

As presented to the BQE Expert Panel for informational/background purposes only
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Comparing Rehabilitation Options

August 1, 2019



Expert Panel Presentation

The draft concepts in this presentation were prepared in response to panel request and do not necessarily represent recommendations or endorsements of DOT

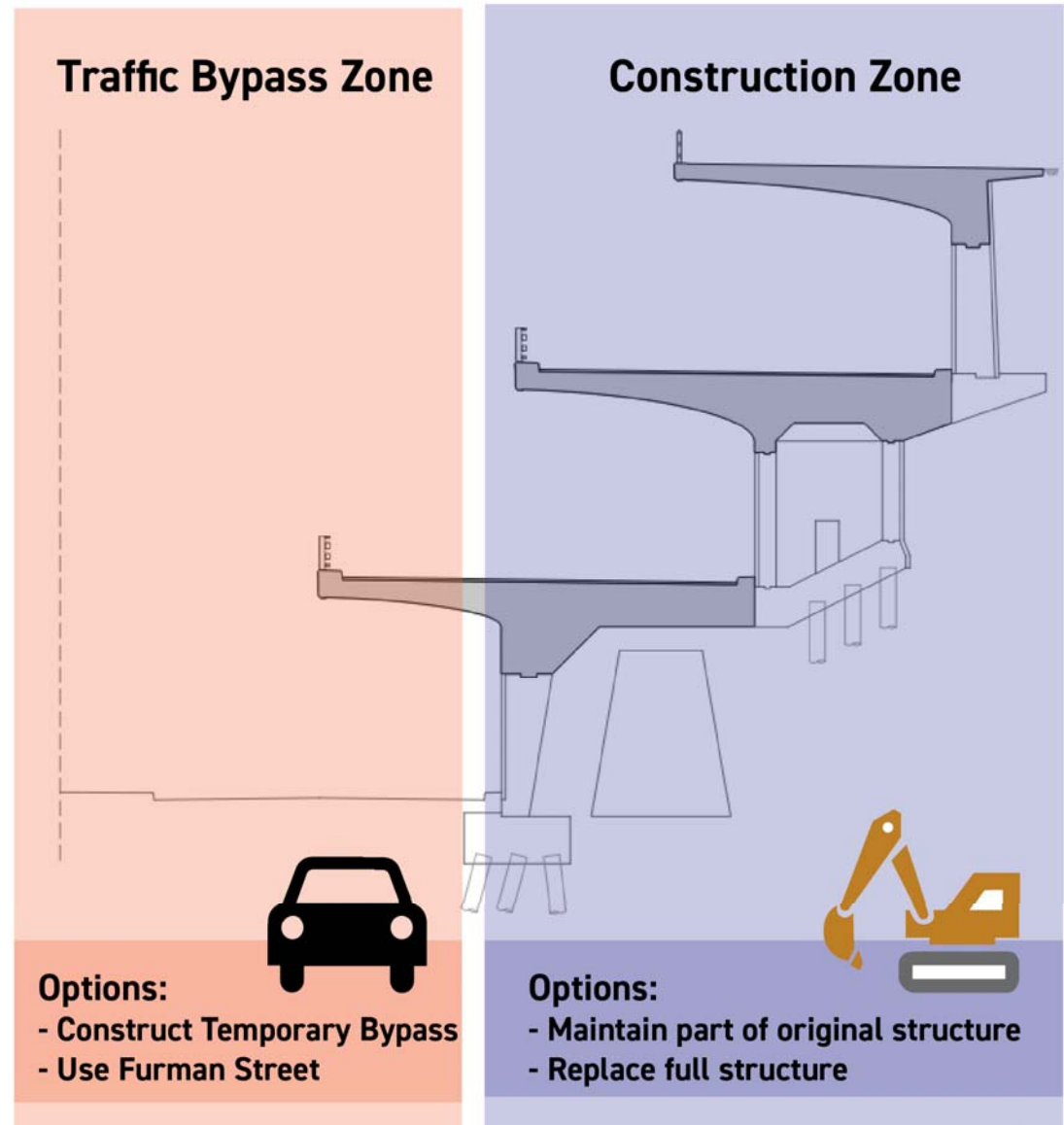


Today's Agenda

- Recap our previous discussions
- Identify commonalities among all options
- Review the options:
 - Option C
 - Option C1
 - Option F
 - Option G
- Compare differences across options
- Discussion

What have we discussed?

- Given planning and construction timeframe, a short service life (<20 yrs) presents a challenge
- Two lanes of traffic during construction on the corridor provide flexibility
- Longer duration solution requires removal of traffic from one level at a time



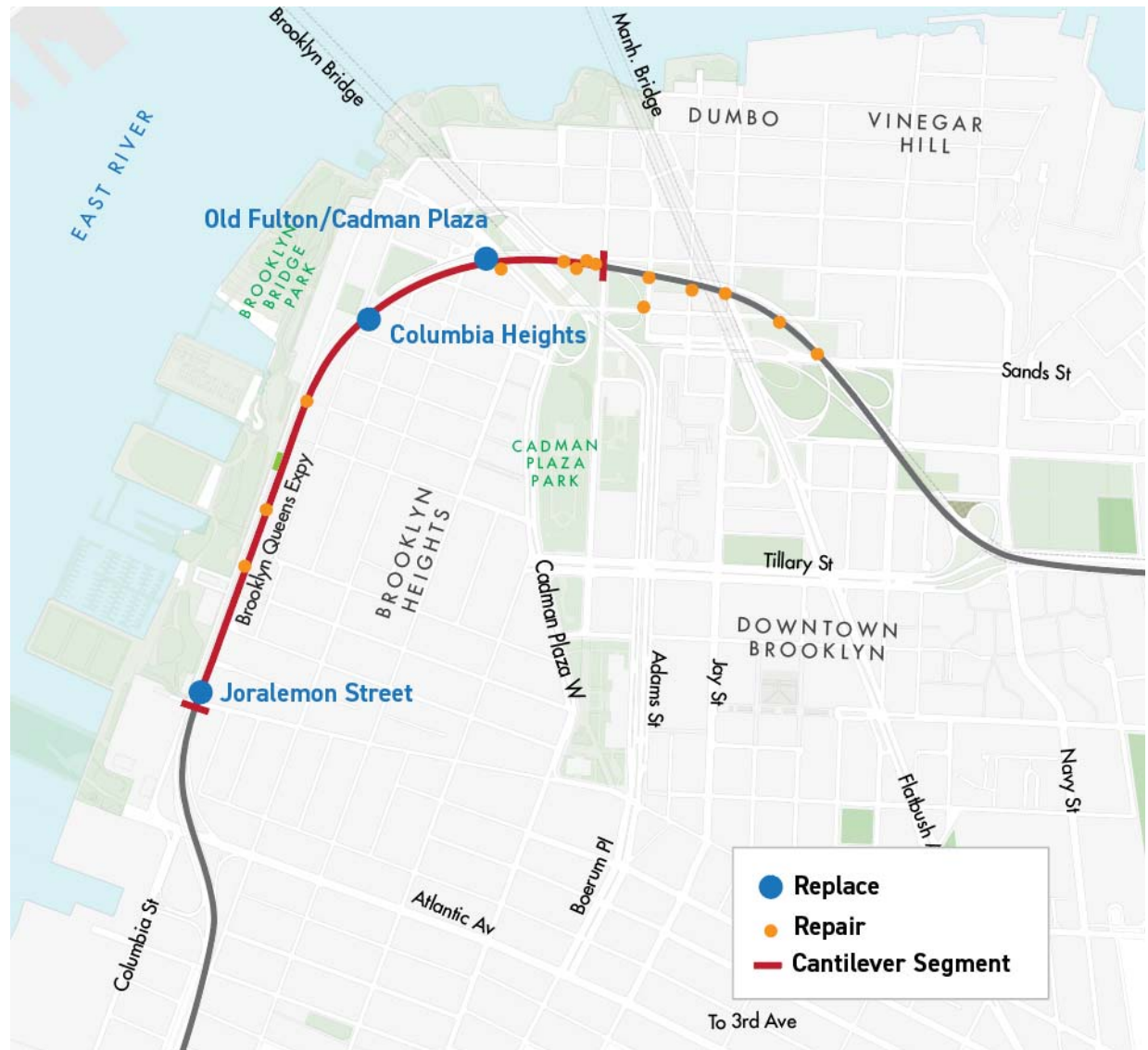
What stays the same across options?

Regardless of the option chosen, some benefits and pain-points remain the same:

- Three bridges must be replaced
- Better connections to Manhattan Bridge are possible
- The promenade must be replaced
- All options are capable of carrying legal truck loads
- Atlantic Avenue Interchange
 - Options C and C1: Limited at-grade changes possible; major reconfiguration requires replacement of portions of BQE
 - Options F and G: Full reconfiguration envisioned

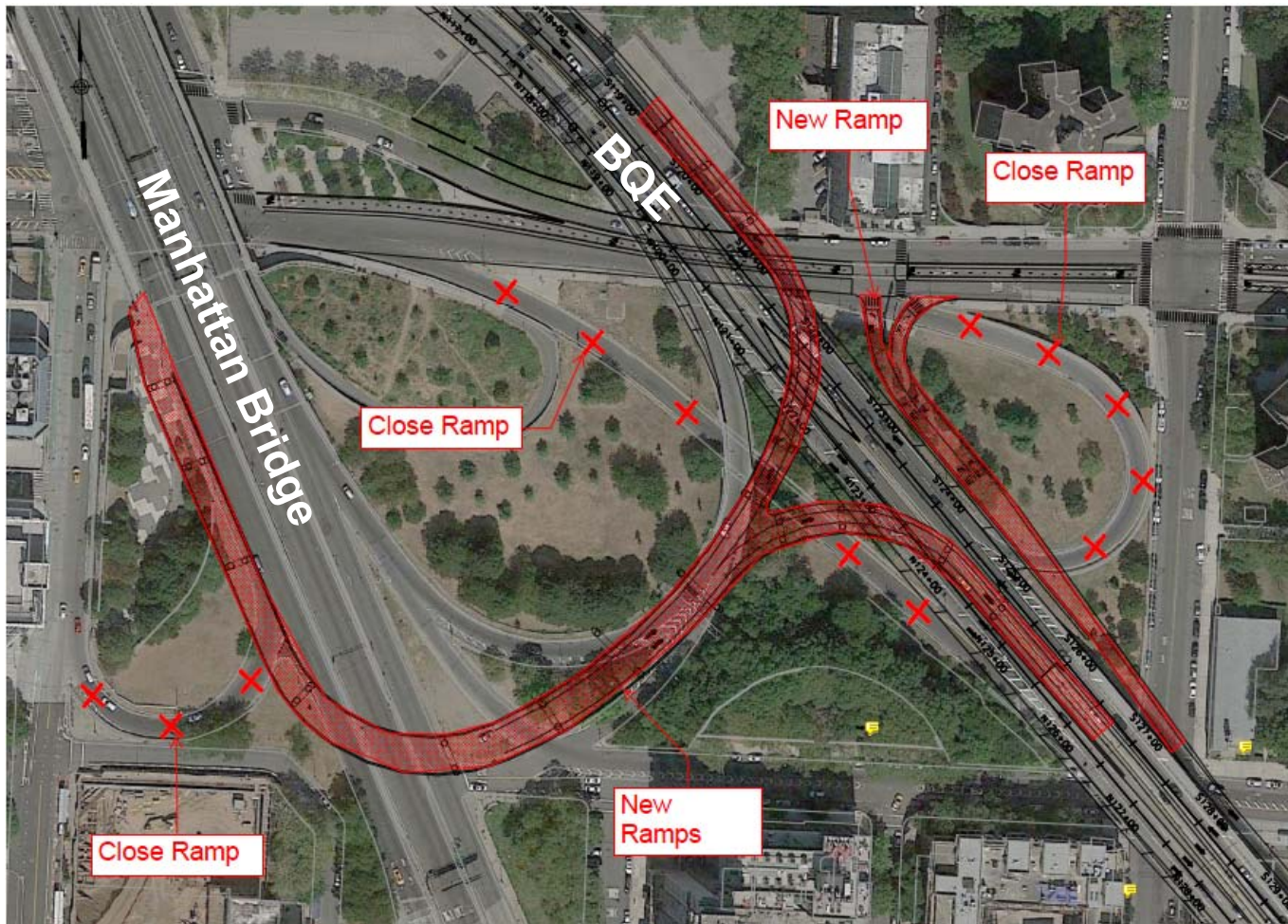
Common Pain Point: Replacing the Bridges

- Joralemon Street
- Columbia Heights
- Old Fulton/
Cadman Plaza



Common Benefit: Better Connections

All options allow for better connections to the Manhattan Bridge

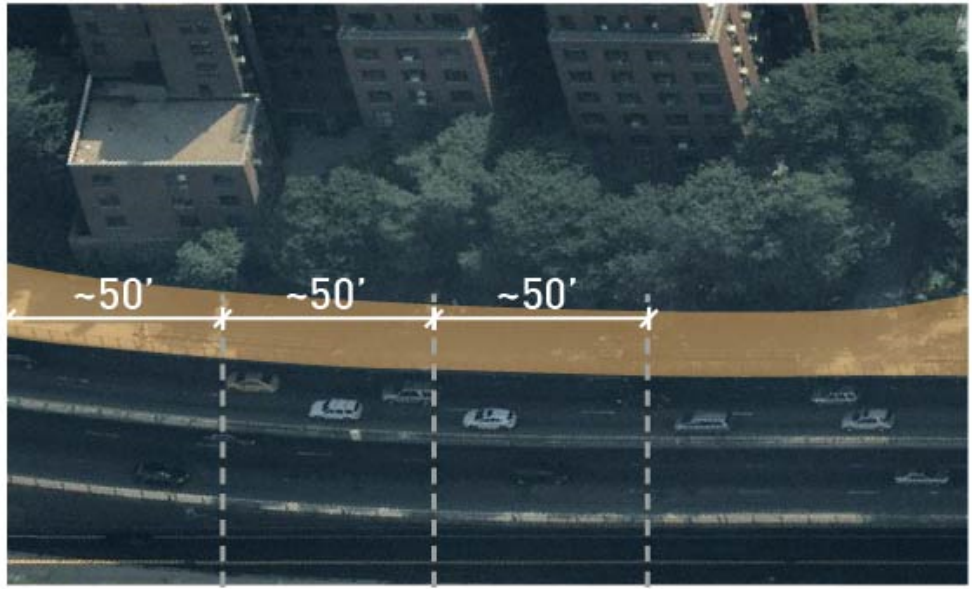


Common element: Connections to the Brooklyn Bridge

Brooklyn Bridge direct connection is more challenging in some options



Common Pain Point: Replacing the Promenade



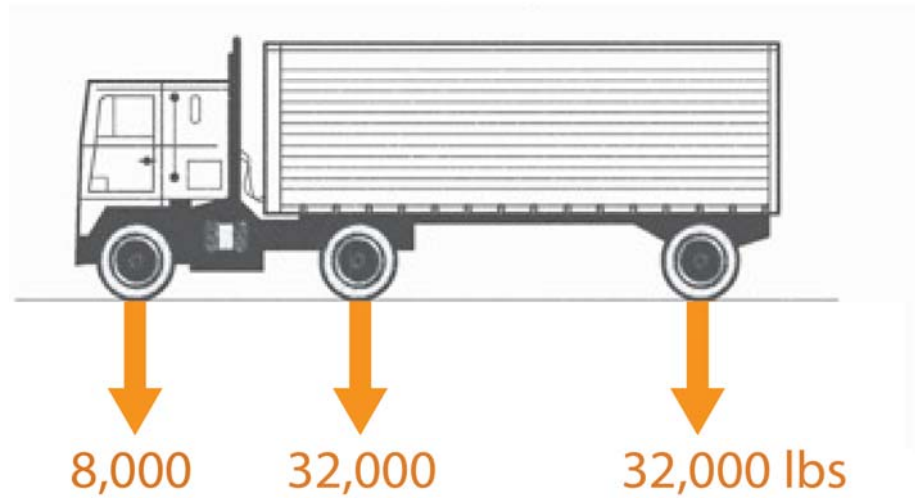
The Promenade can be replaced in segments except option F



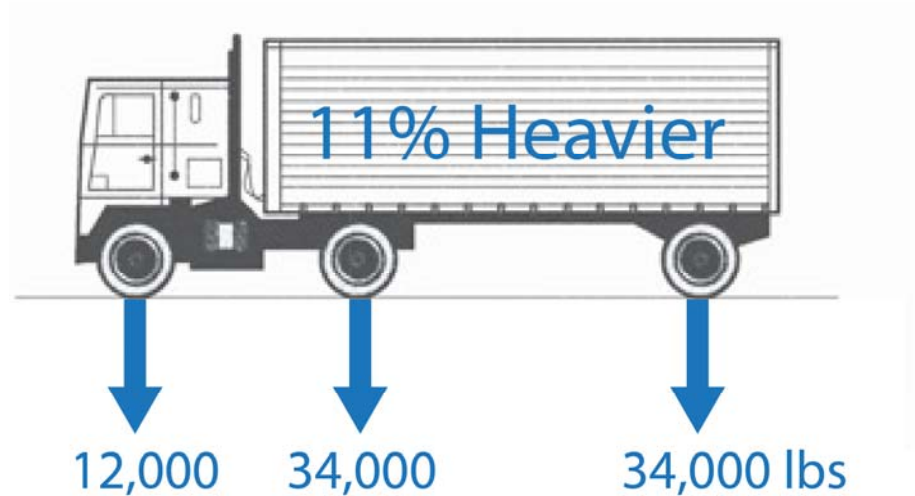
- Under construction
- Existing & Accessible
- Repaired & Accessible

Common Benefit: Supporting Heavier Trucks

All options support trucks carrying 80,000+ lbs.



1940s
Designed Load



2019
NY State Legal Load

What Does a Temporary Bypass Look Like?



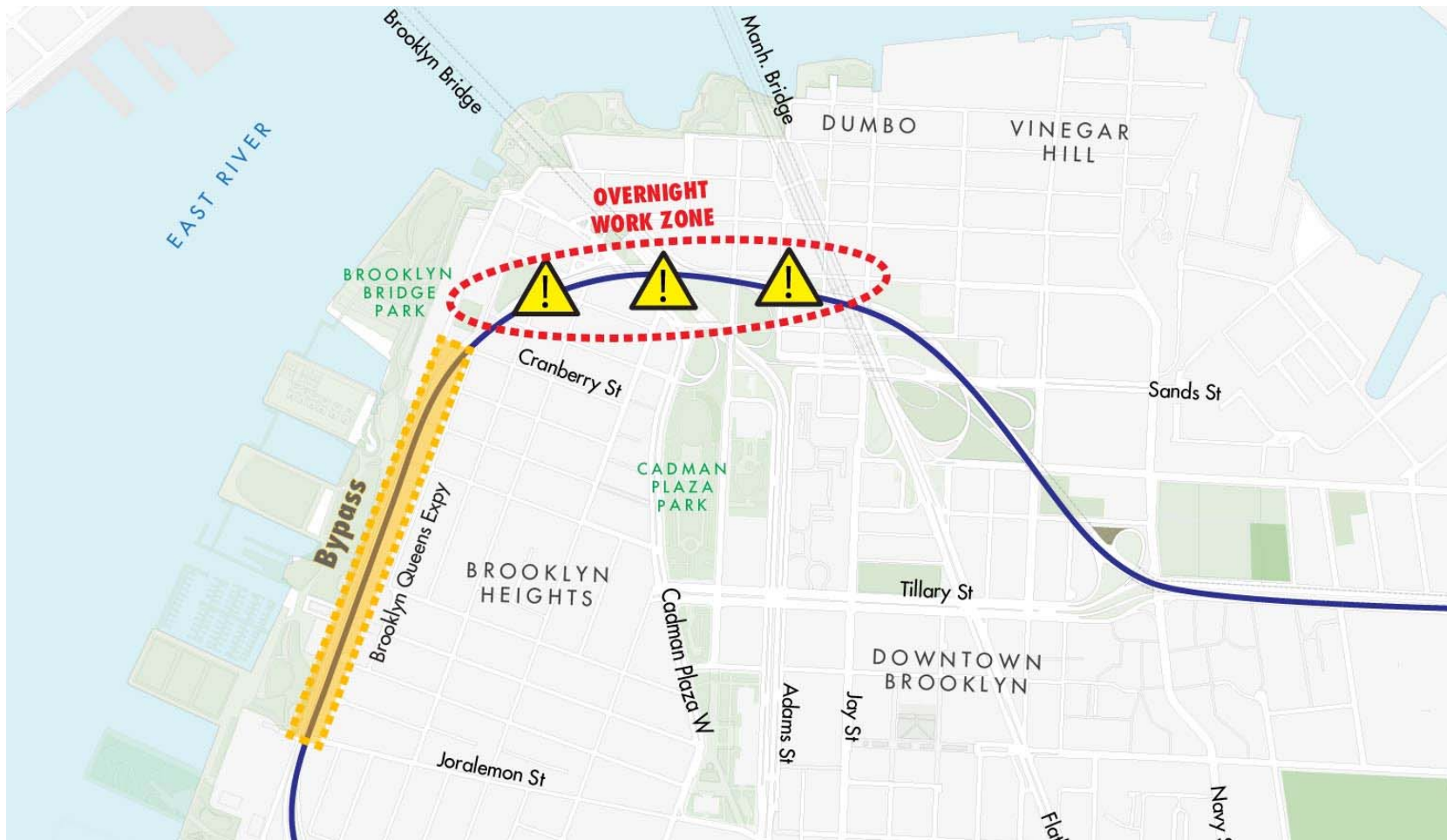
How Does it Impact the Neighborhood



Bypass does not continue into Northern Brooklyn Heights Neighborhood

What Are the Downstream Impacts?

Overnight/Weekend Construction on North Section of BQE required



What Differs Across Options?

As we review options the following criteria will be compared:

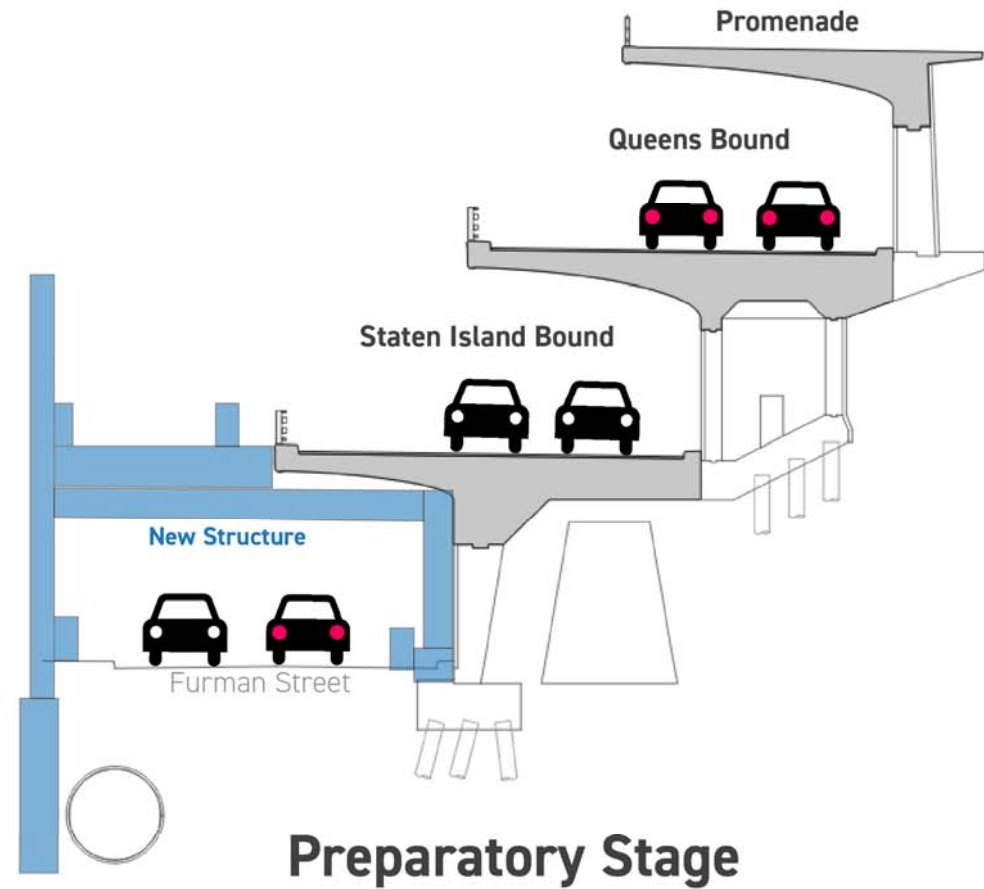
- Traffic During Construction
- Construction Duration
- Construction Cost
- Improving Vertical Clearances
- Vibration Mitigation
- Open Space Improvement

Option C and C1

NOTE: DOT is still working through the details of these options, including cost and duration

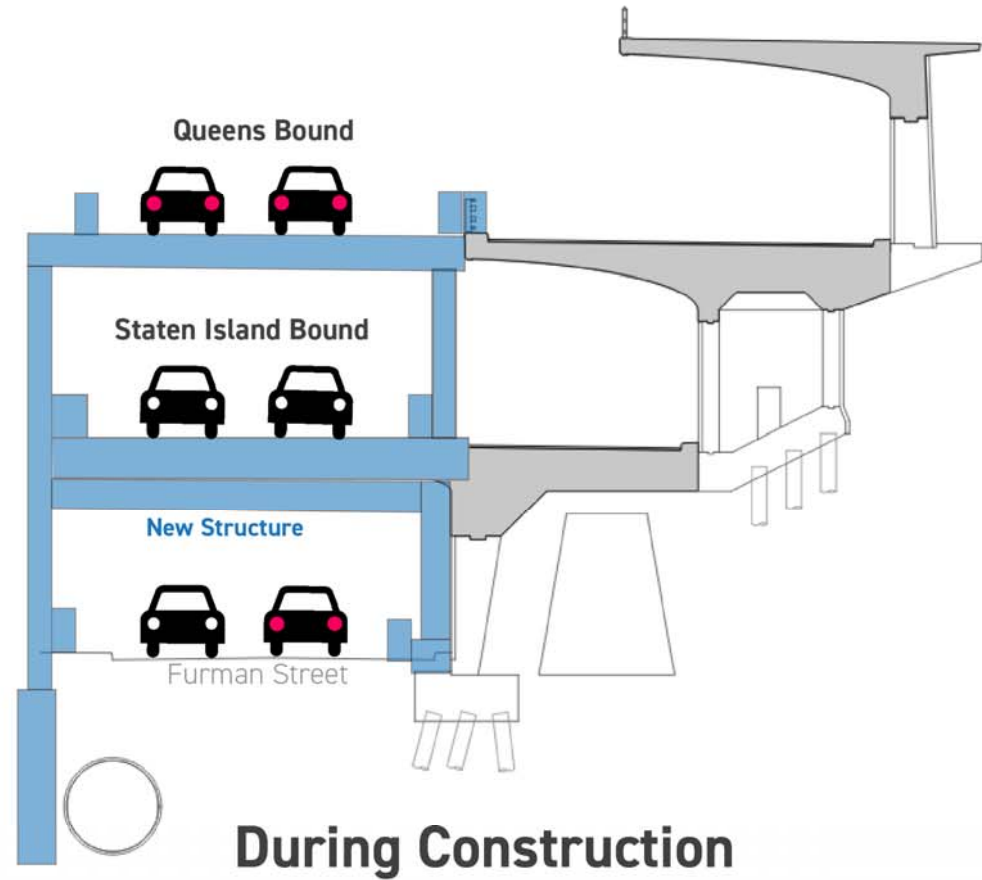
Option C

Option C



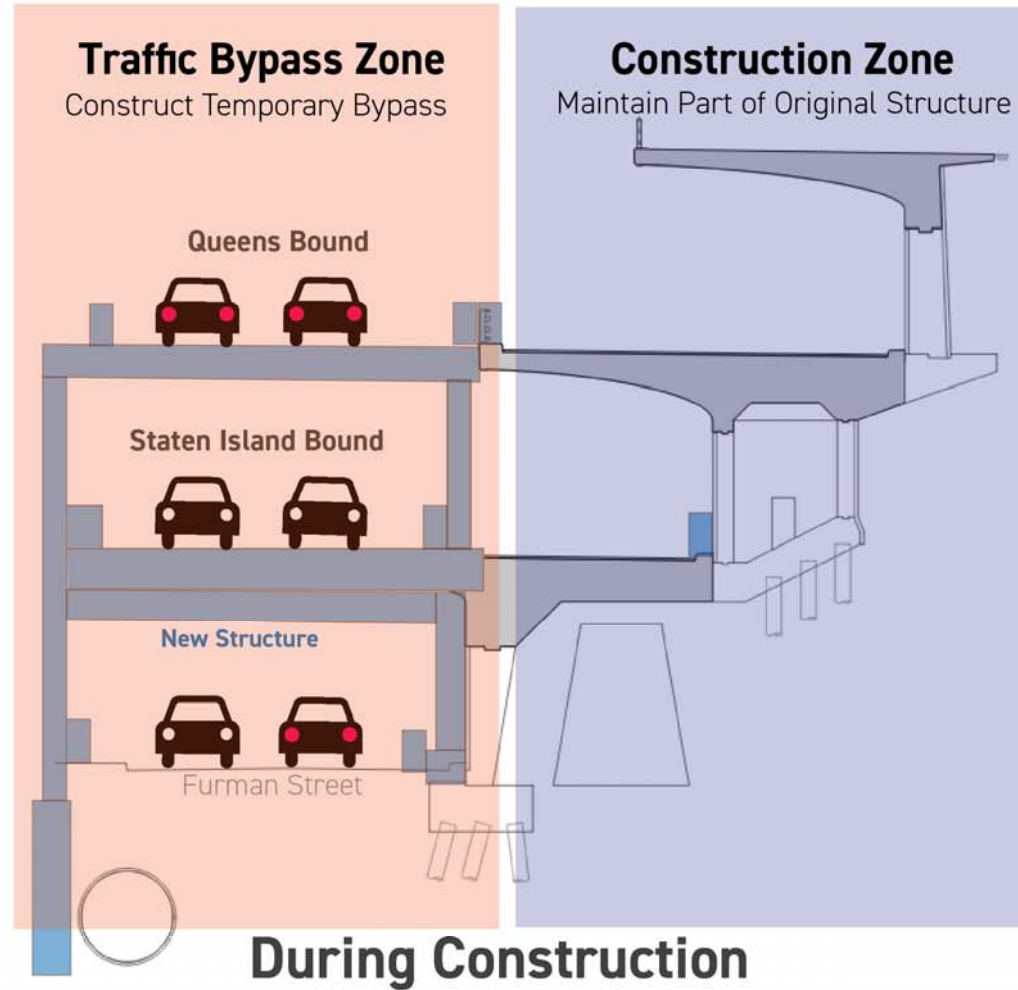
Diagrammatic Representation

Option C



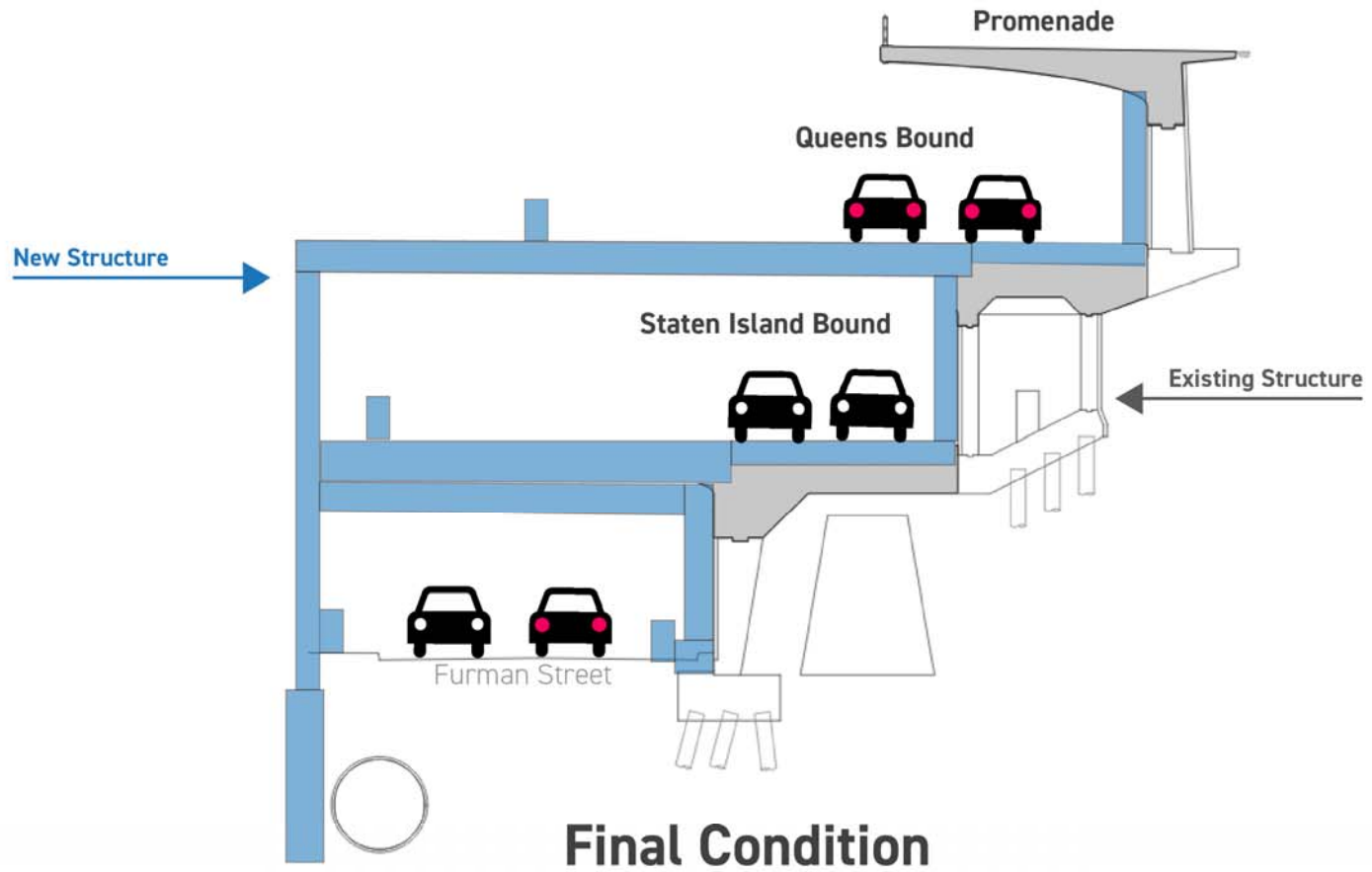
Diagrammatic Representation

Option C



Diagrammatic Representation

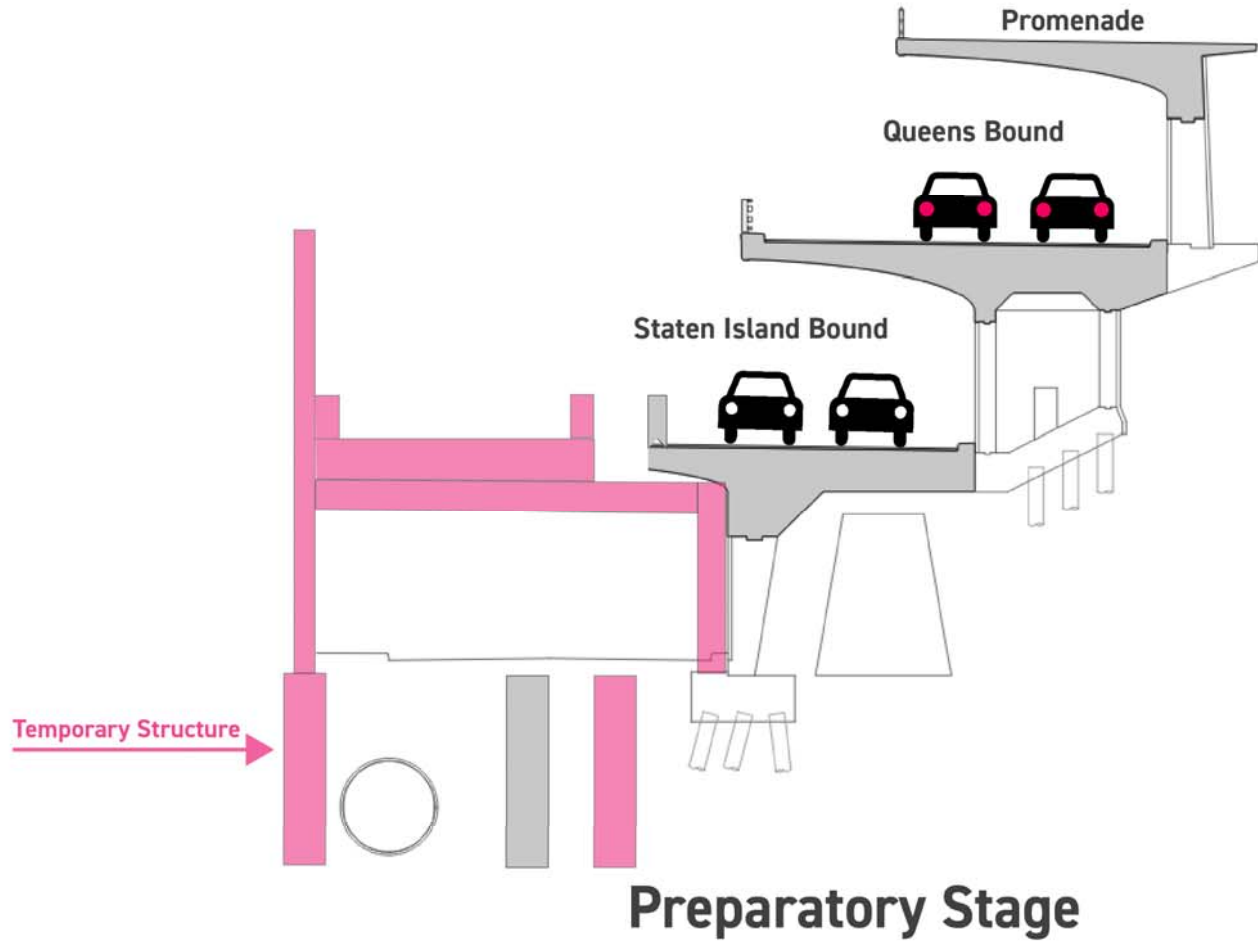
Option C



Diagrammatic Representation

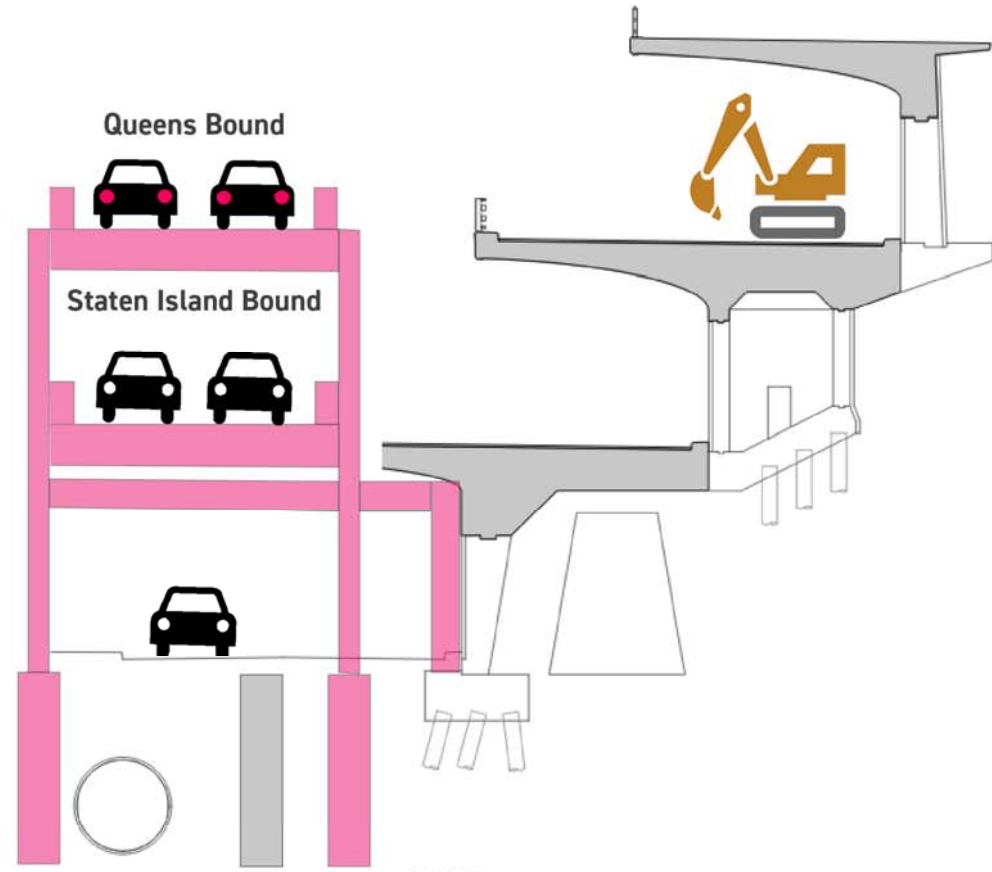
Option C1

Option C1



Diagrammatic Representation

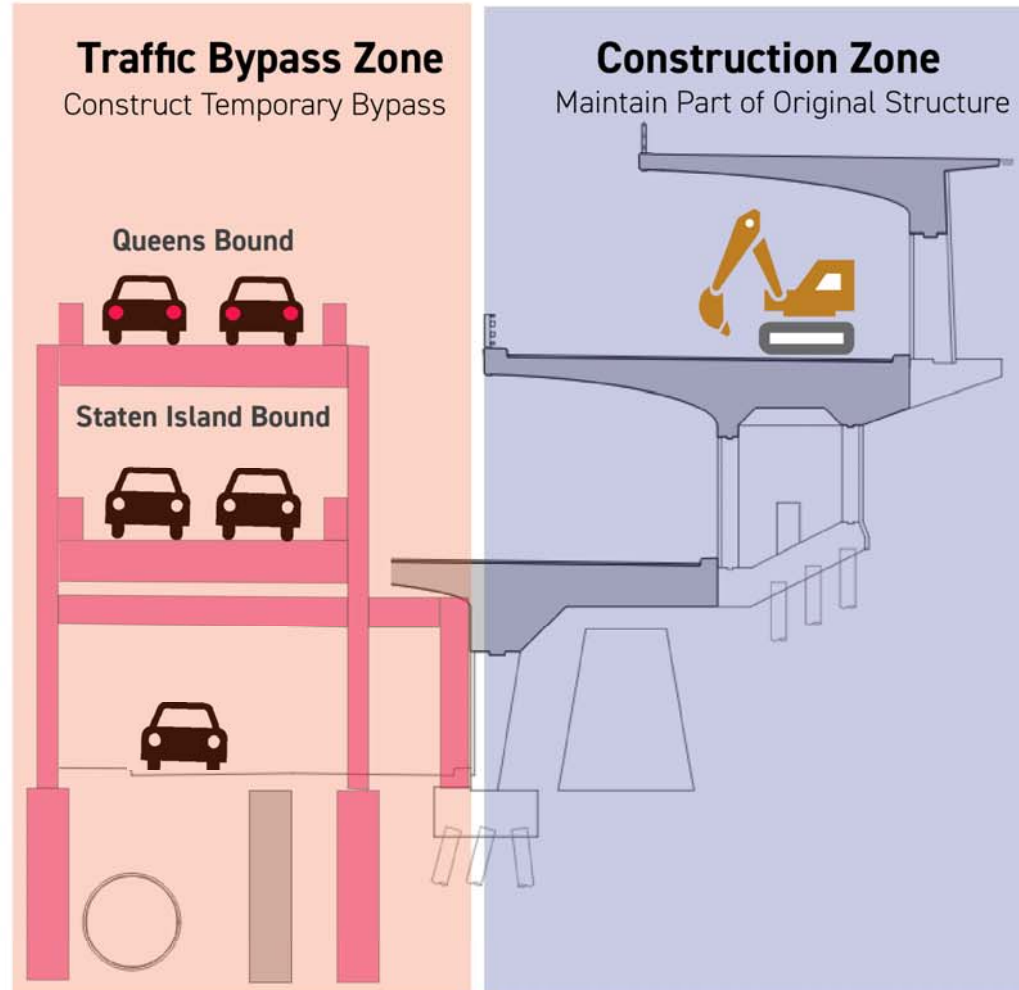
Option C1



During Construction

Diagrammatic Representation

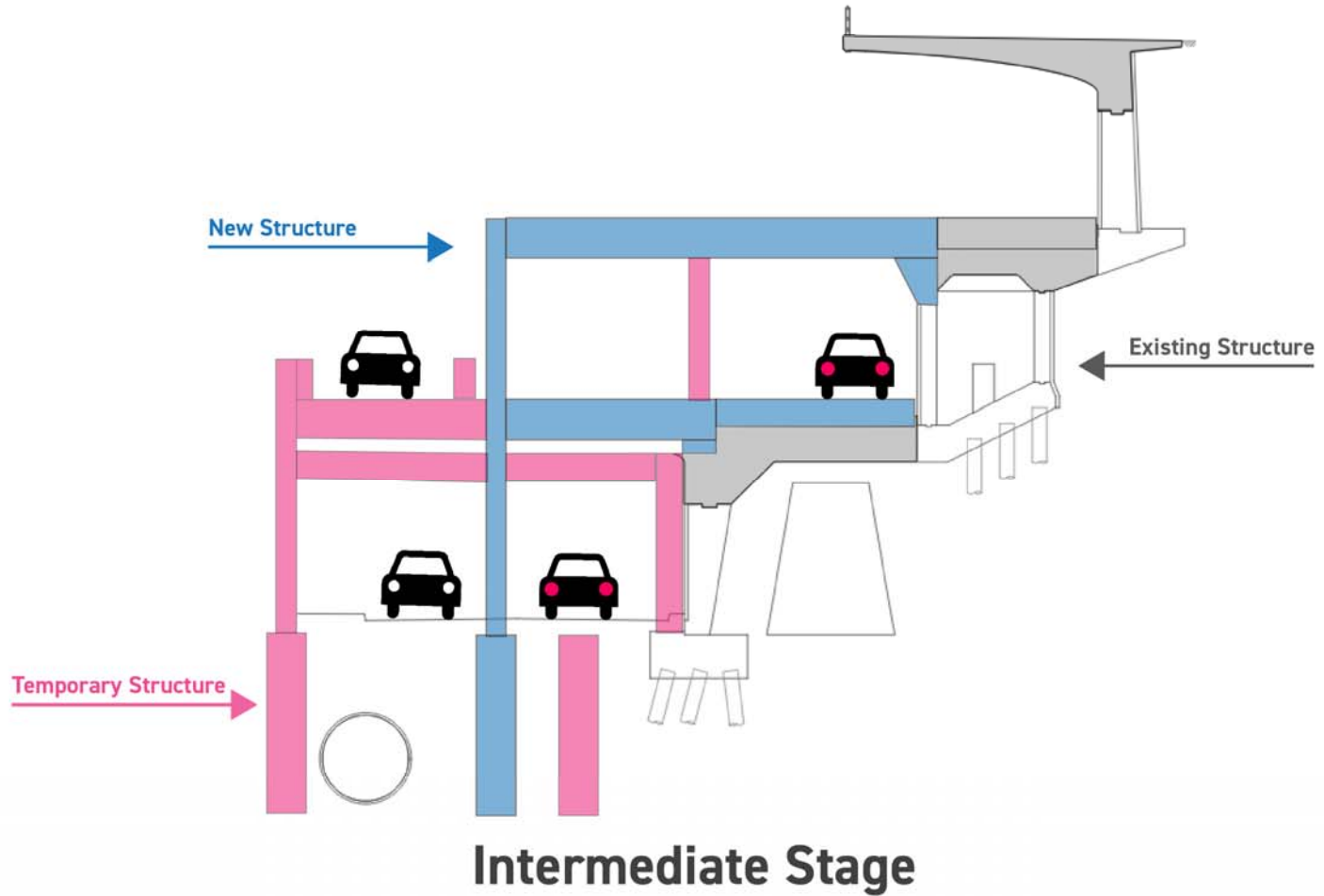
Option C1



During Construction

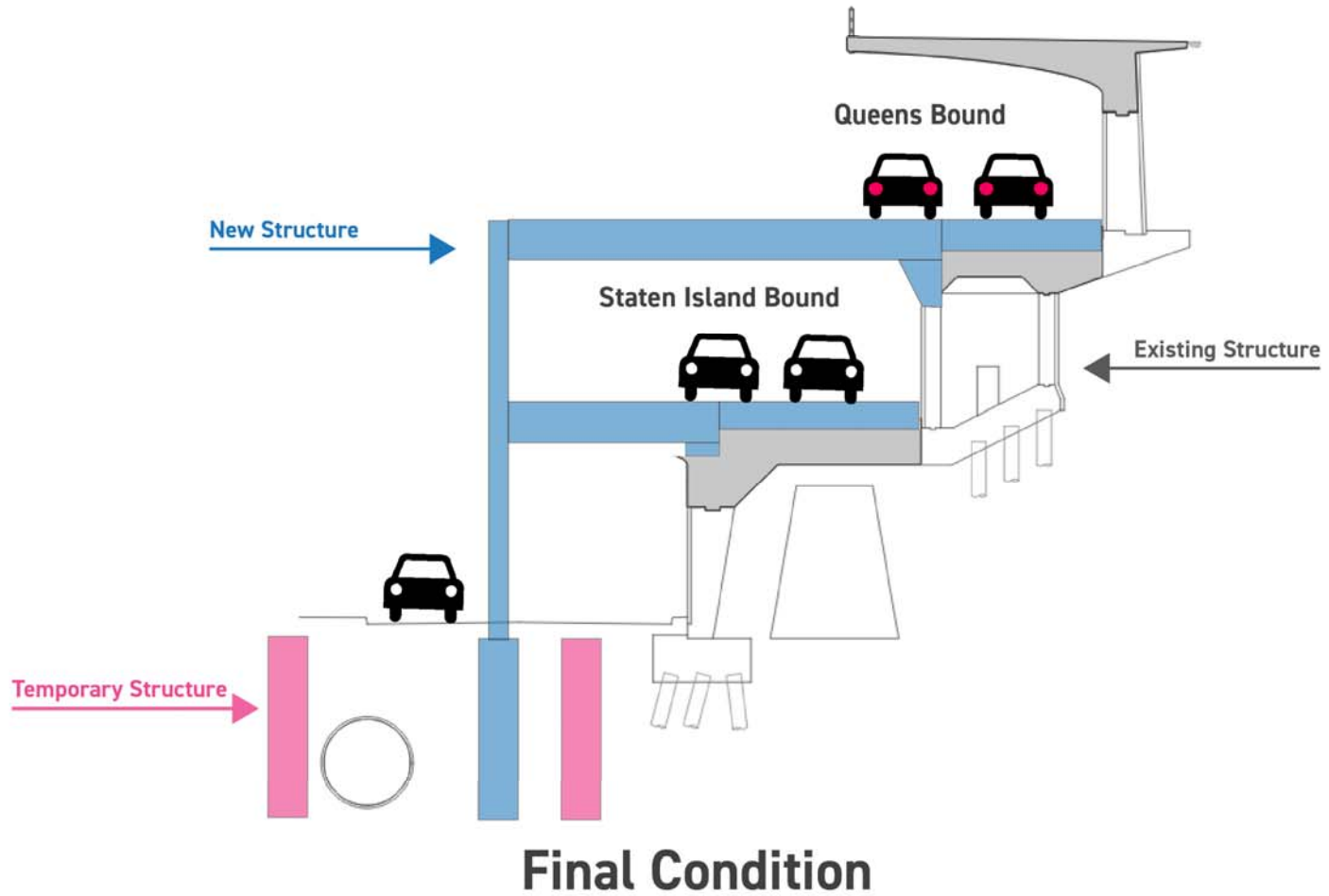
Diagrammatic Representation

Option C1



Diagrammatic Representation

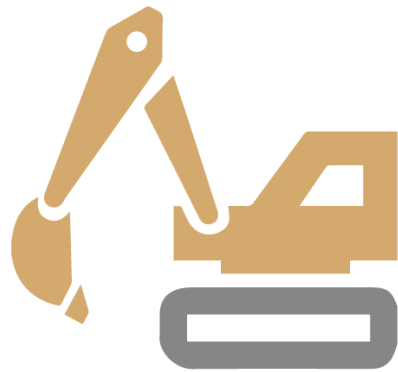
Option C1



Diagrammatic Representation

Option C and C1

Duration



8-10 Yrs

Cost



\$2.6 B +/-

NOTE:

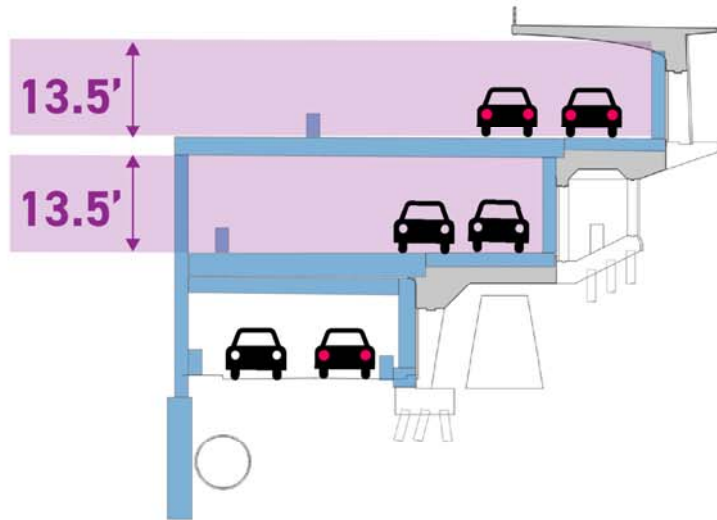
C1 cost anticipated to be greater than C

DOT is still working through the details of cost and duration for these options

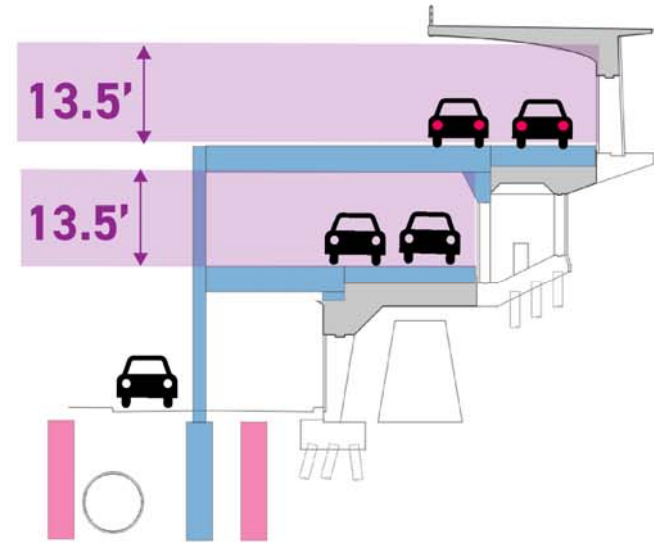
Option C and C1

Vertical Clearance

No Benefit: Remains the Same as Existing Condition



Option C



Option C1

↑
Clearance to interceptor
maintenance

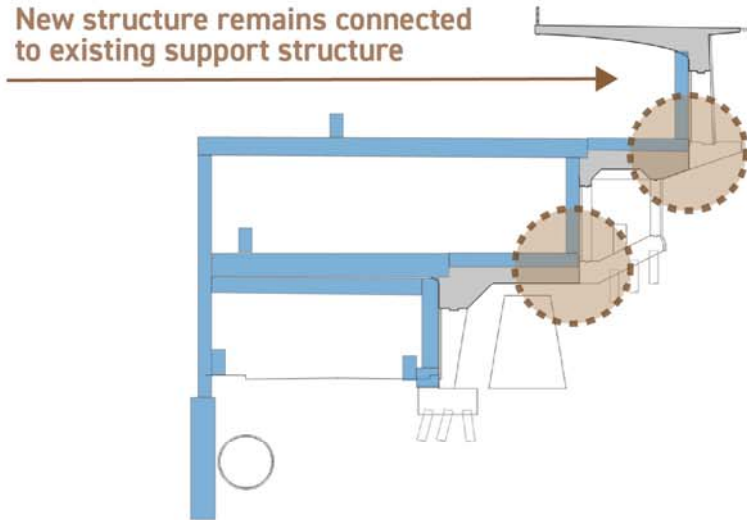
Diagrammatic Representation

Option C and C1

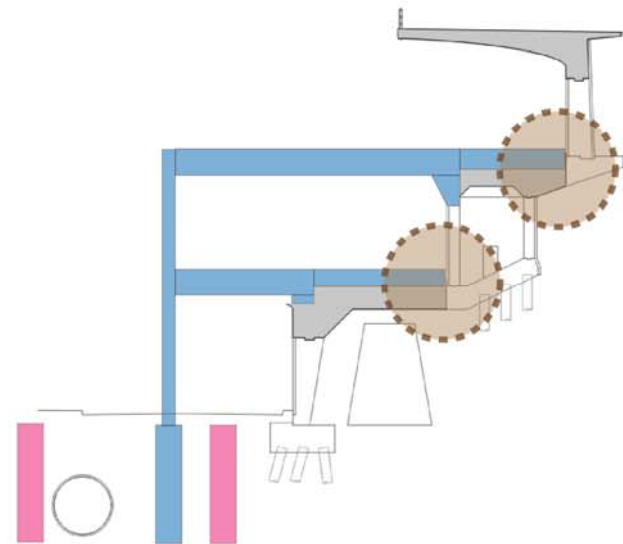
Vibration Mitigation

Some Reduction: But Maximum Benefit not Captured

New structure remains connected
to existing support structure



Option C



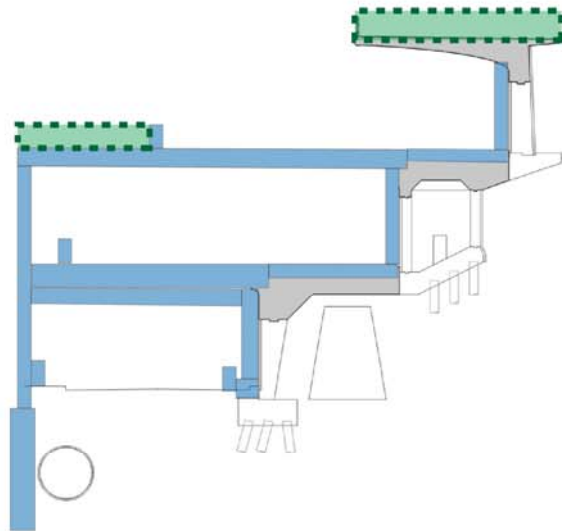
Option C1

Diagrammatic Representation

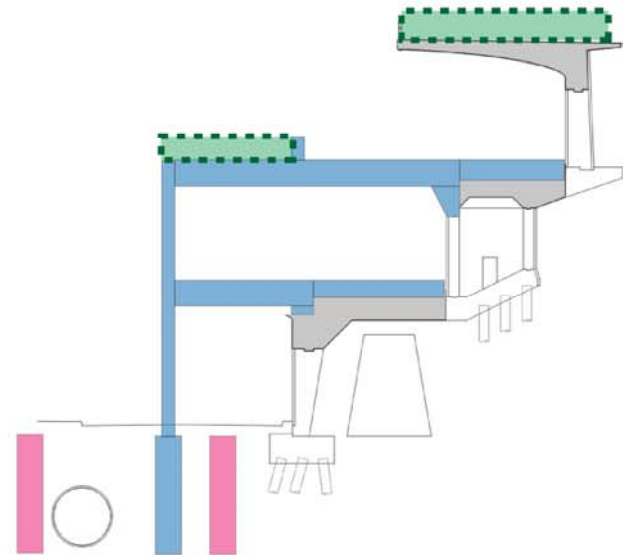
Option C and C¹

Open Space Improvements

Opportunity for Green Space and Promenade Improvements



Option C



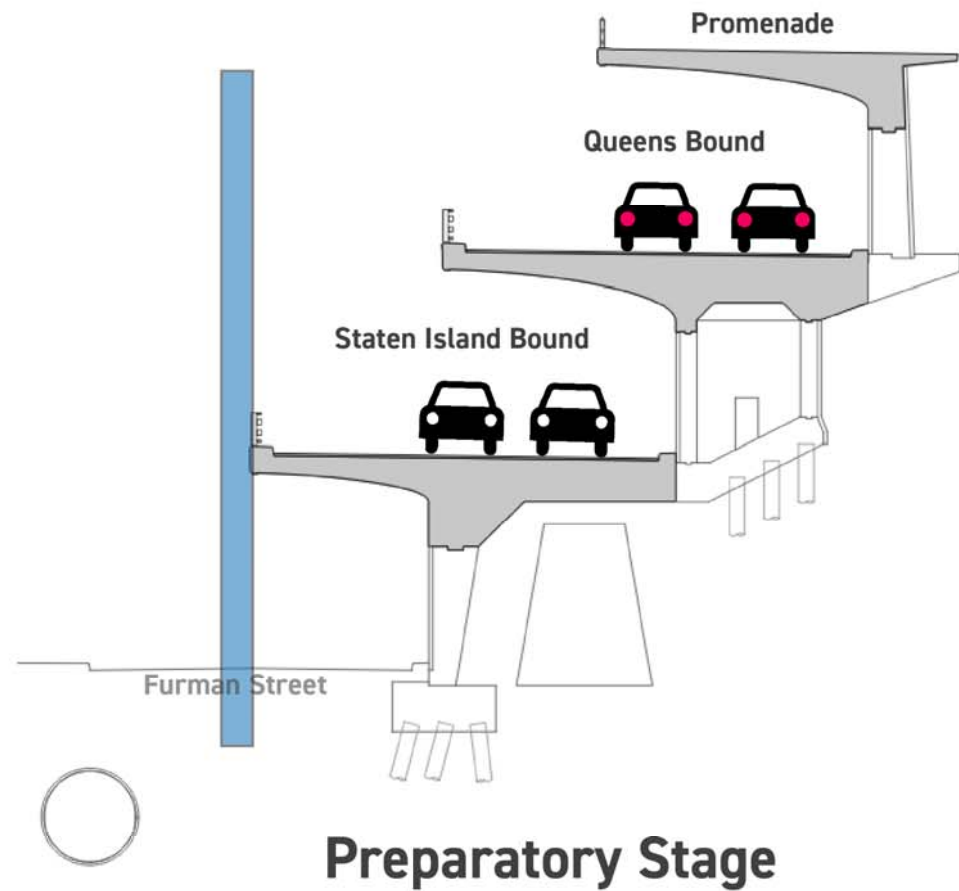
Option C¹

Diagrammatic Representation

Option F

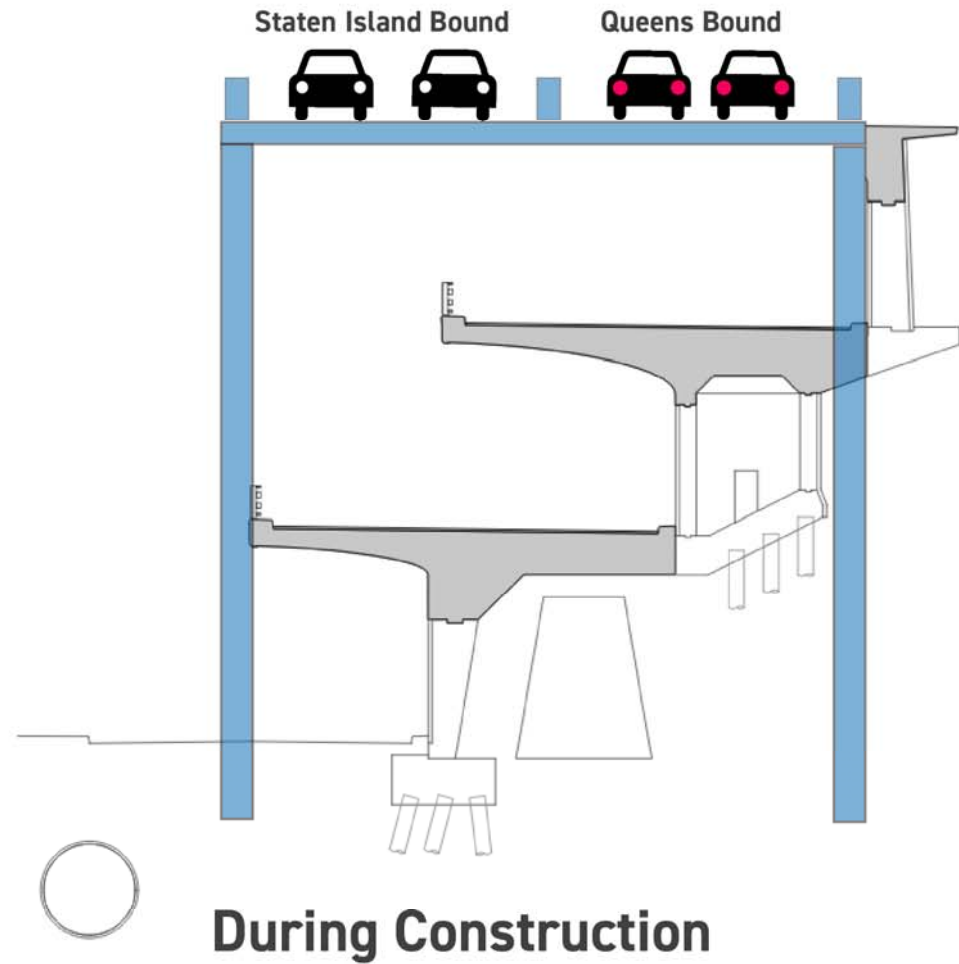
Temporary Elevated Roadway, Presented 9/27/18

Option F



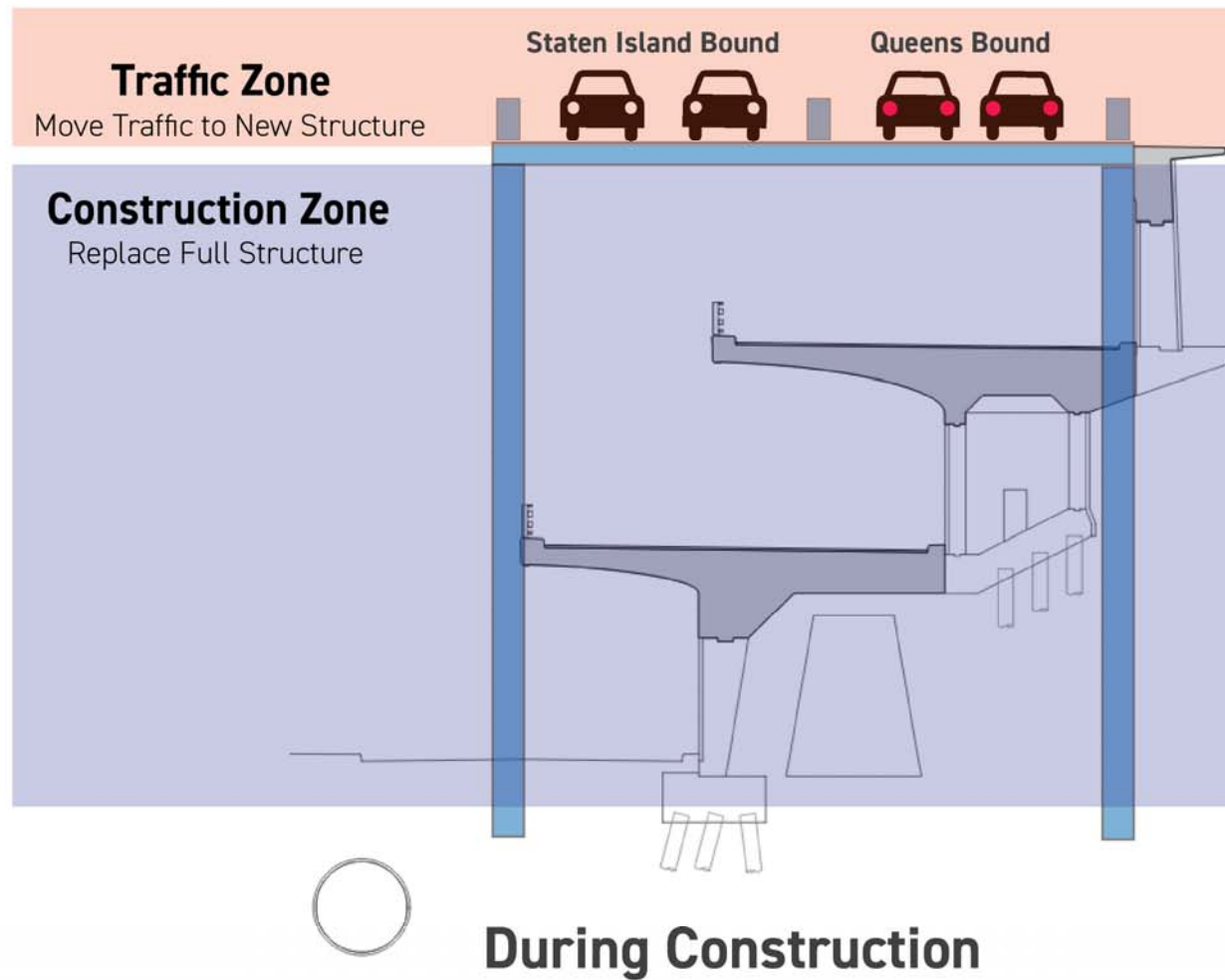
Diagrammatic Representation

Option F



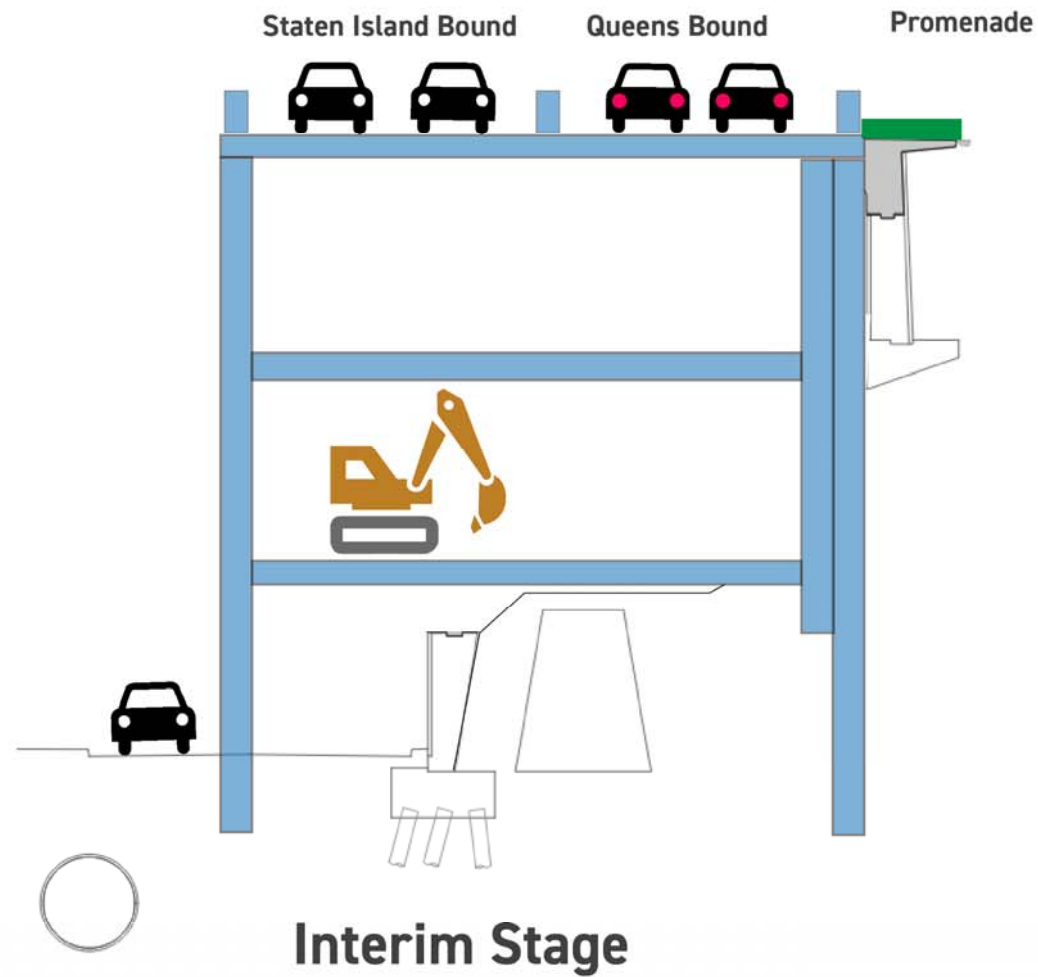
Diagrammatic Representation

Option F



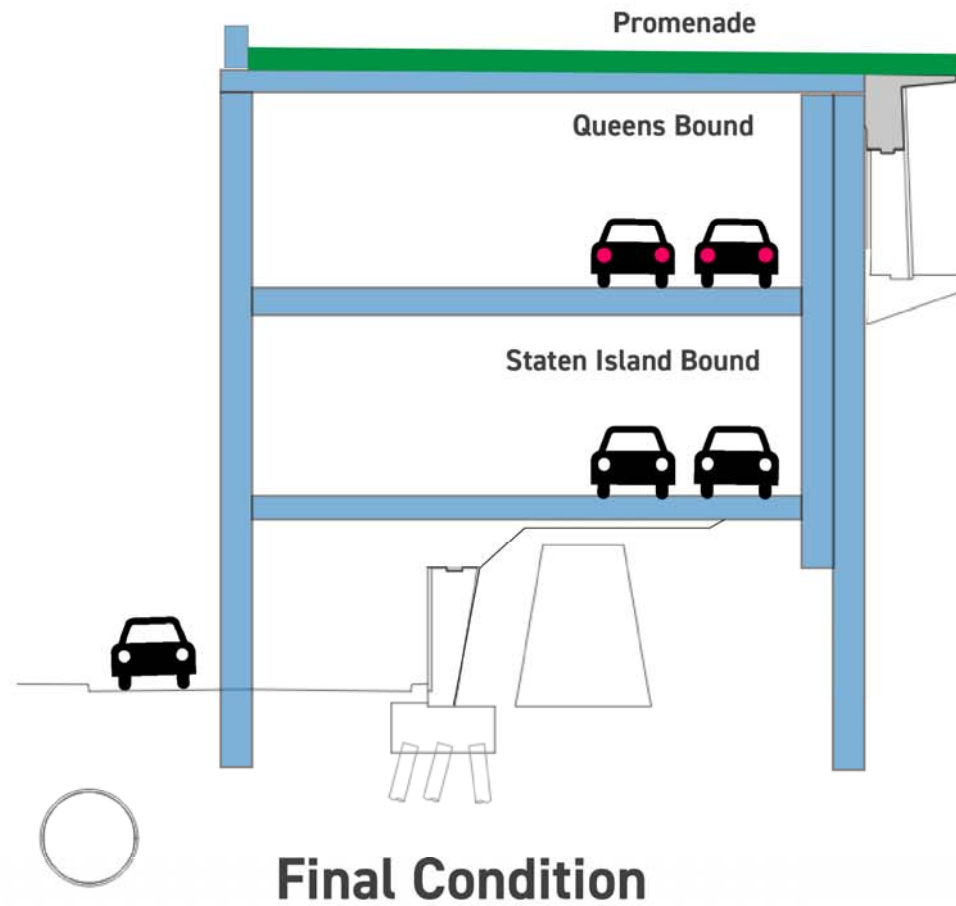
Diagrammatic Representation

Option F



Diagrammatic Representation

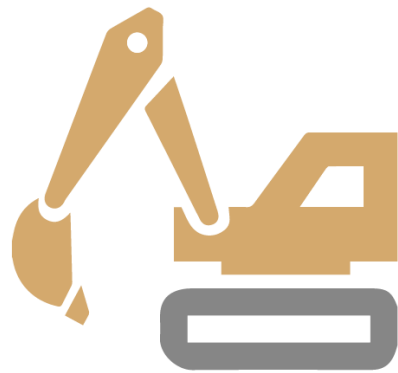
Option F



Diagrammatic Representation

Option F

Duration



6-8 Yrs

Cost

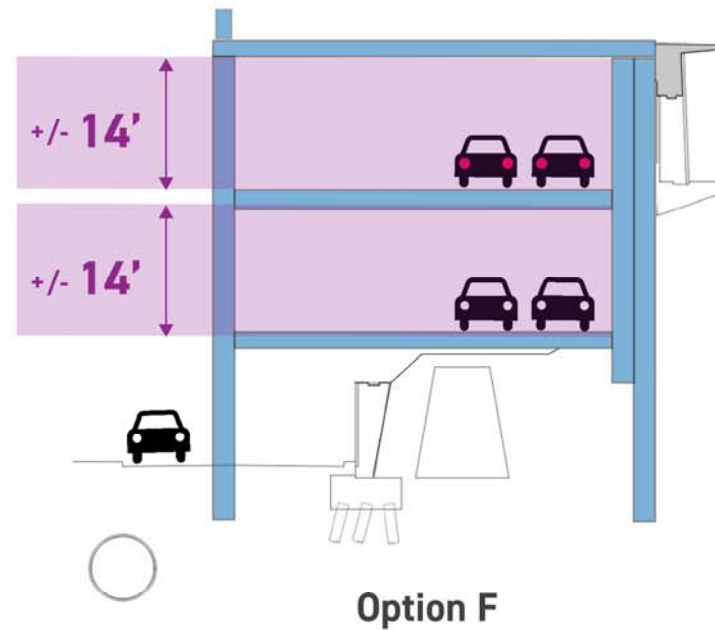


\$3 B +/-

Option F

Vertical Clearance

Benefit for Potential Gains over Existing Condition



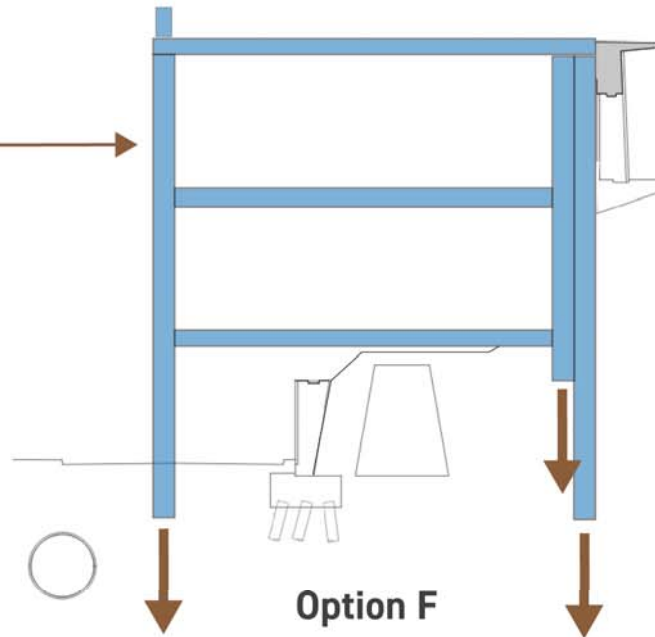
Diagrammatic Representation

Option F

Vibration Mitigation

Maximum Benefit Realized

New roadway is independent
of Brooklyn Heights

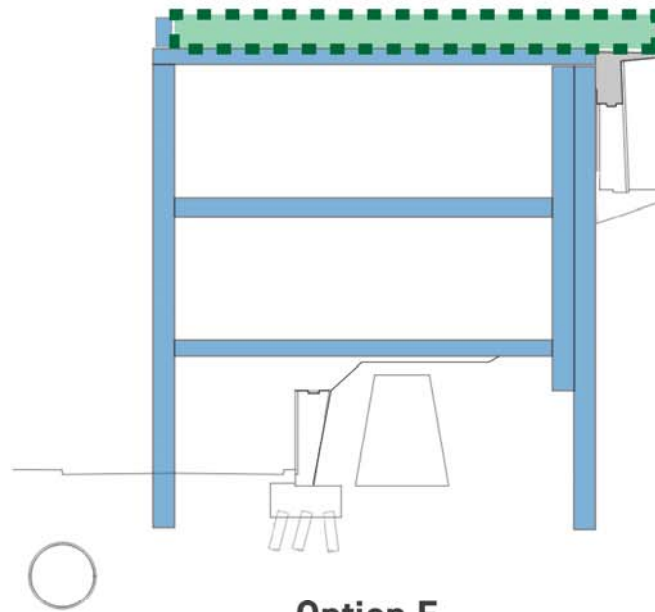


Diagrammatic Representation

Option F

Open Space Improvements

Opportunity for Expanded Promenade



Diagrammatic Representation

Option F – New Open Space Opportunity

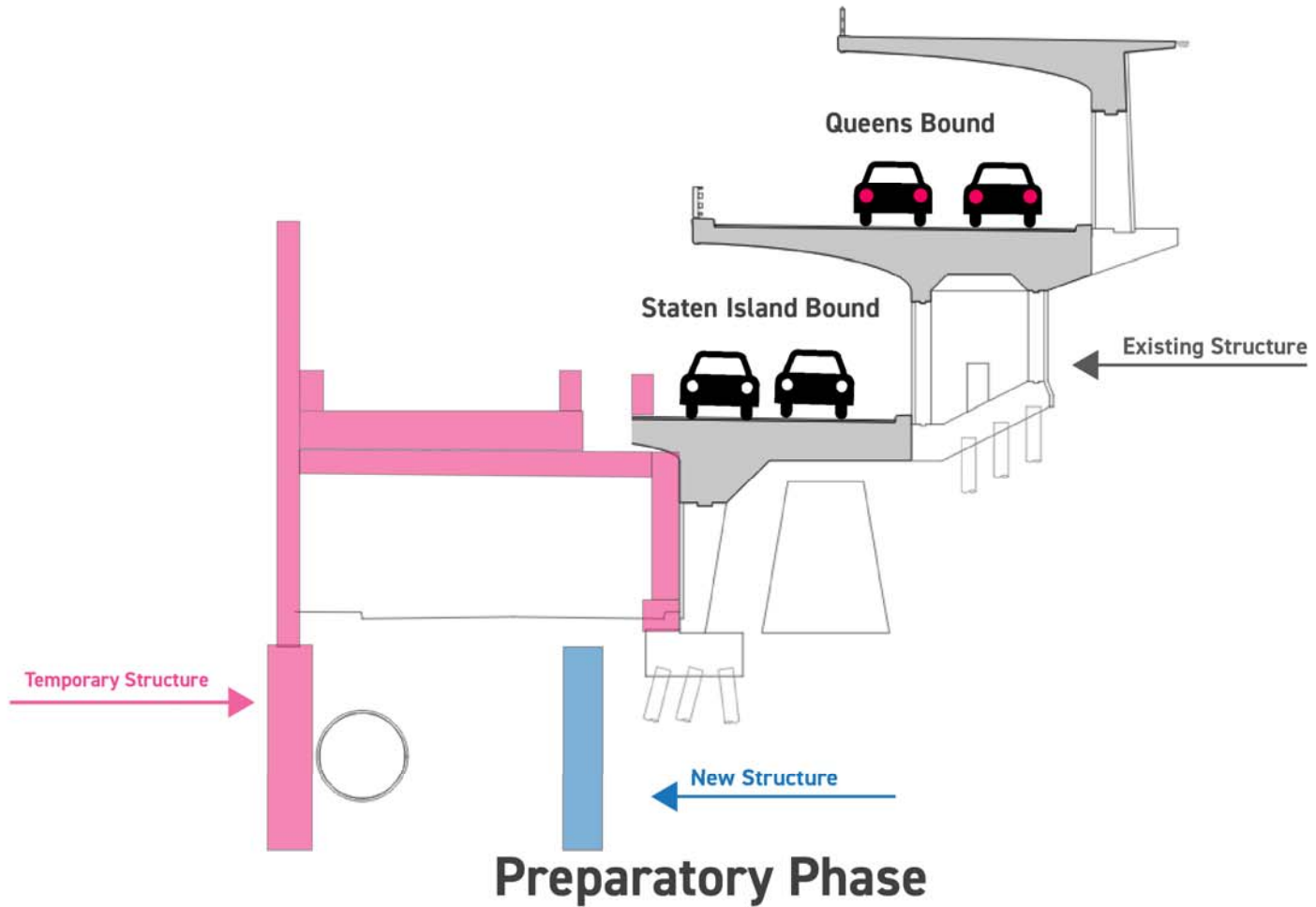


Opportunity for new open space on the north end of the structure

Option G

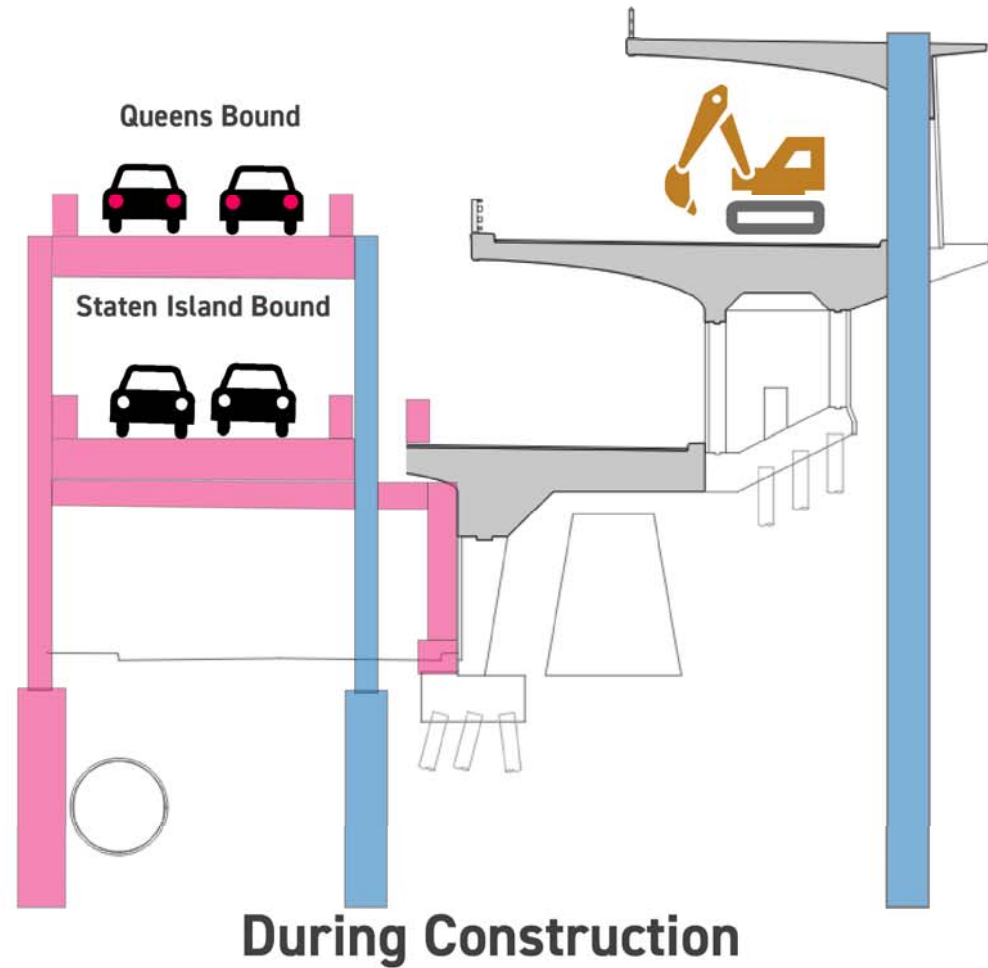
Incremental, Presented 9/27/18

Option G



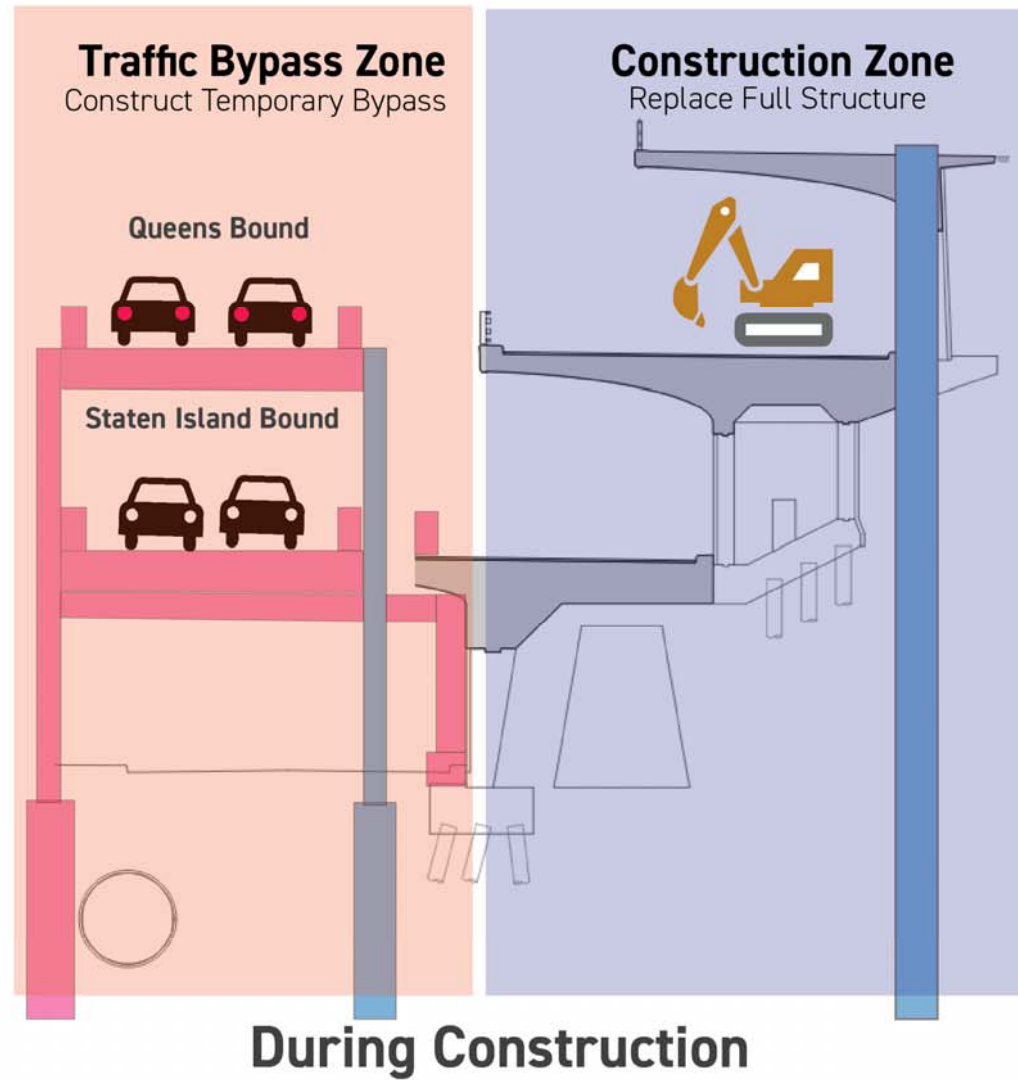
Diagrammatic Representation

Option G



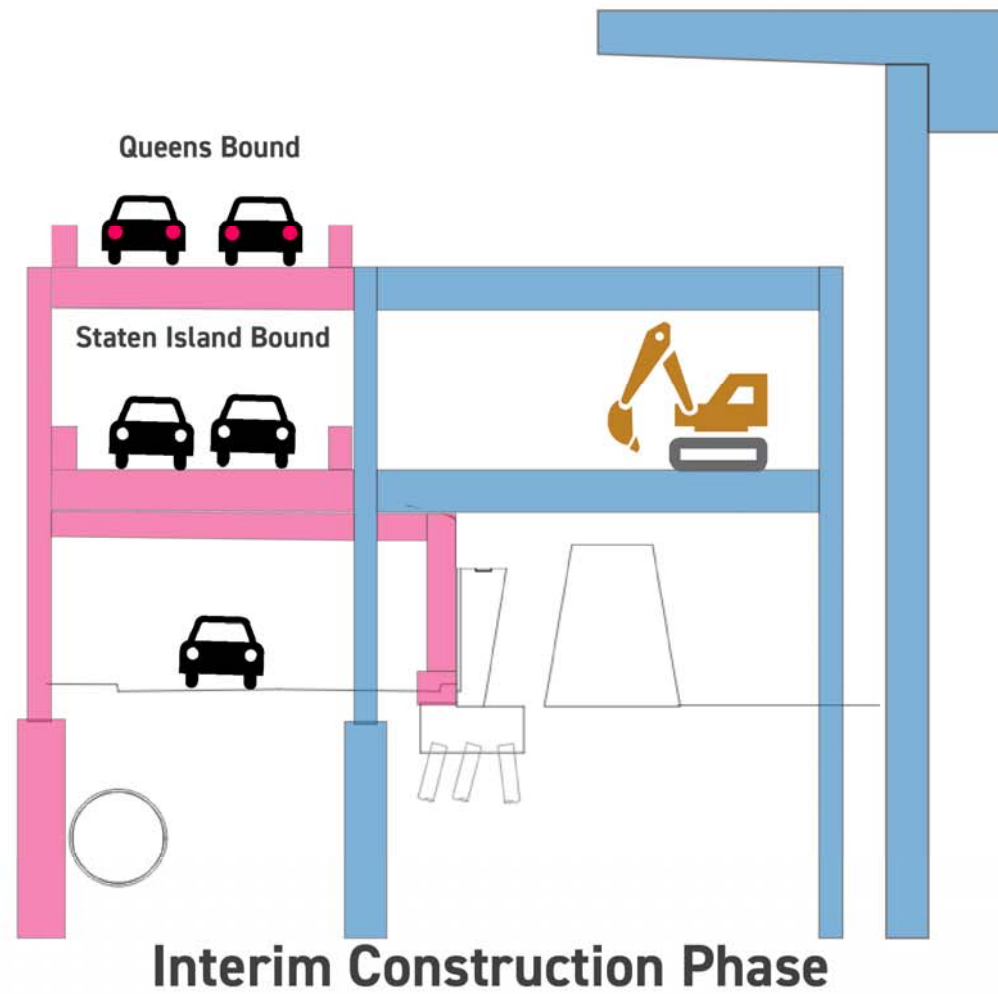
Diagrammatic Representation

Option G



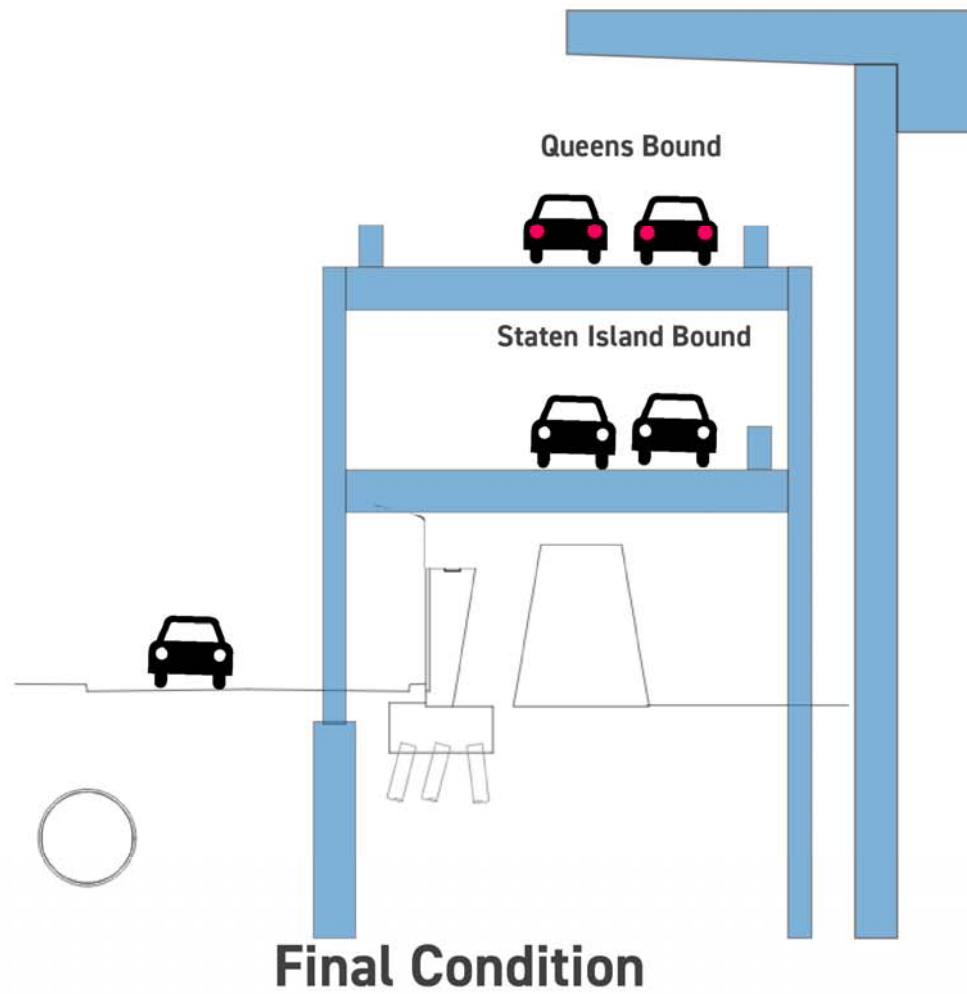
Diagrammatic Representation

Option G



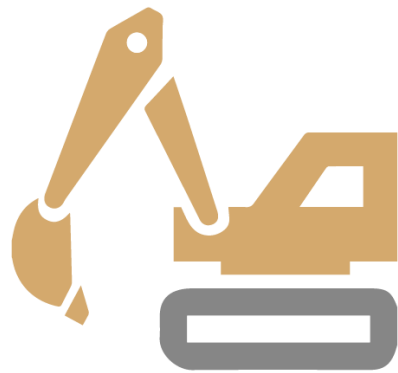
Diagrammatic Representation

Option G



Diagrammatic Representation

Duration



8-10 Yrs

Cost

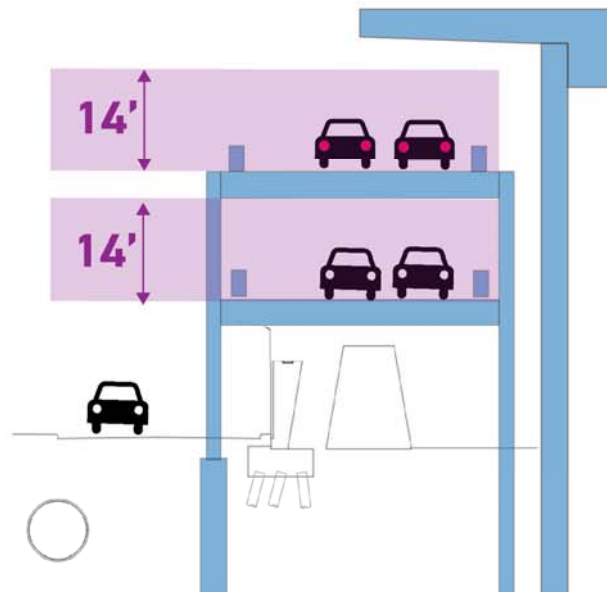


\$3.5 B +/-

Option G

Vertical Clearance

Benefit for Potential Gains over Existing Condition



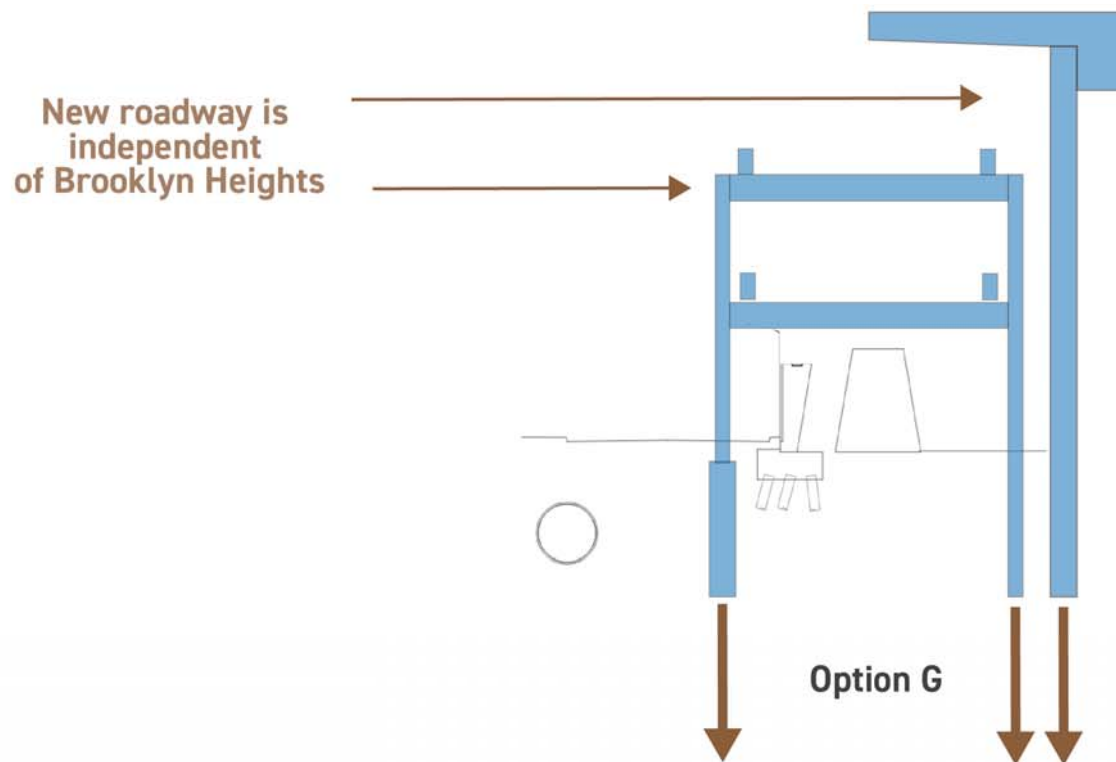
Option G

Diagrammatic Representation

Option G

Vibration Mitigation

Maximum Benefit Realized

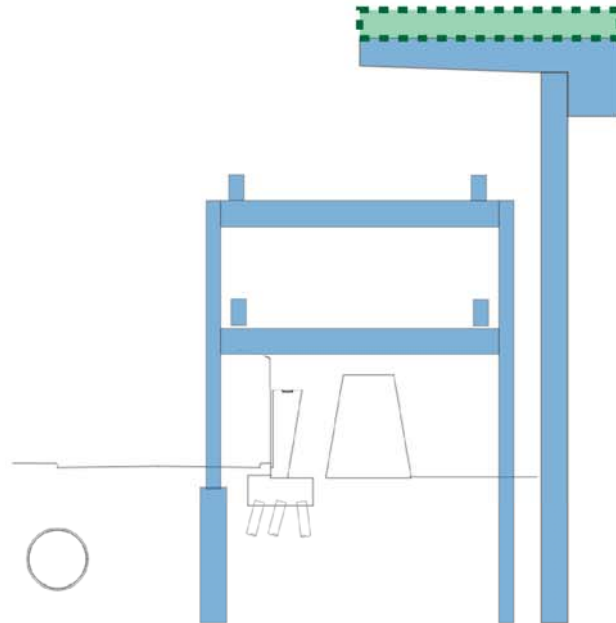


Diagrammatic Representation

Option G

Open Space Improvements

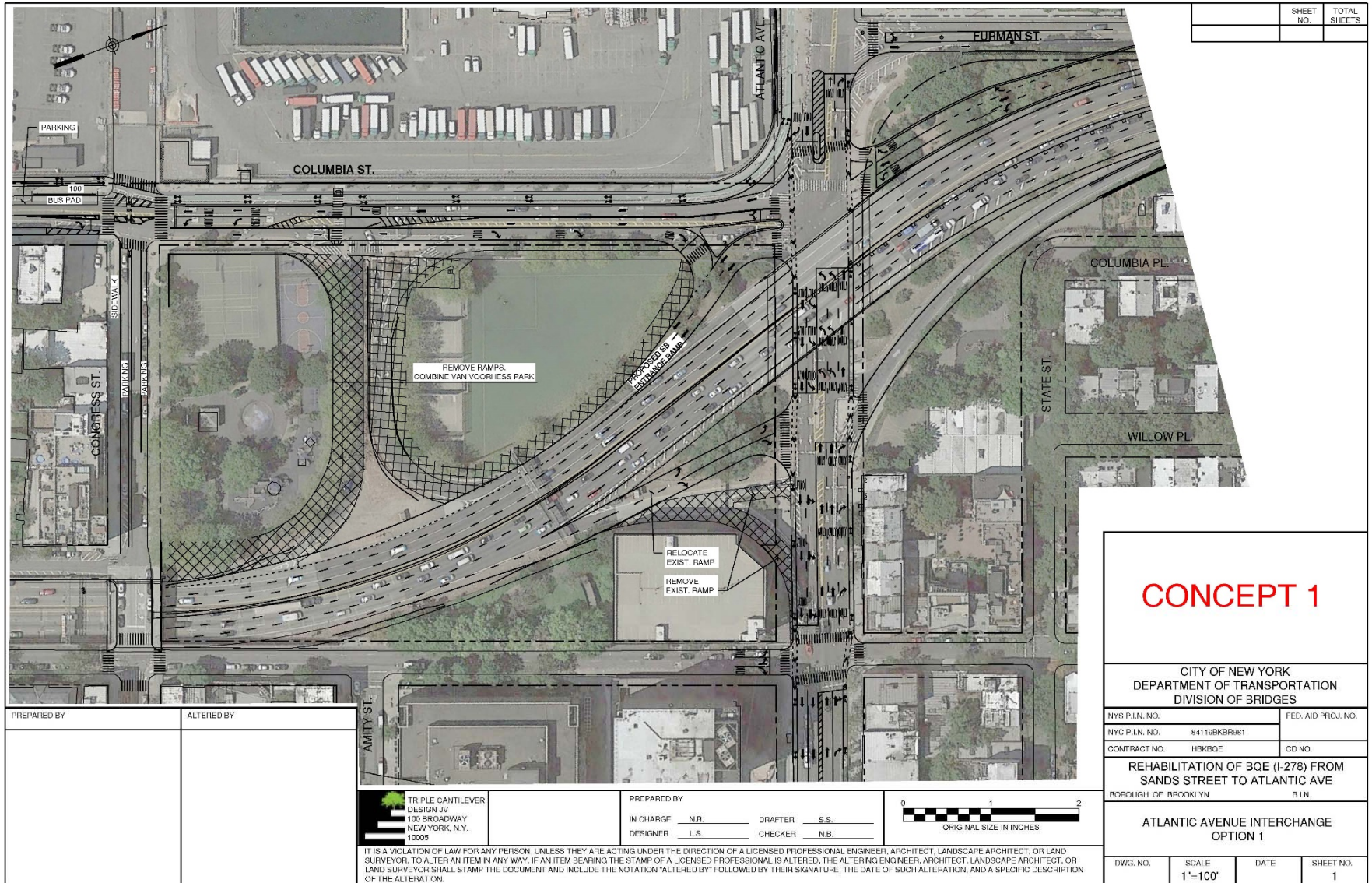
Opportunity for Expanded Promenade



Option G

Diagrammatic Representation

Appendix



	SHEET NO.	TOTAL SHEETS

CONCEPT 1

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
DIVISION OF BRIDGES

NYS P.I.N. NO.	FED. AID PROJ. NO.
NYC P.I.N. NO. 84116BKBR#1	
CONTRACT NO. HBKBOE	CD NO.

REHABILITATION OF BQE (I-278) FROM
SANDS STREET TO ATLANTIC AVE
BOROUGH OF BROOKLYN B.I.N.

ATLANTIC AVENUE INTERCHANGE OPTION 1

DWG. NO.	SCALE 1"=100'	DATE	SHEET NO. 1
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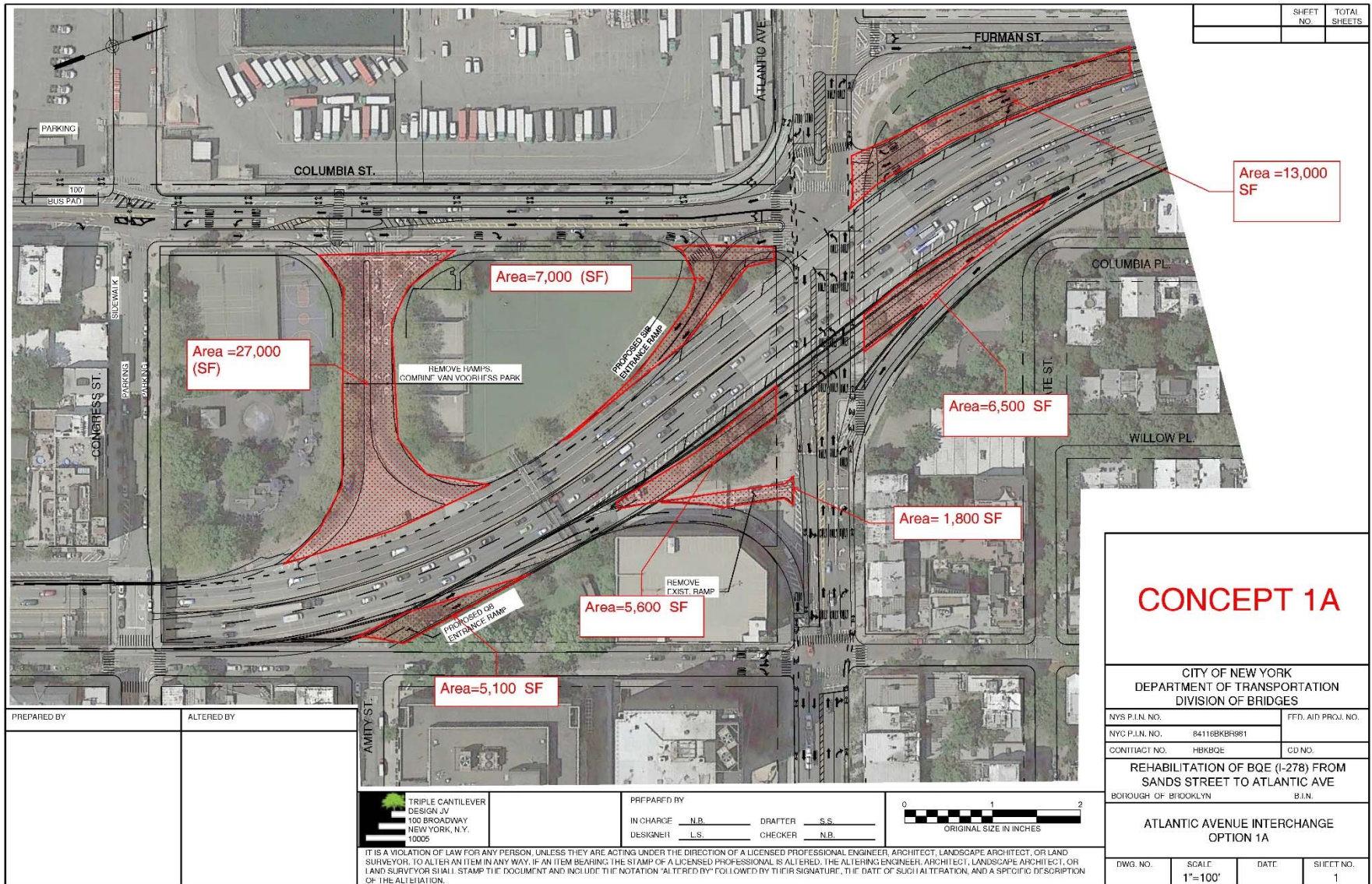
PREPARED BY	ALTERED BY

TRIPLE CANTILEVER
DESIGN JV
100 BROADWAY
NEW YORK, N.Y.
10005

PREPARED BY
IN CHARGE: N.R. DRAFTER: S.S.
DESIGNER: L.S. CHECKER: N.B.



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



SHEET NO.	TOTAL SHEETS

Area =13,000 SF

Area =27,000 (SF)

Area=7,000 (SF)

Area=5,600 SF

Area=5,100 SF

Area= 1,800 SF

Area=6,500 SF

CONCEPT 1A

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
DIVISION OF BRIDGES

NYS P.I.N. NO.	FFD. AID PROJ. NO.
NYC P.I.N. NO. 841168KB981	
CONTRACT NO. H8K8QE	CD NO.

REHABILITATION OF BQE (I-278) FROM SANDS STREET TO ATLANTIC AVE
BOROUGH OF BROOKLYN B.I.N.

ATLANTIC AVENUE INTERCHANGE OPTION 1A

DWG. NO.	SCALE	DATE	SHEET NO.
	1"=100'		1

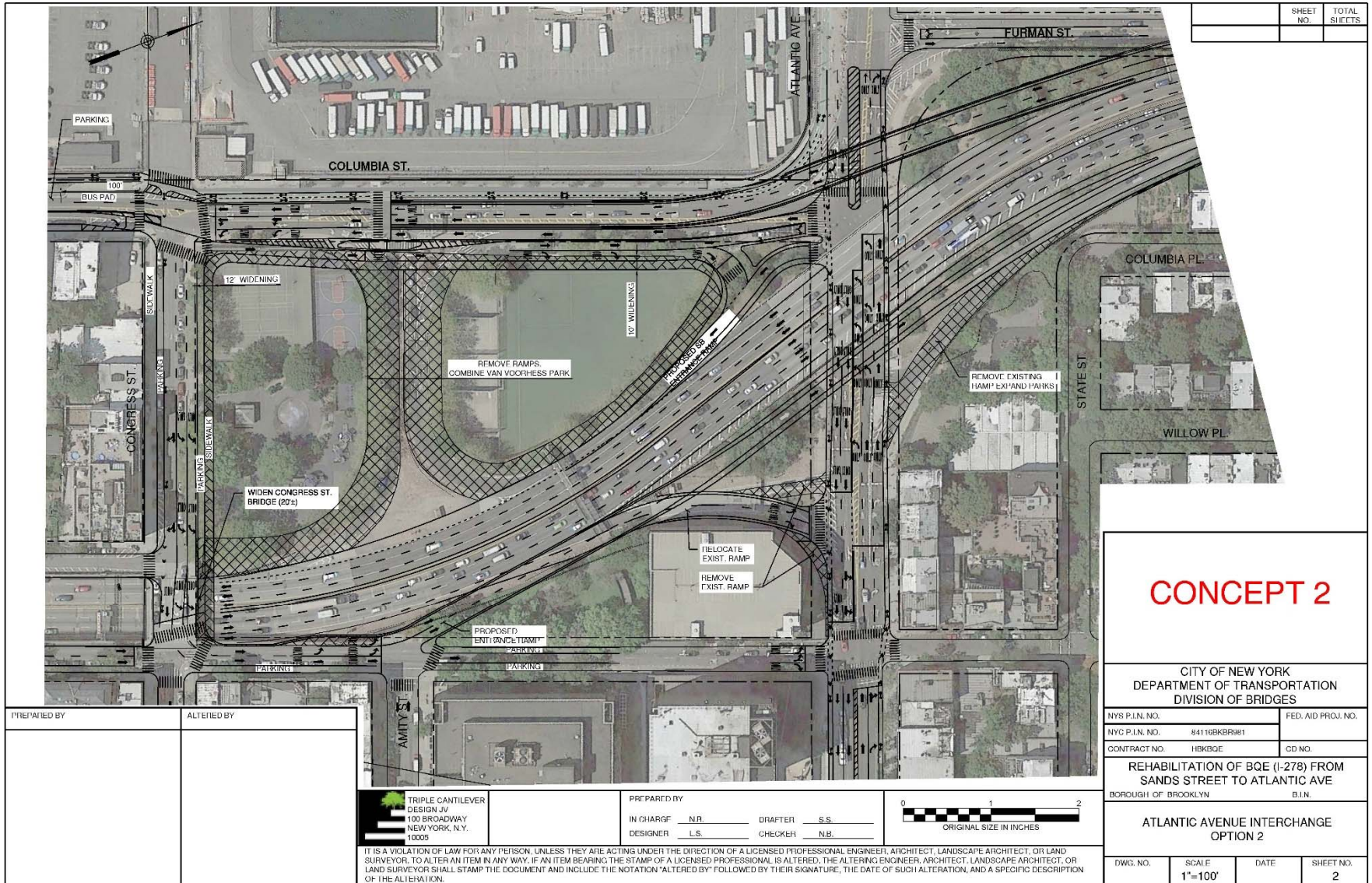
PREPARED BY	ALTERED BY

TRIPLE CANTILEVER
DESIGN JV
100 BROADWAY
NEW YORK, N.Y.
10005

PREPARED BY			
IN CHARGE	N.B.	DRAFTER	S.S.
DESIGNER	L.S.	CHECKER	N.B.



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	SHEET NO.	TOTAL SHEETS

CONCEPT 2

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
DIVISION OF BRIDGES

NYS P.I.N. NO.	FED. AID PROJ. NO.
NYC P.I.N. NO. 84116BKBR#1	
CONTRACT NO. HBKBOE	CD NO.

REHABILITATION OF BQE (I-278) FROM SANDS STREET TO ATLANTIC AVE
BOROUGH OF BROOKLYN B.I.N.

ATLANTIC AVENUE INTERCHANGE OPTION 2

DWG. NO.	SCALE	DATE	SHEET NO.
	1"=100'		2

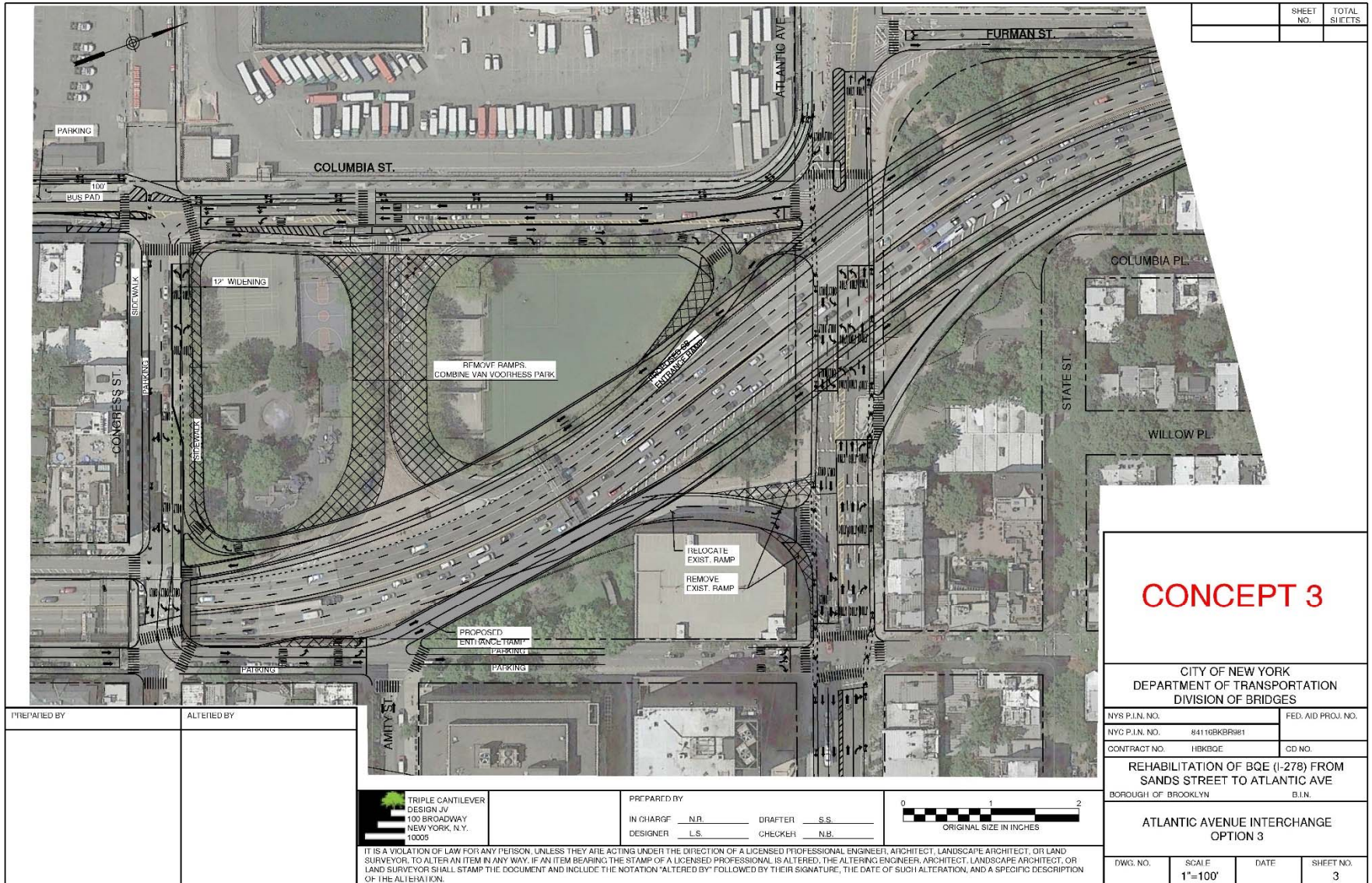
PREPARED BY	ALTERED BY

TRIPLE CANTILEVER DESIGN JV
100 BROADWAY
NEW YORK, N.Y. 10005

PREPARED BY
IN CHARGE: N.R. DRAFTER: S.S.
DESIGNER: L.S. CHECKER: N.B.



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	SHEET NO.	TOTAL SHEETS

CONCEPT 3

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
DIVISION OF BRIDGES

NYS P.I.N. NO.	FED. AID PROJ. NO.
NYC P.I.N. NO. 84116BKBR#1	
CONTRACT NO. HBKBOE	CD NO.

REHABILITATION OF BQE (I-278) FROM SANDS STREET TO ATLANTIC AVE
BOROUGH OF BROOKLYN B.I.N.

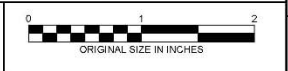
ATLANTIC AVENUE INTERCHANGE OPTION 3

DWG. NO.	SCALE 1"=100'	DATE	SHEET NO. 3
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PREPARED BY	ALTERED BY

TRIPLE CANTILEVER DESIGN JV
100 BROADWAY
NEW YORK, N.Y. 10005

PREPARED BY
IN CHARGE: N.R. DRAFTER: S.S.
DESIGNER: L.S. CHECKER: N.B.



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