Cleveland Harbor – Interstate 90 Maritime and Freight Fortification

Submitted by:	**Port of Cleveland**
	(Cleveland-Cuyahoga County Port Authority)
Urban/Rural:	Urban
Location:	City of Cleveland
Project Type:	Capital
Total Project Cost:	$17,122,000
BUILD Request:	**$13,022,000**
Date:	February 24, 2026

I. Contents

Project Description

Project Summary

The Cleveland-Cuyahoga County Port Authority ("Port") requests $13,022,000 from the U.S. Department of Transportation's BUILD program to construct the **Cleveland Harbor – Interstate 90 Maritime and Freight Fortification (CH-I90) project.** CH-I90 will protect existing infrastructure along the Lake Erie shoreline in the city of Cleveland and will address critical harbor needs to ensure the uninterrupted operation of transportation facilities vital to Northeast Ohio's economy, including the Cuyahoga River shipping channel, Cleveland Harbor, and Interstate 90 ("I-90"). I-90 carries 127,603 vehicles through Cleveland daily on this segment of interstate. The Port of Cleveland moves 13 million tons of cargo annually, generating $7 billion in economic value, including the transport of raw materials to Cleveland-Cliffs Cleveland Works steelmaking facility. These operations are essential to Northeast Ohio's economy and the larger American steel industry, with its products transported by ship, rail, and truck to markets across the U.S. and abroad.

Scope of Work

Project funding to date has enabled initial agency coordination and 90% construction documents. Upon notice of award of the CH-I90 2026 BUILD Construction Grant (anticipated by July 2026), the Port will fund the preparation of an Environmental Assessment to document potential environmental impacts of CH-I90 and submit it to the lead federal agency. Upon entering into a grant agreement for the BUILD funds, full coordination and regulatory process will be initiated, as further detailed in Section IV, Project Readiness, per the milestone schedule.

The scope of work for CH-I90 incorporates and strengthens remnants of a century-old, submerged stone structure, adding new stone to protect I-90 from wave action. The enhanced breakwater also serves as a confined disposal facility for dredged material from Cleveland Harbor, addressing the region's imminent capacity shortage while supporting the Port's $7-billion economic engine. **The project advances Maritime Dominance and national priorities in shipbuilding, steel production, and manufacturing by maintaining unimpeded access through Cleveland Harbor.**

> *"The Cleveland-Cliffs Cleveland Works integrated steel mill is strategically located on the Cuyahoga River, part of the Cleveland Harbor Federal Navigation Channel. Cleveland Works, which employs more than 2,000 workers, is recognized as one of the most productive integrated steelmaking facilities in the world."*
>
> *Patrick M. Bloom*
> *Executive Vice President*
> *Cleveland-Cliffs*

After BUILD is complete, this innovative beneficial use of dredge material will be transformed into a public park and vital Lake Erie shoreline habitat. Long-term agreements ensure ongoing management, maintenance, and programming of this new asset. CH-I90 becomes the foundation for the broader CHEERS vision—a 40-year transformational investment that reshapes Cleveland's shoreline, strengthens economic vitality, and fosters the resurgence of urban neighborhoods.

Current Design Level

The project has 90% shovel-ready construction drawings completed by a consultant team lead by Arup, an international engineering firm known for creativity and collaboration. The project team also includes KS Associates, Inc., the Davey Resource Group, and WRT. Design documents were funded through grant awards and local match totaling over $6 million from the National Fish and Wildlife's National Coastal Resilience Fund, partner contributions, and an award to the Port of Cleveland by the State of Ohio's Maritime Assistance Program to complete final design and secure project permits.

Figure 1 CH-I90 Project Location

Project Location

CH-I90 is located in the city of Cleveland, Ohio within the 2020 Census designated Cleveland Urbanized Area (17668) within Cuyahoga County census tract 1112.02.[1] The project directly serves and benefits a census tract classified as an Area of Persistent Poverty and Historically Disadvantaged Community. The project area is located in the Captain of the Port Buffalo/Cleveland Zone; U.S. Congressional District OH-11; Cuyahoga River Area of Concern; Latitude/Longitude near project area center: 41.536813, -81. 643112.

Figure 2 CH-I90 Project Area Map; note location of federal shipping channel and Cleveland Harbor

[1] "Areas of Persistent Poverty & Historically Disadvantaged Communities," USDOT ArcGIS web application, accessed February 2, 2026, https://experience.arcgis.com/experience/09642b69d90f4377856a6aef3e0bd2e

Transportation Challenges Addressed

CH-I90 addresses transportation challenges along a 1000-foot stretch of I-90 directly adjacent to Lake Erie by reducing the effects of wave action on the interstate such as wave overspray and ice. This segment of I-90 is one of the most heavily traveled routes in Northeast Ohio, with an Average Annual Daily Traffic count (AADT) of 127,603 vehicles per day. CH-I90 also protects US Bike Route 30 (USBR30), existing non-motorized infrastructure adjacent to I-90. Since 32.6% of residents in the census tract surrounding CH-I90 do not have access to a vehicle[2], this active transportation network is critical to allow residents to commute to work and school and access amenities like public parks.

Project History

CH-I90 and the Cleveland Harbor Eastern Embayment Resilience Strategy (CHEERS)

In 2019, a partnership with two state agencies (Ohio Department of Transportation, Ohio Department of Natural Resources), two regional public agencies (the Port and Cleveland Metroparks) and the City of Cleveland, with the support of Cleveland City Council, was formed to pursue solutions to multiple issues along Cleveland's East Side lakefront. A statewide non-profit organization, Black Environmental Leaders Association, joined the partners the following year. Together, the partners began to plan and design CHEERS, along with extensive community and stakeholder involvement. CH-I90 will form the initial phase of construction for CHEERS.

The project area was identified due to problems created by the existing hardened shoreline (*Figure 3 below*), including threats to the adjacent I-90 caused by frequent storm surges, the absence of habitat for fish or wildlife, and the inability of people to touch Lake Erie. The shoreline within the CH-I90 project area is hardened with boulder walls and does not contain adequate areas for wave dissipation, means to break energy associated with storms, or areas to adjust to lake level fluctuations, and lacks natural means of shoreline protection.

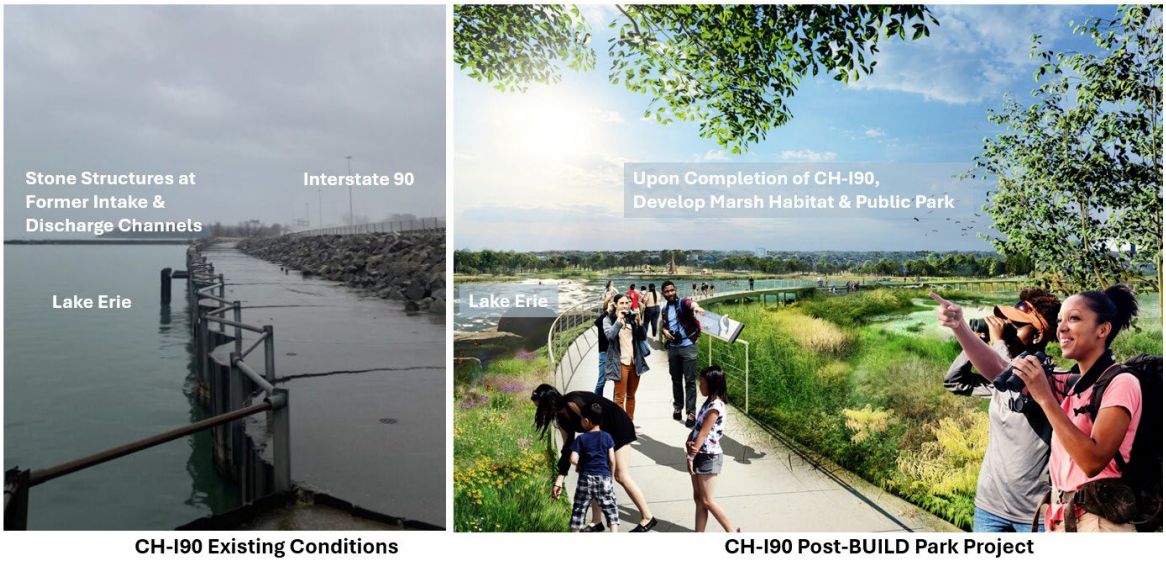
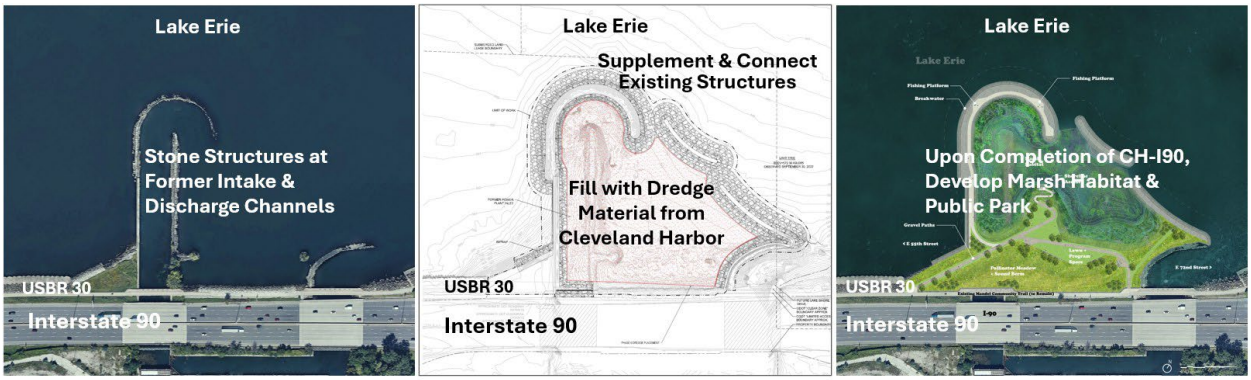


Figure 3 Existing conditions in the project area; note hardened shoreline (left). Schematic of final product after construction of both BUILD and future park and habitat construction (right).

[2] U.S. Census Bureau, "Selected Housing Characteristics," *American Community Survey, ACS 5-Year Estimates Data Profiles, Table DP04*, accessed on February 23, 2026, US Census Link.

The adjacent I-90 is frequently negatively impacted by high winds, waves, and storm events. During 2012's Superstorm Sandy, 67 mph winds and 20' waves on Lake Erie were documented, resulting in closure of all 8 lanes of traffic and structural damage along the shore. CH-I90 and the overall CHEERS project is an opportunity to rebuild the shoreline along this stretch of interstate (*Figure 3 above*) to combat the effects of weather conditions and ensure safe and reliable transportation along I-90, one of the nation's busiest Interstate Highways and the nation's longest highway, stretching between Seattle and Boston.

To date, $6 million has been invested in the design of CH-I90 and the overall CHEERS vision. Community outreach and engagement have formed the backbone of the project and have been integral throughout the planning process. Currently, 90% design documents for CH-I90 are complete. *Figure 4* below depicts the proposed scope of work for this project and grant request.



CH-I90 Existing Conditions **CH-I90 Proposed BUILD Scope of Work** **CH-I90 Post-BUILD Park Project**

Figure 4 Existing conditions, BUILD scope of work, and final product.

Key Documents & Initiatives

The Port has developed and implemented a plan to manage the sediment annually dredged from the 5.9-mile shipping channel of the Cuyahoga River. The plan ensures that the shipping channel is maintained at an adequate depth needed for commercial shipping traffic, which includes ore freighters accessing steel mills along the river. Typically, 225,000+ cubic yards of sediment are removed annually. The current capacity for disposal of this dredge material will be depleted at the end of 2028. CH-I90 provides urgently needed capacity to maintain full operations in Cleveland Harbor. Once constructed, the CH-I90 breakwater structures will allow disposal and beneficial reuse of Cuyahoga River dredge material for multiple years.

Further support for the above-mentioned initiatives and planning activities are demonstrated below are available on application webpage, www.clevelandmetroparks.com/BUILD.

Port of Cleveland Transportation Infrastructure Investments

The Port has been involved in numerous transportation infrastructure projects in Cleveland. These projects have been instrumental to updating its facilities and keeping freight and maritime operations moving throughout the region and country. The following table lists federal funding awards over the last decade. In total, the Port has received more than $52 million in federal-aid highway program funds and over $150 million in total federal funding.

The Port is also in the final stages of a massive $65 million project to stabilize the Irishtown Bend hillside alongside the Cuyahoga River by regrading and installing new bulkheading, ensure the federal shipping channel remains open. This project was funded through a variety of sources, including a federal INFRA grant passed through the Northeast Ohio Areawide Coordinating Agency (NOACA), the region's metropolitan planning organization.

Table 1. Port of Cleveland Federal Funding Awards

Fiscal Year	Funding Program	Project Title	Assistance Agreement Number	Funding Amount	Status
2024	U.S. EPA Clean Ports Program	Cleveland Harbor Electrification Initiative	5Y00E7000	$94,261,128	In Process
2023	U.S. DOT FHWA Congestion Mitigation and Air Quality Program	Advanced Cargo Processing & Fiber Connectivity	TBD upon obligation	$1,927,200	In Process
2022	U.S. DOT MARAD Port Infrastructure Development Program	Electrification & Warehouse A Modernization Project	693JF72344012	$27,223,711	Pre-Authorization Spending for Planning Activities
2021	U.S. EPA Great Lakes Restoration Initiative	Green Bulkhead at Irishtown Bend	00E03067	$1,700,000	In Process
2021	U.S. EPA Diesel Emissions Reduction Act	Cleveland Bulk Terminal Loader Replacement	00E03004	$186,250	Complete
2019	U.S. DOT MARAD Port Infrastructure Development Program	Dock 24 and 26 Master Modernization and Rehabilitation Project	693JF71910010	$11,000,000	In Process
2019	U.S. DOT FHWA Federal Earmark and Toll Revenue Credit Funds	General Cargo Terminal Main Gate and Access Road Project	E060424	$2,675,000	Complete
2017	U.S. DOT FHWA Federal Earmark and Toll Revenue Credit Funds	Cleveland Bulk Terminal Maritime Rehabilitation Project	E060430	$6,384,126	Complete
2017	U.S. DOT FHWA Congestion Mitigation and Air Quality Program	Bulk Terminal Tunnel and Conveyance Extension	E200643	$3,152,500	Complete

Project Budget

The Cleveland-Cuyahoga County Port Authority ("Port") requests $13,022,000 from the U.S. Department of Transportation's BUILD program to construct the Cleveland Harbor-Interstate 90 Maritime and Freight Fortification project (CH-I90) in the City of Cleveland, Cuyahoga County, Ohio. CH-I90 is a 6.3-acre critical infrastructure initiative that will strengthen the long-term viability of maritime operations within Cleveland Harbor. CH-I90 will protect existing shoreline infrastructure and address critical harbor functions to ensure the uninterrupted operation of transportation facilities vital to Northeast Ohio's economy. Interstate-90 (I-90) carries 127,603 vehicles through the greater Cleveland region daily and the Port of Cleveland moves 13 million tons of cargo annually, generating $7 billion in economic value. These operations are essential to Northeast Ohio's economy and to the American steel industry, with the resulting products transported by ship, rail, and truck to markets across the nation and abroad.

CH-I90 will create a confined disposal facility (CDF) for dredge material from Cleveland Harbor and will provide an urgently needed and locally preferred facility for this dredge material as the region's existing CDFs will reach capacity at the end of 2028. CH-I90 will ensure that sediment from the Cuyahoga River Federal Navigation Channel can be responsibly managed in compliance with federal and state requirements.

CH-I90 is a shovel-ready transportation infrastructure project. The project is the result of six years of planning, community engagement, and agency coordination lead by the Cleveland Harbor Eastern Embayment Resilience Strategy (CHEERS) partners: the Ohio Department of Transportation (ODOT), the Ohio Department of Natural Resources, Black Environmental Leaders, the City of Cleveland, Cleveland Metroparks, and the Port of Cleveland. CH-I90 will ultimately be surrounded by and integrated into the future 100-acre CHEERS project. CHEERS is a regional priority addressing protection of I-90 along the Lake Erie shore while creating capacity for dredge material from Cleveland Harbor. **CH-I90 is the initial phase of the 30+ year CHEERS initiative**.

Implementation of CH-I90 is being coordinated with the U.S. Army Corps of Engineers (USACE) in conjunction with the agency's responsibility to maintain Cleveland Harbor. CHEERS will be constructed in phases by building in-water structures and adding dredge material accordingly. As each phase reaches capacity, Cleveland Metroparks, a key project partner, will establish and manage critical shoreline habitat and public parklands as the long-term final use.

Table 2. Funding Source Summary

Funding Source	CH-I90	Total Funding
BUILD Funds	$13.0 M	$13.0 M
Total Project Cost	**$17.1 M**	**$17.1 M**

Table 3. Cost Classification Summary

Cost Classification	BUILD Funds	Other Federal Funds	Non-Federal Funds	Total Project Cost
Preliminary Engineering	NA	NA	NA	NA
Design	NA	NA	NA	NA
Environmental	NA	NA	NA	NA
Construction	**$11.1 M**	**$1.1 M***	**$3.0 M***	**$15.2 M**
Contingency	**$1.9 M**	**NA**	**NA**	**$1.9 M**
Total Funding	**$13.0**	**$1.1 M***	**$3.0 M***	**$17.1**

***Non-match funding commitments:** Matching funds are not required for CH-I90; however, in addition to the BUILD grant request of $13,022,000, CH-I90 benefits from substantial non-match funds that demonstrate strong local and partner support and materially advance project delivery. These non-match funds include:

- **$1.1 million non-match federal funds:**
  Cleveland Metroparks has secured $1.1 million in Community Project Funding through the Environmental Protection Agency – State and Tribal Assistance Grants (STAG) for the CHEERS project. These funds will be applied to eligible project components of CH-I90 directly complementing the BUILD-funded scope. (Status: Funding committed.)
- **$3.0 million non-match non-federal funds:**
  The Port has secured $1.5 million from the City of Cleveland and $1.5 million from the State of Ohio's Maritime Assistance Program to support the CHEERS project and these funds will also be applied to eligible components of CH-I90 directly complementing the BUILD-funded scope. (Status: Funding committed.)
- **Dredged material placement as in-kind support:**
  CH-I90 provides a critical co-benefit by supporting sustainable placement of dredge material and long-term storage capacity for the Port of Cleveland. The placement of dredge material associated with CH-I90 will be fully funded by other parties and is not supported by BUILD grant funds, representing a non-match contribution. By accommodating dredged material placement, the Project helps ensure the continued operation and maintenance of federally and locally authorized navigation channels essential to Executive Order 14269 Restoring America's Maritime Dominance and avoids potential light loading of cargo in Cleveland Harbor, where even a 1% reduction would lead to nearly doubling trucks traffic on area roadways. This approach advances efficient sediment management practices and supports the Port's ability to maintain safe and reliable maritime access over the long term.
- **Additional potential funding sources:**
  Project partners continue to seek funding for CH-I90 construction. If grant funding is awarded prior to BUILD funding announcements, updates to the table of funding and sources will be coordinated with FHWA to assure no overlapping scope of work between various potential funding sources.

Table 4. Costs per Census Tract

2020 Census Tract(s)	Project Costs per Census Tract
39035111202	$17.1 M
	Total Project Cost: $17.1 M

Table 5. Urban and Rural Cost Breakdown

Urban and Rural	Project Costs
Urban	$17.1 M
Rural	N/A
	Total Project Cost: $17.1 M

Budget Description

The Port requests $13,022,000 to construct the CH-I90 project. The following is the cost breakdown prepared by the project consultant team.

Table 6. Detailed Cost Breakdown

Description	Cost
Stone Relocation	$ 216,000
Stone	$ 10,425,000
Earthworks	$ 4,000
Regulatory Signage	$ 12,000
Subtotal	**$ 10,656,000**
Contingency (15%)	*$ 1,994,000*
General Conditions & Overhead (23%)	*$ 2,637,000*
Total Probable Construction Cost	**$ 15,287,000**
Construction Engineering and Inspection	*$ 1,835,000*
Total Project Cost	**$ 17,122,000**
Non-match funding commitments	**$ 4,100,000**
Total Request	**$ 13,022,000**

Sources, Uses, and Availability

Upon notice of award of funding for the CH-I90 project, the Port will work to enter into the federal grant agreement, which is anticipated to take approximately one year. The Port will pursue addition of the project to the Transportation Improvement Program (TIP) of the Northeast Ohio Areawide Coordinating Agency (NOACA), the region's metropolitan planning organization, and inclusion on the State TIP will follow shortly thereafter.

Once the project has a federal grant agreement and all necessary permits in place, as further described in the Project Readiness section, the project will be competitively bid. Construction is anticipated to begin in September 2028 and conclude at the end of 2031. The Port will make funds available as needed until reimbursement is received from the BUILD program.

Contingency Amount and Plan

The above Detailed Cost Breakdown clearly identifies a 15% contingency, equal to $1,994,000, to cover unanticipated cost increases. Due to the ongoing public, stakeholder, and agency involvement since 2020, the current 90% design status, and work underway towards permitting, CH-I90 presents with very little risk. The project was developed through a partnership with six agencies, including Ohio Department of Transportation, Ohio Department of Natural Resources, and Cleveland Metroparks. In the event of project cost overruns, the key project partners - the Port and Cleveland Metroparks - will examine their capital resources to fill budget gaps and will seek additional grant opportunities. The project scope will not be reduced; however, the project timeline may be adjusted to spread costs over additional years.

Level of Design

As visible in the above budget tables, **the Port does not request funds for project design**. The project has 90% shovel-ready construction drawings completed by a consultant team lead by Arup, an international engineering firm known for creativity and collaboration. The project team also included KS Associates, Inc., the Davey Resource Group, and WRT. These design documents were funded through two grant awards from the National Fish and Wildlife's National Coastal Resilience Fund that total $2,985,000 and these federal funds were then matched by partner contributions and an award to the Port by the State of Ohio's Maritime Assistance Program for a total of $5,940,000 to complete final design and secure permits for the project.

Cost Estimates

The above Detailed Cost Breakdown was prepared by the Arup team in consultation with KS Associates, Inc. as part of Schematic Design Cost Estimate dated January 29th, 2026. Estimates were developed as Class 5 estimates, following the Association for the Advancement of Cost Engineering (AACE) estimate classification matrix. Cost estimates represent probable construction costs based on current market conditions and assumes competitive bidding, with approximately four to five subcontractor bids per work category.

Additional Budget Information: Benefit-Cost Analysis Summary

A benefit-cost analysis (BCA) was conducted for CH-I90 to quantify the benefits of the Project as compared to the no-action alternative. The objective of the BCA is to provide an assessment of the benefits of the Project (modal diversion, cargo loss, and resilience) when compared to Project's costs (capital, operation and maintenance expenditures) over the 30-year analysis period from 2026 to 2056.

The analysis has been prepared in accordance with U.S. Department of Transportation (DOT) guidance for BUILD grant benefit-cost analyses and follows standard economic BCA methodology for large infrastructure projects. It incorporates relevant guidance and data from DOT, the U.S. Army Corps of Engineers, and studies and datasets from the Port of Cleveland, Cuyahoga County, and prior technical work completed for the broader CHEERS Project.

Table 7. Benefit-Cost Analysis Figures

BCA Key Indicators	Results
Total Discounted Benefits	$22,409,752
Total Discounted Costs	$13,479,420
Net Present Value (NPV)	$8,930,332
Benefit/Cost Ratio (BCR)	1.66

The Benefit-Cost Ratio for CH-I90 is 1.66. **Although the BUILD grant request is $13,022,000, the BCA accounts for the full project cost of $17,122,000.** The preservation of maritime cargo transport through regular dredging stands as the primary economic justification for CH-I90. The total present value of benefits was estimated at $22,409,752. The above detailed construction costs are outweighed by the benefits of the CH-I90 project and the project's ability to protect the economic integrity of the Port of Cleveland and the manufacturing and maritime operations of national importance.

Merit Criteria

CH-I90 Merit Criteria Summary	
Criteria	**Anticipated Action & Benefits**
Safety	
Protect motorized and non-motorized travelers from safety risks	Address roadway overtopping, icing, and poor road conditions by reducing impact of waves on I-90
Incorporate specific safety improvements that are part of a documented safety risk mitigation strategy and have corridor, port-wide impact	Maintain Cleveland Harbor maritime operations at full capacity, avoiding 4,727 additional truck trips per 1% reduction load capacity
Reduce any number of fatalities and/or serious injuries	Mitigate wet pavement conditions related to wave/spray action contributing to 42% of crashes in the project area
Environmental Sustainability	
Improve the resilience of at-risk infrastructure to be resilient to extreme weather events and natural disasters	Directly reduces wave overtopping, icing, and spray along I-90, improving safety and reducing long-term maintenance needs
Include project in a resilience improvement plan	Project is a Priority Resilience Investment in ODOT's 2024 Resilience Improvement Plan
Incorporate permeable pavements, bioswales, veg. swales, berms, tree canopies, stone breakwaters	Adds stone breakwaters; post-BUILD phases create park with trees, shrubs, vegetated swales, and habitat
Remove, replace, or restore culverts for the purpose of improving habitat for aquatic species	Post-BUILD phase creates 4 acres of submergent and emergent shoreline marsh along Lake Erie
Quality of Life	
Beautify transportation infrastructure	BUILD project adds a buffer to existing infrastructure; future phases to add beautification elements
Coordinate and integrate land use, affordable housing, and transportation planning to create more livable communities	$68 M in capital projects are underway in the project corridor in coordination with adjacent uses and development opportunities
Mobility and Community Connectivity	
Incl. transportation that increases access for non-motorized travelers in underserved communities	Project protects I-90 & USBR30 in Area of Persistent Poverty / Historically Disadvantaged Community
Provides additional options for inter/multimodal freight	Cleveland Harbor's 13 M ton cargo capacity is at risk; CH-I90 maintains full capacity, avoids mode shift
Decrease roadway traffic congestion, does not propose limits on capacity for motor vehicles	Decreases congestion / eliminates weather-related lane closures; avoids adding 4,727 trucks to roads
Economic Competitiveness and Opportunity	
Advance the nation's domestic energy sector per EO 14154 Unleashing American Energy	Maintains maritime access to petroleum storage/ fuel terminals, incl. multi-state Buckeye Pipeline
Revitalize and restore domestic maritime industries per EO 14269 Restoring America's Maritime Dominance	Great Lakes Group shipbuilding, repair, and largest US-flag tugboat fleet for ship assist, ice breaking, and emergency assistance for Maritime Dominance
Promote or reshore industries of national interest, incl. critical minerals, steel, the defense industrial base, and pharmaceuticals.	Supports full capacity of US steel manufacturing. Maintains maritime access for USCG Great Lakes HQ & full DoD STRAHNET on I-90

Includes union participation/ labor agreements which promote cost-effective and competition	Work will be performed by union contractors in accordance with Davis-Bacon standards
Facilitate tourism opportunities	The project supports local tourism and economic dev't efforts focused on Cleveland's waterfront
Improve the safety, security, or efficiency of the movement of goods	Reduces impacts to a heavily traveled highway; maintains full capacity of maritime activities on Cleveland Harbor
Create jobs related to the project's delivery and on-going operations	Construction is estimated to provide 30-38 roles annually. Long term operations of the proposed project will require at least one full time employee
State of Good Repair	
Prioritize condition and safety of existing transportation infrastructure, particularly infrastructure with high cost of failure, such as bridges with lengthy detours	CH-I90 protects 4 bridges on I-90; current appraisal ratings of 6 (satisfactory, some minor deterioration); a 2-mile detour would be required for 127,603 vehicles/day with closure of I-90
Reduce construction and maintenance burdens through efficient and well-integrated design	CH-I90 benefits maritime operations and maintains full capacity on one of the region's busiest interstates
Address current or projected transportation system vulnerabilities	The project is identified in ODOT's Statewide Resilience Improvement Plan
Identify the party responsible for maintenance, describe how asset will be maintained in a state of good repair	The Port will inspect the structure annually years 0-4 and address maintenance / future inspections in accordance with ODNR Coastal Engineering Manual
Partnership and Collaboration	
Engage residents and community-based organizations to ensure those who live and work in the project area are meaningfully engaged throughout the lifecycle of the project	Since 2020, Cleveland's East Side Lakefront redesign has engaged 2,000 neighborhood residents and a stakeholder group representing 50 organizations in extensive community engagement
Establish formal public-private partnerships or joint ventures to restore, expand, or create new infrastructure	This shovel-ready project is the work of 6 partners, with a history of successfully completing other infrastructure projects as partners.
Coordinate with other types of projects such as economic development, commercial or residential development	The Port, partners, and the City of Cleveland are working to redevelop and encourage investment in the corridor and the adjacent Area of Persistent Poverty / Historically Disadvantaged Community
Partner with high-quality workforce development programs to train, place, and retain people in good paying jobs or registered apprenticeships	The project prepared a Workforce Development Plan with career pathways, 30 workforce organizations, and funding opportunities.
Document support from local, regional, or national levels	Letters of Support are attached from 20 local, state, and national advocates for the project
Innovation	
Innovative Project Structures	CH-90 protects I-90, ensures maritime activity and steel production continue unimpeded, and develops key regional infrastructure
Innovative Project Delivery	National Environmental Policy Act (NEPA) delegation authority vested in ODOT by FHWA
Financing methods that are new or innovative to the applicant or community	CH-I90 is the initial phase of CHEERS partnership. $10 M in funding has been accessed. $68 M of current projects include $32 M private funds

Safety

CH-I90 addresses safety outcomes by **reducing weather-related impacts to 1000 feet of Interstate 90 (I-90)** directly adjacent to Lake Erie and by **maintaining the full capacity of shipping operations for Cleveland Harbor**, maintaining crucial maritime functions. The project's Benefit-Cost Analysis calculations indicate that CH-I90 avoids the addition of 4,727 trucks on area roadways. This segment of I-90 is one of the most heavily traveled routes in Northeast Ohio, with an Average Annual Daily Traffic count (AADT) of 127,603 vehicles per day, including 5,105 trucks, providing access to 1,027,211 workers.[3] It is designated as part of the **National Truck Network** and as part of the **STRAHNET** (Strategic Highway Corridor Network), designated by the US Department of Defense as essential to national defense. It is also a National Scenic Byway (Lake Erie Coastal Ohio Trail). U.S. Bike Route 30 (USBR30) is an existing separate facility. In this area, USBR30 is parallel to I-90 and directly to the north, adjacent to Lake Erie.

I-90 is noted as a congestion risk Intensity 2[4] and is considered a Risk Intensity Hotspot. Congestion and other hazards are exacerbated by this segment of highway being adjacent to Lake Erie. As part of the original Eisenhower Interstate System, the highway utilizes two bridges originally constructed in 1938, adding two bridges to the north in 1952. Travel lanes were constructed by filling into Lake Erie. This construction method results in I-90 being highly vulnerable to wind and wave-related impacts, causing hazardous conditions and lane closures, particularly during Cleveland's winter season. In addition, I-90 in the Project Area is one of the highest locations in the state for speed related and unbelted crashes and is part of the state of Ohio's first "Speed and Seat Belt Safety Corridor" established in July 2024 by Ohio Governor Mike DeWine, the Ohio Department of Transportation (ODOT), and others.[5]

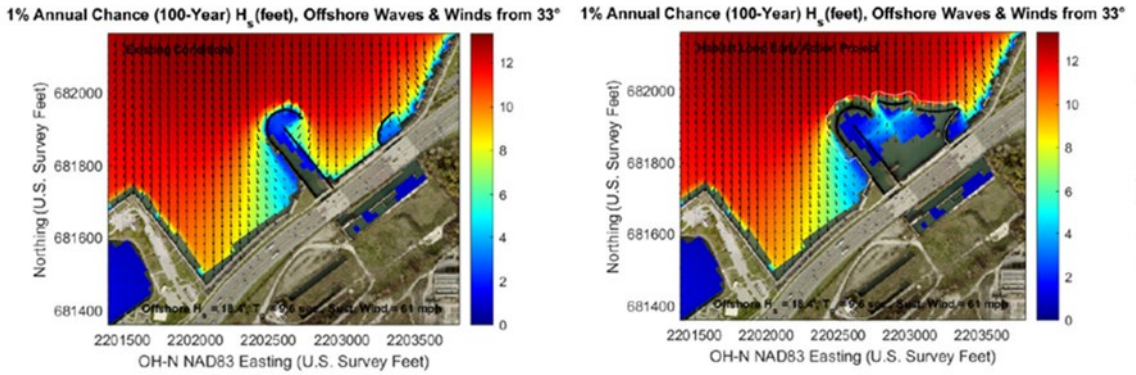


Figure 5 CH-I90 SWAN wave model depicting a reduction from 10' waves to no wave action in the project zone

The pavement levels of USBR30 and I-90 are above the 1% annual chance (100-year) still water level in Cleveland Harbor. USBR30 and I-90 do not experience flooding by inundation, however they are **impacted by waves and overspray during major storms** *(see Figure 5).* Hazardous in any situation, winter impacts in a northern city such as Cleveland are exponentially more dangerous, as indicated in accident reports.

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[3] Ohio Department of Transportation Traffic Count Database 2024 AADT

[4] Ohio Department of Transportation Strategic Transportation & Development Analysis, 2024

[5] State of Ohio Governor DeWine (2024, July) Governor DeWine Announces Speed & Seat Belt Safety Corridor on I-90

CH-I-90 – BUILD Safety Merit Criteria (primary project purpose):

- *High Importance: Protect motorized and non-motorized travelers from safety risks*
  Without CH-I90, the shoreline remains exposed to storm driven wave action, as noted in ODOT's Resilience Improvement Plan. Frequent overspray, icing, and roadway flooding currently places this section of I-90 in a continuous and costly cycle of damage and repair. Under current conditions, storm waves over 10 ft. from the north-northeast reach the existing 0.25-mile I-90 segment adjacent to the project. These hazards degrade roadway safety and reliability for one of the highest volume traffic corridors in the region, compounding the economic and operational consequences of losing dredge capacity. CH-I90 addresses this hazard and protects existing infrastructure by creating offshore stone breakwater structures to buffer wind and wave energy *(see Figure 5)*. Additionally, CH-I90 maintains essential maritime functions, ensuring that multi-modal functions remain fully utilized and avoiding a mode shift adding additional trucks to regional roadways.

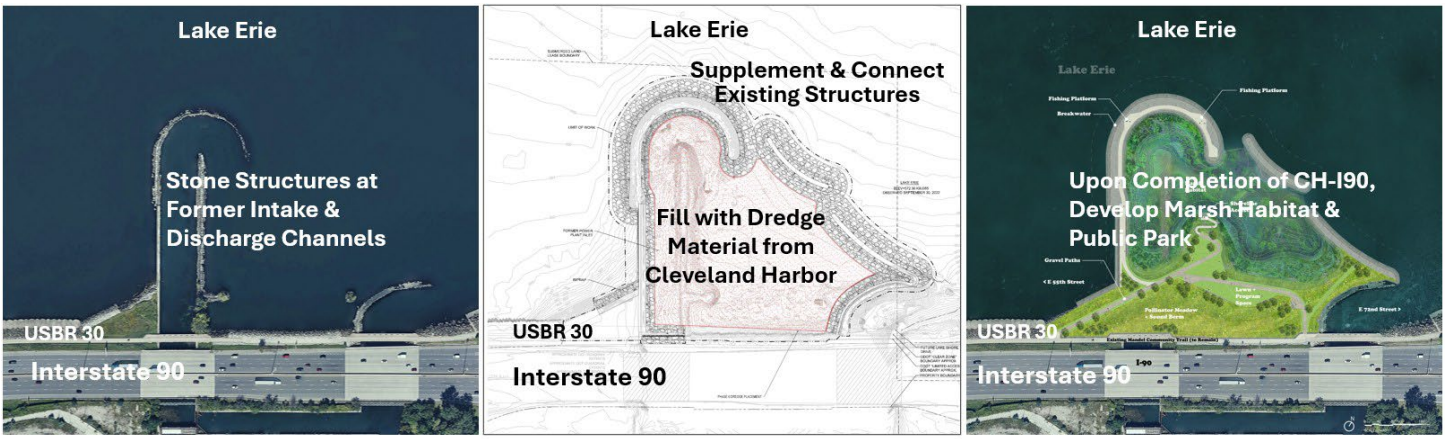
- *High Importance: Incorporate specific safety improvements that are part of a documented safety risk mitigation strategy and that have corridor, port-wide, or transit system impact.*
  CH-I90 provides safety impacts in multiple transportation sectors by:
  - Maintaining uninterrupted maritime operations for Cleveland Harbor, assuring the seamless continuation of moving 13 million tons of cargo annually by ship and avoiding freight displacement to trucks and area roadways, estimated at 4,727 truck trips per year if even minor light loading must occur
  - Eliminating the risk of wave impacts and compromised road conditions along a key lakefront portion of I-90, mitigating key safety impacts
  - An additional benefit to the proposed action is reducing impacts to USBR 30, allowing unimpeded bicycle and pedestrian access in the project area

- *Medium Importance: Reduce any number of fatalities and/or serious injuries*
  CH-I90 will improve roadway conditions along a 1,000' segment of the I-90 mainline in a heavily travelled segment of interstate and will contribute to a reduction in injury crashes. As identified in a 2016 ODOT-led Safety Study of I-90[6], 405 crashes occurred in the study area during a 3-year period (2011 and 2013). There were two fatal injury crashes in the study area, both occurring on mainline I-90. The following crash types and conditions are overrepresented in the study area compared to statewide averages for the state highway system, freeway locations (statewide averages shown in parenthesis).
  - Fatal crashes: 1 crash or 0.2 percent (0.3 percent)
  - Injury crashes: 122 crashes or 30.1 percent (23.8 percent)
  - Rear end crashes: 179 crashes or 44.2 percent (29.3 percent)
  - Sideswipe – passing crashes: 90 crashes or 22.2 percent (18.7 percent)
  - **42 percent of crashes on mainline I-90 occurred on non-dry pavement surface (wet, snow or ice)**

[6] LJB, Inc, CUY-90-19.50/21.30 Safety Study: Interstate Route 90, ODOT District 12, March 4, 2016.

Environmental Sustainability

CH-I90 is crucial for protecting at-risk I-90 infrastructure, including four bridges, from Lake Erie wind and wave action. CH-I90 re-uses and fortifies a 100-year-old stone breakwater and delivers benefits crucial to the regional economy by addressing the dredge capacity crisis looming over Cleveland Harbor channel maintenance operations. As CH-I90 is completed in 2031, partners will transform the site into 6.3 acres of new public parkland on the shore of Lake Erie *(see Figure 6).* Plans for the park include upland habitat, submerged and emergent marsh essential for fish habitat, paths, program spaces, improved fishing access, and shoreline access where park visitors can touch Lake Erie, unique to this reach of heavily armored shoreline.



CH-I90 Existing Conditions **CH-I90 Proposed BUILD Scope of Work** **CH-I90 Post-BUILD Park Project**

Figure 6 - CH-I90 Existing Site Conditions, Proposed BUILD Project Scope, and Post-BUILD Park Project

CH-I90 – BUILD Environmental Sustainability Merit Criteria (primary project purpose):

- *High Importance: Improve the resilience of at-risk infrastructure to be resilient to extreme weather events and natural disasters*
  Engineering analysis and SWAN wave models confirm that CH-I90 is battered by storm waves over 10 ft. from the north-northeast (*see Figure 5*). These hazards degrade roadway safety and reliability and reduce the useful life of the four adjacent bridge wave action, overspray, and icing along the exposed segment of I-90, improving safety and reducing long-term maintenance for one of the region's highest-volume freight corridors
- *High Importance: Include project in a resilience improvement plan that considers risk across transportation modes, regions, and critical interdependent sectors*
  ODOT's October 2024 **Statewide Resiliency Improvement Plan**[7] (RIP) identified shoreline protection along the segment of I-90 addressed in CH-I90 as a Priority Resilience Investment. The RIP references CHEERS, of which CH-I90 is the initial component.
- *High Importance: Incorporate permeable pavements, bioswales, vegetated swales and berms, urban tree canopies, stone breakwaters, etc., as appropriate*
  Upon completion of CH-I90, Cleveland Metroparks will lead funding and implementation of

[7]Ohio Department of Transportation Resilience Improvement Plan, October 2024

existing plans for the 6.3-acre Habitat Loop public park *(see Figure 6).* Plans include paths, program spaces, improved fishing access, and shoreline access where park visitors can touch Lake Erie, unique to this reach of heavily armored shoreline. Plans call for the addition of 57 trees, 97 woody shrubs, 2 acres of meadow, and 4 acres of marsh habitat. Cleveland Metroparks staff will manage and operate the park in perpetuity.

- *Medium Importance: Remove, replace, or restore culverts for the purpose of improving habitat for aquatic species*
  CH-I90 will reduce the excessive amounts of road salt currently applied to I-90 in the project corridor, necessitated by the current adjacency of Lake Erie and wind and wave impacts. Upon completion of the BUILD-funded project, a future phase will restore habitat native to the Lake Erie shore but absent from the project areas since construction of the interstate in the 1950s. The 6.3-acre project includes upland meadow, shrubs, trees, and 4 acres of submerged and emergent marsh essential for fish habitat and nursery functions.

Quality of Life

Cleveland's Lake Erie waterfront was once dominated by manufacturing and industrial uses, including the former Lakeshore Power Plant along the south side of the CH-I90 project. Outward migration and disinvestment resulted in adjacent neighborhoods with a 50% rate of vacant property. The project area is designated as an **Area of Persistent Poverty** and an **Historically Disadvantaged Community**. Beginning in 2019, partners (Black Environmental Leaders, City of Cleveland, Cleveland Metroparks, Ohio Department of Natural Resources, Ohio Department of Transportation, and the Port of Cleveland) initiated the Cleveland Harbor Eastern Embayment Resilience Study (CHEERS) to engage the local community in imagining a new era for the lakefront. The resulting vision of 100 acres of new waterfront parks and protected coves has now been advanced to construction drawings.

CH-I90 forms the in-water component of the first phase of CHEERS. The breakwater structure protects I-90 infrastructure while providing capacity for dredge material to maintain Cleveland Harbor. The long-term result demonstrates beneficial use of dredge to improve quality of life for Cleveland residents. As CH-I90 is completed, the park and public features of the Habitat Loop will be constructed using non-BUILD funds, delivering the full spectrum CHEERS benefits.

CH-I90 – BUILD Quality of Life Merit Criteria:

- *High Importance: Beautify transportation infrastructure*
  CH-I90 makes a crucial investment to protect existing infrastructure, including I-90 and U.S. Bike Route 30. A future non-BUILD-funded phase will beautify the adjacent corridor with plantings and provide public park facilities. (*See Figure 6*)

- *High Importance: Improve the travel experience for families*
  With 127,603 vehicles per day, I-90 is an essential route for families, patients, and emergency vehicles to regional medical facilities, including labor and delivery services at University Hospital Cleveland's Rainbow Babies & Children's Hospital. Rainbow is certified as a Level IV NICU and ranked #6 in the nation, the highest ranked NICU in Northeast Ohio. The hospital is 3.5 miles from the project site.

Emergency services within 3.5 miles of CH-I90 include University Hospital Cleveland (Level 1 Adult Trauma and the region's only Level 1 Pediatric Trauma), Cleveland Clinic Main Campus, and Louis Stokes Cleveland Department of Veteran's Affairs Medical Center emergency services.

Families will benefit from improved travel experiences to existing parks and other public amenities along the lakefront, including safety and access improvements to USBR30.

- *Medium Importance: Coordinate and integrate land use, affordable housing, and transportation planning in order to create more livable communities*
  Public and private investment totaling over $68 million in new public capital improvements are underway currently in the project corridor. These investments represent coordinated efforts to improve quality of life in adjacent neighborhoods and to fully realize the potential of the lakefront as a catalyst for new investment. This work is paired with anti-displacement strategies and workforce development efforts to engage existing residents[8].

  The former Lake Shore Power Station was demolished in 2017. The property is being prepared for redevelopment by a private owner, Industrial Development Advantage (IDA). IDA is supportive of CH-I90 and CHEERS and is working with the Port, the City of Cleveland, and others to assure equitable and appropriate redevelopment of the site.

Mobility and Community Connectivity

CH-I90 protects 1000' of I-90 adjacent to Lake Erie as well as the existing USBR30 north of I-90 and directly adjacent to Lake Erie. USBR30 is currently being extended from East 55th Street to downtown Cleveland, with new lighting and other enhancements continuing through the CH-I90 project site to Martin Luther King, Jr. Boulevard. This $18 million investment, including more than $10 million from private foundations, demonstrates the community's commitment to improving a **critical non-motorized connection to downtown Cleveland provided by USBR30**.

CH-I90 – BUILD Mobility and Community Connectivity Merit Criteria:

- *High Importance: Include transportation features that increase the accessibility for nonmotorized travelers in underserved communities*
  The investment from BUILD in CH-I90 will enhance and support local investment in the existing USBR30, connecting residents of this Area of Persistent Poverty and Historically Disadvantaged Community (**32.6% of residents in the census tract surrounding CH-I90 do not have access to a vehicle**[9]) to Downtown Cleveland jobs and to recreational assets. Improving bicycle and pedestrian safety protects residents, connects the neighborhood to and along the lakefront and improves access to public investments currently underway.
- *High Importance: Provides additional options for intermodal and multimodal freight*
  CH-I90 protects existing maritime operations for industries identified in Executive Order 14269 Restoring America's Maritime Dominance by maintaining the full capacity of

[8] St. Clair Superior Priority Areas – A Residential Investment Strategy, City of Cleveland City Planning, 2024
[9] U.S. Census Bureau, "Selected Housing Characteristics," *American Community Survey, ACS 5-Year Estimates Data Profiles, Table DP04*, accessed on February 23, 2026, https://data.census.gov/table/ACSDP5Y2022.DP04?g=040XX00US39_1400000US39035111202.

Cleveland Harbor and access for the Port of Cleveland. As noted in *Transport Ohio*, "As the only Great Lake port on the U.S. side of the Great Lakes to regularly handle containerized cargo, the Port of Cleveland is an important hub for import and export goods from Europe and other regions overseas."(pg. 57) and "Having the only active container port (the **Port of Cleveland) on the U.S. side of the Great Lakes provides shipping options that do not include east or west coast ports**. Ohio is well-positioned to serve as a **regional and national transportation hub** due to the abundance of transportation infrastructure." (pg. 86)[10]

- *Medium Importance: Decrease roadway traffic congestion and does not propose limits on roadway capacity for motor vehicles or create artificial chokepoints for motor vehicles*
  CH-I90 will decrease roadway congestion by **eliminating wind-driven spray and wave-related lane closures** to existing lanes of I-90. The project scope **assures uninterrupted maritime operations for the Port of Cleveland**'s 13 million tons of annual cargo by maintaining the full capacity of Cleveland Harbor. This action avoids the potential transfer to moving cargo by truck and the associated volume and capacity impacts to the region's roadway network. A 1% mode shift would add 4,727 additional truck trips per year.

Economic Competitiveness and Opportunity

CH-I90 improves the safety and function of I-90 and Cleveland Harbor. I-90, part of the National Highway Freight Network, has an AADT of 127,603. The Port of Cleveland is the third largest port on the Great Lakes[11], moving 13 million tons of cargo annually, generating $7 billion in economic value and 23,000 jobs as indicated in ODOT's most recent Maritime Action Plan[12]. The Port is currently pursuing designation as a Maritime Prosperity Zone.

CH-I90 – BUILD Economic Competitiveness and Opportunity Merit Criteria:

- *Advance the nation's domestic energy sector, in accordance with Executive Order 14154 Unleashing American Energy*
  Cleveland Harbor and the Federal Navigation Channel provide maritime access to petroleum storage and fuel terminals, specialty chemicals associated with key manufacturing processes, and bulk commodities and construction materials. CH-I90 maintains full capacity operations and assures uninterrupted operations for companies including:
  - Buckeye Terminals: Storage and terminal access to the multi-state Buckeye Pipeline (liquid petroleum), with an overall system of 5,000 miles of pipeline
  - Zaclon: Largest producer of galvanizing fluxes in the world; manufacturer of specialty chemicals with wide applications and world-wide sales
  - Universal Oil: Fuel, Diesel Exhaust Fluid, industrial lubricants, solvents, antifreeze
- *High Importance: Revitalize and restore domestic maritime industries, in accordance with Executive Order 14269 Restoring America's Maritime Dominance*
  CH-I90 directly supports Executive Order 14269 Restoring America's Maritime Dominance through maintaining full access to key industries in Cleveland and moving cargo and

[10] Transport Ohio – Ohio State Freight Plan, 2022, ODOT
[11] Marine Insight News, *10 Major Ports on the Great Lakes*, June, 2023
[12] Ohio Department of Transportation, Ohio Maritime Plan, Ohio Maritime Plan, Figure 13, pg. B-7

commodities across the Great Lakes and internationally. These cargos — including steel, iron ore, limestone, coal, cement, salt, sand and grain — are the foundation of American industry, infrastructure, and power**. Since iron ore, steel and other heavy materials cannot be transported by truck or rail in quantities necessary for full production, these mills would be forced to close, resulting in thousands of lost jobs and material and impacting key US industries.** Given federal commitments to domestically produced steel, the inability to ship steel would severely disadvantage Cleveland-based mills and other businesses that rely on the port for both inputs and exports.

Cleveland Harbor provides access to **The Great Lakes Group (GLG),** an international, full-service group of marine companies providing **essential Ship Building and Maritime Operations** identified in Executive Order 14269 Restoring America's Maritime Dominance. GLG is a 125-year-old company providing maritime transportation, logistics, new construction, fabrication, repair, and linehandling services across the Great Lakes, including:

- **Great Lakes Shipyard**: **Full-service shipyard for new vessel and barge construction**, fabrication, maintenance, and repairs in a state-of-the-art facility reflecting $11.3 million in recent improvements, including a 900-ton mobile Travelift. The Shipyard specializes in every kind of marine construction, fabrication, conversion, refit, and repair for all types of commercial and government vessels, tugs, supply boats, ferries, barges, "truckable" barges, excursion vessels, dinner boats, research vessels, and large yachts, as well as both on-site and off-site topside work of every kind.
- **Great Lakes Towing**: **The largest and most experienced U.S.-flag tugboat fleet** and a significant marine operations link in the U.S. Great Lakes-Saint Lawrence Seaway marine transportation network –the fourth seacoast of the United States, extending over 8,300 miles of shoreline and encompassing 100,000 square miles of water surface. Great Lakes Towing operates in 40 U.S. ports. Services include ship assist, cargo transportation and logistics, ice breaking, and emergency assistance of vessels, barges, and structures.

"As the only Great Lake port on the U.S. side of the Great Lakes to regularly handle containerized cargo, **the Port of Cleveland is an important hub for… export goods… overseas.**"[13] The Port provides a critical connection between Northeast Ohio and the global economy by providing an all-water seaway route from the US heartland. The Port is an 8-hour drive from half of the manufacturing plants in the US. This BUILD grant supports the Port of Cleveland's Foreign Trade Zone (FTZ) 40, helping local companies compete in the global market.

- *High Importance: Promote or reshore industries of national interest, including the critical minerals, steel, the defense industrial base, and pharmaceutical manufacturing*
  Steel is identified as an industry of national interest. **Cleveland-Cliffs Cleveland Works** is an integrated steelmaking facility located on Cleveland Harbor's Cuyahoga River Federal Ship Channel. **Steel production relies on a fully functional Cleveland Harbor** for the transport of raw materials to the facility and moving finished steel products to market. Because of the

[13] Transport Ohio – Ohio State Freight Plan, 2022, ODOT

significant weight and volume of these materials, **shipping remains the only viable mode of transport to meet operational needs.** In addition to the steel and shipbuilding industries, key commodities moved by freighter on Cleveland Harbor include salt, stone, concrete, cement, and asphalt serving companies including Cargill, Osborne Concrete and Stone, Heidelberg Cement, Marathon Petroleum and Asphalt, SRM Concrete, Carr Brothers Ready Mix, St. Mary's Cement, Shelly Liquid Cleveland Terminal, and Kokosing Materials.

US Coast Guard Great Lakes District Command is headquartered in Cleveland, the third-largest military operation in Ohio. USCG Great Lakes utilizes Cleveland Harbor to deliver their multi-mission services in search and rescue, maritime safety and security, maritime law enforcement, environmental protection, and aids to navigation and icebreaking.

I-90 in the project area is part of the essential **STRAHNET** (Strategic Highway Corridor Network), designated by the US Department of Defense and deemed necessary for emergency mobilization and peacetime movements of heavy armor, fuel, ammunition, repair parts, food, and other commodities to support U.S. military operations. The corridor including the four bridges along Lake Erie within the CH-90 project area, meets required design standards and weight limits for ease of movement between key ports, airports, military installations, and other locations important for quick response and recovery, including access to the Ohio Army National Guard's 237th Brigade Support Battalion.

Cleveland Harbor and I-90 are essential to Ohio business and industry. I-90 is part of the **National Highway Freight Network**. CH-I90 maintains full capacity on this route and supports the full operation of the Federal Shipping Channel.

- *High Importance: Includes union participation or project labor agreements which promote cost-effectiveness and open competition*
  The Port of Cleveland is a regional leader in employment and contracting best practices. This project proposal leverages federal resources and local investments to ensure job quality for workers: The work will be conducted by union contractors and subcontractors and utilize a Project Labor Agreement that will also ensure compliance with Davis-Bacon prevailing wage requirements. The project will adhere to the Good Jobs Initiative framework at the United States Department of Labor.

- *High Importance: Facilitate tourism opportunities.*
  Destination Cleveland, the region's nonprofit destination marketing and management organization, drives economic growth by attracting visitors and new residents to Cuyahoga County. While CH-I90 provides essential infrastructure protection, BUILD also lays the groundwork for future waterfront improvements. Destination Cleveland's current campaign Cleveland: A Waterfront City highlights Lake Erie and the Cuyahoga River where nature, culture, and community come together in public parks and vibrant waterfront attractions.

- *Medium Importance: Improve the safety, security, or efficiency of the movement of goods*
  CH-I90 addresses two modes of transportation improvements:
  - Maintaining full maritime operations of Cleveland Harbor, with the associated capacity and efficiency benefits, surpassing any means besides shipping

- Removing impacts to I-90 travel lanes along Lake Erie and protecting existing infrastructure from wind and wave impacts.

- *Medium Importance: Create jobs related to the project's delivery and on-going operations*
  CH-I90 is estimated to create 30-38 annually as part of the project delivery phase (see Section 8, BCA). As BUILD is completed and future phases construct habitat and public park, additional jobs are anticipated. Ongoing operations will become part of Lakefront Reservation, with maintenance and programming provided by Cleveland Metroparks in alignment with the existing Port of Cleveland Project Development Agreement. This is projected to create hundreds of jobs in conjunction with the overall CHEERS project.

  As part of CHEERS, a Workforce Development Plan[14] was created to help facilitate the project partners desire to expand good paying jobs and provide opportunities for the local workforce. The Plan, described in greater detail in the Partnership and Collaboration merit criteria response, identifies the need for a wide range of specialized expertise, creating hundreds of jobs across more than 15 professional and technical fields. The Plan identifies pathways for residents and students to access training and employment resources.

State of Good Repair

I-90 in the project area is frequently negatively impacted by high winds, waves, and storm events. During 2012's Superstorm Sandy, 67 mph winds and 20' waves on Lake Erie were documented (*Figure 7*) resulting in closure of all 8 lanes of traffic and structural damage along the shore. CH-I90 is an opportunity to rebuild the shoreline along this 1,000' stretch to increase resiliency to current and future weather conditions and climate change and ensure safe and reliable transportation along I-90, one of the nation's busiest Interstates. CHEERS, including the proposed CH-I90 improvements, was added to the NOACA Long-Range Transportation Plan (LRTP) on March 8, 2024. ODOT and the City of Cleveland are facility owners and project partners for this Project. This partnership demonstrates support for the Project and the desire to equitably improve transportation facilities.

Figure 7 – Superstorm Sandy's waves overtopping I-90

CH-I90 – BUILD State of Good Repair Merit Criteria:

- *High Importance: Prioritize improvement of the condition and safety of existing transportation infrastructure, particularly infrastructure with high cost of failure, such as bridges with lengthy detours*
  CH-I90 was identified by the Port, ODOT, and project partners due to the problems created by the highway's proximity to the existing hardened shoreline. These critical problems threaten I-90, including four bridges currently rated at 6 for structural integrity. The area is

[14] Workforce Development, Cleveland Harbor Eastern Embayment Resilience Strategy, 2026, Arup, www.clevelandmetroparks.com/BUILD

subject to frequent storm surges. The shoreline within the project area is hardened with boulder walls, breakwaters, and steel bulkheads and does not contain adequate areas for wave dissipation, means to break energy associated with storm events, or areas to adjust to lake level fluctuations. The shoreline lacks in- water and nearshore habitat and as a result, lacks natural means of shoreline protection. A two-mile detour would be required for bridge closures, impacting the 127,603 vehicles using I-90 daily.

- *High Importance: Reduce construction and maintenance burdens through efficient and well-integrated design*
  CH-I90 benefits multiple transportation systems with a single investment, protecting existing I-90 infrastructure, including the four bridges identified above. Addressing the pending dredge material storage crisis for Cleveland Harbor maintains full maritime function and avoids potential light-loading scenarios, preventing potential mode shifts to trucking. The proposed investment in CH-90 is an efficient, well-integrated solution.
- *High Importance: Address current or projected transportation system vulnerabilities*
  ODOT's Statewide Resilience Improvement Plan[15] identified shoreline protection along the segment of I-90 addressed in CH-I90 as a Priority Resilience Investment. The RIP references the CHEERS project, of which CH-I90 is the essential initial component.
- *Medium Importance: Identify the party responsible for maintenance and describe how the new or improved asset(s) will be maintained in a state of good repair*
  CH-I90 reduces the urgent deployment of snowplows and salt trucks by ODOT along I-90 during wind and wave events and the ongoing impact of these events on roadway pavement and existing bridge structures, thereby extending the life of key infrastructure and maintaining a state of good repair. The Port will implement a maintenance plan for CH-I90 including annual walking inspections for new structures between Years 0 and 4. If the structure has not changed substantially for 4 consecutive years, the walking inspections can be limited to the aftermath of major storm events such as Superstorm Sandy (2012) and every 3 years otherwise. Specific inspection elements include displaced rock, fractured rock, and large gaps between armor stones. In areas where concrete walkways and promenades have been installed over armor stone, the inspection will also look for signs of unevenness, cracking, and settling of the concrete. The rating system in Part VI-8 of the Ohio Department of Natural Resources Coastal Engineering Manual[16] will be used to rate the condition of the breakwater based on the results of each inspection.

Partnership and Collaboration

Cleveland's East Side Lake Erie waterfront was once dominated by manufacturing and industrial uses, including the former Lakeshore Power Plant site bordering the south side of the CH-I90 project. Outward migration to suburbs and long-term disinvestment has resulted in adjacent neighborhoods with a 50% rate of vacant property and lacking in economic opportunity. The project area is designated as an **Area of Persistent Poverty** and an **Historically Disadvantaged**

[15]Ohio Department of Transportation Resilience Improvement Plan, October 2024
[16] Ohio Department of Natural Resources Ohio Coastal Design Manual 2011

Community. Beginning in 2019, multiple state, regional, and local organizations partnered to identify investments to provide improved quality of life for residents of adjacent neighborhoods.

The partners (Black Environmental Leaders, City of Cleveland, Cleveland Metroparks, Ohio Department of Natural Resources, Ohio Department of Transportation, and the Port of Cleveland) initiated the Cleveland Harbor Eastern Embayment Resilience Study (CHEERS) in 2020 to engage the local community in imagining a new era for the lakefront. The resulting vision of 100 acres of new waterfront parks and protected coves has now been advanced to construction drawings. The Habitat Loop, the first phase of CHEERS, is shovel ready. CH-I90 constructs the shoreline protection element, with commitments in place to transform this infrastructure into habitat and public park in subsequent phases.

CH-I90 – BUILD Partnership and Collaboration Merit Criteria:

- *High Importance: Engage residents and community-based organizations to ensure those who live and work in the project area are meaningfully engaged throughout the lifecycle of the project*

  CH-I90 focuses on highway safety, port operations, and infrastructure protection, however the proposed BUILD investment yields multiple community benefits identified as part of the CHEERS initiative. Community engagement to determine the future of Cleveland's east side Lake Erie waterfront as part of CHEERS began in 2020. Six partners committed to an intense community input process, which built upon over 20 years of prior plans. Partners participate in monthly project meetings, quarterly stakeholder meetings, and ongoing community engagement interacting with more than 2,000 individuals and 65 organizations on a regular basis (see letters of support, below). These strong relationships support addressing infrastructure needs and implementing plans as a catalyst to boost economic activity and investment.

  Neighborhoods adjacent to CH-I90 and CHEERS are an Area of Persistent Poverty and Historically Disadvantaged Community. Outreach in the Glenville, St. Clair-Superior, and Asia Town neighborhoods in the city of Cleveland includes events described above plus ongoing participation in neighborhood meetings, festivals, and events. Initial surveys of these neighborhoods revealed residents' top priority is to touch the water, an opportunity that does not exist with the current hardened Lake Erie shoreline but will be created with local investment at CH-I90 after the BUILD portion of the project is complete.

- *High Importance: Establish formal public-private partnerships or joint ventures to restore, expand, or create new infrastructure*

  Over **$68 million in project development and construction** of improvements to the public realm are currently underway surrounding CH-I90. These projects reflect **47% funding from private donors, corporations, and foundations,** demonstrating community support alongside state, local, and regional partners working to invest in Cleveland's Lakefront.

  CH-I90 is a direct result of the existing CHEERS six partner Memorandum of Understanding and a two-party Project Development Agreement between the Port and Cleveland Metroparks sets forth specific partner roles and commitments. The agreements are built

upon the long and successful history of Northeast Ohio agencies partnering to deliver infrastructure and community improvement projects. Recent successes include the 90+ mile Ohio & Erie Canalway Towpath Trail, a regional asset for transportation, recreation, and tourism, as well as the multi-faceted Irishtown Bend Park. Much like CH-I90, the Port of Cleveland led initial urgently needed infrastructure investments at Irishtown Bend to protect commerce on Cleveland Harbor, with partners including Cleveland Metroparks delivering future phases of the project to create public access and amenities.

- *High Importance: Coordinate with other types of projects such as economic development, commercial or residential development*
  CH-I90 is coordinated with the city of Cleveland's efforts for adjacent redevelopment. See www.clevelandmetroparks.com/BUILD for area plans. The overall Benefit Cost Analysis for the CHEERS identifies a 31% uplift in adjacent property values. Efforts with surrounding community development corporations as well as Industrial Development Advantage, the private landowner adjacent to the CH-I90 project area, continue.
- *High Importance: Partner with high-quality workforce development programs to help train, place, and retain people in good paying jobs or registered apprenticeships.*
  Beyond environmental and community benefits, CHEERS is positioned to become a major economic development engine. Its scale and technical complexity will require a wide range of specialized expertise, creating hundreds of jobs across more than 15 professional and technical fields. Over its 30-year implementation period and into the future, CHEERS will generate sustained economic impact and deliver a more connected and resilient Cleveland.
- *Medium Importance: Document support from local, regional, or national levels*
  CH-I90 planning engaged the community, stakeholders, and partners and has garnered substantial ongoing support. 50 organizations participate in quarterly CHEERS discussions as stakeholders. The stakeholders provide guidance on actions and priorities and include community advocates, local grassroots organizations, community development corporations, public agencies, elected officials, non-profits, area schools, and local business owners. A list of 70 stakeholders and 20 Letters of Support for CH-I90 are attached.

Innovation

CH-I90 and CHEERS are examples of the Port's ongoing local leadership unleashing innovation to maintain navigation in Cleveland Harbor. Prior innovation included creation of the Sediment Processing and Management Facility (SMPF), a partnership with a private operator to process dredge for offsite beneficial use. The SMPF will continue to operate on an ongoing basis, assuring the highest and best use of any new CDF construction. The Port and project partners are coordinating with the USACE to develop a mutually beneficial partnership agreement (Section 217) to assure a 20-year solution to dredge material management aligning with federal standards.

Regional collaboration, extensive stakeholder and community engagement, and a final deliverable that provides benefits across diverse categories in perpetuity are differentiators of CHEERS. Project partners are working together to solve today's pressing local infrastructure issues with a commitment to long-term ecological and community benefits. The project is

pursuing Waterfront Edge Design Guidelines (WEDG) certification from the Waterfront Alliance, demonstrating best practices for a resilient, ecological, and accessible waterfront. Upon completion of CH-I90, a public park including shoreline marshes, upland pollinator habitat, trails, and expanded fishing opportunities will be constructed. The Port's existing Project Development Agreement with Cleveland Metroparks assures the Park District's management, operation, and stewardship of CH-I09 and CHEERS for public use and enjoyment.

CH-I90 – BUILD Innovation Merit Criteria:

- *High Importance: Innovative Project Structures*
  CH-I90 incorporates and strengthens remnants of a century-old, submerged stone structure, adding new stone to protect I-90 from wave action. The enhanced breakwater also serves as a confined disposal facility for dredged material from Cleveland Harbor, addressing the region's imminent capacity shortage while supporting the Port's $7-billion economic engine. The project advances Maritime Dominance and national priorities in shipbuilding, steel production, and manufacturing. After BUILD is complete, this innovative beneficial use of dredge material will be transformed into a public park and vital Lake Erie shoreline habitat. Long-term agreements ensure ongoing management, maintenance, and programming of this new asset. CH-I90 becomes the foundation for the broader CHEERS vision—a 40-year transformational investment that reshapes Cleveland's shoreline, strengthens economic vitality, and fosters the resurgence of urban neighborhoods.

- *High Importance: Innovative Project Delivery*
  The Port has had prior project delivery agreements through MARAD to implement projects with FHWA funding. The Port has received $52M in Federal-aid highway program funds in the past 10 years and has extensive experience in executing federally funded projects and federal grant management. Please reference Table 1, Project Description.

  Past project partnerships and successful delivery of infrastructure projects include models with the Port leading construction as Cleveland Metroparks and ODOT involvement continues ongoing phases of the project, as proposed for CH-I90. The involvement of additional state agencies assures a streamlined permitting process with the Ohio Department of Natural Resources and Ohio EPA.

- *Medium Importance: Financing methods that are new or innovative to the applicant or community*
  CH-I90 is the initial phase of the long term $500 million vision for CHEERS. Over $6 million is in hand for planning, design, and permitting. Commitments for an additional $4.1 million will fund initial stages of CH-I90. This complements $68 million in area infrastructure and facility upgrades along the project area, including $32 million in private / corporate philanthropy. As the long-term vision for CHEERS is implemented, federal funding for this regional infrastructure is essential. CHEERS is under consideration by the USACE for the 20-year DMMP, the only alternative with community support and a local sponsor commitment. BCA calculations for the overall CHEERS project indicate a community benefit of $3 for every $1 invested, illustrating the value of this locally led collaboration.

Project Readiness

Cleveland Harbor – Interstate 90 Maritime and Freight Fortification (CH-I90) is a 6.3-acre critical infrastructure initiative that will strengthen the long-term viability of maritime operations within Cleveland Harbor. CH-I90 **completed 90% design** in early February 2026, and active coordination is underway with the U.S. Army Corps of Engineers (USACE) and Ohio Environmental Protection Agency (OEPA).

Planning and Constructability

STIP/TIP

Upon notice of award of funding for the CH-I90, the Port will pursue amendment of the project to the Transportation Investment Program (TIP) and then the Statewide TIP (STIP). Note that as a policy, the region's metropolitan planning organization – the Northeast Ohio Areawide Coordinating Agency's (NOACA) – will not amend projects to its four-year, fiscally constrained TIP until funding commitments are received; therefore, the CH-I90 will be added to the TIP in the quarter following grant award announcements with STIP amendment to follow.

Consistency with Other Plans

The CH-I90, under the umbrella title of the larger 30-year Cleveland Harbor Eastern Embayment Resilience Strategy (CHEERS) project, completed NOACA's public engagement and intergovernmental review process and was **amended to the Long-Range Transportation Plan** (LRTP) on March 8, 2024.[17] CHEERS is a Priority Resilience Investment project in ODOT's 2024 Resilience Improvement Plan. Links to these plans and others are available on the project webpage at www.clevelandmetroparks.com/BUILD.

Freight Plans

This segment of I-90 is one of the most heavily traveled routes in Northeast Ohio, with an Average Annual Daily Traffic count (AADT) of 127,603 vehicles per day, including 5,105 trucks, providing access to 1,027,211 workers.[18] It is designated as part of the **National Truck Network** and as part of the **STRAHNET** (Strategic Highway Corridor Network), designated by the US Department of Defense as essential to national defense. I-90 is noted as a congestion risk Intensity 2.[19] I-90 is classified as a Primary Highway Freight System (PHFS) Route, which is the designation provided by the USDOT for the "most critical highway portions" of the nation's freight transportation system.

Property Acquisition/Right-of-Way

The project utilizes existing publicly owned land or public right-of-way and requires only a submerged land lease (SLL), the process for which has begun. The Ohio Department of Natural Resources (ODNR), a CHEERS project partner, issues the SLL.

Construction Techniques and Phasing

CH-I90 is planned as the first project of CHEERS to provide protection to a vulnerable stretch of shore along I90 and help define a process for receipt of federal dredge material from the

[17] https://www.noaca.org/home/showpublisheddocument/31131/638457488464770000.
[18] Ohio Department of Transportation Information Mapping System
[19] Ohio Department of Transportation Strategic Transportation & Development Analysis, 2024

Cuyahoga River Federal Navigation Channel and Cleveland Harbor by the USACE. CH-I90 plans to re-use and enhance the relic structures from water intake and outlet from a former power plant with additional breakwaters constructed to contain dredge material and for protection from wave-based erosion.

Proposed Schedule

Upon award announcement, the project will enter permitting immediately and construction and bid documents will be prepared. It is assumed that it will take approximately 12 months to finalize the federal grant agreement. Conservatively, permitting and finalization of the SLL will be complete by July 2028, and construction will occur from September 2028 to September 2029. This allows dredge material to be placed for two years through the project completion at the end of 2031, as shown in Table 8.

Table 8. Project Schedule

BUILD Proposed Project Schedule	
Preliminary design start	9/1/2022
Proceed with submerged land lease	6/30/2025
90% design complete	2/2/2026
Notice of BUILD Award	**6/28/2026**
Proceed with NEPA	6/30/2026
Proceed with permitting	6/30/2026
Proceed with 100% design	6/30/2026
Projected amended to the STIP/TIP	9/30/2026
Anticipated finalization of BUILD grant agreement	7/1/2027
Complete NEPA	**9/30/2027**
Permits received, incl. submerged land lease	**6/30/2028**
Begin construction	**9/15/2028**
Initial dredge placement cycle	9/15/2029
Complete construction	**12/31/2031**
Project closeout	6/30/2032

BUILD funds will only be used for the construction phase of CH-I90, which provides critical dredge storage capacity as other local facilities reach capacity and can no longer accept material, putting Cleveland Harbor dredge operations at risk. **This timeline is well in advance of the obligation deadline of September 30, 2030**. CH-I90 could easily meet an earlier obligation timeline of FFY 2029.

NEPA and Permitting

NEPA Class of Action

CH-I90 requires preparation of an Environmental Assessment (EA) considering and documenting potential environmental impacts and submittal to the lead federal agency for review. The agency will use the findings in the EA to determine whether to issue a Finding of No Significant Impact (FONSI) or to prepare an Environmental Impact Statement (EIS).

- **Much of the work to create the Environmental Assessment has been completed**:
  - Multiple alternatives have been considered through the iterative design process.
  - Potential impacts have been considered to the physical and biological environment including modeling of coastal processes, waves and shoreline protection along I-90.
  - Agency coordination has been initiated. The Ohio History Connection has provided a “no effects” determination and threatened and endangered species coordination has been completed for the full CHEERS project. Previous coordination will ensure the agencies are familiar with the CH-I90 project and purpose.

NEPA Status and Milestones

Documenting the impacts of the project, re-engaging with coordinating agencies, soliciting public input, and engaging with Native Tribes, is anticipated to take approximately three months. Once the EA is drafted and submitted to the lead federal agency, review of the EA and preparation of the FONSI or EIS is anticipated to take approximately six months. Once draft NEPA materials are available, they will be posted on the project webpage at www.clevelandmetroparks.com/BUILD. There are no planned re-evaluations anticipated prior to construction of CH-I90.

Permits and Approvals

CH-I90 will require authorization from the USACE pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. The project will also require a Water Quality Certification from the OEPA pursuant to Section 401 of the Clean Water Act. The project will also require a Shore Structure Permit, Submerged Lands Lease (SLL) Modification and Federal Consistency Certification from the ODNR pursuant to Ohio Revised Code Section 1506 and 16 USC 1456. Authorization for Private Aids to Navigation are also likely to be required from the U.S. Coast Guard (USCG).

- The federal and state permit applications can be prepared concurrent with preparation of the EA for NEPA clearance.
    - An initial application package will be prepared for submittal to the USACE and ODNR. The application package will include a USACE Application (Eng Form 4345), ODNR Coastal Permits and Lease Application form, application drawings, site photos, design calculations, a narrative alternatives analysis and an engineering memo regarding environmental impacts and restrictions (such as in-water work restrictions).
    - Once the USACE publishes a public notice or for the project, the OEPA application will be prepared and submitted. The application will include: an application form; impacts table; statement regarding waters delineation (with site photos); correspondence with the USACE, ODNR and U.S. Fish and Wildlife Service; a statement regarding jurisdictional determination; a narrative alternatives and antidegradation analysis; project mapping (with application drawings); a proposed mitigation and monitoring plan; and statements regarding wetland characterization and stream use attainability.
    - Once the USACE and ODNR permit reviews have progressed and it is determined that design revisions are not anticipated as a result of their technical reviews, an updated SLL Plat and Description will be prepared for the proposed lease modification. The U.S. Coast Guard application for Private Aids to Navigation can also be prepared.
- Pre-application coordination with the USACE, ODNR and OEPA has been initiated. Preparation of permit applications is anticipated to take approximately three months. Regulatory reviews are anticipated to take approximately 12 months.

Coordination with DOT

ODOT is a partner in the overall CHEERS project and has been included in the development and review of the shovel ready plans for CH-I90 (the initial component of CHEERS), and Ohio is a state with Innovative Project Delivery with NEPA delegation authority vested in ODOT, which

allows for accelerated reviews and coordination. ODOT's October 2024 **Statewide Resiliency Improvement Plan**[20] (RIP) identified shoreline protection along the segment of I-90 addressed in CH-I90 as a Priority Resilience Investment.

Project Support

Public and Agency Involvement Process

The project is the result of six years of planning, community engagement, and agency coordination lead by partners ODOT, ODNR, Black Environmental Leaders, the City of Cleveland, Cleveland Metroparks, and the Port, that committed to collaborating and focusing on the intense community input process, which built upon multiple pre-2020 Lakefront Plans. Engagement occurs at both the community and neighborhood scale:

- Community-Wide Engagement: Project partners and consultants host community-wide engagement activities a minimum of twice per year to keep residents of the region informed about project development and to gather input. Types of events range from in-person open houses to walking tours of the project site (walkshops), surveys, virtual meetings, and digital scavenger hunts. All meetings are held at transit and ADA-accessible locations.
- Neighborhood-Focused Engagement: **Outreach in the Glenville, St. Clair-Superior, and Asia Town neighborhoods in the city of Cleveland** includes the broader community-wide events described above, along with CHEERS representatives participating in neighborhood meetings, festivals, and events an average of six times per year.

Public and Agency Involvement Results

More than 50 organizations participate in quarterly CHEERS discussions as stakeholders. The stakeholders provide guidance on actions and priorities and include community advocates, local grassroots organizations, community development corporations, public agencies, elected officials, non-profits, area schools, and local business owners. **More than 2,000 individuals have been engaged with CHEERS.** Please see the Partnership and Collaboration criterion in the Merit Criteria file and Chapter 2 of CHEERS 2021 Initial Study on the project webpage to view engagement summaries and documents of past planning efforts.

CH-I90 is highly supported by **elected officials, governmental bodies, community groups, and local businesses**. More than 20 letters of support and commitment appear in the Letters of Support File.

Risks and Mitigation

Due to the ongoing public, stakeholder, and agency involvement since 2020, 90% design status, and work underway towards permitting, the CH-I90 project presents with very little risk. The project was developed through a partnership with six agencies, including ODOT and ODNR. Material cost increases present the only risk to the project; however, this risk is relatively small as nearly all material costs are to purchase large armoring stones that will be sourced from local

[20]Ohio Department of Transportation Resilience Improvement Plan, October 2024

quarries. There are no anticipated waivers for domestic preference, and all materials will be Buy America/Build America compliant.

Applicant Capacity

The Port has demonstrated competency with receiving and managing federal grants and the staff has the capacity and experience to effectively manage CH-I90. A list of federal grants received and administered by the Port is available in the Project Description, Table 1.

Roles and Responsibilities

- Port staff are committed to overseeing construction of CH-I90 and coordinating with USACE for dredge placement operations. The Port will provide long-term operation and maintenance for the breakwaters in accordance with ODNR's Coastal Engineering Manual.
- ODOT owns and manages I-90 and supports this application as CHEERS is a critical project to provide long-term solutions to the detrimental effects of weather events on I-90 and safety.
- Cleveland Metroparks is the metropolitan Park District serving 49 communities in Northeast Ohio, and has co-managed the development of construction documents for CH-I90 and the post-BUILD park development. Once CH-I90 is complete, Cleveland Metroparks will develop, manage, and maintain the public greenspace and habitat areas within the project area.

Federal Funding & Federal Regulations

The Port has extensive experience in planning, design, and construction of federally funded projects and federal grant management and has successfully met all reporting requirements for grants received to date. The Port has received more than $52 million in federal-aid highway program funds in the past 10 years and over $150 million in overall federal funding, as summarized in the Project Description section.

- The Port is approved by ODOT as a local public agency to let projects. As such, it submits documentation demonstrating its ability to deliver projects in compliance with all relevant federal regulations, including Title VI/Civil Rights. The Port has received federal funding from multiple agencies, including USDOT through MARAD and FHWA.
- The Port has a long history and solid reputation for administration of federal and state grants in full compliance with NEPA, Buy America, Davis-Bacon, and other federal requirements.

Project Planning & Project Delivery

The Port has long been a member of the NOACA Board of Directors and has experience programming projects onto the TIP/STIP through the MPO planning process. Further, the Port has worked extensively with ODOT, which is also one of the six members of the CHEERS partnership.

The Port has deep experience with federal construction projects and will effectively bid and manage CH-I90. Upon completion, the Port will continue to maintain the breakwater elements while Cleveland Metroparks has committed to overseeing the funding and construction of the future habitat and park elements, along with long-term management, maintenance, and programming of the future park as part of Lakefront Reservation and the overall CHEERS project.