



Welcome

Goethals Bridge Replacement Environmental Impact Statement (GBR EIS)

Presentation Public Outreach Meetings October, 2008

Lead Federal Agency:



United States Coast Guard

Consultant Team:
Berger/PB Joint Venture



Project Sponsor:





Agenda

- Recap of Purpose and Need
- Recap of 9/07 TAC/ETF Meeting
- Overview of DEIS Impact Analyses
- Project Impacts, Mitigation Measures, Agency Consultations
- CEQR Review
- Schedule
- Questions and Answers



Recap of Purpose & Need

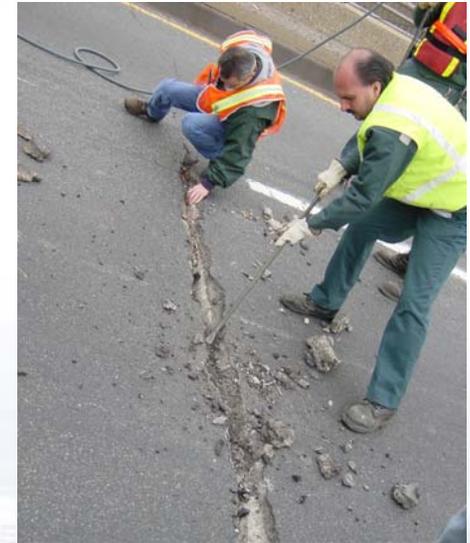
- Address design deficiencies that make the bridge functionally obsolete
 - Substandard 10-ft. lane widths
 - Lack of emergency shoulders
 - Approach span alignment
- Provide safer operating conditions and reduce accidents on the bridge
- Improve traffic service on the bridge and its approaches





Recap of Purpose & Need (cont'd)

- Enhance structural integrity and reduce life-cycle costs with the aging bridge
- Provide transportation system redundancy
- Provide for safe and reliable truck access for regional goods movement
- Provide additional width so as not to preclude potential future transit in the corridor





Recap and Update of 9/07 TAC/ETF Meeting

- Bridge design concept, components and dimensions
- Four alignment alternatives
- Additional design details integral to impact analysis
- Two construction concepts (alternative-dependent)



Conceptual Cable-Stayed Design





Conceptual Cable-Stayed Design (cont'd)





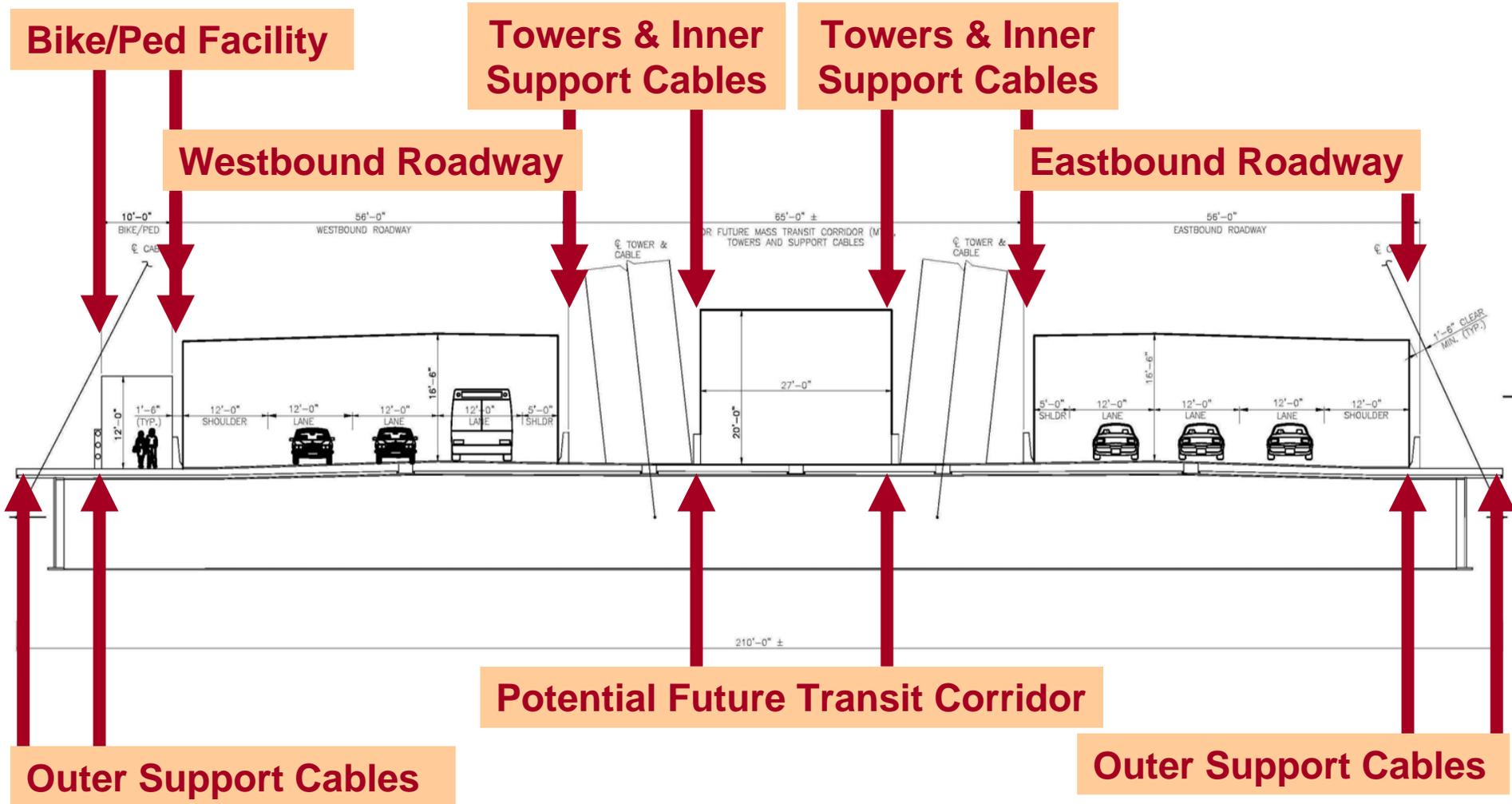
Design Concept / Components

- Single Bridge
- Towers Located Between Roadways
- Cable-Stay Supported Roadway Decks
- Total width ~210 ft.





Design Concept / Components (cont'd)





Conceptual Roadway Design Dimensions

Each roadway contains:

- three 12' wide lanes
- a 12' wide outer shoulder
- a 5' wide inner shoulder





Alternatives Being Considered: New Alignment South



Legend

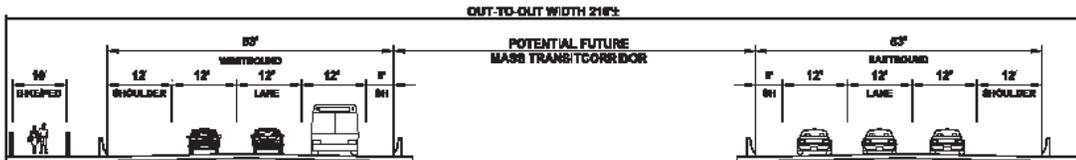
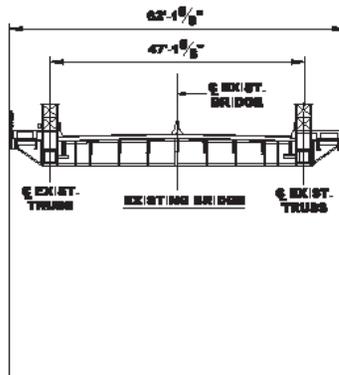
Alignments

- Buffer / Right - of - Way - New Alignment South
- - - Edge of Structure - New Alignment South

Bridge Structures

- Pier/Tower

New Alignment South

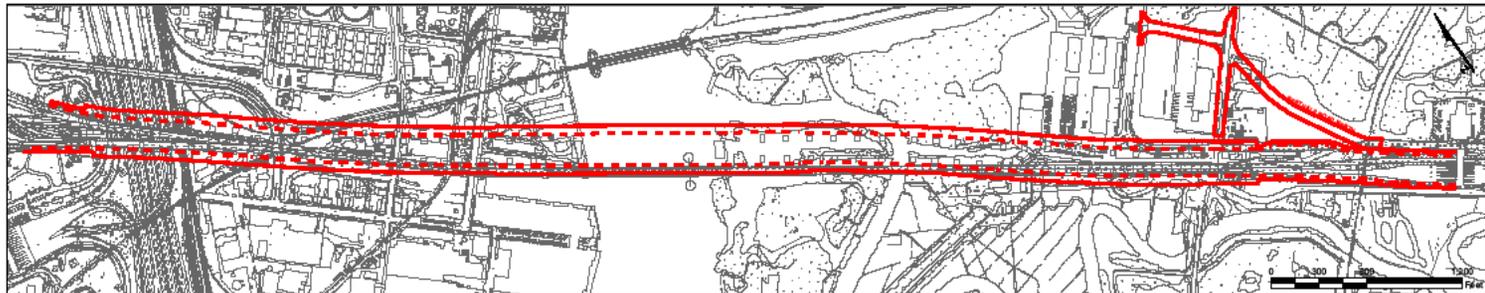


Notes:

1. Graphic indicates only horizontal relationship of proposed alignment to existing bridge alignment, since both would be at the same elevation.
2. Existing bridge to be demolished after half of the new replacement bridge is built.



Alternatives Being Considered: New Alignment North



Legend

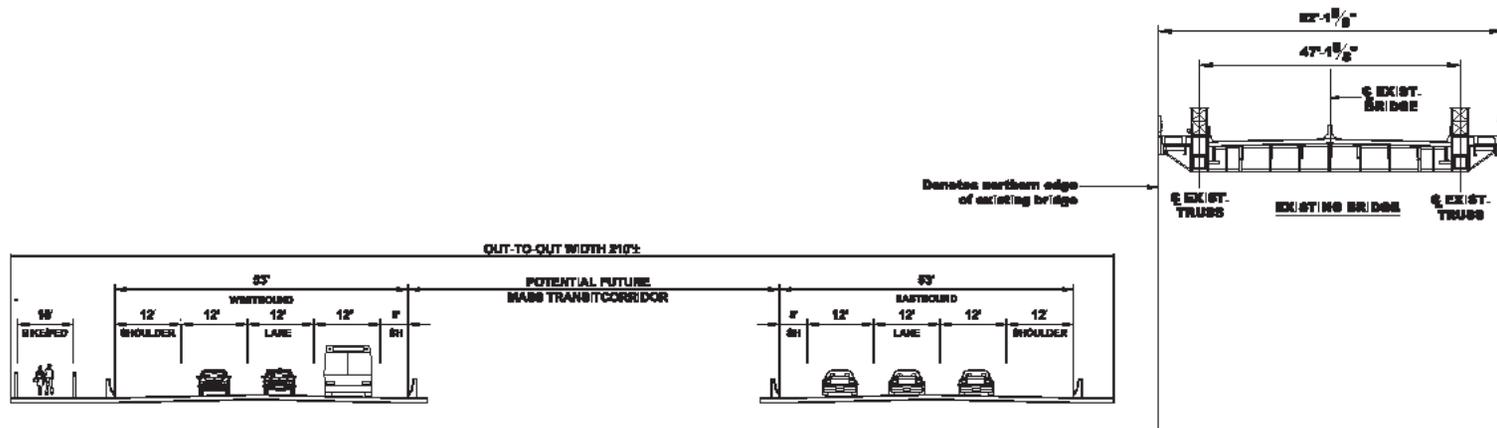
Alignments

- Buffer / Right - of - Way - New Alignment North
- - - Edge of Structure - New Alignment North

Bridge Structures

- Pier/Tower

New Alignment North



Notes:

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Alternatives Being Considered: Existing Alignment South



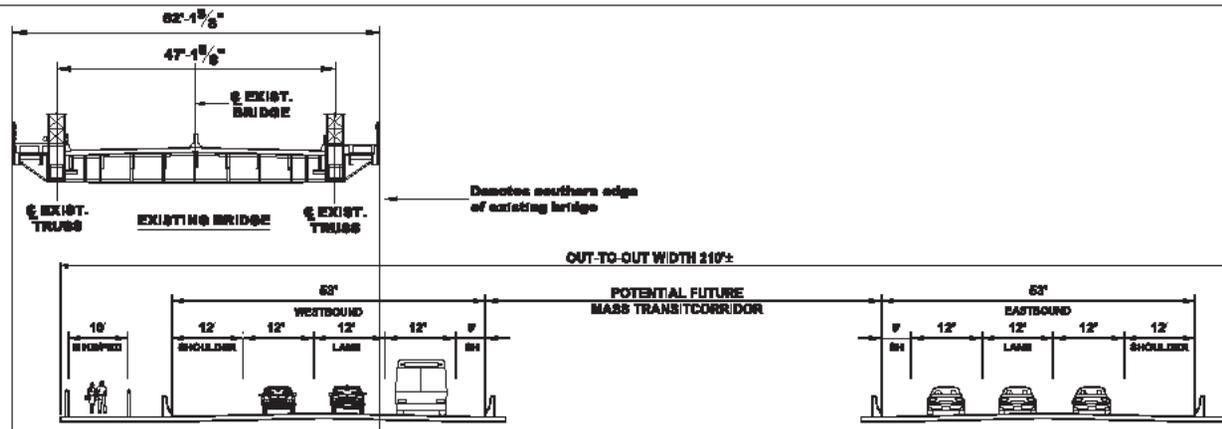
Existing Alignment South

Legend

Alignments

- Buffer / Right - of - Way - Existing Alignment South
- - - Edge of Structure - Existing Alignment South

Bridge Structures

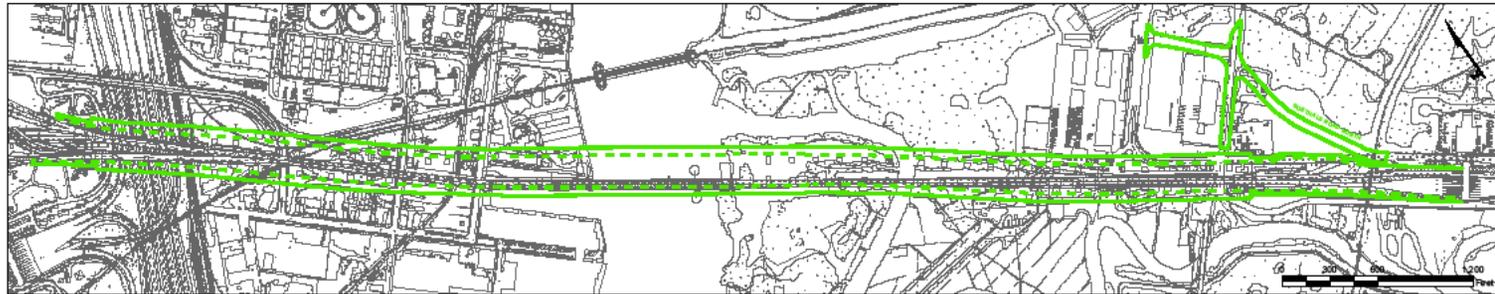


Notes:

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Alternatives Being Considered: Existing Alignment North



Legend

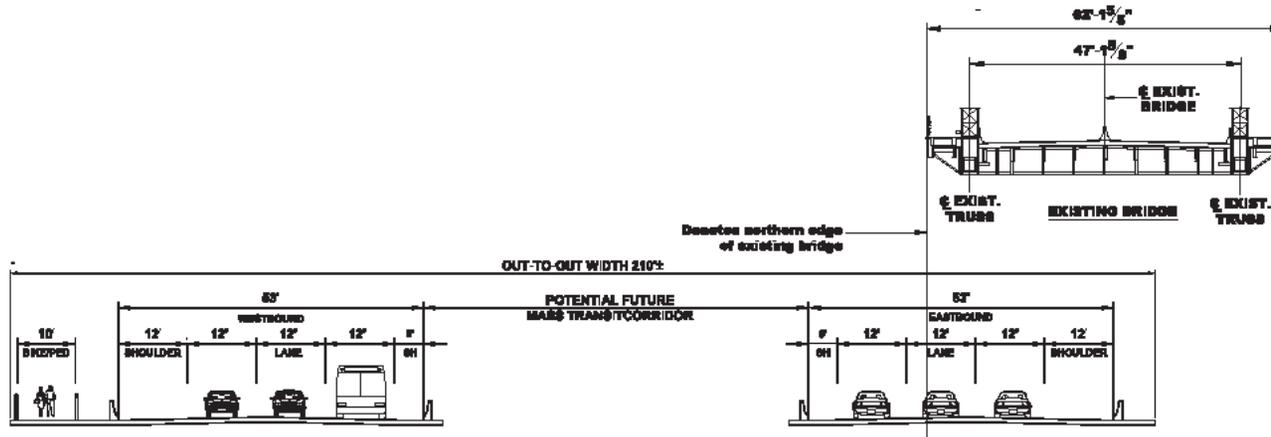
Alignments

- Buffer / Right - of - Way - Existing Alignment North
- - - Edge of Structure - Existing Alignment North

Bridge Structures

- Pier/Tower

Existing Alignment North



Notes:
 1. Graphic indicates only horizontal relationship of proposed alignment to existing bridge alignment, since both would be at the same elevation.
 2. Existing bridge to be demolished after half of the new replacement bridge is built.



Additional Conceptual Design Details

- Navigational clearance: 135' above MHW (minimum)
- Towers: 272 feet above MSL
- Buffer:
 - both sides of GBR & approach spans
 - 50' wide, including 25' right-of-way
- Permanent right-of-way fencing
- Permanent construction, maintenance & security road / trestle, generally below GBR & approach spans



Additional Conceptual Design Details (cont'd)

- Goethals Road North relocation with two northern alternatives
- Minor Gulf Avenue relocation with all four alternatives





Construction Staging Concepts

“New Alignment” Alternatives

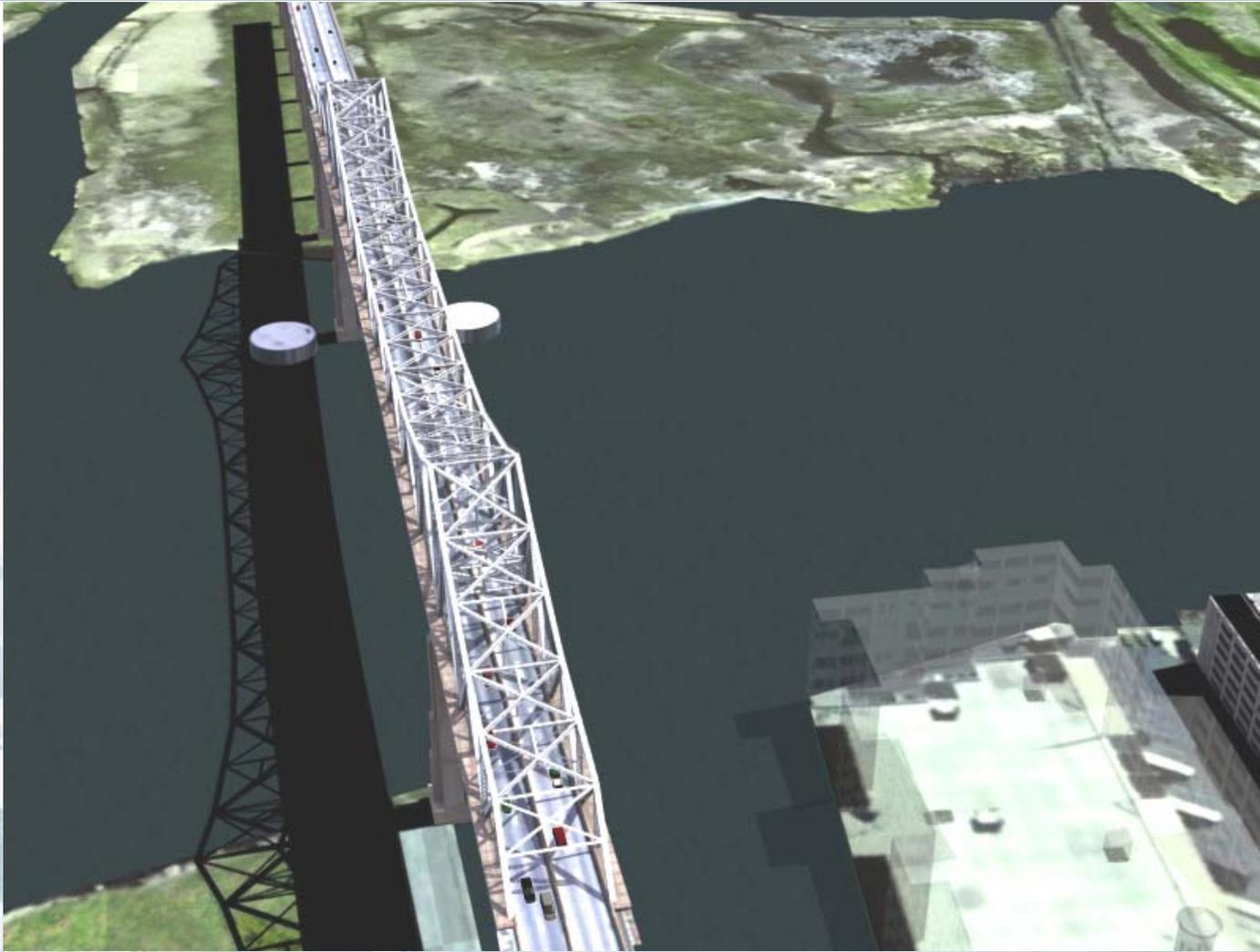
- Fully constructed & operational GBR
- Existing Goethals Bridge demolition

“Existing Alignment” Alternatives

- Construction of first half of GBR
- Existing Goethals Bridge demolition
- Construction of second half of GBR



Existing Alignments Construction Staging: Pre-Construction Condition





Existing Alignments Construction Staging: Stage 1, Build Pylons





Existing Alignments Construction Staging: Stage 2, Add Tie-Downs and Build First Deck





Existing Alignments Construction Staging: Stage 3, Demolish Existing Bridge





Existing Alignments Construction Staging: Stage 4, Build Second Deck & Remove Tie-Downs





Existing Alignments Construction Staging: Stage 5, Complete





Overview of DEIS Impact Analyses: Analysis Years

2014	GBR estimated time of completion (ETC) assumed in EIS*
2034	Design year (ETC + 20) for No-Build & Build impact analyses

*2015 - current PANYNJ projection of GBR completion



Overview of DEIS Impact Analyses: Environmental Categories Evaluated

- Land Use, Zoning, Socioeconomics & Environmental Justice
- Community Facilities and Parklands / Recreational Facilities
- Historic & Archaeological Resources
- Visual Quality
- Topography, Geology & Soils
- Water Resources & Floodplains
- Biotic Communities
- Coastal Zone Management
- Navigation & Airspace
- Solid Waste, Infrastructure & Contaminated Materials
- Traffic & Transportation
- Air Quality & Human Health Air Quality
- Energy
- Noise
- Indirect & Cumulative Impacts



Socioeconomics Impacts: Potential Business & Residential Displacements

Performance Measures	New Alignment		Existing Alignment	
	South	North	South	North
Business Impacts*				
Operational Impacts	2	3	2	3
Business Displacements	8	3	8	4
Billboard Displacements	2	3	2	3
Total	12	9	12	10
Residential Impacts*				
Unit Displacements	51	0	51	11
Estimated Residents Displaced	130	0	130	28

* Potential business and residential impacts estimated based on field surveys, tax map data and census data.



Socioeconomics Impacts (cont'd)

- A maximum total **loss of 0.2% of total tax levies in Elizabeth** and **negligible in New York City** would result from any of the four alternative alignments
- Approximately **400 - 500 construction jobs** anticipated to be generated on an annual basis during 56 – 70 month construction period
- Approximately **5,500 - 5,900 total jobs** anticipated to be indirectly generated during construction period



Environmental Justice Impacts

- The project does not result in disproportionate impacts to
 - special population groups
 - neighborhoods with minority and/or low-income populations

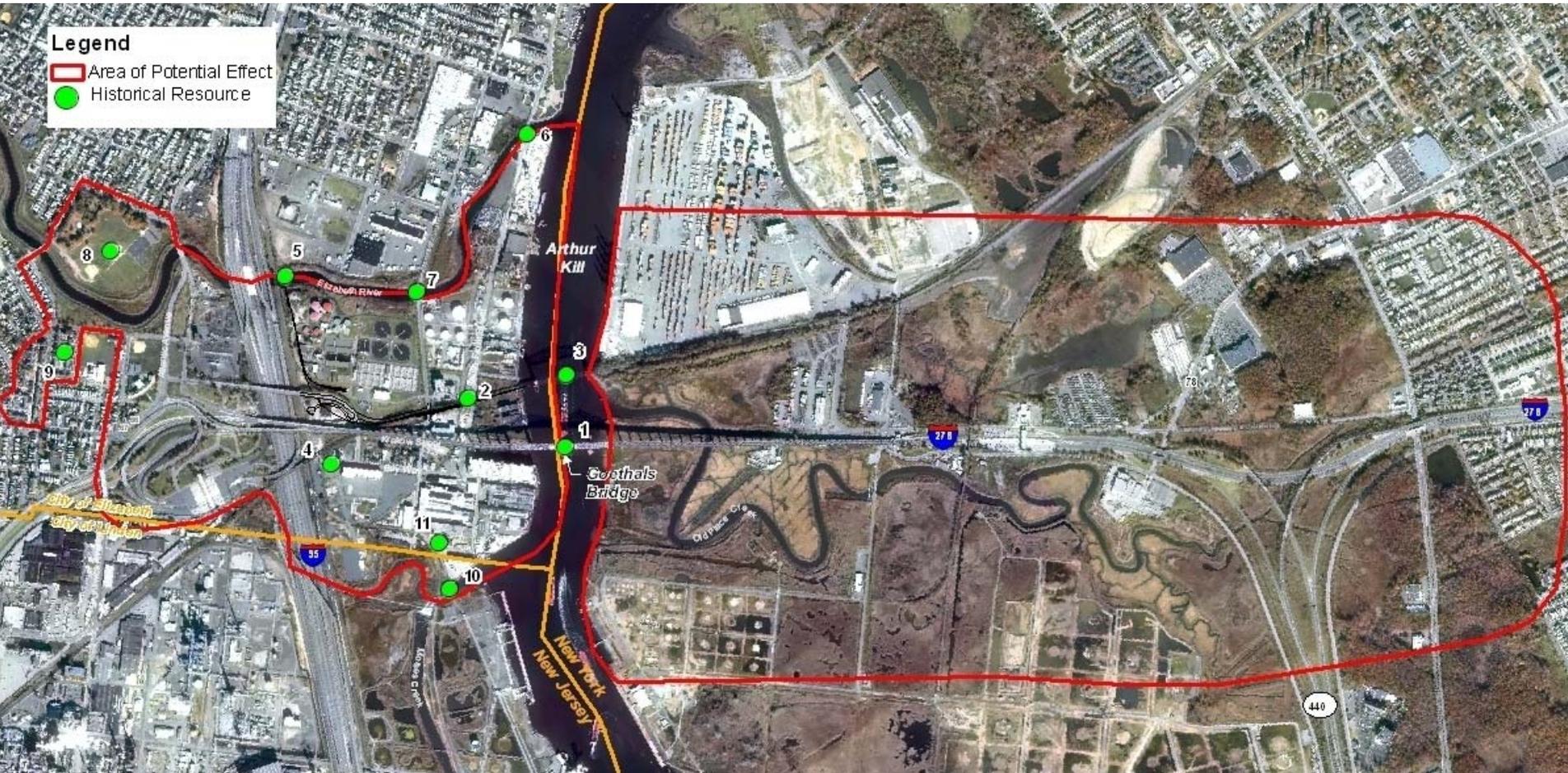


Historic Resources Coordination and APE

- Ongoing coordination with NJHPO, NYSOPRHP and NYCLPC
- A total of 11 historic properties within the Area of Potential Effect (APE) have received opinions of eligibility for inclusion in the National Register of Historic Places



Historic Area of Potential Effect





Eligible Historic Properties Determined to Have an Adverse Effect





Historic Resources Impacts

- **NJHPO has determined an adverse effect on 3 eligible properties**
 - **Goethals Bridge (adverse effect due to demolition)**
 - **Staten Island Railroad Historic District (adverse visual effect)**
 - **Staten Island Railway Lift Truss Bridge over Arthur Kill (adverse visual effect)**
- **NYCLPC has determined that “Goethals Bridge does not appear eligible for LPC designation”**
- **NJHPO and NYSOPRHP continue to evaluate and coordinate on demolition and mitigation of existing bridge**



Historic Resources Proposed Mitigation

■ Proposed Mitigation Measures

- Documentation for the *Historic American Engineering Record*
 - Replacement with a “signature” bridge
 - Development of educational materials about the existing bridge (e.g., booklet, video, displays, exhibit materials, etc.)
- Mitigation details to be finalized during the Memorandum of Agreement (MOA) process with NJHPO & NYSOPRHP



Archaeological Resources Impacts

- No significant prehistoric or historic archaeological resources identified in NJ or NY APEs
- No impact on archaeological resources
- NJHPO concurred that no further archaeological investigation is required
- NYSOPRHP will require additional consultation and archaeological testing along the relocation route of Goethals Road North at a later date if either Northern Alternative is selected as preferred



Biotic Communities: Categories of Impacts Evaluated

- Aquatic Communities
- Vegetative Habitats
- Regulated Wetlands / Open Waters
- Existing Wetland Restoration Sites
- Wildlife
- Threatened & Endangered Species and Critical Habitat



Aquatic Communities: Impact Avoidance Measures

- Use of Best Management Practices (BMPs) during construction/demolition phases
 - Soil Control & Sediment Erosion Plan
 - All in-water work confined within temporary cofferdams
 - Implementation of work windows (***potentially for the southern alternatives***)
 - Use of vibration-powered pile drivers
 - Temporary stormwater basins/settling tanks
- Improved water quality with implementation of a Stormwater Management Plan during operational phase



Aquatic Communities: Unavoidable Impacts

- Minor/short-term/localized impacts during construction/demolition phases
 - Turbidity increases with dredging
 - Shading from temporary barges
 - Temporary & permanent wetland losses with access roads
 - Sedimentation increases during land clearing
 - Noise / vibration during pile driving or blasting
 - Temporary displacement of EFH-managed fish species
- Minor impacts during operational phase
 - Changes in habitat type with rapid re-colonization
 - Reduced tidal flushing within the 3-acre shallow interpier basin (***only for southern alternatives***)



Vegetative Habitats Impacts

Vegetative Habitats (acres ¹)	Southern Alternatives		Northern Alternatives	
	New Alignment	Existing Alignment	New Alignment	Existing Alignment
All Wetland Communities ⁽²⁾	5.51	5.19	5.49	5.46
All Upland Communities ⁽³⁾	2.14	1.31	0.88	0.68
Total Area	7.65	6.50	6.37	6.14

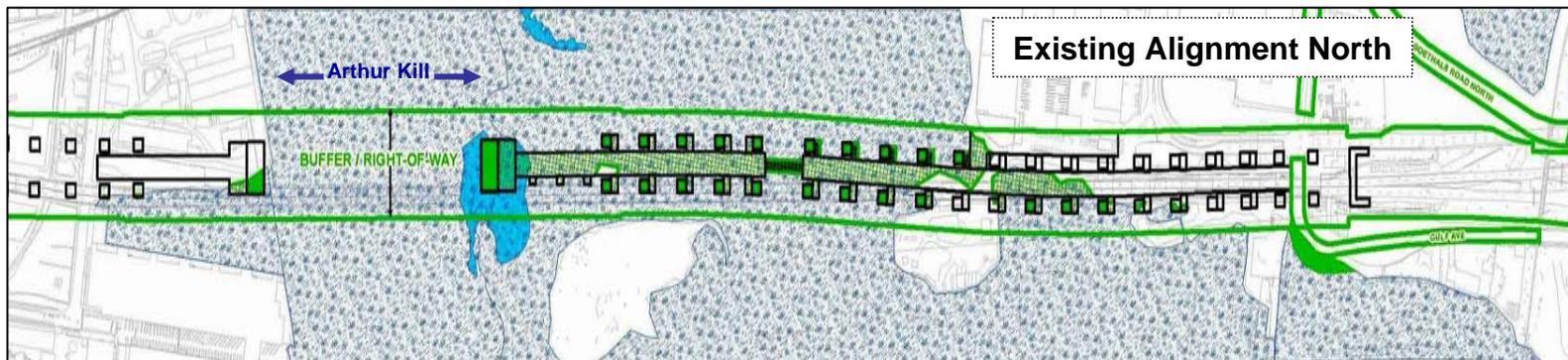
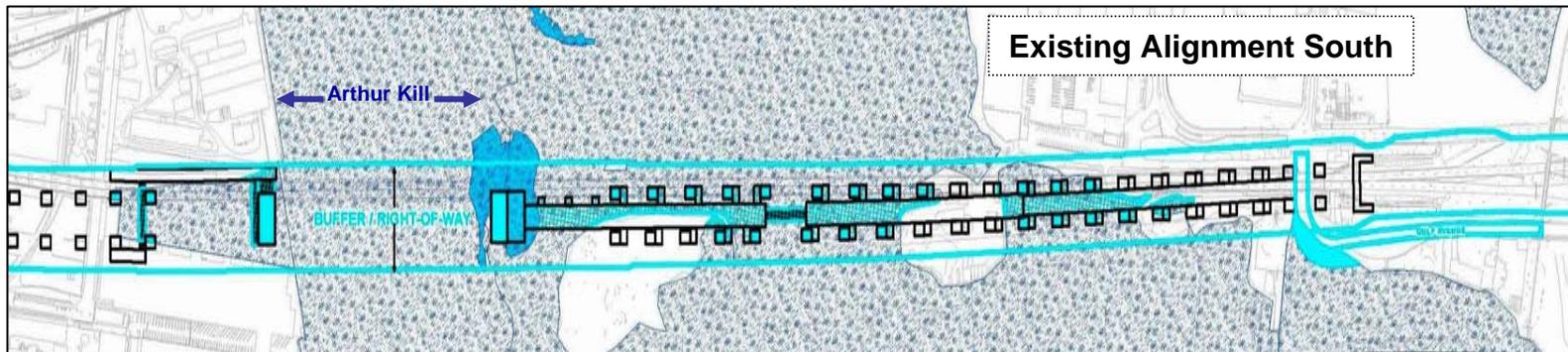
(1) - Only includes acreages of permanent impacts.

(2) - Includes High Salt Marsh, Low Salt Marsh, Mud Flat, Reed Grass/Purple Loosestrife Marsh, Tidal Creek, Tidal R

(3) - Includes Mowed Lawn, Successional Shrubland, Urban Non-Native Forest.



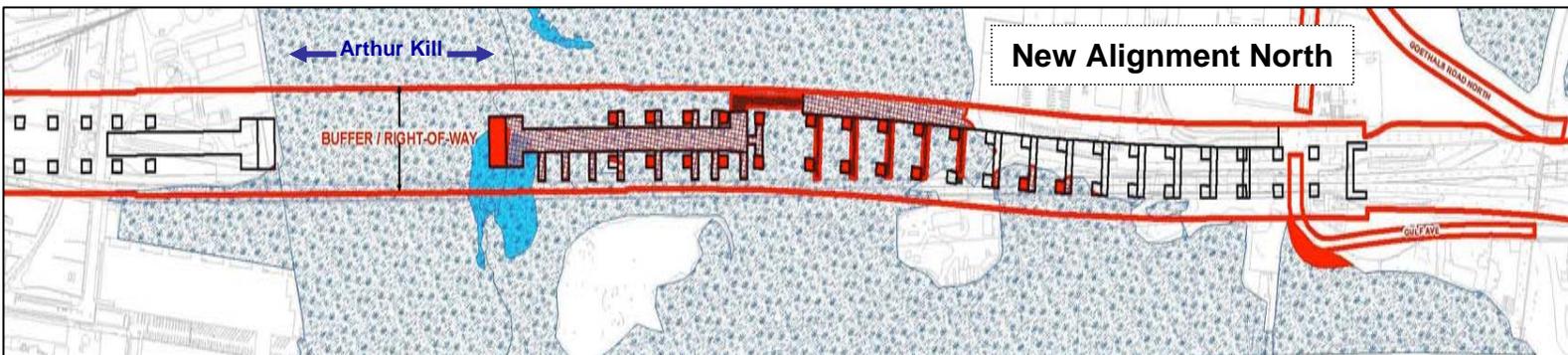
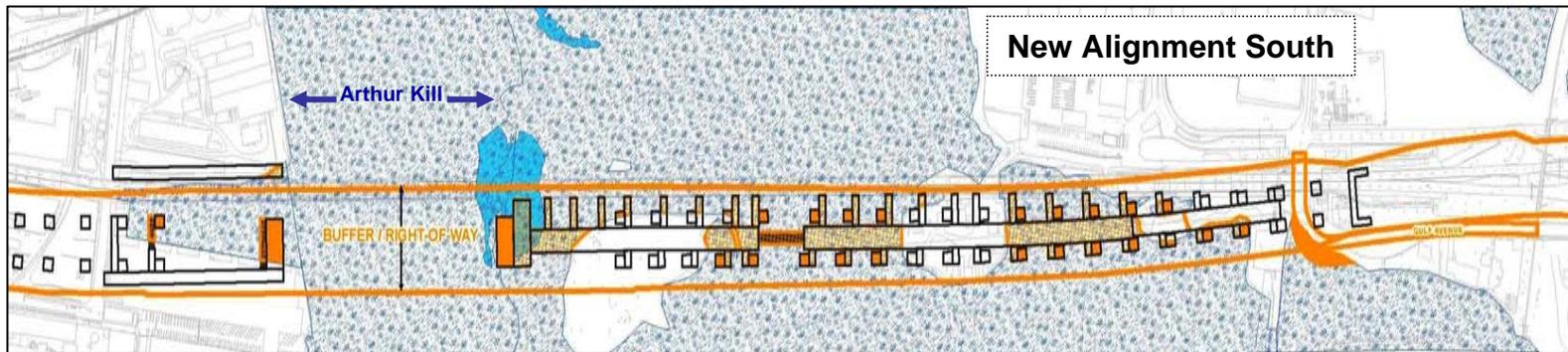
Wetlands & Open Water Impacts: Existing Alignment Alternatives



Legend	
Alignments	
	Buffer / Right - of - Way Existing Alignment North
	Buffer / Right - of - Way Existing Alignment South
Structures	
	Pier/Tower/Construction Road
	Trestled Construction Road
Delineated Wetlands	
	Wetland
	NYCDPR Salt Marsh Restoration Site
Wetland Impacts	
Existing Alignment South	
	Pier/Tower Impacts
	Access Road Impacts
Existing Alignment North	
	Pier/Tower Impacts
	Access Road Impacts



Wetlands & Open Water Impacts: New Alignment Alternatives



Legend	
Alignments	
	Buffer / Right - of - Way New Alignment South
	Buffer / Right - of - Way New Alignment North
Structures	
	Pier/Tower/Construction Road
	Trestled Construction Road
Delineated Wetlands	
	Wetland
	NYCDPR Salt Marsh Restoration Site
Wetland Impacts	
New Alignment South	
	Pier/Tower Impacts
	Access Road Impacts
New Alignment North	
	Pier/Tower Impacts
	Access Road Impacts



Wetlands & Open Water Impacts by Alternatives

Type of Wetland & Open Water Impact (acres)		Southern Alternatives				Northern Alternatives			
		New Alignment		Existing Alignment		New Alignment		Existing Alignment	
		Wetland	Buffer	Wetland	Buffer	Wetland	Buffer	Wetland	Buffer
PERMANENT WETLAND IMPACT (more than 6 months)									
Permanent Fill (piers/towers)	NJ	0.25	0.15	0.31	0.12	0.03	0.14	0.12	0.15
	NY	0.85	0.25	0.87	0.20	0.82	0.14	0.89	0.17
		1.10	0.40	1.18	0.32	0.85	0.28	1.01	0.32
Construction/Maintenance Access Roads	NJ	0.15	--	0.30	--	--	--	0.04	--
	NY	4.04	--	3.50	--	4.43	--	4.20	--
		4.19	--	3.80	--	4.43	--	4.24	--
Realigned Gulf Avenue	NY	0.19	--	0.19	--	0.19	--	0.19	--
Relocated Goethals Road North	NY	0.00	--	--	--	--	0.50	--	0.50
Security Fence	NJ	0.01	--	0.01	--	0.01	--	0.01	--
	NY	0.02	--	0.01	--	0.01	--	0.01	--
		0.03	--	0.02	--	0.02	--	0.02	--
Subtotals	NJ	0.41	0.15	0.62	0.12	0.04	0.14	0.17	0.15
	NY	5.10	0.25	4.57	0.20	5.45	0.64	5.29	0.67
		5.51	0.40	5.19	0.32	5.49	0.78	5.46	0.82
TEMPORARY WETLAND IMPACTS (less than 6 months)									
Construction Cofferdams	NJ	0.07	--	0.07	--	--	--	0.02	--
	NY	0.20	--	0.20	--	0.20	--	0.22	--
Subtotals		0.27	0.00	0.27	0.00	0.20	0.00	0.24	0.00
ALL COMBINED WETLAND IMPACTS									
GRAND TOTAL		5.78	0.40	5.46	0.32	5.69	0.78	5.70	0.82



Preliminary Wetland Mitigation

- Impact minimization and avoidance through modified project design
- Restoration-in-place at existing bridge piers
- Use of existing wetland mitigation bank in New Jersey (Woodbridge)
- Creation and coordination with Interagency Mitigation Group (IMG)
 - Provide in-kind restoration for areas under the temporary fingers of access road
 - Construction of a wetland mitigation area on-site
 - Wetland mitigation off-site



Potential Wetland Mitigation Sites



- Old Place/Goethals Complex
- Upland dredge material area south of the bridge
- R.T. Baker & Sons Site
- USACE / Old Place Creek Wetland Mitigation Site
- Gulfport Marsh (former GATX site)
- Sawmill Creek Site & Park Addition
- Francesco Auto Body Site
- Sarnelli Brothers Site
- NYSDEC / Old Place Creek Wetland Mitigation Site
- Arlington Marsh



Cumulative Impacts: Wetlands

- Study area for assessing cumulative impacts of wetlands includes Old Place Creek tidal system
- Study area coordinated with USEPA and presented to IMG
- Other reasonably foreseeable projects with potential for impact on Old Place Creek tidal wetlands
 - HHMT eastbound ramp
 - As-of-right development on former GATX property



Threatened & Endangered Species Impacts

	Common Name	Species Status			Potential Impacts (all Build Alternatives)
		NY State	NJ State	Federal	
Plant Species	Common persimmon	T	--	--	No direct impact
Fish & Wildlife Species	Peregrine falcon	E	E	--	No direct impact (no nesting activity on GB), but potential minimal impact to foraging habitat
	Pied-billed grebe	T	E & SC	--	No direct or indirect impact (preferred habitat @ Goethals Bridge Pond)
	Northern harrier	T	E & SC	--	No direct impact but potential minimal impact to foraging habitat
	Shortnose sturgeon	E	E	E	Unlikely to occur in Arthur Kill and its tributaries
	Several sea turtle species ⁽¹⁾	T or E	T or E	T or E	Unlikely to occur in Arthur Kill and its tributaries (except few transient individuals)

T = Threatened
E = Endangered
SC = Special Concern

(1) - Includes loggerhead sea turtle, Kemp’s Ridley sea turtle, green sea turtle, and leatherback sea turtle.



Cumulative Impacts: Special Status Species

- IMG suggested that impacts to Harbor Herons Bird Conservation Area and Rookery Complex in northwestern Staten Island be addressed for cumulative impacts
- Other reasonably foreseeable projects with potential for impact on either of these areas include
 - HHMT Parcel C development
 - HHMT eastbound ramp
 - As-of-right development on former GATX property
- No herons have been found to be nesting in these areas since 2004 due to decline in nesting habitat
- **No direct or cumulative impact to Harbor Herons nesting habitat**



Navigation Impacts During Construction

- Only short-duration channel closures
- Potential 8-hour channel closure during existing bridge span removal
- All channel closures to be coordinated with and approved by USCG
- Construction barges to be located outside of channel at locations coordinated with USCG
- Construction barges south of bridge to be located as far east from navigation channel as possible so as not to interfere with turning vessels



Navigation Impacts After Project Completion

- Horizontal clearances to improve due to removal of existing protective dolphins and piers away from channel
- Vertical clearances to at least remain the same as present (≥ 135 ft)



Airspace Impacts

■ Impacts during construction

- Potential construction-period impact to airspace, including cranes, derricks, drilling rigs, etc.
- Advance notification of potential construction-related airspace obstructions will be provided to FAA

■ Impacts after project completion

- Top elevation of the new Goethals Bridge towers (272 feet above MSL) will not cause any impacts to airplanes departing from Newark International Airport



Potential Contaminated Properties Impacted

(New Jersey – Elizabeth)

Facility	Southern Alternatives		Northern Alternatives	
	New Alignment	Existing Alignment	New Alignment	Existing Alignment
Former Byron Heffernan & Co. / National Solvent	X	X	X	X
Bayway Metals			X	X
Waste Management Co.	X	X	X	X
Former Borne Chemical Co.*	X	X	X	X
Phelps Dodge Wire & Cable	X	X	X	X
Interpier Basin / Boat Slip Area	X	X		
Bayway Industrial Center	X	X		
Former Olympia Trails Bus Co.			X	X

* Listed on NJDEP's Known Contaminated Sites List (KCSL). Formerly listed on USEPA's Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) List.



Potential Contaminated Properties Impacted

(New York – Staten Island)

Facility	Southern Alternatives		Northern Alternatives	
	New Alignment	Existing Alignment	New Alignment	Existing Alignment
Shoreline Area (dredge spoil under GB)	X	X	X	X
R.T. Baker & Son*	X	X	X	X
Former GATX Property	X	X	X	X
Coca-Cola Distributor			X	X
Heavy Equipment Rentals	X	X		
Frank Liquori Plumbing	X	X		
Goethals Bridge Administration / Maintenance Facility	X	X	X	X
Saperstein Properties	X	X		

* Listed on NYSDEC's Inactive Hazardous Waste Site (IHWS) Database. Formerly listed on USEPA's Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) List.



Current Status of Known Contaminated Sites

■ Former Borne Chemical Site (NJ)

- Being developed as a Brownfields Development Area
- Soil & groundwater investigations have been completed
- Remedial Action Workplan (RAW) for soil awaiting approval by NJDEP
- RAW for groundwater to be submitted later
- Contaminated “Hot Spot” areas to be excavated and disposed off-site or covered by impermeable cap
- Soil remediation/capping may be completed prior to GBR construction

■ R.T. Baker & Son Property (NY)

- Additional investigation and remediation activities to be conducted by NYSDEC (currently unscheduled)
- No remediation likely to be completed prior to GBR construction



Future GBR Contamination Investigations & Activities

- **Following activities to occur after final alternative identification**
 - Prepare investigation work plan in accordance with NJDEP and NYSDEC protocols
 - Conduct sampling/testing & reporting
 - Prepare a remedial action workplan (RAW)
 - Incorporate pertinent elements of approved RAW into contractor bid specifications & plans
 - Contractor to develop/implement a contaminated materials plan, conduct actual remediation, and prepare remedial action report (RAR), as necessary.



Traffic Impacts and Mitigation

- Goethals Transportation Model
- Future No-Build Conditions
- Impact Criteria
- Project-related Impacts
- Mitigation Measures
- Mitigation Results
- Cumulative Traffic Analysis



Recap of Goethals Transportation Model (GTM)

- GTM created from Best Practice Model, specifically for study of Goethals Bridge Corridor
- More detailed roadway & transit networks
- Uses latest population & employment forecasts
- Includes programmed & committed projects in future No-Build network



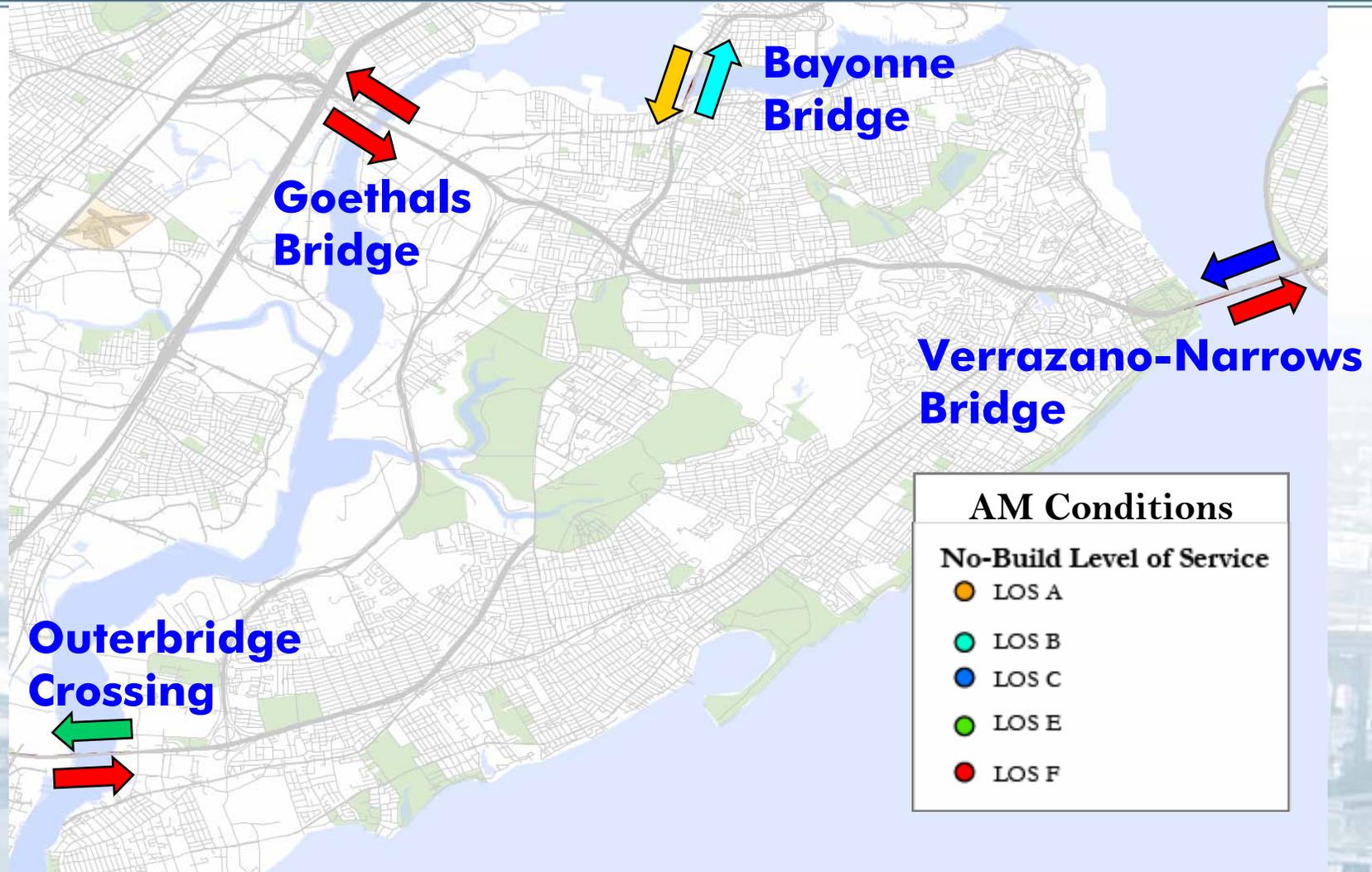


Assumptions for Future No-Build Forecast

- **Improvements assumed in place:**
 - Staten Island Expressway (SIE) median bus lane, Verrazano-Narrows Bridge (VNB) to Slosson Avenue;
 - NJ Turnpike Exit 12 reconstruction;
 - West Shore Expressway Service Road improvements;
 - Staten Island Railroad reactivation to/from Howland Hook Marine Terminal (HHMT);
 - Various ferry services (Elizabeth, Bayonne, South Amboy) to Lower Manhattan;
 - HHMT build-out (Parcel C);
 - As-of-right development on former GATX property.

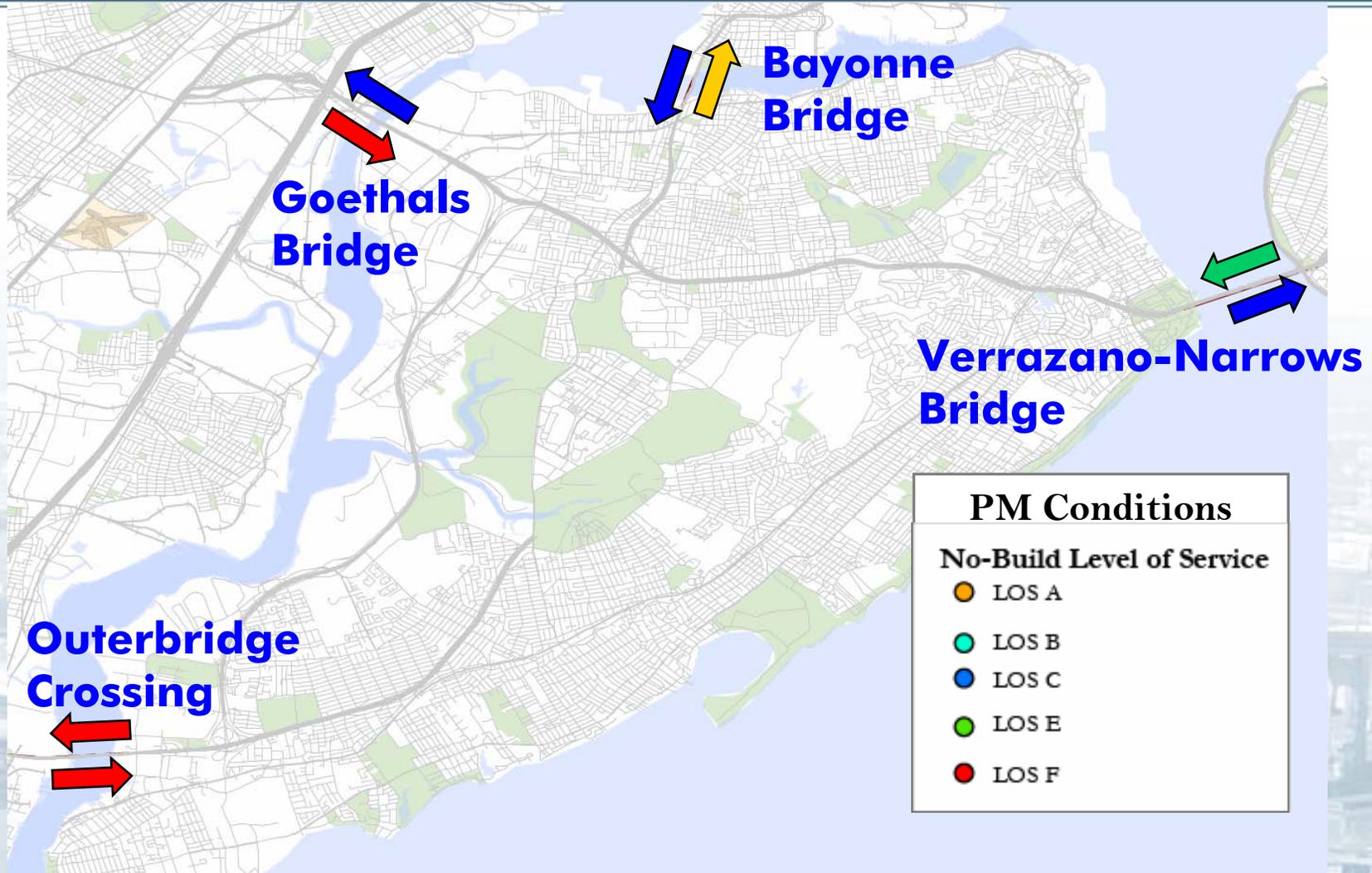


2034 AM No-Build Conditions: Key Crossings





2034 PM No-Build Conditions: Key Crossings





Traffic Volumes at Key Crossings: Existing (2004), No-Build & Build (2034)

Crossing	Dir.	Existing		No-Build		Build	
		AM	PM	AM	PM	AM	PM
Goethals Bridge	EB	1820	3055	2915	3630	4030	4670
	WB	2885	2085	3540	3045	4635	4320
Outerbridge Crossing	EB	2665	3095	3910	3895	3795	3575
	WB	2520	2405	3340	3470	3015	3210
Bayonne Bridge	SB	520	1375	820	1885	770	1965
	NB	1020	405	1335	635	1415	625
Verrazano-Narrows Bridge	EB	9510	5415	11,960	6420	12,220	6440
	WB	4730	7995	5580	10,320	5770	10,490

Acceptable traffic flow

Congested traffic flow



Criteria Used to Determine Traffic Impacts

No-Build LOS	Build LOS
LOS "A," "B," or "C"	Deterioration to mid-LOS "D" or worse
Mid-LOS "D" or worse	Deterioration by 1 or more LOS
LOS "F"	LOS "F" with perceptible additional delay

LOS – Level of Service



Traffic Analysis Areas





LOS Impacts with 6-Lane GBR Compared to No-Build Conditions

Locations	# of Impact Locations	
	AM Peak Hour	PM Peak Hour
NEW YORK		
SIE Mainline	4	8
SIE Ramps	2	1
SIE Weaves	3	2
NEW JERSEY		
I-278 Mainline	1	1
I-278 Ramps	3	3
Rte 1/Bayway Circle Intersections	3	2
Local Roadway Intersections	0	2

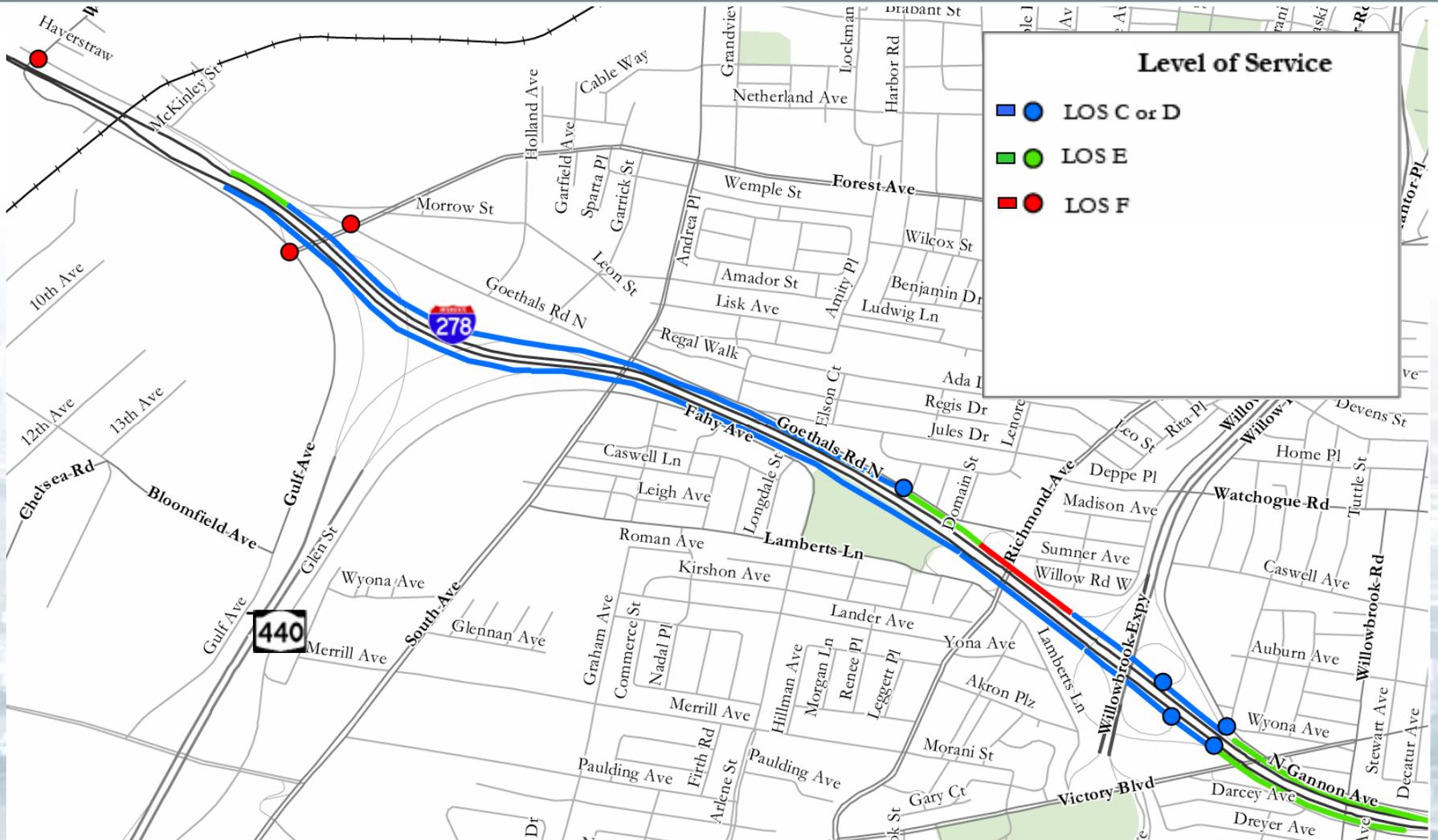


LOS "F" Deterioration with 6-Lane GBR Compared to No-Build Conditions

Locations	# of Impact	
	AM Peak Hour	PM Peak Hour
NEW YORK		
Intersections in HHMT Area	2	1
Intersections in VNB Area	3	5
SIE Mainline	3	6
SIE Ramps	0	0
SIE Weaves	0	1
NEW JERSEY		
Rte 1/Bayway Circle	0	0
Local Roads	8	7

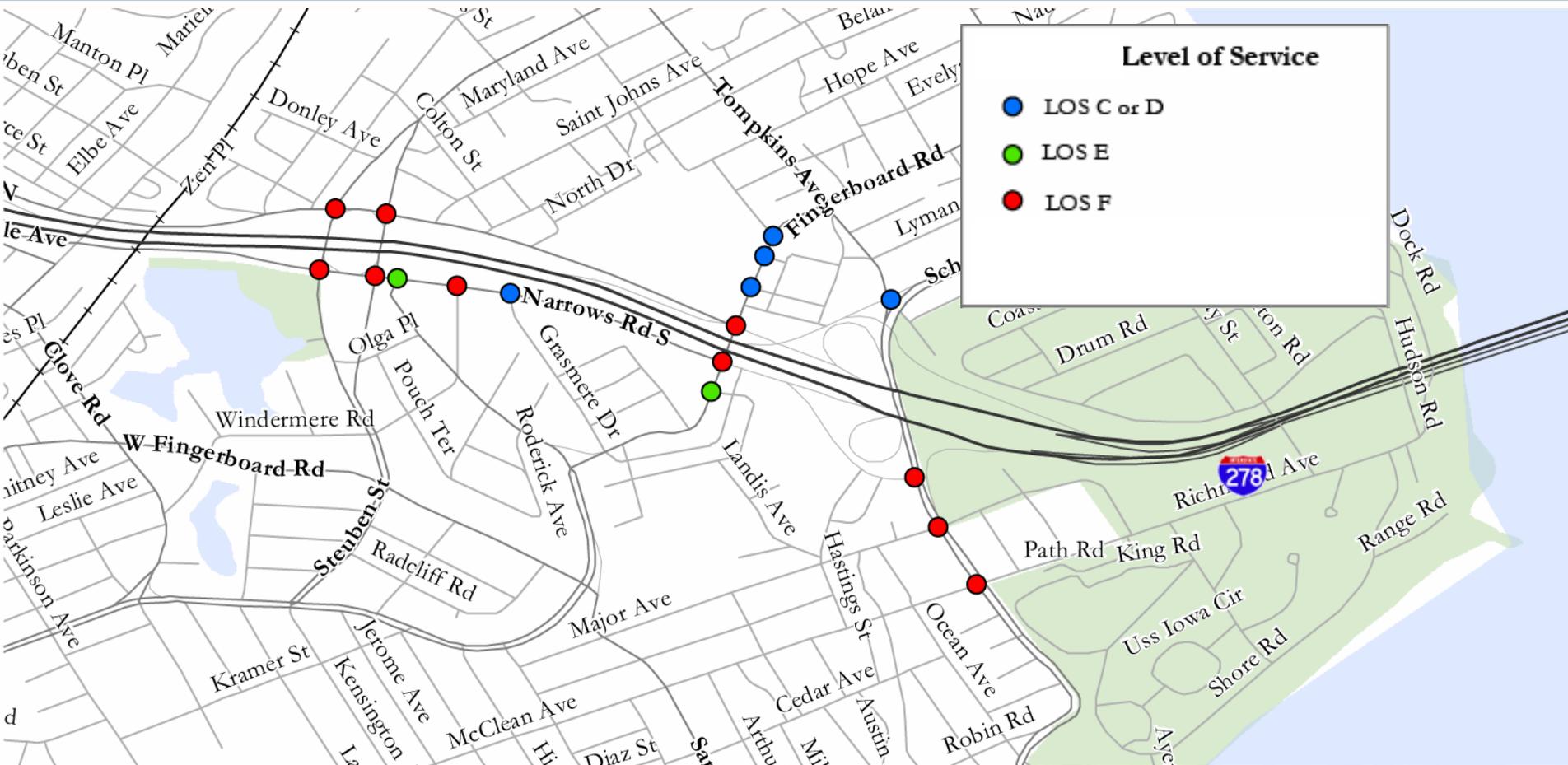


2034 No-Build Conditions New York: SIE near Goethals Bridge & HHMT Area



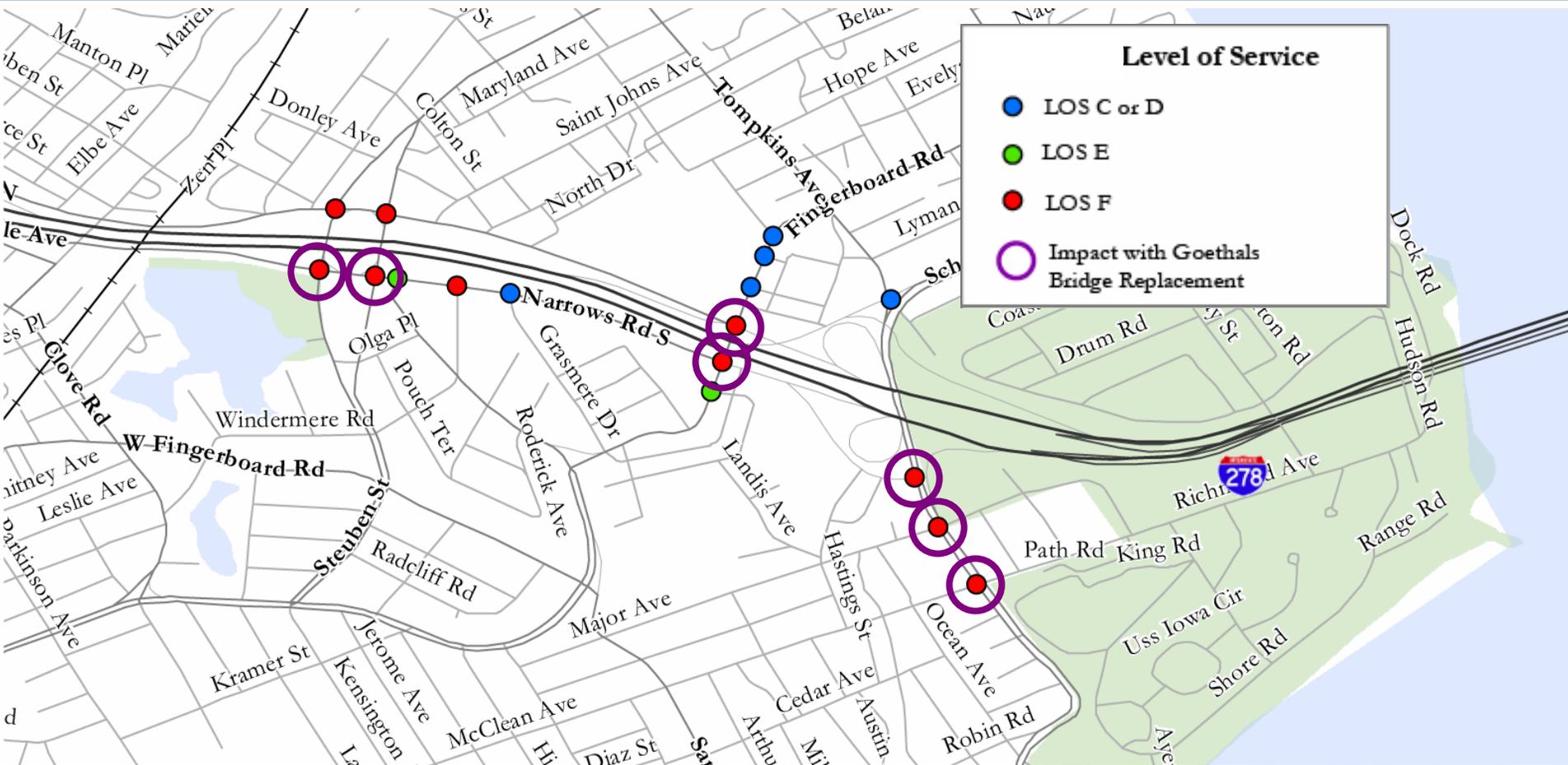


2034 No-Build Conditions NY: Locations Near Verrazano-Narrows Bridge





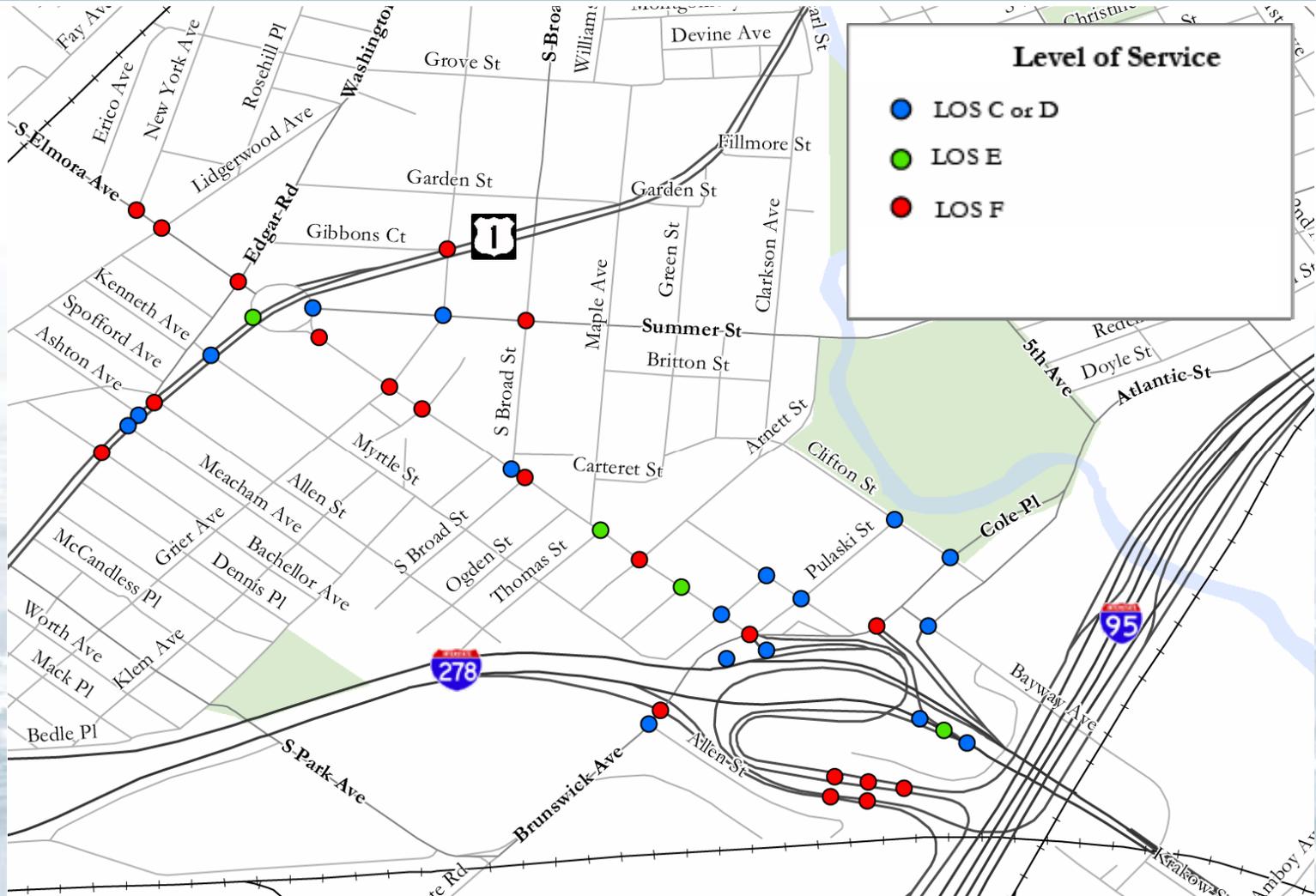
2034 No-Build & Build Conditions NY: Locations Near Verrazano-Narrows Bridge





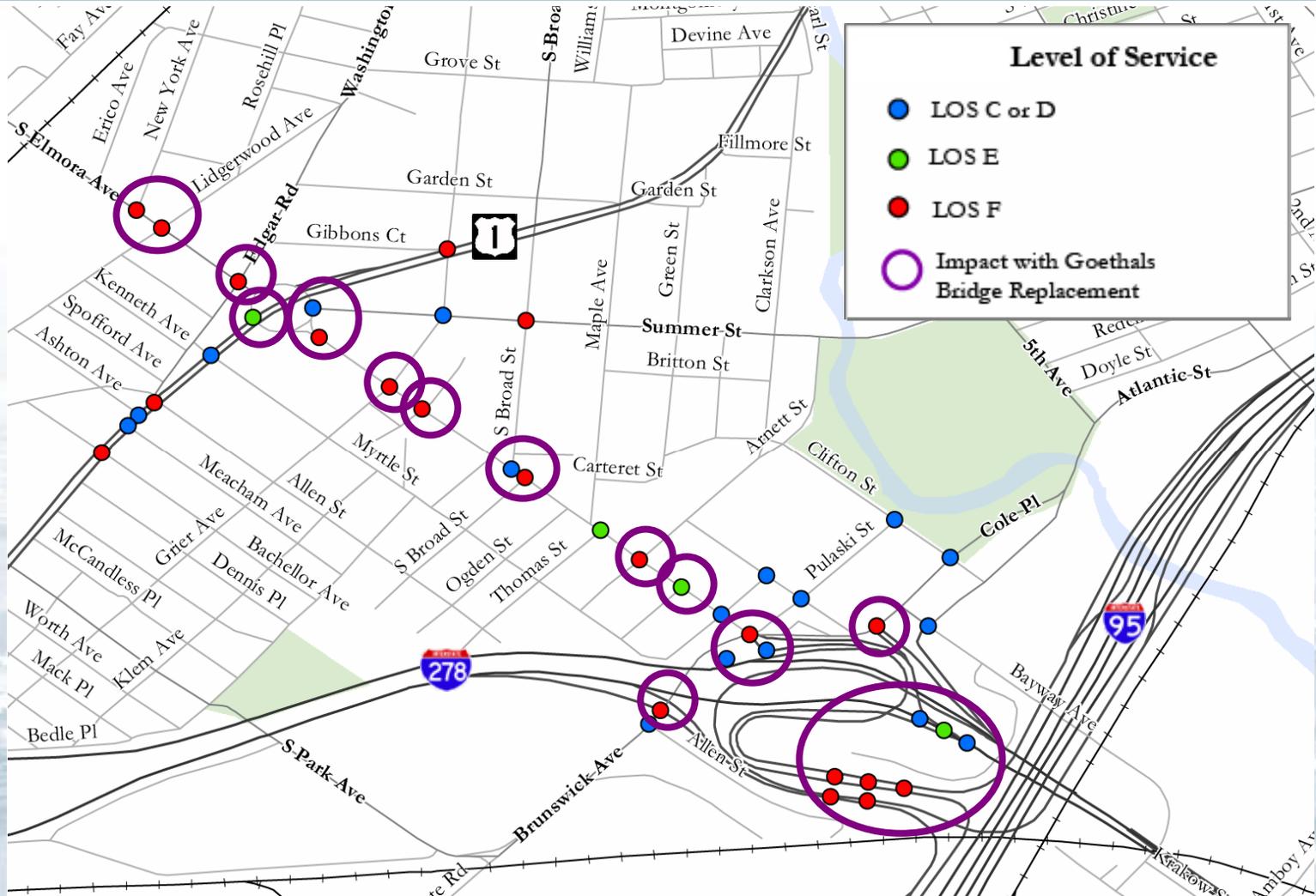
2034 No-Build Conditions

NJ: I-278/NJ Tpke Int. 13 & Rte 1/Bayway Corridor





2034 No-Build & Build Conditions NJ: I-278/NJ Tpke Int. 13 & Rte 1/Bayway Corridor





Proposed Traffic Mitigation to Return to 2034 No-Build Conditions

Mitigation Measure	Locations
<p>Managed Use Lane*:</p> <p>During peak commuting hours; buses and HOVs, both east- & westbound directions</p>	<p style="text-align: center;">On 6-lane GBR</p> <ul style="list-style-type: none"> ➤ 2 general-purpose lanes & 1 managed-use lane in each direction
<p>Transportation System Management (TSM):</p> <ul style="list-style-type: none"> ➤ Signal timing changes ➤ Signalization of intersections ➤ Re-striping ➤ Removal of on-street parking 	<p style="text-align: center;">New York</p> <ul style="list-style-type: none"> ➤ Service/local roads near VNB ➤ Service/local roads near GBR & HHMT <hr/> <p style="text-align: center;">New Jersey</p> <ul style="list-style-type: none"> ➤ Bayway Circle/Ave. Corridor

*Assumes SIE MUL extended west to Richmond Avenue



Effectiveness of Mitigation: GBR-related LOS Impacts

Locations	# of Impact Locations					
	Build		TSM		MUL	
	A	PM	AM	PM	AM	P
NEW YORK						
SIE Mainline	4	8	N/A	N/	2	3
SIE Ramps	2	1	N/A	N/	0	1
SIE Weaves	3	2	N/A	N/	1	0
NEW JERSEY				A		
I-278 Mainline	1	1	N/A	N/	1	0
I-278 Ramps	3	3	N/A	N/	1	1
Rte 1/Bayway Circle	3	2	0	0	0	0
Intersections Local Roads	0	2	0	0	0	0

All locations fully mitigated

Impact not mitigated



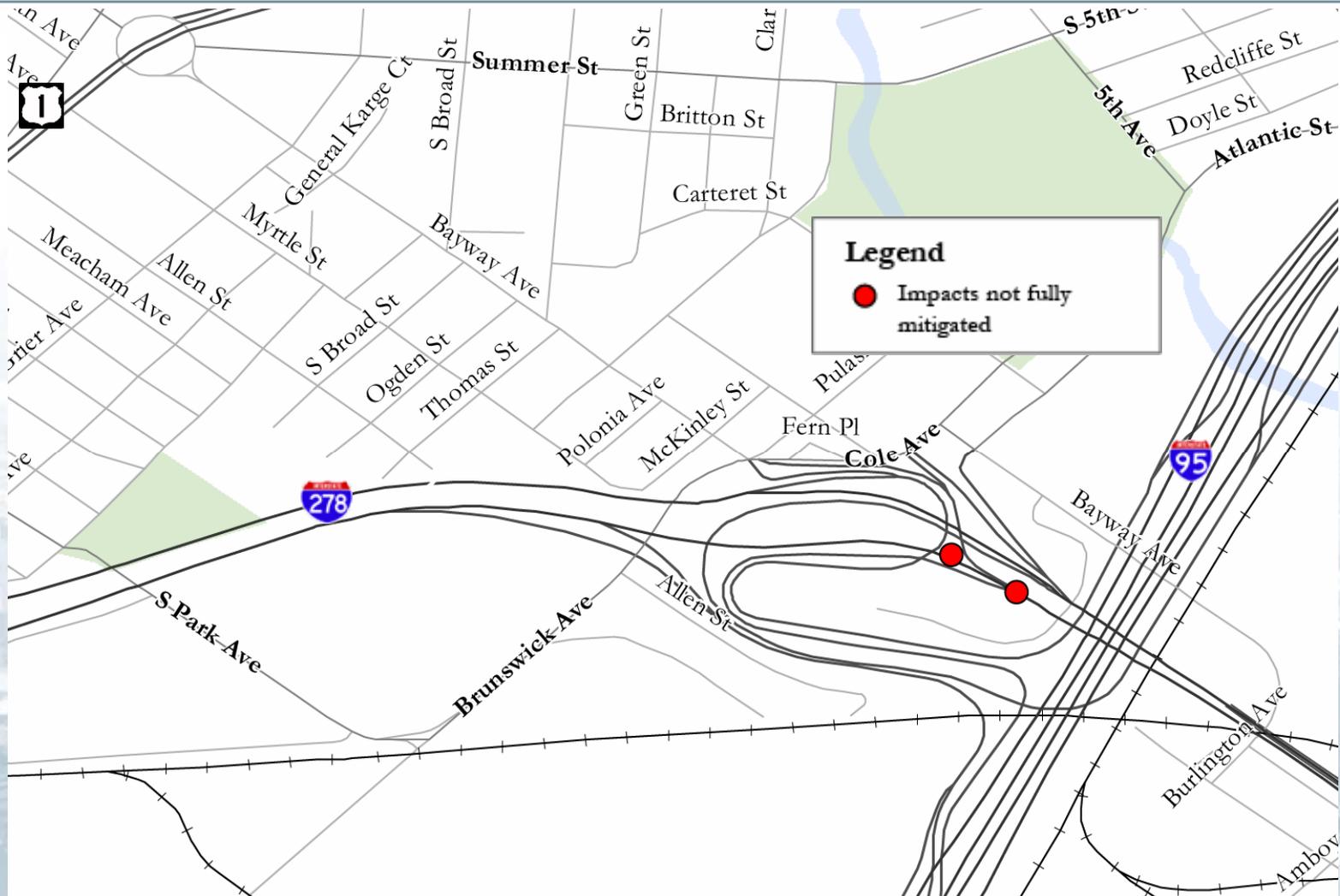
Effectiveness of Mitigation: GBR-related LOS "F" Deterioration

Locations	# of Impact Locations					
	Build		TSM		MUL	
NEW YORK	AM	PM	AM	PM	AM	PM
Intersections in HHMT Area	2	1	0	0	N/	N/
Intersections in VNB Area	3	5	0	0	N/	N/
SIE Mainline	3	6	N/	N/	0	0
SIE Ramps	0	0	N/	N/	N/	N/
SIE Weaves	0	1	N/	N/	N/	0
NEW JERSEY			A	A	A	
Local Roads in Bayway Corridor	8	7	0	0	0	0

All locations fully mitigated



Impacts Remaining with Mitigation: New Jersey





Inter-Agency Consultation/Coordination

- NJ Dep't of Transportation: *TSM mitigation*
- NYC Dep't of Transportation: *TSM mitigation*
- NJ Turnpike Authority: *Ongoing coordination*
- NYS Dep't of Transportation: *Ongoing coordination*
- NJDOT, Union County, cities of Elizabeth & Linden: *I-278 & U.S. Route 1&9 Interchange Improvements (Missing Link)*



Cumulative Analysis: Traffic

Cumulative impacts defined as:

“...the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions...”*

***Council on Environmental Quality (40 CFR 1508.7)**



Cumulative Analysis: Actions Considered for 2034 Traffic Condition

Proposed Action	<ul style="list-style-type: none"> ➤ Proposed GBR + Mitigation
Past & Present Actions	<ul style="list-style-type: none"> ➤ Existing transportation networks & development projects included in GTM ➤ Programmed/committed projects added to GTM
Reasonably Foreseeable Future Actions	<ul style="list-style-type: none"> ➤ Eastbound HHMT Access Improvement ➤ I-278 & US Rte. 1&9 Interchange Improvements (Missing Link) ➤ SIE Mainline/Interchange Improvements - Goethals Bridge to Richmond Avenue



Cumulative Effects on 2034 Traffic Conditions in Peak Periods of Travel

KEY CROSSINGS	Without GBR	With GBR
<ul style="list-style-type: none"> ➤ GBR MUL (1 ea. dir.) ➤ GBR General-Use Lanes (2 ea. dir.) 	Existing GBR heavily congested	<ul style="list-style-type: none"> ➤ Free-flowing ➤ Moderately congested
Outerbridge Crossing	Heavily congested	Heavily congested
Bayonne Bridge	Lightly congested	Lightly congested
Verrazano-Narrows Bridge	Heavily congested	Heavily congested



Cumulative Effects on 2034 Traffic Conditions in Peak Periods of Travel

Other Key Locations: NEW YORK	Without GBR	With GBR
<ul style="list-style-type: none"> ➤ SIE General-Use Lanes 	<ul style="list-style-type: none"> ➤ Moderately to heavily congested ➤ Free-flowing 	<ul style="list-style-type: none"> ➤ Moderately to heavily congested ➤ Free-flowing
<ul style="list-style-type: none"> ➤ SIE Bus/Managed Lane Verrazano-Narrows Bridge Area 	<p>Moderately to heavily congested</p>	<p>Lightly congested, except on SIE Mainline</p>
<p>GBR & HHMT Area</p>	<p>Moderately to heavily congested</p>	<p>Uncongested</p>



Cumulative Effects on 2034 Traffic Conditions in Peak Periods of Travel

Other Key Locations: NEW JERSEY	Without GBR	With GBR
Bayway Corridor	Moderately to heavily congested	Uncongested
Route 1 Corridor	Moderately to heavily congested	Moderately to heavily congested
NJ Turnpike Interchange 13	Heavily congested	Heavily congested



Air Quality Analyses Conducted

Project Phase	Analysis	Pollutants Analyzed
Operations	Local (microscale) mobile-source emissions	Carbon Monoxide (CO), PM _{2.5}
	Regional (mesoscale) mobile-source emissions	CO, Ozone Precursors (NO _x , VOC), PM _{2.5}
	Mobile Source Air Toxics (MSATs)	6 EPA priority MSATs (benzene, formaldehyde, diesel particulate matter/ diesel exhaust organic gases, acetaldehyde, acrolein, and 1,3-butadiene)
	Greenhouse Gas (GHG) emissions	Carbon Dioxide (CO ₂)
	EPA Conformity Rule	CO, NO _x , VOC, PM _{2.5}
Construction	Local mobile-source & construction equipment	CO, NO _x , PM _{2.5} , PM ₁₀



Local Air Quality Analysis Sites





Air Quality Analysis Results

Pollutant	Analysis Result	Conclusion
Local mobile-source emissions (CO, PM _{2.5})	No exceedance of 8-hr. CO standard or NYCDEP PM _{2.5} Significant Threshold Values	No impact
Regional mobile-source emissions (CO, NO _x , VOCs, PM _{2.5})	Regional emissions would decrease (ranging from -0.6% to -1.3%)	No impact
GHG emissions (CO ₂)	Decrease (-4.6%) with GBR; Potential construction increase	No impact anticipated*
MSAT emissions	Overall decrease	No impact
Local mobile-source & construction equipment emissions (PM _{2.5} , PM ₁₀)	Emission levels would be reduced via construction retrofit technologies	No impact anticipated*

*Quantitative construction-phase analysis of preferred alternative in FEIS



Cumulative Effects on 2034 Air Quality Conditions

Pollutant	Anticipated Effect
Local mobile-source emissions (CO, PM _{2.5})	<ul style="list-style-type: none">▪ Lower CO levels, based on decrease in CO emissions due to higher operating speeds▪ No exceedance of 8-hr. CO standard or NYCDEP PM_{2.5} Significant Threshold Values
Regional mobile-source emissions (CO, NO _x , VOCs, PM _{2.5})	Regional emissions would decrease, based on lower levels of congestion and more direct travel routes, resulting in lower vehicle miles traveled (VMT) & vehicle hours traveled (VHT)
GHG emissions (CO ₂)	Decrease in operational emissions with GBR
MSAT emissions	Overall decrease



Noise Impact Definition

- FHWA 23 CFR Part 772 defines that a project has noise impacts on land uses such as residences and schools when either:
 - Sound levels approach or exceed the noise abatement criterion of 67 dBA, where the approach level occurs at one (1) dBA less than the criterion level (i.e., 66 dBA)
 - There is a “substantial” increase in sound levels over existing conditions (defined as 6 dBA by NYSDOT and 10 dBA by NJDOT)



Noise-Sensitive Receptor Locations



NEW JERSEY



NEW YORK



Projected 2034 No-Build & Build Noise Levels

Receptor Location	Monitored Existing Noise Levels (*)	No-Build Noise Levels (*)	Maximum Build Noise Level (*)				Comments
			New Alignment South	New Alignment North	Existing Alignment South	Existing Alignment North	
Krakow St. / Bay Way Neighborhood, Elizabeth	68	65 - 68	N.A.	62 -67	N.A.	62 -67 (N.A.)	All residences to be acquired with either Southern Alternative. Decrease of 0 – 4 dBA with either Northern Alternative due to shift. Some residences to be acquired with Existing Alignment North.
Homes Along Brunswick Avenue, Elizabeth	N.A.	69 - 70	69 -70	69 -70	69 -70	69 -70	Located beyond limits of GBR improvement. Noise primarily due to traffic on Brunswick Avenue.
Homes North of I-278 & West of Brunswick Avenue, Elizabeth	65	63 - 69	63 -70	63 - 70	63 -70	63 -70	Located beyond limits of GBR improvement. Noise primarily due to traffic on I-278 WB on-ramp.
P.S. 22 (William Halloran School), Elizabeth	66	65	66	66	66	66	Noise primarily due to traffic on Brunswick Avenue & ramps.
Goethals Garden Homes, SI	69	68 - 73	69 -75	69 -75	69 - 75	69 - 75	Located beyond limits of GBR improvement. Noise primarily due to traffic on Goethals Road North.

* dBA in AM period.



Noise Study Conclusions

- Most noise-sensitive locations are beyond limits of GBR project and are primarily affected by other noise sources
- Noise level increases would not be perceptible regardless of Build alignment (0 - 2 dBA increase over No-Build)
- No noise level impacts at Krakow Street / Bay Way neighborhood with either Southern Alternative due to acquisitions
- Most noise levels at Krakow Street / Bay Way neighborhood will decrease below noise impact threshold with either Northern Alternative



New York City Environmental Quality Review (CEQR)

- **Purpose** - Review NEPA EIS for sufficiency for CEQR & Uniform Land Use Review Process (ULURP)
- **Process** - Consultation with
 - Mayor's Office of Environmental Coordination
 - Departments of City Planning, Environmental Protection, Transportation
 - New York City Landmarks Preservation Commission
- **Status** - In Progress



Schedule

- TAC and ETF Meetings – October 14
- Stakeholder Committee Meeting – October 15
- Public Open Houses
 - October 21: Elizabeth Public Library, NJ
 - October 23: Staten Island Hotel, NY
- NOA / Draft EIS / Public Hearings – early 2009
 - Project Newsletter
 - Website update & posting of DEIS



www.goethalseis.com

Thank you.





Questions and Answers

