

BQE Atlantic to Sands Project Overview

1. Project Background
2. Current Conditions & Findings
3. Upcoming Activities



Commissioner Polly Trottenberg, New York City Department of Transportation
June 29, 2016



THE PROJECT TEAM

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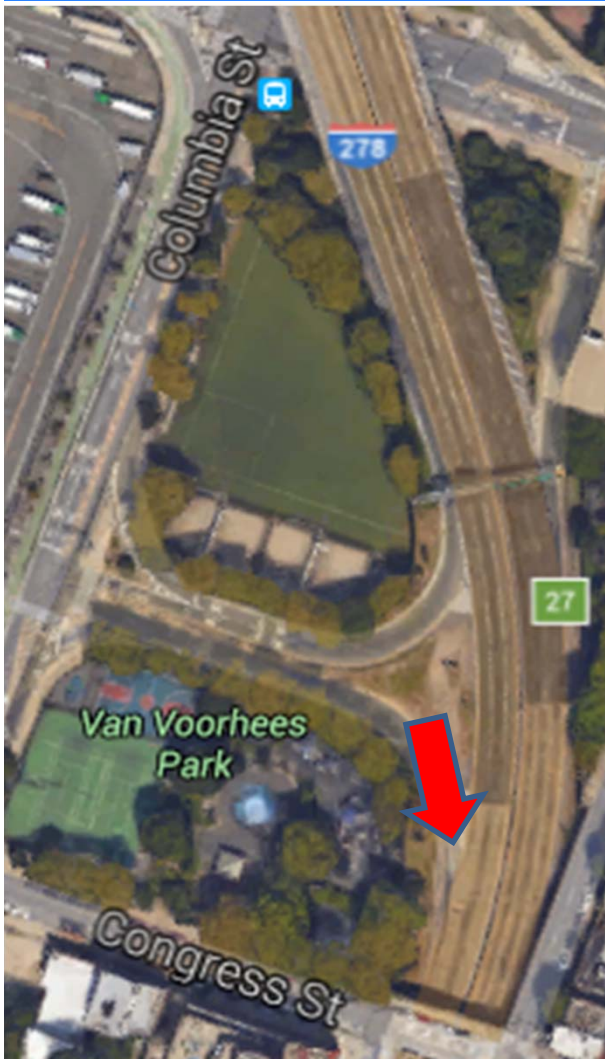
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THE 21 BRIDGES



ATLANTIC AVENUE INTERCHANGE



Atlantic Avenue Structure:

- New York State rehabilitated - 1998
- Rated in good condition in 2014

Substandard Ramps: Traffic study

- To determine ramp improvements
- Improve pedestrian connectivity
- Van Voorhees Park Configuration



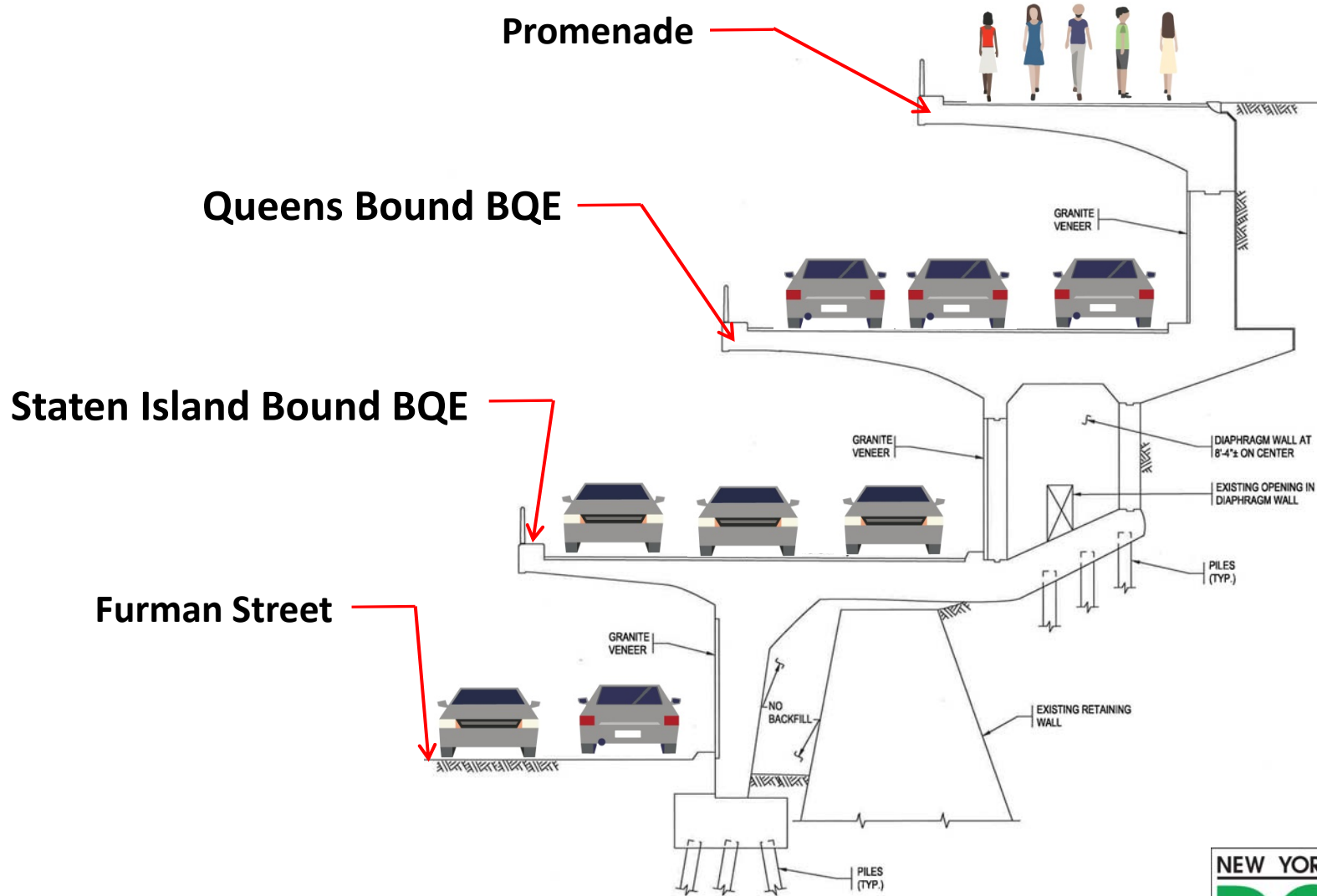
THE TRIPLE CANTILEVER



“...community groups developed a Citizen Alternative Plan that proposed a three-decked structure immediately along the Brooklyn Heights waterfront.” *NYC Roads.com*



CROSS SECTION



CURRENT OPERATION

One of the most heavily traveled roads in NYC

Annual Average Daily Traffic 2014 - **over 140,000**

2010 crash rate on 15 of 18 segments exceeds the statewide average

Heavy Usage by Trucks:

Trucks account for 11% of volume, on average

As high as 17% during peak times

Old Structure with Substandard Conditions:

- Non-standard geometry (tight turns, lack of acceleration lanes)
- Deficient vertical and horizontal clearances
- Deficient connectivity to Manhattan Bridge

WHAT WE HAVE HEARD...

Condition	Cause
<ul style="list-style-type: none">• Driving safety issues	<ul style="list-style-type: none">• Narrow lanes, ramp geometry
<ul style="list-style-type: none">• Major delays due to breakdowns	<ul style="list-style-type: none">• No shoulders
<ul style="list-style-type: none">• Noise and vibrations	<ul style="list-style-type: none">• Poor structural joints and potholes
<ul style="list-style-type: none">• Difficult Pedestrian Crossings	<ul style="list-style-type: none">• Poor intersection plan
<ul style="list-style-type: none">• Lane closures	<ul style="list-style-type: none">• Maintenance and repairs
<ul style="list-style-type: none">• Leakage and debris	<ul style="list-style-type: none">• Deteriorating structures
<ul style="list-style-type: none">• Sidewalk obstructions	<ul style="list-style-type: none">• Temporary supports

CURRENT CONDITIONS: JOINTS & BEARINGS



BQE Cantilever



Old Fulton Street

CURRENT CONDITIONS: UNDERCLEARANCE



Under Columbia Heights

Prior Efforts

March 2006	Accelerated construction & innovative design workshop (ACTT)
May 2009	Identified six potential tunnel alignments
2010	Study ended without selection of a preferred alternative
February 2011	Draft scoping report submitted to NYSDOT

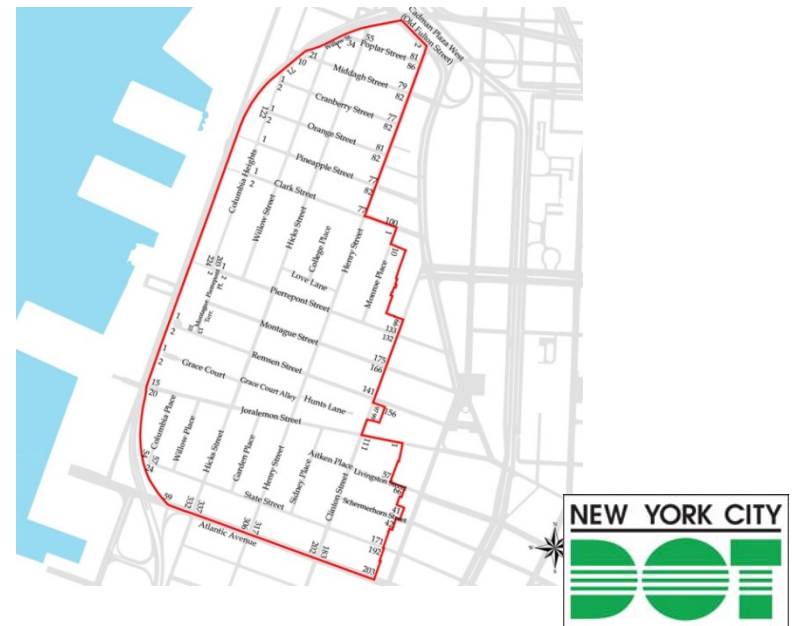
CURRENT NYCDOT PROJECT



- DOT has forecast \$1.7B for this project in the City's Ten Year Plan
- NYCDOT is working with Federal and State partners for additional funding

PROJECT CHALLENGES

- Engineering
- Maintaining traffic
- Protecting adjacent structures
- Recent development
- Environmental/SHPO/Landmarks issues
- Transit structures



TRANSIT STRUCTURES



TA Vent

Old Fulton and Cranberry Streets



TA Power

Old Furman Street and Montague Streets



Furman Street



PROJECT BENEFITS

Significant Benefits - Local Residents/Motorists

Design Decisions	User Experience
<ul style="list-style-type: none">• Geometry Improvements	<ul style="list-style-type: none">• Safer Travel
<ul style="list-style-type: none">• Rehabilitated or Fewer Joints	<ul style="list-style-type: none">• Quieter Roadway
<ul style="list-style-type: none">• New Deck	<ul style="list-style-type: none">• Improved Ridability/No Overhead Debris
<ul style="list-style-type: none">• Improved Intersections	<ul style="list-style-type: none">• Improved Pedestrian/Bike Connectivity
<ul style="list-style-type: none">• Improved Ramp Configuration	<ul style="list-style-type: none">• Improved Traffic flow
<ul style="list-style-type: none">• New/Improved Drainage	<ul style="list-style-type: none">• No Ponding
<ul style="list-style-type: none">• New Lighting	<ul style="list-style-type: none">• Safer/More Attractive

NYCDOT RECENT EFFORTS

Key Steps

BQE Project Panel of Experts

- Origin/Destination Study
- Tunnel Feasibility Analysis
- Belt Parkway Alternatives Study

QUEENS BOUND TRAFFIC BREAKDOWN

Queens-Bound AM:

- 58% of cars start in Brooklyn and have a destination within NYC
- 60% of trucks are traveling within NYC
 - 33% of these trucks began their trips in Brooklyn

Queens-Bound PM:

- 65% of cars start in Brooklyn and have a destination within NYC
- 68% of trucks are traveling within NYC
 - 44% of these trucks began their trips in Brooklyn

Over 60% of truck traffic has a destination within NYC, and of that, over 30% serve Brooklyn



STATEN ISLAND BOUND TRAFFIC BREAKDOWN

Staten Island-Bound AM:

- 40% of cars start in Brooklyn and have a destination within NYC
- 90% of trucks are traveling within NYC
 - 23% of these trucks began their trips in Brooklyn

Staten Island-Bound PM:

- 32% of cars start in Brooklyn and have a destination within NYC
- 95% of trucks are traveling within NYC
 - 28% of these trucks began their trips in Brooklyn

Over 90% of truck traffic has a destination within NYC, and of that, over 20% serve Brooklyn.



TUNNEL OPTIONS



Seven Tunnel Options Studied:

T1 Henry Street Alignment

W-1 Hicks Street Alignment

T-2 Exist. BQE Alignment

T-3 Outboard tunnel

W-2 Straight-line between exits 24 & 30

W-3 Outboard tunnel-Sunset Park to exit 33

W-4 Fourth Avenue outboard tunnel between exits 24 and 30

TUNNEL STUDY RESULTS



Tunnel entrance/exit:
Rapelye Street/Exit 26

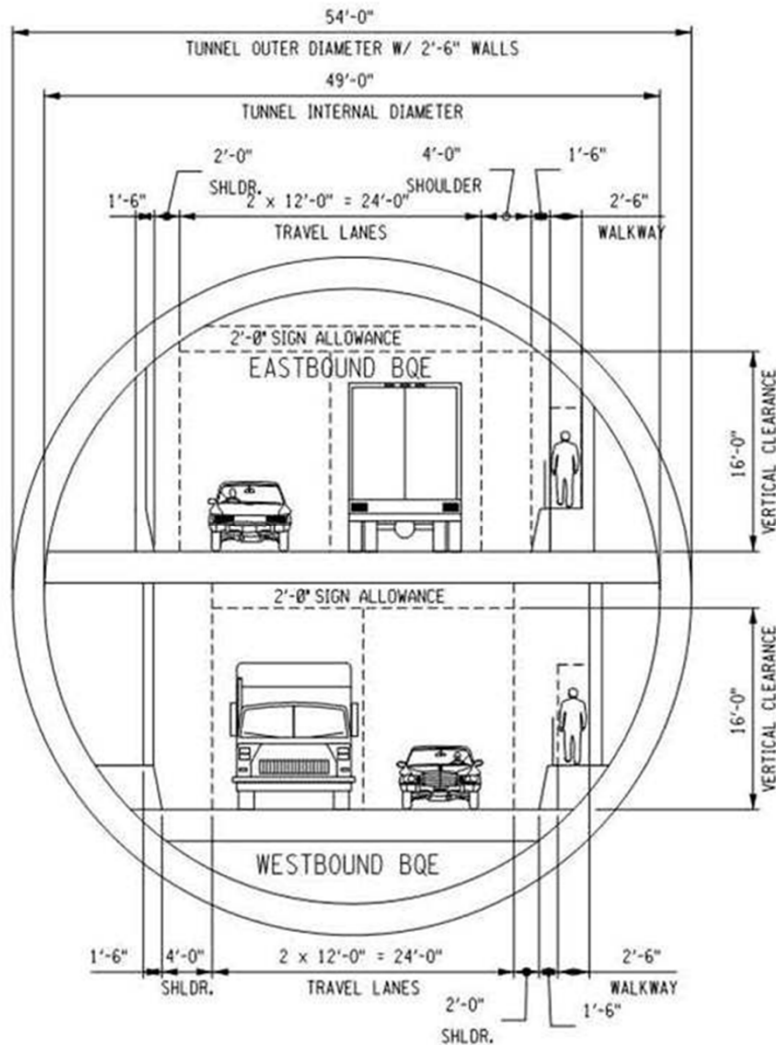
Tunnel entrance/exit:
20th Street/Exit 24

Tunnel entrance/exit:
Clinton Avenue/Exit 30



TUNNEL OBSTACLES

Major Obstacles



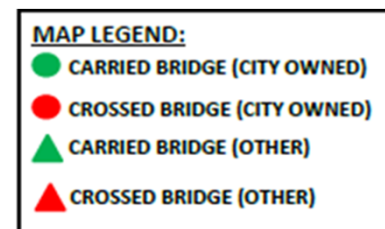
- All but 2 configurations conflict with DEP's water tunnel.
- Feasible cross-section allows only two lanes of traffic in each direction.
- Tunnel requires that we also maintain the existing BQE structure:
 - to accommodate existing volume
 - to provide connectivity to the Brooklyn and Manhattan Bridges (50% of BQE traffic currently uses exits that the tunnel would not serve)
- Tunnel options are prohibitively expensive, costing at least several billion

BELT PARKWAY ALTERNATIVE STUDY



The Belt Parkway is not a feasible alternative:

- Low vertical clearance, including NYCT active lines
- Narrow lane widths
- Sub-standard geometry at ramps
- Carrying capacity
- Cost \$800M - \$2B



WHERE WE ARE NOW

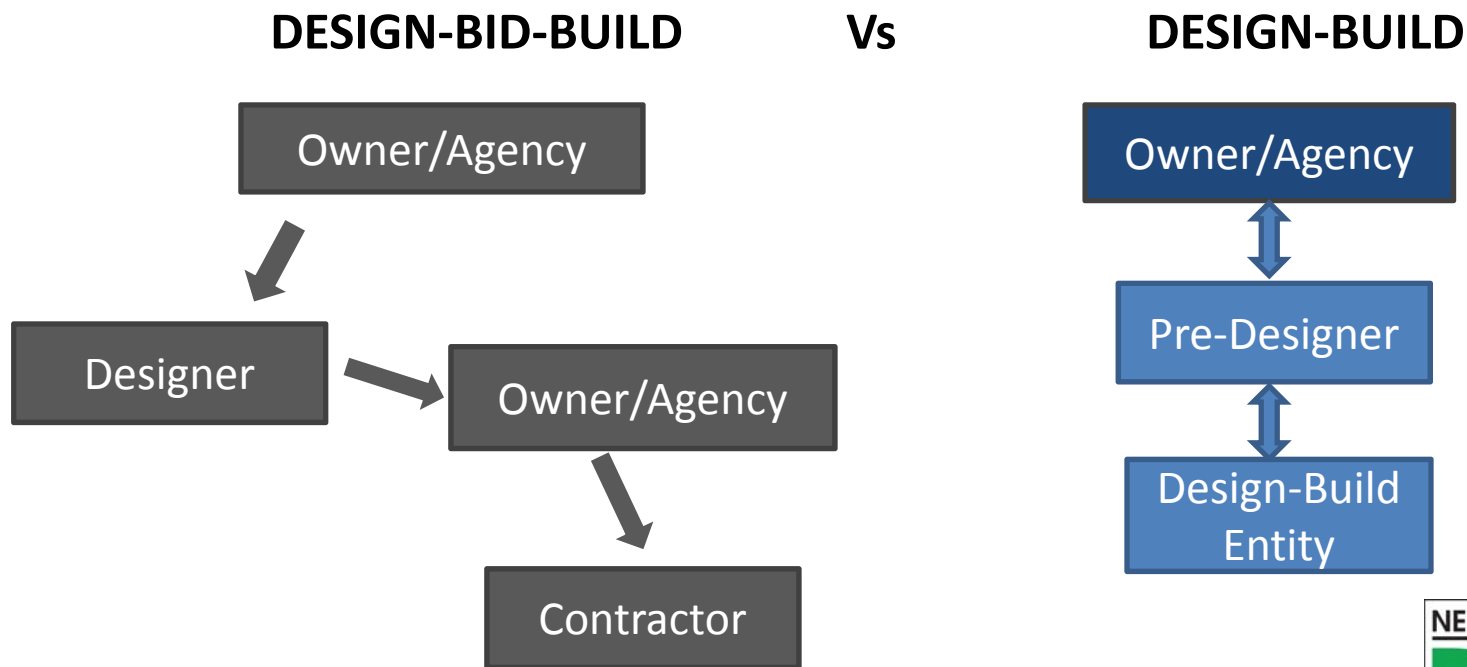


- In-depth investigation
- Condition Assessment
- Load Rating
- Inter-agency coordination

PROJECT DESIGN SCHEDULE

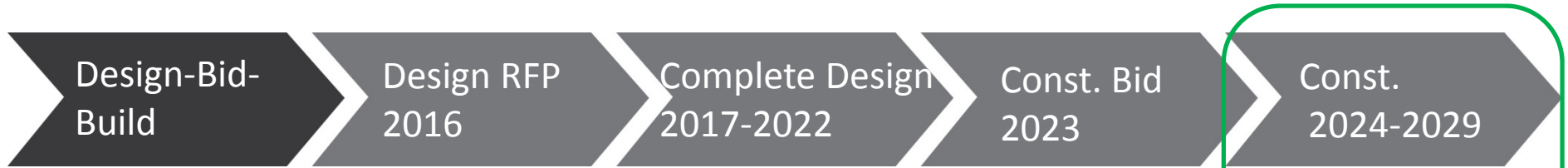
Request For Proposal Released	June 2016
Environmental Review/Design Start	Early 2017
Alternative Analysis/Draft EIS	2018
Preliminary Design Completion	2019

Decision Point – Design/Build or Design-Bid-Build

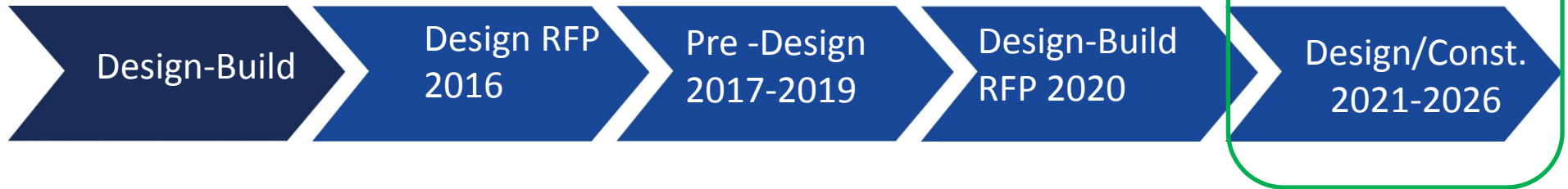


PROJECT CONSTRUCTION SCHEDULE

BQE Project : Design-Bid-Build



BQE Project : Design/Build



Construction Duration - 5 Years

PUBLIC OUTREACH PLAN - DESIGN

- **During Scoping Phase(on-going):**
 - Informational meetings with community boards
 - Public Project Briefing
 - Finalize key stakeholder list
- **During Design Contract (early 2017 through 2022):**
 - Formal Public Outreach Plan
 - Create Notification Network of local businesses, organizations, residents
 - Form project Working Group
 - Formal public information sessions

PUBLIC OUTREACH PLAN - CONSTRUCTION

During Construction Contract (2021 through Completion):

- On-site information booth for on-going activities
- Continue outreach through Working Group
- Use of social media for up-to-date construction activity related news

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Thank You!



BQE Triple Cantilever Project Briefing



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