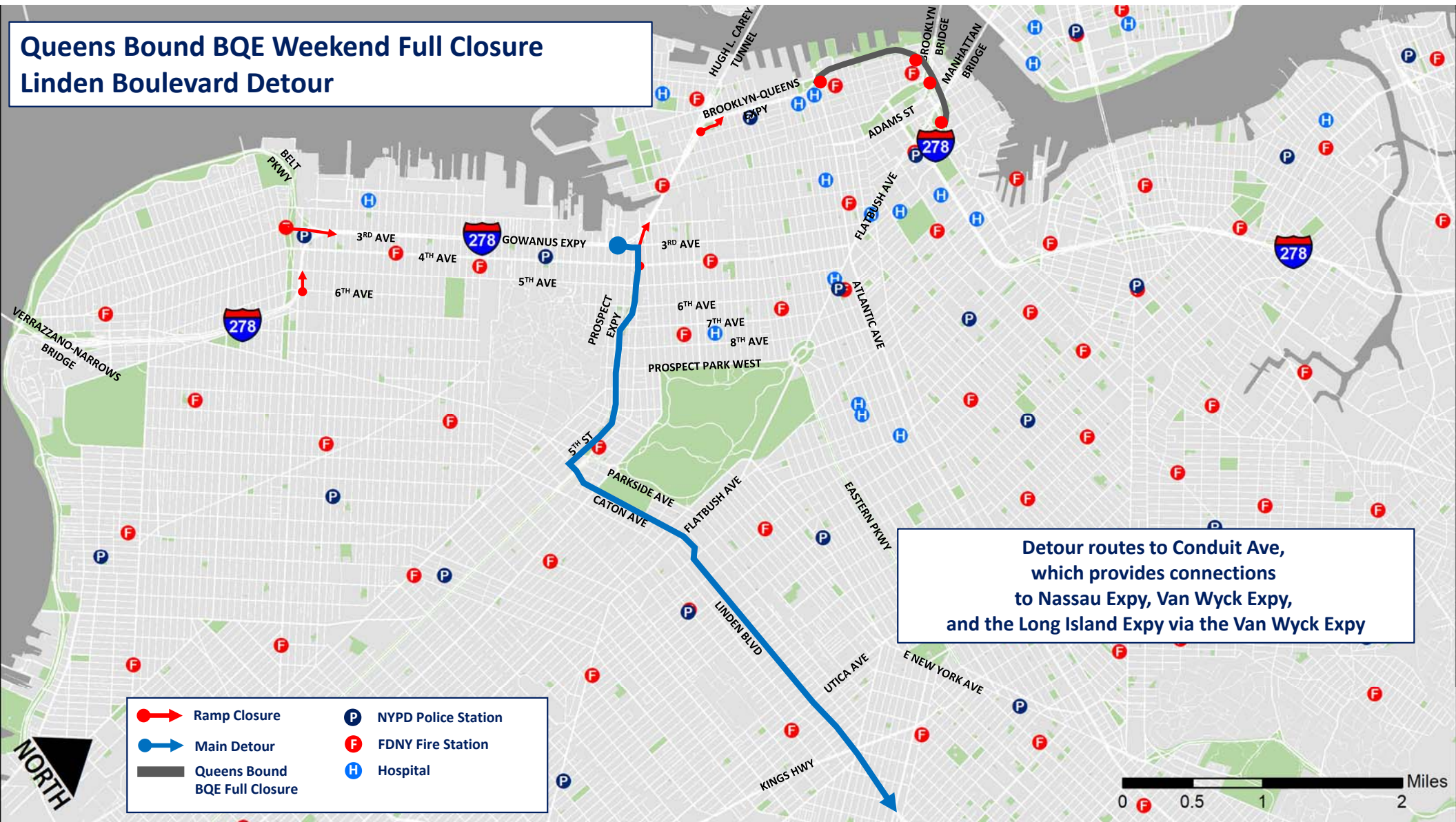
# Queens Bound BQE Weekend Full Closure Ramp Closures



|  |                               |  |                     |
|--|-------------------------------|--|---------------------|
|  | Ramp Closure                  |  | NYPD Police Station |
|  | Main Detour                   |  | FDNY Fire Station   |
|  | Queens Bound BQE Full Closure |  | Hospital            |



# Queens Bound BQE Weekend Full Closure Linden Boulevard Detour



Detour routes to Conduit Ave,  
which provides connections  
to Nassau Expy, Van Wyck Expy,  
and the Long Island Expy via the Van Wyck Expy

- |  |                               |  |                     |
|--|-------------------------------|--|---------------------|
|  | Ramp Closure                  |  | NYPD Police Station |
|  | Main Detour                   |  | FDNY Fire Station   |
|  | Queens Bound BQE Full Closure |  | Hospital            |

# Manhattan Lane Configurations - Mitigation

Close WB lane  
on WB Canal St  
from Eldridge St to Forsyth St






Close WB lane  
on WB Canal St  
from Pike St/Allen St to Eldridge St

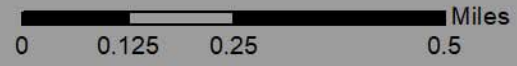
1 thru lane and 1 right lane  
on EB Canal St  
from Eldridge St to Pike St/Allen St

2 thru lanes, 1 right turn lane, and 1 right turn bay  
on NB Manhattan Bridge Upper Roadway  
from Manhattan Bridge Arch to Canal St

1 thru lane, 1 thru/right turn shared lane, and 1 right turn lane  
on EB Canal St  
from Chrystie St to Forsyth St

2 left turn lanes to SB Bowery, thru lanes to WB Canal St, and 1 thru lane to NB Bowery  
on NB Manhattan Bridge Lower Roadway  
from Manhattan Bridge Arch to Canal St

|   |                    |   |                     |
|---|--------------------|---|---------------------|
|  | Lane Configuration |  | NYPD Police Station |
|  | Lane Closure       |  | FDNY Fire Station   |
|   |                    |  | Hospital            |



# BQE Interim Repairs Schedule

## Information Distribution

NYCDOT will develop and distribute tailored information materials including project one-pagers, presentations, brochures, and construction updates, and distribute them in a variety of ways including through the department website, mass electronic mailings, media posts, and at meetings

- Last quarter of 2021 .....Completion of Contract Documents
- First quarter of 2022 ..... Contract Advertisement to be issued
- Last quarter of 2022 .....Contract Award and NTP

## Construction Duration for Spans 4 & 34

- Overnight closures between March – October 2023
- The 3 closure weekends spread out over construction season
- Joralemon Street garage repairs will occur concurrently – no BQE closures needed
- More specific schedule will be shared in future as information becomes available

# Questions

Thank You!