



Completing the I-95 Missing Move and Ramps to Quonset Business Park

Directing Freight Away from Local Roads



PROGRAM NAME: MULTIMODAL PROJECT DISCRETIONARY GRANT OPPORTUNITY (MPDG)
PROJECT SPONSOR: RHODE ISLAND DEPARTMENT OF TRANSPORTATION (RIDOT)
SPONSOR ADDRESS: 2 CAPITOL HILL, PROVIDENCE, RI
DATE SUBMITTED: MAY 23, 2022
PROJECT WEBSITE: <http://www.dot.ri.gov/projects/MissingMove2022/>



BASIC PROJECT INFORMATION	
What is the Project Name?	Completing the I-95 Missing Move and Ramps to Quonset Business Park
Who is the Project Sponsor?	Rhode Island Department of Transportation (RIDOT)
Was an application for USDOT discretionary grant funding for this project submitted previously?	Yes <u>Previous Title:</u> I-95 'Missing Move' and Quonset Ramps Construction <u>Grant:</u> INFRA (FFY2021)
A project will be evaluated for eligibility for consideration for all three programs, unless the applicant wishes to opt-out of being evaluated for one or more of the grant programs.	<input type="checkbox"/> Opt-out of Mega? <input type="checkbox"/> Opt-out of INFRA? <input type="checkbox"/> Opt-out of Rural?

PROJECT COSTS	
MPDG Request Amount	Exact Amount in year-of-expenditure dollars: <u>\$81,000,000.00</u>
Estimated Other Federal Funding (excl. MPDG)	Estimate in year-of-expenditure dollars: <u>\$27,000,000.00</u>
Estimated Other Federal Funding (excl. MPDG) further detail	Other Federal funding from Federal Formula dollars: <u>\$27,000,000.00</u> Other Federal funding being requested from other USDOT grant opportunities?: <u>\$0.00</u> From What Program(s)?: <u>N/A</u>
Estimated non-Federal funding	Estimate in year-of-expenditure dollars: <u>\$27,000,000.00</u>
Future Eligible Project Cost (<i>Sum of previous three rows</i>)	Estimate in year-of-expenditure dollars: <u>\$135,000,000.00</u>
Previously incurred project costs (<i>if applicable</i>)	Estimate in year-of-expenditure dollars: <u>\$1,100,000.00</u>



PROJECT COSTS	
Total Project Cost (Sum of 'previous incurred' and future eligible)	Estimate in year-of-expenditure dollars: <u>\$136,100,000.00</u>
INFRA: Amount of Future Eligible Costs by Project Type	<p>1) A highway freight project on the National Highway Freight Network: <u>\$135,000,000.00</u></p> <p>2) A highway or bridge project on the National Highway System: <u>\$135,000,000.00</u></p> <p>3) A freight intermodal, freight rail, or freight project within the boundaries of a public or private freight rail, water (including ports), or intermodal facility and that is a surface transportation infrastructure project necessary to facilitate direct intermodal interchange, transfer, or access into or out of the facility: <u>\$0</u></p> <p>4) A highway-railway grade crossing or grade separation project: <u>\$0</u></p> <p>5) A wildlife crossing project: <u>\$0</u></p> <p>6) A surface transportation project within the boundaries or functionally connected to an international border crossing that improves a facility owned by fed/state/local government and increases throughput efficiency: <u>\$0</u></p> <p>7) A project for a marine highway corridor that is functionally connected to the NHFN and is likely to reduce road mobile source emissions: <u>\$0</u></p> <p>8) A highway, bridge, or freight project on the National Multimodal Freight Network: <u>\$135,000,000.00</u></p>
Mega: Amount of Future Eligible Costs by Project Type	<p>1) A highway or bridge project on the National Multimodal Freight Network: <u>\$135,000,000.00</u></p> <p>2) A highway or bridge project on the National Highway Freight Network: <u>\$135,000,000.00</u></p> <p>3) A highway or bridge project on the National Highway System: <u>\$135,000,000.00</u></p> <p>4) A freight intermodal (including public ports) or freight rail project that provides public benefit: <u>\$0</u></p> <p>5) A railway highway grade separation or elimination project: <u>\$0</u></p> <p>6) An intercity passenger rail project: <u>\$0</u></p>



PROJECT COSTS	
	<p>7) A public transportation project that is eligible under assistance under Chapter 53 of title 49 and is a part of any of the project types described above: <u>\$0</u></p> <p>8) A grouping, combination, or program of interrelated, connected, or dependent projects of any of the projects described above <u>\$135,000,000.00</u></p>
Rural: Amount of Future Eligible Costs by Project Type	<p>1) A highway, bridge, or tunnel project eligible under National Highway Performance Program: <u>\$135,000,000.00</u></p> <p>2) A highway, bridge, or tunnel project eligible under Surface Transportation Block Grant: <u>\$135,000,000.00</u></p> <p>3) A highway, bridge, or tunnel project eligible under Tribal Transportation Program: <u>\$0</u></p> <p>4) A highway freight project eligible under National Highway Freight Program: <u>\$135,000,000.00</u></p> <p>5) A highway safety improvement project, including a project to improve a high risk rural road as defined by the Highway Safety Improvement Program: <u>\$5,000,000.00</u></p> <p>6) A project on a publicly-owned highway or bridge that provides or increases access to an agricultural, commercial, energy, or intermodal facility that supports the economy of a rural area: <u>\$135,000,000.00</u></p> <p>7) A project to develop, establish, or maintain an integrated mobility management system, a transportation demand management system, or on-demand mobility services: <u>\$0</u></p>

PROJECT LOCATION	
State(s) in which project is located	Rhode Island
INFRA: Small or Large Project	Large

PROJECT LOCATION	
Urbanized Area in which project is located, if applicable	Providence, RI-MA
Population of Urbanized Area (According to 2010 Census)	1,190,956 (2010 Census)
Is the project located (entirely or partially) in Area of Persistent Poverty of Historically Disadvantaged Community?	No
Is the project located (entirely or partially) in Federal or USDOT designated areas	No
Is the project programmed in the: <ul style="list-style-type: none"> • TIP • STIP • MPO Long Range Transportation Plan • State Long Range Transportation Plan • State Freight Plan 	<ul style="list-style-type: none"> • Yes • Yes • Yes • Yes • Yes

Contact Information

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COVER LETTER

Dear MPDG Review Team:

Rhode Island Department of Transportation (RIDOT) is partnering with the Quonset Development Corporation (QDC) to request \$81 million in MPDG Grant funding support to support **Completing the I-95 Missing Move and Quonset Connector Ramps**. This \$135 million project will complete the final link in Rhode Island's "missing move" between I-95 and RI-4, and construct three ramps providing direct freeway access from Quonset Business Park (QBP) to RI-403.

Improving infrastructure and creating jobs has been at the core of the RIDOT mission for the past seven years, which started with developing state-of-art project management practices and passage of the landmark 2016 RhodeWorks law.

Since then, RIDOT has committed time and resources to making unprecedented and accelerated progress in repairing the state's infrastructure, and now, despite the COVID-19 crisis, and a harsh winter season, we're having another unprecedented year.

RIDOT has already programmed the influx of \$575 million in Infrastructure and Investment Jobs Act (IIJA) funding into its 10-year plan to accelerate more than 100 projects valued at some \$2 billion, starting them an average of four years sooner than originally planned. Because of RhodeWorks, RIDOT is confident it can deliver these projects at the highest quality, while minimizing disruption to the public and maintaining its excellent on-time and on-budget performance – which in the past quarter remained at nearly 100 percent.

Following the successful RhodeWorks playbook, the "Completing the I-95 Missing Move and Ramps to Quonset Business Park," project improves safety, generates economic benefits, reduces congestion, and will help eliminate supply chain bottlenecks by improving critical freight movements linking Rhode Island's busiest industrial park and port facility to the I-95 corridor in a more efficient and safe manner.

For our Department, it's not just about providing shovel-ready projects. With this MPDG grant application we have developed a shovel-worthy project, one that will move freight in a straight-forward, efficient manner to improve the lives of countless Rhode Islanders near this important highway corridor at I-95 and Route 4 in East Greenwich, Warwick and North Kingstown, RI.



RIDOT received a \$4 million BUILD planning grant in 2020 to begin planning and engineering studies to support the I-95 ‘Missing Move’ and Quonset Ramps Construction and determine its environmental feasibility. FHWA-RI has approved a categorical exclusion (CE) for the project and preliminary engineering is underway.

The continued prosperity of QDC is largely dependent on the success of this project because the more than 200 industrial and commercial businesses located in the Park, its 12,200 employees, and users of the Port of Davisville require a more direct connection to I-95 South. Located on former Navy base lands, the Park is also disjointed by a connection of local roads that are not conducive to heavy truck traffic. The ramps to the West Davisville district of the Park were not completed in the creation of Route 403 in 2008.

This project encompasses RhodeWorks’ goals of improving public safety and stimulating economic growth by connecting the entire state to an employment center that affords many good-paying, often union, jobs. This project offers Rhode Island big-picture progress that will last long after the end of the slated 10 years of the State Transportation Improvement Program (STIP). It also brings quiet and safety to people living in nearby affordable-housing, now on a heavy-truck route, and leverages the federal investment MPDG provides with matching funds from our partner and the state’s transportation funds.

It is time to fully connect Quonset’s businesses and other travelers in the southern portion of the state to I-95. The state’s economic health and vitality depend on this MPDG award.

Sincerely,

Peter Alviti, Jr., PE
Director
Rhode Island Department of Transportation



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I. PROJECT DESCRIPTION

Rhode Island Department of Transportation (RIDOT) and Quonset Development Corporation (QDC) request \$81 million from the Multimodal Project Discretionary Grant (MPDG) Program to support **Completing the I-95 Missing Move and Ramps to Quonset Business Park**. This \$135 million project is a public-private partnership to construct several critical connections for freight movement in Southern New England.

As the name suggests, this project is about completing unfinished plans. Spanning three towns in central Rhode Island, this project has two components linked by a three-mile stretch of RI Route 4 (Route 4), a limited-access freeway and essential north-south connection for 63,000 daily vehicles.

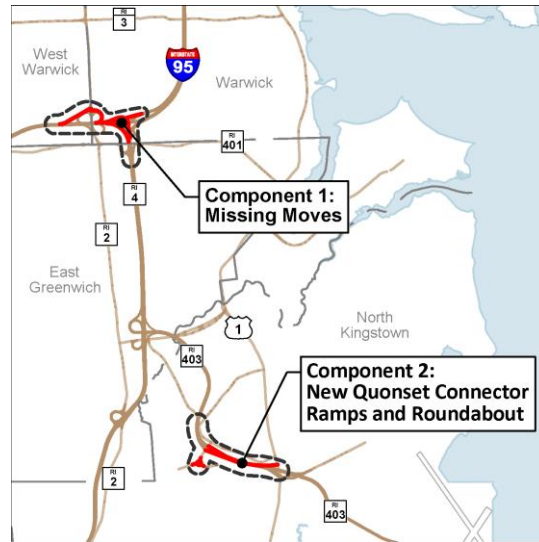


Figure 1 -- Project Overview

Component 1 will complete the "Missing Movements" between Interstate 95 (I-95) and Route 4, completing a direct freeway connection at one of the busiest junctions in the state and removing traffic from local roads.

Component 2 will construct three ramps to service RI Route 403 (RI-403) which were deferred during initial construction, expanding access to Quonset Business Park (QBP) and improving safety in nearby neighborhoods.

This project will directly address all six of the Project Outcome Criteria identified in the Notice of Funding Opportunity (NOFO) as shown in the figure below.

Figure 2 -- Project Outcome Criteria Implementation Strategies

Project Outcome Criteria	Implementation Strategy
Safety	<ul style="list-style-type: none"> • Congestion will be alleviated by removing traffic from local roads • High-friction surface treatments will reduce roadway departures
State of Good Repair	<ul style="list-style-type: none"> • Construction of new ramps, bridges, roads, guardrail, and signals • Alleviation of congestion on local roads will reduce wear and tear
Economic Impacts, Freight Movement, & Job Creation	<ul style="list-style-type: none"> • Freight operations will improve by addressing a Top-20 bottleneck in the state • Travel time savings will reduce traffic delays by thousands of hours each year
Climate Change, Resiliency, and Environment	<ul style="list-style-type: none"> • Reduction of greenhouse gas emissions by up to 500 tons per year • Strengthening an emergency evacuation route
Equity, Multimodal Operations, and Quality of Life	<ul style="list-style-type: none"> • Benefits to low-income and minority communities by reducing local traffic • Improving access to QBP and creation of high-quality jobs
Innovation Areas: Technology, Project Delivery, Financing	<ul style="list-style-type: none"> • Modernization of Intelligent Transportation Systems infrastructure • Accelerated delivery using design-build procurement

(a) Concise Description of the Project

i. Component 1, The Missing Moves



Figure 3 -- Component 1 Detail

The primary focus of this project is the installation of two "missing moves" between Interstate 95 (I-95) and Route 4 (RI-4) in the City of Warwick and the Towns of East Greenwich, and West Warwick, Rhode Island. One ramp will use a new bridge overpass to link RI-4 North to I-95 South. The other will use existing right-of-way for an at-grade link between I-95 North to RI-4 South. To accommodate the new structures, 0.7 miles of I-95 will shift south, and the existing ramp from RI-2 North to I-95 South will be removed. Geometry improvements will allow a single bidirectional ramp to link I-95 South and RI-2.

ii. Component 2, The Quonset Connector Ramps

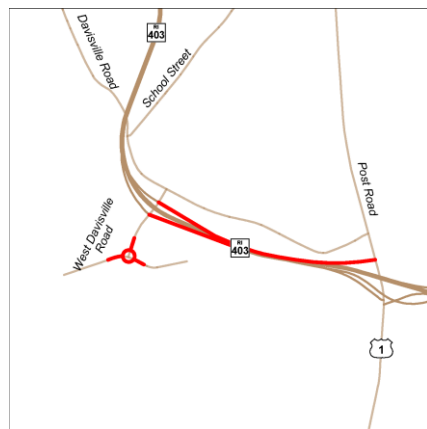


Figure 4 -- Component 2 Detail

Component 2 of this project will construct three ramps on RI-403 in North Kingstown to connect the main portion of Quonset Business Park (QBP) to its West Davisville District via limited-access highway. The ramps will allow heavy trucks and freight traffic freeway access without using local roads. One ramp will link US-1 to RI-403, and two others will connect RI-403 to West Davisville. Component 2 will also construct a roundabout south of RI-403 at Compass Circle. **QDC has committed \$2 million to support this project, increasing the non-federal match by 1.4% to 21.4%.**

(b) Addressing Transportation Challenges

i. Congestion and Safety at the I-95 Interchange

There are two "missing moves" between I-95 and Route 4. Vehicles on Route 4 North cannot reach I-95 South, and vehicles on I-95 North cannot reach Route 4 South without exiting the highway and traveling on RI-401 (Division Street) and RI-2, urban arterial roadways which provide access to a mix of large retail, commercial, industrial, office, and academic developments. The volume of traffic generated by vehicles completing the missing links from I-95 to Route 4 using the RI-2 and RI-401 corridor imposes increased congestion upon adjacent communities. Vehicles completing the missing movements must negotiate at least 3 signalized intersections to reenter the freeway.

This project will address this challenge by providing a direct connection between I-95 and Route 4 to reduce interchange-related traffic congestion and improve commuter and freight networks.

As Section VII details, the new ramps will construct two bridges, about 1,800 linear feet of ramp, 750 feet of auxiliary lane and 3,500 feet of new roadway to facilitate the improved connection. 3,800 feet of mainline I-95 South will also be shifted to the south 90 feet to allow for the new ramp from Route 4 North to merge with the existing I-95 South corridor.

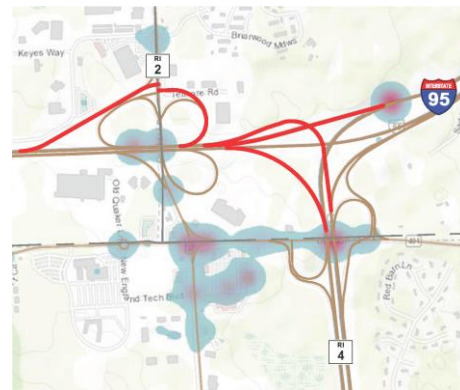


Figure 5 -- Crash Heatmap Near I-95 and RI-4

ii. Noise, Pollution, and Quality of Life Near RI-403

The original Route 403 project was completed in 2008 but construction of three ramps was deferred to contain costs. The deferred ramps were designed to remove commuting and freight traffic from local residential streets, and with the QBP's continued growth into one of the largest economic engines in the state, the missing ramps have become a significant transportation challenge for the park and the surrounding area.

QBP is split into two areas: the main business park, and the West Davisville district. Trucks traveling between the two areas use local roads near low-income housing, creating noise, pollution, and safety concerns. Freight operators frequently miss turns and end up on local roads near retail establishments and the Quonset Bike Path. **This project will address this challenge by providing direct access to RI-403 from US-1 and West Davisville, reducing freight use on local roads and improving safety and air quality.** Connecting the two sections of QBP via currently missing RI-403 ramp makes business sense for the park and its industrial tenants, but it will also improve the quality-of-life for those who live and work along Devil's Foot Road and Post Road in North Kingstown.

(c) Project History

The origins of Route 4 date back to 1952, when construction began on a short arterial from US-1 to the modern location of Exit 3 at RI-2 and RI-102 in North Kingstown. In 1965, the Rhode Island Department of Public Works (now RIDOT) constructed a 5.4-mile freeway from modern RI-102 to the I-95 merge. As the state grew, so have the demands on Route 4. It serves Quonset Business Park (QBP) and the Port of Davisville via RI-403, which house more than 200 businesses. Route 4 also serves summer tourist traffic, providing a direct route to beaches, the City of Newport, and Block Island and Martha's Vineyard ferry service.

i. Studying Potential Improvements

RIDOT completed a draft Interstate Access Change Request in 2016 to study the impact of adding the missing movements between I-95 and RI-4. In 2019, Quonset Development Corporation (QDC) submitted a BUILD Grant application to construct the three ramps in Component 2 which did not receive an award but opened a dialogue between the entities about a project to combine the two components presented here.

In 2020, [RIDOT and QDC received a \\$4 million BUILD planning grant](#) to begin engineering the project and determine its environmental feasibility. RIDOT and QDC applied for an INFRA grant in 2021 to support construction but did not receive an award.

ii. Progress Since the 2021 INFRA Application

Since 2021, the project scope has been refined and critical items advanced, including:

- Approval of the Interchange Justification Report (IJR) by FHWA;
- Completion of Section 106 and 4(f) reviews for both project components;
- Submission of a Categorical Exclusion (CE) to FHWA for NEPA review;
- Approval of the Categorical Exclusion for Component 2;
- Coordination with utility companies to secure conceptual plans;
- Advancement of designs including surveys and wetlands flagging; and
- Approval of a design exception to retain the existing conditions on I-95 South.

(d) Placing the Project in Broader Context

Nearly 300,000 vehicles circulate through the project areas daily, including commuters, commercial freight operators, and a steady stream of tourists and beachgoers in the summer months. This project is being built almost entirely on existing state-owned right-of-way. The efficient preliminary design presented in this application resists falling into the pattern of over-builds prominent in mid-century highway construction.

Recent, ongoing, and upcoming projects in the surrounding area (shown in a map in Appendix A-5) total \$237.5 million. The project will support economic competitiveness by improving access to growth areas in southern Rhode Island, home to a large area of beaches and tourism in addition to some of the most pristine wooded and rural areas on the East Coast. RI-4 is known as the “gateway to South County”. The project will also incentivize the continued development of the Quonset Business Park and Port of Davisville.

II. PROJECT LOCATION

This project is located in south-central Rhode Island, spanning four municipalities: the City of Warwick and the Towns of East Greenwich, North Kingstown, and West Warwick, Rhode Island. Figure 6 shows the location of the project. These four communities range from urban to suburban and include a mix of residential areas, tourist attractions, and some of the largest employment centers and academic institutions in the state. Quonset Business Park, the New England Institute of Technology (NEIT), the Community College of Rhode Island (CCRI), Kent Hospital, the Port of Davisville, Rhode Island T.F. Green International Airport, Camp Fogarty Training Center, and several state parks and beaches are all located near the project area.

Component 1 of this project includes the interchanges between I-95, RI-2, and RI-4. The interchange is located at mile marker 24.6 on I-95 and spans the border of Warwick, East Greenwich, and West Warwick. The project limits on RI-4 are the I-95 Interchange to the north and the point at which realignment would need to begin to the south, roughly 1,500 feet south of the Division Street Bridge. On I-95, the north limit is approximately 2,500 feet north of the existing ramp linking I-95 South to RI-4 South. The south limit is the end of the ramp linking RI-2 to I-95 South.

Component 2 of this project covers the eastern end of RI-403 between West Davisville Road and US-1/Post Road. It is located entirely within the Town of North Kingstown. RI-403 was completed in 2008 without three deferred ramps to provide a direct connection to the West Davisville district of QBP and US-1. This project will construct Ramps WD-C and WD-D at the West Davisville interchange, and Ramp C at the US-1 interchange. Component 2 also includes a roundabout at West Davisville Road and Compass Circle.

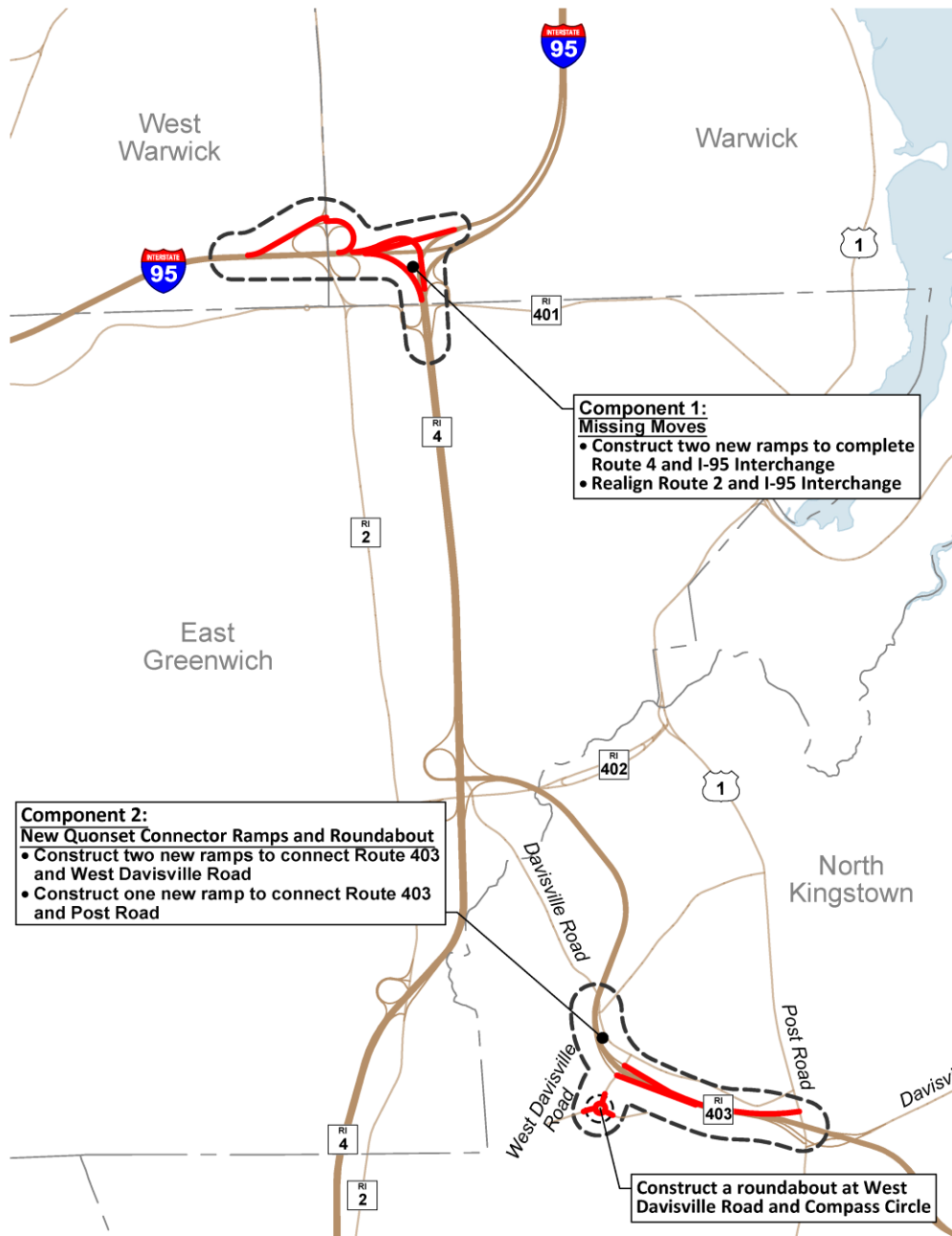


Figure 6 -- Detailed Project Overview Map

(a) Areas of Persistent Poverty

This project is not located in an area of persistent poverty.

(b) Historically Disadvantaged Communities

This project is not located in an area that meets the federal definition of an historically disadvantaged community. However, FHWA's Historically Disadvantaged Mapping Tool shows disadvantages in all affected census tracts.

The Rhode Island Division of Statewide Planning conducted a Transportation Equity Benefits Analysis (TEBA) for this project, which is included as a memorandum in Appendix A-10.

The TEBA analysis shows that all the census tracts impacted by this project meet the state's significant presence threshold for several Special Population Groups (SPGs), including but not limited to low-income households, female-led households with young children, and individuals with disabilities. This project will make arterial and local roads safer, improving the quality of life for residents in all four affected communities. Figure 7 summarizes the affected tracts by special designation.

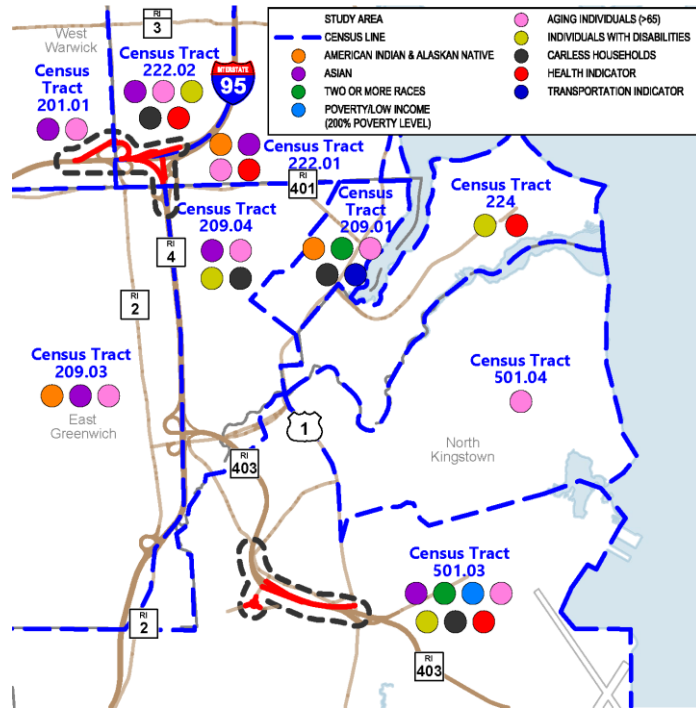


Figure 7 -- Equity Analysis by Census Tract

(c) Census-Designated Urbanized Area

This project is located entirely within the Providence, RI-MA urbanized area.

(d) Community Development Zones

This project is not located in a community development zone.

III. PROJECT PARTIES

(a) Lead Applicant

The [Rhode Island Department of Transportation \(RIDOT\)](#) is the lead applicant and will be responsible for administering grant funds and managing this project. RIDOT designs, constructs, and maintains the state's surface transportation system, including roads, bridges, rail stations, toll gantries, bike paths, and ferry services. RIDOT has extensive experience with receipt and expenditure of federal transportation funds. Since 2016, RIDOT has received [11 grant awards totaling \\$245.1 million in the past 6 years](#). These funds have been leveraged to support nearly **\$1 Billion** in total infrastructure investments.



(b) Other Public and Private Parties

Quonset Development Corporation (QDC) is the co-applicant for this project. [QDC is providing \\$2 Million in matching funds](#) and supporting staff resources. QDC will coordinate with RIDOT to monitor progress, review upcoming tasks and meet with RIDOT as required to review progress, updates on milestones, and review planning outcomes.



Figure 8 – QDC Logo

IV. GRANT FUNDS, SOURCES, AND USES OF ALL PROJECT FUNDING

(a) Project Budget

I-95 ‘Missing Move’ and Quonset Ramps Construction has an estimated future eligible cost of \$135 Million, including design, construction, soft costs, and contingencies. Figure 9 shows how each source of funds will be spent for each major activity and the proposed share for non-federal, MPDG, and other federal funds.

Figure 9 -- Project Budget by Phase, Component, and Funding Source

Phase	Component 1 Missing Moves @ I-95 and RI-4 (\$)	Component 2 Quonset Ramps (\$)	Contingencies (\$)	Total Budget (\$)	Non-Federal Share (\$) 20 %	MPDG Share (\$) 60 %	Other Federal Share (\$) 20%
Design & Permitting	\$630,000	\$432,000	\$118,000	\$1,180,000	\$236,000		\$944,000
Design & Construction Initiation	\$4,851,000	\$1,971,000	\$758,000	\$7,580,000	\$1,516,000		\$6,064,000
Construction Phase 1	\$43,650,000	\$17,910,000	\$6,840,000	\$68,400,000	\$13,680,000	\$50,000,000	\$4,720,000
Construction Phase 2	\$16,380,000	\$9,810,000	\$2,910,000	\$29,100,000	\$5,820,000	\$21,000,000	\$2,280,000
Construction Phase 3	\$6,660,000	\$4,612,500	\$1,252,500	\$12,525,000	\$2,505,000	\$10,000,000	\$20,000
Closeout & Other	\$9,729,000	\$4,864,500	\$1,621,500	\$16,215,000	\$3,243,000		\$12,972,000
Total	\$81,900,000	\$39,600,000	\$13,500,000	\$135,000,000	\$27,000,000	\$81,000,000	\$27,000,000

i. Previously Incurred Expenses

RIDOT has hired Commonwealth Engineering to support preliminary engineering on this project. Approximately \$1.1 million has been spent on scoping and NEPA to date.

ii. Future Eligible Costs

This project has a future eligible cost of \$135 million, including design, construction, staff time, project closeout, and contingencies. The \$4 million BUILD Planning grant awarded in 2020 is counted separately.

iii. Sources and Amount of Funds for Future Eligible Costs

This project will be supported by a combination of MPDG (\$81 million; 60%), other federal (\$27 million; 20%), and non-federal funding (\$27 million; 20%). Other federal funds will be derived from annual formula funding. Non-federal funds will come from a combination of state funds and a \$2 million contribution from QDC.

iv. Documentation of Funding Commitments for Non-Federal Funds

Funding is committed to this project in Rhode Island's STIP, which only identifies funding types in the constrained years (FFY2022-2025). The STIP includes \$13.77 million in non-federal funds in those years. Additional state funds will be committed in the outyears as match. The STIP Project Page is attached as Appendix A-9.

v. Federal Funds to be Used for Future Eligible Project Costs

As Figure 9 shows, this project will use \$81 million from the MPDG program and \$27 million in federal formula funds to support design and construction.

vi. Amount, Nature, and Source of Non-Federal Match

As shown in Appendix A-9, the FFY22-31 STIP already identifies \$13.77 million in non-federal match to support this project. If the requested \$81 million is awarded, the remaining \$13.23 million in non-federal match will be programmed in the outyears of the STIP.

(b) Budgeted Contingency Amounts

The budget for this project includes \$13.5 million for contingencies, or 10% of the total project budget.

(c) Limit on Freight Rail, Port, and Intermodal Infrastructure

No portion of this project is subject to the limit on freight rail port, and intermodal infrastructure described in the INFRA program statute.

(d) How All Project Funds May Be Used

Apart from the requested MPDG funding, no funding for this project requires satisfying any unique conditions.

V. PROJECT OUTCOME CRITERIA

(a) Criterion #1: Safety

This project addresses several safety issues caused by existing road conditions. A crash analysis conducted to support the Interchange Justification Report (IJR) for Component 1 (The Missing Moves) examined a three-year period and identified 1,000 accidents on freeway segments and 500 on arterial roads in the vicinity of RI-4 and I-95. Of the freeway incidents, more than half were rear-end collisions, likely attributable to congestion. Apart from the RI-2 / I-95 SB Off-Ramp intersection, all the surface road intersections in the study area will have a sharp decline in traffic volume as a result of the proposed action. The decline in surface road volumes will improve safety and is expected to decrease the existing high accident rates experienced at most of the study intersections. In addition, traffic analyses conducted to support this grant application determined that high-friction surface treatments on the horizontal curve linking RI-4 North to I-95 North may reduce crashes by up to 50% per year.

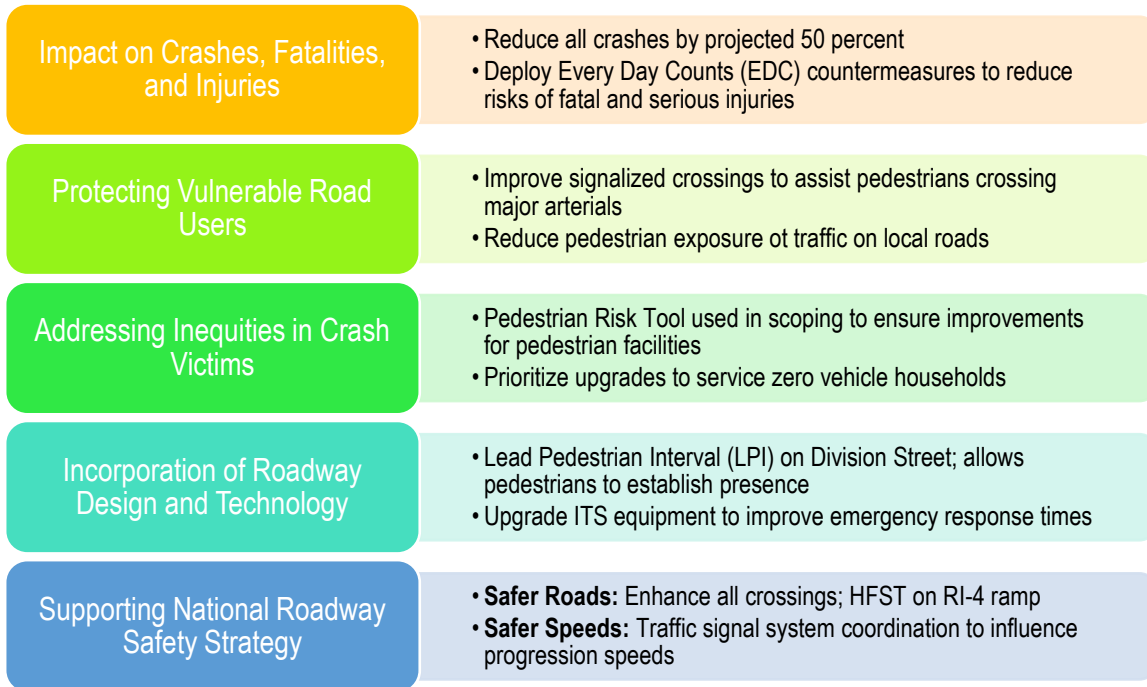


Figure 10 -- Summary of Project Safety Strategies

Near RI-403, 56 crashes per year were identified within the Component 2 work area over 5 years. By redirecting traffic away from local roads and onto RI-403, this project will remove 2,500 daily vehicles, mostly heavy trucks and commuter traffic, from local roads like Devil's Foot Road, an area where 1 in 5 households has school-aged children. The safety improvements in this project will have a positive impact on the number, rate, and consequence of crashes, protect vulnerable roadway users, address inequities, incorporate technology, and utilize the NRSS to improve safety. Figure 10 identifies specific strategies.

(b) Criterion #2: State of Good Repair

This project will maintain the highway infrastructure system in a state of good repair by modernizing core infrastructure to service local, regional, and freight travel requirements. The pavement and bridges within the project limits are in fair condition. A 30-year lifecycle management plan is included in the attached BCA and summarized in section V.(b).iii.

i. Aligning With Transportation Asset Management Plans

RIDOT’s primary objective is achieving and maintaining a State of Good Repair (SOGR). RIDOT’s asset management goals are laid out in [state law](#), and in RIDOT’s federally-approved [2019 Transportation Asset Management Plan \(TAMP\)](#). All RIDOT assets are inspected and maintained by RIDOT’s Division of Highway and Bridge Maintenance. RIDOT is leveraging the Bipartisan Infrastructure Law (BIL) to increase its commitment to asset preservation. In February 2022, RIDOT added BIL funds to the STIP, dedicating \$195 million in additional funding to support bridge and pavement maintenance activities.

ii. Addressing Current and Projected Vulnerabilities

The proposed action is needed to shift traffic from local roads, improving level-of-service on all affected routes. This project will reduce threats to efficient freight movement by improving travel times and decreasing

freight traffic on local roads. In a no-build scenario, rising levels of through traffic on local roads would accelerate asset deterioration and increase lifecycle management costs. In addition, the safety improvements detailed in Section V.(a) and the attached BCA will address existing road user vulnerabilities.

iii. Planning to Maintain Infrastructure in a State of Good Repair

The attached BCA includes a detailed lifecycle management plan to maintain all assets constructed by this project. RIDOT estimates maintenance and preservation costs to maximize asset lifespans will total \$31.445 million over 30 years.

Task	Cost
Bridge Maintenance	\$20,005,000
Pavement Maintenance	\$11,440,000
Total	\$31,445,000

Figure 11 -- Lifecycle Management Costs Over 30 Years

Pursuant to FHWA’s published Policy on Using Bipartisan Infrastructure Law Resources to Build a Better America, this project will improve the condition and safety of existing state-owned transportation infrastructure within the right-of-way.

(c) Criterion #3: Economic Impacts, Freight, and Job Creation

i. Improving System Operations

This project makes up a large portion of the Primary Freight Network in Rhode Island. Construction of Component 1 alone is expected to generate 1,125 jobs and increase economic output by \$134,149,888 (\$ 2016). According to the [2020 Congestion Management Plan](#), RI-4 at I-95 is the #19 ranked congested bottleneck in the state. This project will reduce congestion, improving one of the state’s top bottlenecks.

ii. Improving Multimodal Transportation Systems

This project will shift car and truck traffic from local and arterial roads creating a safer environment for transit users on and around RI-2, Devil's Foot Road, and US-1.

iii. Decreasing Transportation Costs

This project will improve the National Highway Freight Network, reducing congestion on primary freight corridors and improving travel times for commercial freight vehicles by more than 20,000 hours per year.

iv. Improving Economic Strength of Regions and Cities

Both project areas are located just a few miles from Rhode Island’s rural communities. The improvements outlined in this application will strengthen rural communities’ access to major roadways and by extension, national and international trade markets, encouraging regional economic development and creating new job opportunities.

v. Enhancing Recreational and Tourism Opportunities

RI-4 is known as the “gateway to South County”; a large area of beaches, tourism and economic vibrance in addition to some of the most pristine wooded and rural areas on the East Coast. In the summer, daily drivers on Route 4 increase by 11-13 percent on average due to beach traffic. Many beachgoers are from out of state and find it challenging to navigate the signalized moves at RI-4 and I-95. This project will eliminate that confusion and improve access to tourist destinations including the Martha’s Vineyard Fast Ferry, Quonset State Airport, Seabee Museum and National Park, John H. Chafee Rome Point Preserve, Historic Wickford Village, and dozens of town and state managed beaches and parks.

vi. Creating High-Quality Jobs



Figure 12 -- Employment at QBP

Since 2005, Quonset Business Park (QBP) has created more than 4,000 jobs. The average wage at the Park is 19 percent higher than the statewide average. QBP created \$1.28 billion in income for Rhode Island households in 2018, and workers employed by businesses at QBP received \$688.7 million in direct earnings. According to the Bureau of Labor Statistics (BLS), 17.8 percent (81,000) of Rhode Island private and public sector workers were union members in 2020. Among the 50 states, Rhode Island reported the third highest union membership rate. Union members and workers whose jobs are covered by a union or employee association contract represent 19.1 percent of Rhode Island’s wage and salary workers, 7 percent higher than the national average. Ironworkers (Local 37) are employed in various vertical construction projects at QBP, and more will be added to support this \$135 million project.

Teamsters members at QBP include car haulers at NORAD Inc. UPS, JF Moran and others employ drivers that frequently use the routes affected by this project. In addition, RIDOT and its vendors have partnered with the Laborers International Union of North America (LIUNA) to not just provide jobs, but help create long-lasting, good-paying careers in the construction field.

vii. Workforce Opportunities for Historically Underrepresented Groups

RIDOT is expanding its Highway Construction Workforce Partnership (HCWP) pilot to proactively address workforce development challenges under its partnership with the nonprofit [Building Futures](#), which operates a nationally recognized quality pre-apprenticeship program(s) for underrepresented populations. RIDOT’s State Transportation Employment Program (STEP), provides well-prepared diverse candidates for Registered Apprenticeship employment in the OJT/SS program. RIDOT’s primary contractors are signatory to collective-bargaining agreements with the member unions of the Rhode Island Building & Construction Trades Council (RIBCTC).

viii. Fostering Economic Growth and Development

This project improves access to key points in the southern half of Rhode Island. Easing freight access will encourage continued economic growth, particularly at and around QBP. Component 2 of this project includes a new roundabout that will allow businesses at West Davisville to expand and accommodate the additional commuter traffic and large vehicles going to and from this area. The roundabout will not have a direct impact for the residents of Devil’s Foot Road, and it will allow the businesses around West Davisville Road to expand and provide additional job opportunities for the residents in the area.

Quonset is a keystone in Rhode Island green-energy transition strategy. The port played a critical role as a staging and laydown facility for the 30MW Block Island Wind project. Rhode Island will expand that role with the investment of \$60 million in American Rescue Plan Act (ARPA) funds, just as it had in 2010 with \$22.3 million in American Reinvestment and Recovery Act (ARRA) funds. The state’s continued commitment to leveraging the Port of Davisville as a green energy hub will allow it to achieve its wind energy potential of 25.6 gigawatts.

ix. Supporting Integrated Land Use

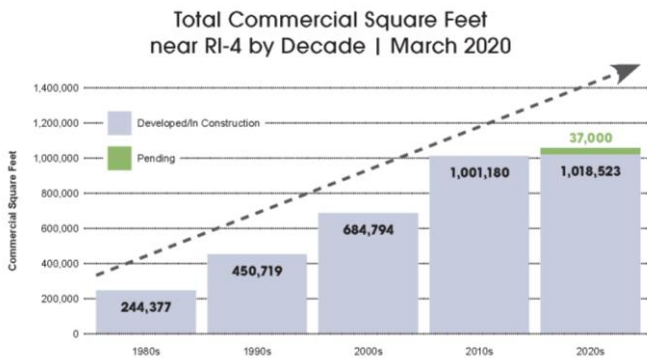


Figure 13 -- Commercial Development Near Route 4 by Decade

The improvements proposed in this project will support land-use productivity and growth in the communities surrounding both project components. The towns of North Kingstown and East Greenwich have grown rapidly in the decades since RI-4 was built. In North Kingstown alone, commercial development on the RI-4 corridor has grown exponentially, adding nearly one million square feet of new commercial real estate to local tax rolls since 1990.

Rhode Island's [Land Use Plan](#) includes an objective to "maintain a balanced, integrated, safe, secure, and cost-efficient transportation system, locating residential, industrial, commercial, and institutional development within transportation corridors," and this project strives to support that aim by improving connectivity across the state.

x. Helping the United States Compete in a Global Economy

This project improves access to Quonset Business Park (QBP) from points north, south, and west. QBP is home to 1 in 20 jobs in Rhode Island, and 1 in 6 manufacturing jobs. The Port of Davisville, located within QBP, is a top 10 port in North America for imports of finished automobiles. Cargo shipped through the Port include submarine hull cylinders, propane, lumber, food products, 3D printed objects, and wind turbine components. Currently, QBP generates \$4.27 billion in economic output annually, creating \$1.28 billion in household income and \$128.8 million in tax revenue. It is expected that QBP will continue to expand, bringing employment at the Park to [16,695 workers by 2030](#).

(d) Criterion #4: Climate Change, Resiliency, and Environment

i. Incorporating Climate Change and Environmental Justice

Climate change is very apparent in the Ocean State. Annual average temperatures in Rhode Island have risen 3 degrees since 1900, and the state's 21 coastal communities risk flooding and land loss as a result of rising seas. In addition, climate change threatens the state with stronger, more frequent storms including high-wind and water events. The corridors in this project are important [hurricane evacuation routes](#). Environmental justice planning is described in Section V(d)vi(1).

ii. Reducing Transportation-Related Pollution

This project will reduce greenhouse gas emissions by 36.83 metric tons per year relative to the no-build scenario by improving road usage efficiency; Component 1 will reduce GHG emissions by 177.58 tons alone. The project also incorporates stormwater runoff into its design as described below, and the Design-Build team will obtain a RIDEM RIPDES (RI Pollution Discharge Elimination System) permit during final design.

iii. Preventing Stormwater Runoff

The wetland that Ramp WD-C will impact has the potential to contain an interior special aquatic site (SAS). The scoping team's biologist conducted two surveys in the spring of 2021 and found no evidence of vernal pool obligate species. While the SAS has the potential to provide a wildlife habitat, the absence of any obligate species suggests the SAS is not suitable, likely due to the proximity of RI-403 and the North Kingstown Transfer Station parking lot. It is not anticipated that the minor alterations to the wetland will adversely affect its wildlife habitat value. Runoff will be treated with proposed stormwater treatment units, a benefit to the wetlands and its aquatic species.

iv. Promoting Energy Efficiencies

Reducing traffic delays improves energy efficiency. This project makes important contributions to that effort by optimizing signalized intersections surrounding both project areas and shifting VMT away from low-speed local roads towards more efficient freeways.

v. Complying With Federal Flood Risk Management

A portion of the I-95 SB to RI-2 off-ramp terminal is adjacent to the existing Zone AE floodplain (1% annual chance of flood). The total impacted floodplain area is approximately 1.2 acres, but the proposed ramps will be designed to avoid impacts to the maximum extent practicable. Floodplain compensation areas would be established in accordance with guidance to mitigate any adverse impacts on the floodplains if needed.

vi. Addressing Environmental Sustainability

(1) Reducing Greenhouse Gas Emissions

As shown in Section VI and the attached BCA, Component 1 of this project will reduce greenhouse gas emissions by 177.58 tons per year. Component 2 will increase emissions per year by 140.75 tons, but this impact will be mitigated by future improvements in fuel efficiency and autonomous freight technology. Furthermore, Component 2 removes freight traffic from local roads, improving air quality in residential areas.

(2) Supporting Climate Action Plans

Since 2015, numerous resources have been developed in Rhode Island to support environmental resiliency for long-term planning, illustrating what coastal flooding could look like under different climate change scenarios. Resources supporting efforts to mitigate the effects from climate change and reduce GHG emissions include the [Rhode Island Climate Dashboard](#), [Transportation Emissions Dashboard](#), [RI STIP Mapping Tool](#), and [Long-Range Transportation Plan](#). This project supports these action plans by reducing greenhouse gas emissions.

(3) Integrating Planning in the STIP

Rhode Island's [State Transportation Improvement Program \(STIP\)](#) is a 10-year program focused on state of good repair projects. A recent review by FHWA-RI noted the STIP complies with USDOT's [December 16, 2021 memo](#) on BIL resources.

(4) Applying Environmental Justice Tools

In 2021, RIDOT completed a Title VI Environmental Justice Analysis for each component of this project. They are attached to this narrative as Appendix A-3. The project is not considered to have an adverse effect on an environmental justice population.

Component 1 of this project would have direct beneficial impacts because it would provide full freeway-to-freeway access between Interstate I-95 and RI-4, reducing interchange-related traffic congestion in surrounding communities, and improve commuter and freight networks, which would improve safety within the local community.

Component 2 will positively impact the public, including minority and low-income populations. The removal of extraneous through traffic will benefit the residents of Devil’s Foot Road. The decrease in heavy vehicle traffic will reduce wear and tear, congestion, pollution, and noise. There will also be an improvement in the safety of the roadway for residential drivers and pedestrians. The addition of the RI-403 ramps will also provide local residents a more direct route to get onto the freeway, reducing travel times.

(5) Supporting Energy Baseline Studies

Baseline transportation energy sector studies include the [2021 Clean Transportation and Mobility Innovation Report](#) and the [2016 RI Greenhouse Gas Emissions Reduction Plan](#). This project supports both studies by reducing greenhouse gas emissions.

(6) Supporting Modal Shifts in Freight

This project encourages a shift in freight away from local roads and onto highways. The improvements in both components are designed around demand management to reduce congestion. By shifting traffic off local roads, queuing and low-speed emissions will fall, reducing travel time delays and greenhouse gas emissions.

(7) Incorporating Electrification Infrastructure

On December 30, 2021, Governor Dan McKee’s Administration submitted “Electrifying Transportation” to the General Assembly. That report has become the basis of a \$23 million NEVI implementation plan RIDOT is developing with state partners, to expand the state’s alternative fuel corridors and publicly accessible electric vehicle charging stations.

This project will advance those objectives by installing improving access to EV charging stations near RI-4, which is likely to be designated as a NEVI corridor.

(8) Promoting Energy Efficiency

This project promotes energy efficiency by reducing travel times and fuel consumption.

(9) Serving Renewable Energy Supply Chains

In April, 2022, off-shore wind developer [Orsted announced a joint venture](#) to launch helicopters from Quonset Airport taking wind technicians to and from construction sites for the South Fork Wind, Revolution Wind and Sunrise Wind offshore wind farms. Much like the communities along the US Gulf Coast, North Kingstown RI will become a launch site for loading workers for surface offshore vessels and provide a hub for maintenance

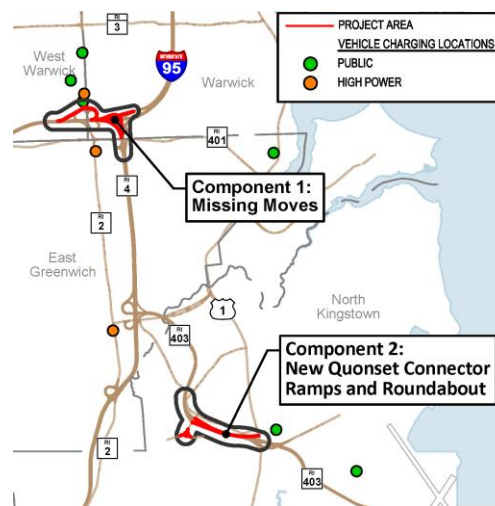


Figure 14 – Electric Vehicle Charging Stations Near the Project Areas

and operations efforts. Offshore wind is a critical renewable energy source that has the potential to create many well-paying jobs in the area in addition to serving the state's renewable energy goals.

(10) Improving Disaster Preparedness and Resilience

The project area is a coastal and emergency evacuation route. This project enhances the state's disaster preparedness by replacing worn-out infrastructure and easing congestion.

(11) Avoiding Adverse Environmental Impacts to Air and Water Quality

This project will avoid adverse environmental impacts. Water quality will be addressed by following the requirements from the Stormwater Consent Decree between RIDOT, USDOJ, and USEPA. The project will comply with all permitting requirements, and the scoping team has taken steps to minimize wetland impacts (see Section VII.(C)i.(5)).

(12) Repairing Dilapidated or Idle Infrastructure

The proposed ramp WD-D in Component 2 goes through an Engine House to service the Seaview Railroad. The Engine House was relocated in 2021 at the expense of QDC.

(13) Incorporating Energy-Efficient Buildings

No energy-efficient buildings are being constructed in this project.

(14) Recycling of Materials

Although no carbon-reducing materials have been selected for use in this project, RIDOT is working with researchers at the University of Rhode Island and a carbon-concrete manufacturer on uses of low-carbon materials and is open to using them in the future.

(e) Criterion #5: Equity, Multimodal Options, and Quality of Life

i. Improving Quality of Life

(1) Increasing Affordable and Accessible Transportation Choices

This project will make local and arterial roads safer, improving access to affordable and accessible transit options, especially on RI-2 and US-1.

(2) Improving Access to Emergency Care and Essential Services

By reducing congestion, this project will make it easier for emergency services to respond to those in need and reach care centers safely.

(3) Reducing Transportation and Housing Cost Burdens

This project improves fuel efficiency, reducing transportation costs. Using public-private financing, this project will encourage commercial and mixed-income development, especially near QBP.

(4) Increasing Walkability and Accessibility

Removing freight traffic from local roads will encourage adoption of active transportation.

(5) Enhancing Unique Characteristics of the Community

Rhode Island, the Ocean State, is defined by its connection to Narragansett Bay and its waterways. The Port of Davisville is the former home to Naval Air Station Quonset Point and the home of the United States

Navy's Construction Battalion "SeaBees". This project will reinforce Quonset's second wind as a cornerstone of Rhode Island's blue economy, powered by offshore wind, to reinvigorate a former military community.

(6) Proactively Addressing Equity

Equity planning is addressed in Sections II(b) and V(d)(iv) of this narrative.

(7) Engaging Diverse People and Communities

RIDOT will engage diverse communities to ensure that equity concerns are considered. Municipal outreach methods include charting any EJ impacts within the project limits, scheduling public and stakeholder meetings, creating a project website, sending weekly email updates, and assigning Outreach personnel to respond to stakeholder issues.

(8) Supporting Local, Regional, and State Equitable Development Plans

Rhode Island supports [Justice40](#) goals, and those supported by this project include Clean Energy and Energy Efficiency, and Training and Workforce Development. The state also has a public participation plan to provide equitable involvement in planning processes.

ii. Benefitting Historically Disadvantaged Communities

This project is not located in an area of persistent poverty or an historically disadvantaged community. However, the proposed improvements are expected to benefit disadvantaged and special population groups (SPG) as described in Sections II(b), V(d)vi.(4), and V(e).

iii. Proactively Addressing Equity and Barriers to Opportunity

(1) Completing an Equity Impact Analysis

As stated in Section V(d)vi.(4), an equity impact analysis has been completed for each Project Component. In addition, the state conducts an [Equity Analysis](#) for the Long-Range Transportation Plan and a Transportation Equity Benefit Analysis as part of the STIP.

(2) Adopting Equity and Inclusion Programs

RIDOT encourages the hiring, training, and promotion of persons within protected classes to reflect more accurately the available workforce in Rhode Island. RIDOT also maintains active Civil Rights, ADA, Equal Employment Opportunity, Title VI, and Disadvantaged Business Enterprises (DBE) programs, summarized in the pamphlet in Appendix A-11.

(3) Planning and Hiring Policies

RIDOT's Contractor Compliance Program ensures that federally funded construction contracts comply with equal employment opportunity and affirmative action requirements. RIDOT prohibits prime contractors and their subcontractors working on Federal-aid construction contracts from discriminating on the basis of race, color, religion, sex, national origin, age, or disability in their employment and contracting practices.

(4) Mitigating Physical Barriers

The removal of traffic from local roads surrounding both components creates opportunities for low-income communities to grow and expand.

(5) Including New or Improved Walking and Bicycle Infrastructure

This project does not include pedestrian or bicycling infrastructure.

(6) Improving Freight Access to Underserved Communities

This project will improve freight movement to all areas of the state, including underserved communities near Component 2 where growth of QBP is fueling economic development.

(7) Addressing Automobile Dependence as a Barrier to Opportunity

This project addresses automobile dependency as a barrier to opportunity by making it safer to walk, ride, and access transit offerings on local roads.

(f) Criterion #6: Innovation: Technology, Project Delivery, Financing

i. Innovative Technology

RIDOT's Transportation Management Center analyzed the project area to identify potential ITS improvements. Their recommendations include but are not limited to installing new CCTV cameras, rehabbing existing CCTV equipment, installing multiple hybrid travel time and ground-mounted DMS signs, and installing new fiberoptic infrastructure. The full scope of their recommendations is included in Appendix A-4.

ii. Innovative Project Delivery

RIDOT will be utilizing a “design-build” procurement process, using a single contract to support both design and construction work. One entity, one contract, one unified flow of work from initial concept through completion has been a tried-and-true method for successfully delivering transportation projects with superior results for the past six years. RIDOT will issue a Request for Proposals (RFP) encouraging potential applicants to be as creative and innovative as possible in their proposals.

iii. Innovative Financing

This project is a Public Private Partnership (P3), financed with a combination of state, federal and private funding sources. The commitment of funding from QDC will reduce reliance on state and federal funding sources, freeing up state match funds for use on other projects in the STIP. QDC is a quasi-state agency [created by the RI General Assembly](#) to develop and manage QBP and the Port of Davisville. QDC's operations are self-funded from land leases, utilities, and port revenues. The funding contribution of QDC is not derived from taxes or highway revenue, but from the lease of land owned by the State and user fees. QDC has agreed to contribute \$2 million to support the project.

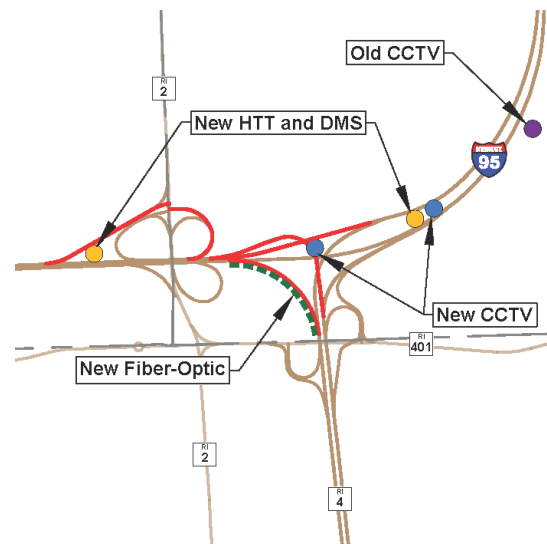


Figure 15 -- Proposed ITS Improvements, Component 1

VI. BENEFIT-COST ANALYSIS

Completing the I-95 Missing Move and Ramps to Quonset Business Park has a favorable Benefit-Cost Ratio of **1.99** and a net present value (NPV) of \$275.503 million. It is therefore a cost-effective investment. The analysis submitted shows that this project generates substantial safety, emissions, and travel time savings benefits. The benefit-cost analysis (BCA) for this project assumes a 7% real discount rate with an alternative yearly discount rate of 3%. Complete calculations are included in the BCA attached as Appendix A-1.

Based on feedback from USDOT on RIDOT's 2021 INFRA grant application, the BCA for this project has been separated to measure the impacts of the two project components separately. **Component 1, The Missing Moves**, has a B-C Ratio of 2.25 and a NPV of \$201.933 million. **Component 2, The Quonset Connector Ramps**, has a B-C Ratio of 1.64 and a NPV of \$73.570 million.

(a) Assumptions and Methodology

i. Baseline

The assumptions and methodology used to produce this analysis are detailed in the attached BCA. In general, this analysis compares the proposed alternative to a baseline/no-build scenario in which all roadway geometry would remain unchanged. No facility expansions or enhancements are included in the baseline.

ii. Sources of Data

Key sources of data used to project outcomes include but are not limited to RIDOT traffic count data; RIDOT crash data from 2017 to 2021 based on existing geometry; VISSIM Microsimulation for the project area; Motor Vehicle Emissions Simulator (MOVES3) model; and cost data from the RIDOT Office of Bridge Engineering.

iii. Key Input Parameters

All key input parameters in this analysis are taken from USDOT's "Benefit-Cost Analysis Guidance for Discretionary Grant Programs," March 2022 (Revised), unless otherwise noted. Safety benefit calculations utilize Crash Modification Factor Clearinghouse (CMF) inputs.

(b) Project Benefits

Component 1 of this project is a major generator of travel time savings and, by extension, a reduction in greenhouse gas emissions. More than 200,000 vehicles travel through the I-95/RI-4 interchange every day, and the proposed action will generate **\$1.7 billion in travel time savings over 30 years**. The reduction in congestion will prevent an estimated **5,500 tons of greenhouse gas emissions**.

Component 2 will deliver safety enhancements and reduce travel times in its own right. Shifting traffic away from local roads will prevent an estimated **7 crashes each year**. Improving freeway access will **increase average speeds in the area by nearly 20 percent, reducing delays by an average of 2,500 hours in traffic each day**.

(c) Project Costs

The costs associated with this project are [1] the \$135 million future eligible construction and design cost, [2] anticipated work zone costs, and [3] lifecycle management costs. RIDOT has conservatively estimated that traffic delays will double during construction to avoid overstating the projected B-C ratio for both components.

VII. PROJECT READINESS AND ENVIRONMENTAL RISK

(a) Technical Feasibility

i. Engineering and Design Studies and Activities

RIDOT has a scoping contract with Commonwealth Engineering to advance the project supported by a \$4 million BUILD planning grant. This effort will advance design to a level sufficient for RIDOT to advertise the project as a design-build contract. The Interchange Justification Report (IJR) for the project was approved by FHWA-RI on April 12, 2022, and Categorical Exclusion for Component 2 was approved on May 6, 2022.

ii. Development of Design Criteria and Basis of Design

The basis of the design is the correction of design flaws in the existing road network, and incorporation of safety improvements. Appendix B lists Design Criteria Guidelines.

iii. Basis for the Cost Estimate

As shown in Section IV, RIDOT has estimated that the total future cost of the project will be \$135 Million. It is derived from a quantity-level estimate completed by Commonwealth Engineering.

iv. Scope, Schedule, and Budget Risk Mitigation

RIDOT carefully monitors project budgets and schedules from conception to completion. The scoping team performs a peer review to ensure the original project scope is maintained at least once during final design and more frequently during complex projects. RIDOT reviews project statuses and schedules at monthly meetings, and schedules and budgets are published in [RIDOT's Quarterly Report](#), the key tool to inform the public on the status of each project, and ensure RIDOT's on-time and on-budget targets are being met.

v. Detailed Statement of Work

RIDOT has developed project plans to allow concurrent construction at both project locations. The proposal below presents each component separately for illustrative purposes only. This project will be executed under a Design-Build contract, so RIDOT will coordinate with the design-build team to optimize delivery and may deviate from the plan described below. Phasing graphics are included in Appendix A-7.

(1) Component 1: The Missing Moves

A. Phase 1: Ramp Construction

The first phase of construction in Component 1 will include construction of three ramps. At RI-2, the existing ramp linking RI-2 South to I-95 South will be modified to accommodate traffic from RI-2 North. Two travel lanes will be maintained in each direction on RI-2, and there will be no traffic impacts on the other ramps. At the I-95 and RI-4 interchange, construction will begin on two new ramps and a new section of I-95 South. Five travel lanes will be maintained at the I-95 South split to RI-4 south, and two travel lanes will be maintained on the rest of I-95. Construction will also begin on a new superstructure to support the ramp from RI-4 North to I-95 South. The new bridge will have six spans carrying traffic over I-95, merging onto I-95 South in the right lane. The approach will use space occupied by I-95 South, so a short segment of new highway will be built on previously disturbed land between the existing barrels of I-95 North and South.

B. Phase 2: Completing the Ramps

Phase 2 will complete construction of all three ramps begun during Phase 1. At RI-2, ramp modifications to allow traffic from RI-2 North will conclude, and the northern side of the ramp will be widened to accommodate an additional travel lane. Signal modifications will be made to add a dedicated left arrow for northbound traffic on RI-2. Traffic on the I-95 South off-ramp to RI-2 will be reduced to one lane during this phase, but there will be no traffic impacts on I-95 or the existing loop ramp providing access to I-95 South, which will be removed in Phase 3. At the I-95/RI-4 merge, the new segment of I-95 South will open to traffic, allowing the old portion to be closed and demolished. The western portion of the eliminated section will be replaced by the end of the new ramp linking RI-4 North to I-95 South, and construction on the superstructure supporting that ramp will be completed. Finally, the new ramp linking I-95 North to RI-4 South will open to traffic.

C. Phase 3: Completing Tie-Ins, New Pavement, and Water Quality Improvements

During the final phase of construction, ramp tie-ins will be completed, and a new pavement surface, road markings, and water quality improvements will be installed. At RI-2, the newly configured ramp to I-95 South will open to traffic, rendering the old loop ramp from RI-2 North to I-95 South redundant. That loop ramp will be demolished and replaced by a new water quality system. At the interchange of I-95 and RI-4, the final ramp linking RI-4 North to I-95 South will open to traffic, completing the installation of the "Missing Moves". Construction will conclude with installation of a new pavement surface and road markings.

(2) Component 2: The Quonset Connector Ramps and Roundabout

A. Phase 1: Ramp Construction

The first phase of construction at the Secondary Project Area will begin construction on all three ramps that will eventually connect to RI-403. At the intersection of Post Road and Gate Road, construction will begin on Ramp C, which will allow Post Road traffic to access RI-403 West. Construction will occur off-alignment, and there will be no traffic impacts on RI-403, Post Road, or the surrounding arterials. At West Davisville Road, construction will begin on new ramp WD-D, which will allow traffic on West Davisville Road to access RI-403 East, and ramp WD-C, which will connect traffic on RI-403 West to West Davisville Road. Just south of RI-403 at the intersection of West Davisville Road and Compass Circle, construction will begin on a roundabout for freight movement through the West Davisville campus of QBP.

B. Phase 2: Ramp Tie-Ins

During Phase 2, construction on all three ramps connecting to RI-403 will continue. At Post Road, a temporary lane shift will move traffic away from the future location of Ramp C so that the construction team can link it directly to Post Road on the southbound side. While traffic is shifted, the signal system at the intersection of Post Road and Gate Road will be modified to include the addition of a dedicated left turn arrow from Post Road northbound to Ramp C. At the other end of Ramp C, the tie-in to RI-403 West will be constructed. A lane shift will be deployed on RI-403 West, but two travel lanes will be maintained westbound, and there will be no traffic impacts on RI-403 East. At West Davisville Road, traffic will be reduced to a single lane in each direction while tie-ins are constructed to Ramps WD-D and WD-C, and on RI-403, lane shifts will be used in each direction to allow construction of ties-in on the opposite end of each ramp. Construction of the proposed roundabout at Compass Circle will continue, expected to nearly complete during Phase 2.



C. Phase 3: Paving, Surface Marking, and Opening to Traffic

Phase 3 will wrap up construction along RI-403. During Phase 3, the entirety of the Secondary Project Area will receive complete milling, overlay, and new pavement markings, utilizing nighttime closures to minimize traffic impacts. Once this work is complete, all three new ramps will be opened to traffic, completing the link.

vi. Compliance With Civil Rights and Title VI Requirements

RIDOT effectuates its nondiscrimination commitment in projects for the construction and maintenance of multi-modal transportation infrastructure through its Title VI/Nondiscrimination Program. Pursuant to [Title VI of the Civil Rights Act of 1964](#) and 23 CFR 200.9 (b)(11), RIDOT’s [FHWA Title VI Implementation Plan](#) and [FTA Title VI Program Plan](#) outlines the Department’s operating procedures, policies, and practices to ensure compliance with nondiscrimination requirements, and of providing its transportation practitioners, subrecipients, contractors, and consultants with guidance on how to adhere to Title VI principles in their daily planning, implementation, monitoring, evaluation and enforcement operations.

(b) Project Schedule

As Figure 16 shows, this project is under way and has already secured state and local approvals. NEPA for this project was completed May 13th, 2022, and preliminary engineering work will continue through 2022. Right-of-way acquisition and contract procurement are scheduled to begin before the end of the calendar year. If MPDG support is provided for this project, construction is expected to begin March 1st, 2024. RIDOT is confident that the schedule described in this application will allow the project to achieve all necessary milestones to obligate INFRA funding by the statutory deadline of September 30, 2025 specified in the NOFO.

Figure 16 -- Proposed Project Schedule and Milestone Dates

Milestone	Start Date	Completion Date
Planning Approvals	May 27, 2021	September 9, 2021
Scoping & Preliminary Design	March 1, 2019	November 30, 2022
Section 106 and 4(f) Review	March 1, 2020	December 1, 2021
NEPA Review	March 31, 2021	May 13, 2022
Right-of-Way	May 13, 2022	November 30, 2022
Permitting	September 1, 2022	September 1, 2023
PS&E Approval	<i>N/A in Design-Build Contract</i>	
Procurement of Design-Build Team	November 30, 2022	July 31, 2023
State & Local Approval	September 1, 2022	September 1, 2023
Partnership Agreements	July 31, 2023	March 1, 2024
Construction NTP	March 1, 2024	October 31, 2027
Punchlist & Closeout	November 1, 2027	October 31, 2029

i. Right-of-Way

All components of this project will be constructed within existing RIDOT-owned right-of-way, except the ramp linking I-95 North to RI-4 South, which will require acquisition of three acres of land currently owned by National Grid. RIDOT has begun coordination with National Grid to acquire this land. All real property and right-of-way acquisition will be completed in a timely manner in accordance with 49 CFR 24, 23 CFR 710, and other applicable legal requirements.

(c) Required Approvals

i. Environmental Permits and Reviews

(1) National Environmental Policy Act (NEPA)

The requirements of the National Environmental Policy Act (NEPA) have been met for this project. FHWA-RI approved NEPA submissions for both components by May 10, 2022.

(2) Section 106

Pursuant to the requirements of the National Historic Preservation Act (NHPA), 54 USC § 3061, and 36 CFR 800, the Section 106 review for this project has been completed. Both portions of the project were completed with FHWA's Finding of No Effect that was sent on October 26, 2021. The 30-day review and comment window has expired with no comment from consulting parties.

(3) Archaeological Resources

In consultation with the Rhode Island State Historic Preservation Office (RISHPO) and the Tribal Historic Preservation Office (THPO), a Phase I archaeological survey has been conducted at the RI-4 Missing Move segment of the project. The Phase I archaeological survey uncovered a pre-contact site along the originally proposed RI-4 North to I-95 South ramp alignment. To avoid any impacts to archaeological resources, RIDOT altered the alignment of the proposed ramp to shift south. The Public Archaeology Lab (PAL) has determined that the proposed alignment described in this application will not require any additional archaeological coordination because it will occupy previously disturbed land within the highway right-of-way.

A Phase I archaeological survey has been conducted for the RI-403 Quonset Connector Ramps segment of the project. The RI-403 freeway corridor was completed in 2008 and required an Environmental Impact Statement (EIS) be completed. At that time, the project area was surveyed for archaeological resources and found to have no adverse effect to any historic properties, including archaeological sites. However, a small portion of the project area was not permitted access to archaeological survey at the time. Under the most recent survey for the RI-403 Quonset Connector Ramps, no pre- or post-contact cultural material was recovered, and no further archaeological investigation is recommended.

(4) Above-Ground Historic Properties

This project does not have an adverse effect on any above-ground Historic Properties listed in the National Register or Historic Properties eligible to be listed in the National Register.

(5) Status of Reviews, Approvals, and Permits by Other Agencies

The project will require a RIDEM Wetlands Application to Alter due to work within wetlands adjacent to I-95 SB and the Route 403 ramp to West Davisville Road. RIDEM Stormwater Quality Treatment will be utilized for the entire project area. Stormwater management design will be in accordance with the Stormwater Management Design and RIDEM Linear Stormwater Manual.

The design-build team procured to execute the project will also obtain a RIDEM Wetlands Permit Application to Alter (RI-4), a RIDEM Wetlands Request for Preliminary Determination (RI-403), an Army Corp of Engineers General Permit #19 PCN (Pre-Construction Notification) Application (RI-4), a RIDEM Water Quality Certification (RI-4 and RI-403), a RIDEM RIPDES (RI Pollution Discharge Elimination System), and a Construction General Permit Notice of Intent (NOI).

(6) Environmental Studies and Other Documents

Since the submission of an INFRA Grant application for this project in 2021, planning and engineering staff have advanced environmental studies and designs on several items. In Component 1, The RI-4 North to I-95 South ramp crosses over Saddle Brook. The original design had a culvert to maintain Saddle Brook, but after discussions with the Natural Resource Unit, the design was changed to a continuous bridge over Saddle Brook for easier maintenance and minimizing wildlife impacts. A retaining wall was added to the I-95 southern shift to further minimize impact. An existing culvert will need to be extended with the retaining wall.

In Component 2, a retaining wall has been added to the ramps between West Davisville Road and Route 403 to minimize the area of fill and impacts to wetland areas. A noise study was completed for the addition of the three ramps on Route 403. A noise wall 3,800 feet long by 22 feet tall is proposed on the northern side of Route 403 to minimize the noise increase to residents on Devils Foot Road. Outreach and polling of the residents will be conducted to determine if the noise wall will be constructed.

(7) Discussions With FHWA Regarding Compliance

FHWA-RI, RIDOT, and scoping consultants hold ongoing discussions. The team meets monthly to review questions, concerns, and progress. Several meetings with FHWA headquarters discussed traffic concerns for the RI-4 North and I-95 South ramp. FHWA-RI approved the Interchange Justification Report on April 12, 2022. Categorical Exclusions (CEs) for all portions of this project were submitted to FHWA after several rounds of comments. FHWA approved the Component 2 CE on May 6, 2022.

(8) Public Engagement

The Stakeholder Outreach for this project began in April 2020. The Outreach team at RIDOT identified all stakeholders in the area that could be impacted by decreased traffic due to the construction this project. Also identified were town officials and the local Chambers of commerce in the areas of East Greenwich and Warwick. Individually, the Outreach team contacted as many businesses as possible, and the team asked each employer how they felt about the project, the potential impact the business may face and if they had any feedback they'd like to share. This process was done over the course of two weeks and was completed by May 2020. The majority of the responses are supportive of the project or have no concerns.

iii. State and Local Approvals

(1) Receipt of Approvals

This project is included in the State Transportation Improvement Program (STIP), approved by the Metropolitan Planning Organization (MPO)—the Rhode Island State Planning Council—on September 9, 2021, and amended February 17, 2022. It will comply with all state and local environmental approvals required, including those described in section VII(c)(i). The Section 106 and 4(f) processes are complete for both components, and NEPA is complete for Component 2.

(2) Broad Public Support

This project enjoys broad support from public and private agencies and individuals. RIDOT has received letters of support from partners at the Department of Administration's Division of Statewide Planning, Quonset Development Corporation, local and state leaders and congressional representatives, stakeholders in the construction and transportation industry, and members of the impacted community. Additional letters of support received after the application deadline will be posted on the project website at <http://www.dot.ri.gov/projects/MissingMove2022/>



iii. Federal Transportation Requirements

This project is included in Rhode Island’s STIP, Long-Range Transportation Plan (LRTP), and Freight Plan, in accordance with the requirements of 23 U.S.C. § 134 and § 135.

iv. Assessment of Project Risks and Mitigation Strategies

The risks associated with this project are typical for projects of this magnitude. RIDOT and its project partners are taking every advance measure possible to minimize and mitigate all project risks, which include:

- **Utility Coordination:** A high voltage transmission corridor over I-95 will need to be adjusted to accommodate the new flyover. The project budget includes funding to support this task, and RIDOT will continue to coordinate regularly with National Grid.
- **Traffic Backups During Construction:** Both project components are located in highly traveled areas, and construction may be disruptive. RIDOT will provide advanced notice of all lane shifts and scheduled work to inform the public and mitigate potential delays.
- **Permitting Review Time:** This is a large project with a variety of required permits. The Design-Build team will need ample time and funding to complete the permitting process. RIDOT will carefully monitor and update the project schedule to ensure timely completion.
- **Contaminated Soil Near the Engine House:** Removal of the Sea View Engine House may surface contaminated soil in the West Davisville project area. RIDOT will work closely with QDC to mitigate this risk and remediate the area as needed.

VIII. STATUTORY PROJECT REQUIREMENTS

This project satisfies all statutory requirements of 23 USC 117. The table below summarizes how this project meets the applicable statutory requirements in the format requested in the Notice of Funding Opportunity.

23 USC 117 INFRA	Guidance
(1) the project will generate national or regional economic, mobility, or safety benefits	This project expands access to major job centers, reduces congestion on a primary freight corridor, removes traffic from local roads, and expects to reduce crash incidences and severities. For details, see Section V, subsections (a), (c), and (e).
(2) the project will be cost effective;	Both components of this project are cost-effective, and collectively they generate a positive benefit-cost ratio of 1.99. The strengths of this project include travel time savings, safety enhancements, and emissions reductions. For details, see Section VI.
(3) the project will contribute to the accomplishment of 1 or more of the national goals described under section 150 of this title;	This project will address all 7 of the National Goals described under 23 CFR 150 in the following ways: Safety: Reduce incidence and severity of traffic incidents Infrastructure Condition: Creates several miles of new interstate pavement, ramps, and bridges; Congestion Reduction: Reduces travel delays by several thousand hours each day; System Reliability: Improves level-of-service on local roads and interstates; Freight Movement and Economic Vitality: Expands access to Quonset Business Park and I-95; Environmental Sustainability: Prevents thousands of tons of greenhouse gas emissions; and



23 USC 117 INFRA	Guidance
	Reduce Project Delivery Delays: Accelerates project delivery by combining two components and utilizing design-build procurement to compress schedules.
(4) the project is based on the results of preliminary engineering;	The following activities have been completed: Environmental Assessments, topographic surveys, metes and bounds surveys, traffic studies, hazardous materials assessments, and general estimates of types and quantities of materials. Geotechnical investigations, financial plans, utility engineering, and other work needed to establish the parameters of final design are in progress. Hydrologic analysis and revenue estimates do not apply to this project.
(5) with respect to related non-Federal financial commitments, 1 or more stable and dependable sources of funding and financing are available to construct, maintain, and operate the project, and contingency amounts are available to cover unanticipated cost increases;	Apart from the requested MPDG grant, all funding sources required to complete this project are included in the approved FFY2022-2031 STIP. QDC has agreed to contribute an additional \$2 million. The project budget includes a \$13.5 million contingency.
(6) the project cannot be easily and efficiently completed without other Federal funding or financial assistance available to the project sponsor;	If no federal funds were programmed for this project, it would be unable to proceed in its current scope, schedule, or budget. Without MPDG funding, the project would be delayed in construction pending the allocation of additional resources, as the current schedule and funding amount provided in RIDOT's Statewide Transportation Improvement Plan (STIP) is contingent on grant support, as stated in the project description (STIP ID 3350). The absence of MPDG funding would force RIDOT to pursue a more limited, scaled back scope of work for both Component 1 and Component 2, and may require a revision of the budget downward from its current programmed amount of \$115.35M, which is already lower than RIDOT's request for \$135 million under the program.
(7) the project is reasonably expected to begin construction not later than 18 months after the date of obligation of funds for the project.	RIDOT anticipates construction to commence on March 1 st , 2024, with total obligation of funding by the statutory deadline of September 30 th , 2025 as specified in the NOFO. Substantial completion of the project is expected on October 31 st , 2027, as shown in Figure 1.

— END —

APPENDIX A: SUPPLEMENTARY GRAPHICS AND MEMORANDA

[Benefit-Cost Analysis](#)

[Congestion Maps for No Action and Preferred Action Alternatives](#)

[Environmental Justice Determination, Component 1](#)

[Environmental Justice Determination, Component 2](#)

[Innovative Technologies Memorandum from RIDOT TMC](#)

[Map of Upcoming Projects Nearby](#)

[Projected Peak Hour Travel Time Improvements](#)

[Proposed Phasing Graphics](#)

[Sea Level Rise Impacts Nearby](#)

[STIP Page](#)

[Transportation Equity Benefits Analysis](#)

[RIDOT Office of Civil Rights Pamphlet 2022](#)

APPENDIX B: SUPPLEMENTARY TEXT

Design Criteria

The following design criteria and guidelines will be used in the design of this project:

- AASHTO A Policy on Geometric Design of Highways and Street, 2018 Edition;
- AASHTO Policy on Design Standards – Interstate System, 2016 Edition;
- AASHTO Roadside Design Guide, 2011 Edition;
- AASHTO Guide for the Planning, Design, and Operations of Pedestrian Facilities, 2004 Edition;
- AASHTO LRFD Bridge Design, 2020 Edition;
- Roundabouts: An Informational Guide, 2000 Edition;
- Manual on Uniform Traffic Control Devices, 2009 Edition;
- RIDOT LRFD Manual on Bridge Design, 2007 Edition;
- RIDOT Highway Design Manual, 2008 Edition
- RIDOT Standard Specifications for Road and Bridge Construction 2004 Edition, Amended 2018;
- RIDOT Design Policies; and
- RIDOT Standard Details