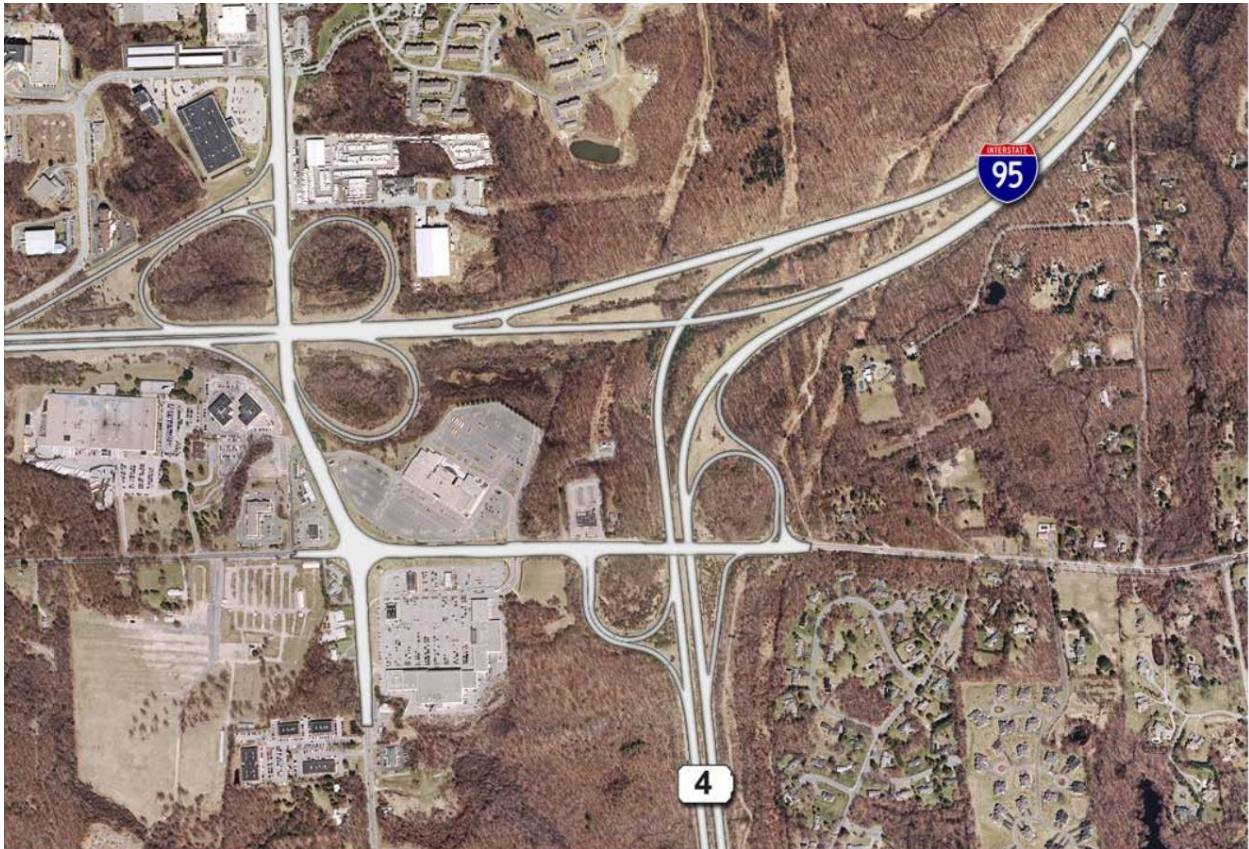




Planning the final link in the ‘Missing Move’ and Quonset Connector Ramps

Transportation Connections to Support Freight Movement



FFY2020 BUILD GRANT APPLICATION
RHODE ISLAND DEPARTMENT OF TRANSPORTATION (RIDOT)
2 Capitol Hill, Providence, RI

Project Information:

Field Name	Response
Project Name	Planning the Final Link in the 'Missing Move' and Quonset Connector Ramps
Project Description	Planning and permitting for improvements to the I-95 and Route 4 interchange and the Quonset Connector Ramps on Route 403 in Rhode Island
Urban/Rural	Urban
Urbanized Area	Providence, RI-MA
Capital or Planning	Planning
Project Type	Road, New Capacity
Primary Project Location Zip Code	02852 & 02818
Project Previously Submitted?	No
Prior BUILD/TIGER Funds Awarded to Project?	None
FY20 INFRA Application?	No
Amount Requested	\$4 million
Total Project Cost	\$5 million
Total Federal Funding	\$4 million
Total Non-Federal Funding	\$1 million
Tribal Government?	No
Tribal Benefits?	N/A
Private Corporation Involvement	No
Private Corporation Name(s)	
TIFIA/RRIF?	No
Department Financing Program?	No



May 18, 2020

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Dear BUILD Evaluation Team:

For decades, travelers in Rhode Island have had easy access to Interstate 95 via more than 50 entrance and exit ramps throughout the state. A critical area where this is not true is on the increasingly heavily traveled Route 4. Currently, traffic traveling I-95 north must exit and take local roads in order to access Route 4 south. Similarly, Route 4 north traffic must take local roads to access I-95 south.

While the final stages of Route 4 were completed in 1988, in the 32 years since that ribbon-cutting there has been much development in the southern portion of Rhode Island, and a great clamoring for the “missing move” to be complete. One of the most significant developments is the 3,214-acre Quonset Business Park, which is connected to Route 4 via Route 403, which was completed in 2008. The Quonset Business Park is currently home to more than 200 businesses and 12,000 employees, and includes the Port of Davisville, which continues to see year over year growth.

We believe step one of finally answering those pleas will be correctly planning and designing what a southbound ramp from Route 4 North onto I-95 South would entail. We have some idea of cost and potential environmental processes, but it’s time for a full public process and assessment of the project needs, readiness and scope. That’s why Rhode Island Department of Transportation (RIDOT) is partnering with the Quonset Development Corporation (QDC), which operates the Quonset Business Park, to request \$4 million in BUILD Grant funding support to plan and design the final link in Rhode Island’s “missing move” between I-95 and RI-4.

With passage of the 2016 RhodeWorks law, Rhode Island created a schedule and budget for projects across the state, to ensure that federal and state funds – as well as revenues being collected under a new truck-only tolling program – are put to the most efficient use to protect the safety of the traveling public.

Notably, RIDOT has committed time and resources to making unprecedented and accelerated progress in repairing the state’s infrastructure. This involves a step-by-step process beginning with project planning and concluding with the unveiling of new and improved roads and bridges statewide.

RIDOT is a major proponent of RhodeWorks’ goals of improving public safety and stimulating economic growth. This project goes one step further, aiming for big picture progress that will last long after the end of the slated ten years of the State Transportation Improvement Program (STIP).

Our Department continues to put shovels in the ground year after year, with plans to do more in the future across all transportation areas, including pavement, bridges, traffic safety, and transportation alternatives. The additional resources provided by this grant would help us continue rebuilding Rhode Island’s roads and bridges, increasing our ability to deliver on-time and on-budget projects, and accelerating our progress towards restoring state of good repair and protecting the safety of our surface transportation system.

RIDOT is working closely with its partner, the Quonset Development Corporation, which has a large stake in the success of this project. The industrial and commercial businesses located in the Park, and users of the Port of Davisville, require a more direct connection to I-95 South. The Park, which is located on former Navy base lands, is also disjointed in its vehicular transportation network, and there is a need to provide a highway connection from the main, larger portion of the Park to the district known as West Davisville. This transportation connection is currently made using local roads that are not conducive to heavy truck traffic. The 2008 completion of Route 403 in North Kingstown went a long way in connecting freight from the Port of Davisville and the Park's many industrial businesses to Rhode Island's highway system, but the ramps to the West Davisville district of the Park were not completed in that project, but area outlined in this application as a secondary project area.

It is time to fully connect Quonset's businesses, and other travelers in the southern portion of the state to Interstate 95. The state's economic health and vitality depend on it.

Thank you for your consideration.

Sincerely,

A handwritten signature in blue ink, appearing to read "Peter Alviti Jr.", with a stylized, cursive script.

Peter Alviti Jr., P.E.

Director

Rhode Island Department of Transportation

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I. Project Description

Project Overview

This project will advance preliminary engineering (PE) and environmental review for two important transportation connections that will improve the movement of freight in Rhode Island:

1. The missing movements at the I-95 and Route 4 Intersection, I-95 north to Route 4 south and Route 4 north to I-95 south; and
2. The construction of new Quonset Connector Ramps on Route 403 that would connect the major districts of the Quonset Business Park.

The two project components are linked by three miles of Route 4. These infrastructure improvements directly align with the primary selection criteria outlined in the Notice of Funding Opportunity (NOFO) for the FY20 BUILD Transportation Grants Program. This project will:

1. **Foster a safe transportation system for the movement of goods and people** by reducing congestion and providing a direct link to Interstate 95 southbound for the more than 63,000 vehicles that travel Route 4 daily;
2. **Bring Rhode Island's most heavily traveled roadways up to a state of good repair** by shifting Vehicles Miles Traveled (VMT) away from lower capacity roads and improving traffic flows along the state's most traveled interstate;
3. **Support economic competitiveness** by improving access to growth areas in the southern portion of the state. Route 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 and incentivizing the continued development of the Quonset Business Park and Port of Davisville;
4. **Promote environmental sustainability** by reducing oil dependency and congestion-related emissions by reducing congestion, improving traffic flows; and
5. **Improve the quality of life for Rhode Island residents** by expanding access to essential services including connectivity to jobs and health care centers, for rural and urban residents alike throughout Southern New England.

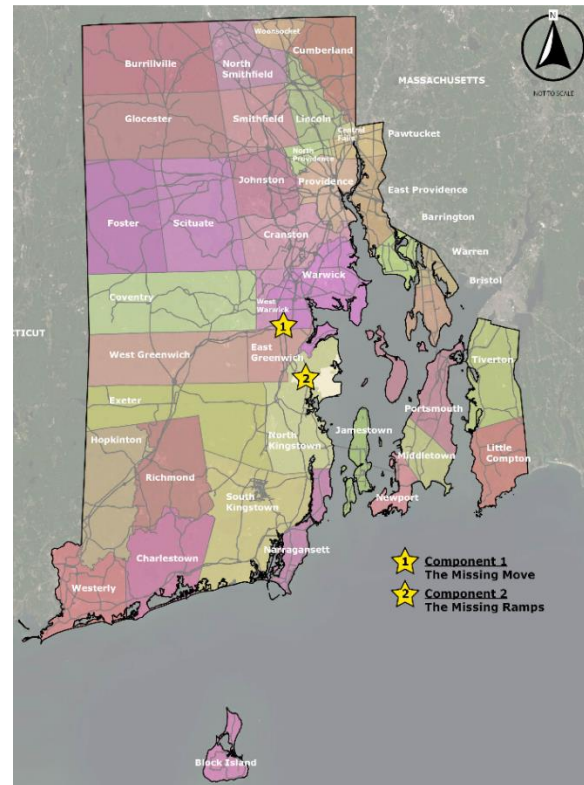


FIGURE 1 -- PROJECT AREAS WITHIN RHODE ISLAND

Component 1: The Missing Move

Interstate 95 (I-95) is the main north-south Interstate Highway on the east coast of the United States, running generally southwest-northeast through Rhode Island. South of Warwick, I-95 does not follow U.S. Route 1 (US 1), which it generally replaced in New England. Instead, it takes a shorter inland route, parallel to Route 3, and linking with Route 4, also known as the Colonel Rodman Highway, a 10.37-mile-long numbered state highway located in Washington County and southern Kent County, Rhode Island.

Route 4 is a major north-south freeway in the southern Providence metropolitan area, directly linking Providence with eastern Washington County, home of the State's largest economic generators - the Quonset Business Park, the beaches of Narragansett and South Kingstown. Route 4 is also one of the primary routes for traffic in and out of the City of Newport, one of the state's most popular tourism and entertainment destinations

Route 4 begins as a two-lane divided highway at an intersection with U.S. Route 1 (US 1) in the town of North Kingstown, becoming a limited-access freeway after 1.89 miles. The route has four numbered interchanges before terminating in the City of Warwick, where the northbound lanes merge into Interstate 95 (I-95).

The origins of Route 4 date back to 1952, when construction began on a short, unnumbered arterial from US 1 to the modern location of Exit 3 at Routes 2 and 102 in North Kingstown. In 1965, the Rhode Island Department of Public Works began work on a 5.4-mile freeway from modern Exit 3 north to the merge with I-95. The freeway, designated as Route 4, was completed in 1972. The last improvements of Route 4 were completed in 1988, with connections between the (then-named) Exits 3 and 5.

In its current configuration, there is no direct connection between Route 4 north and I-95 south, nor between I-95 north and Route 4 south. This lack of movement between these major arterials poses a transportation problem for southern Rhode Island, and especially for the truck and other traffic supporting the over 200 businesses located within the Quonset Business Park.

To solve this transportation problem, RIDOT proposes a series of flyovers to provide a direct bidirectional connection, estimated to cost \$85 million for construction in addition to the \$5 million cost of planning and preliminary design. Through this project, the State of Rhode Island, in partnership with Quonset Development Corporation, which operates the Quonset Business Park, is advancing a 2016 study, "Improvements to the Interstate 95 and Route 4 Interchange," towards

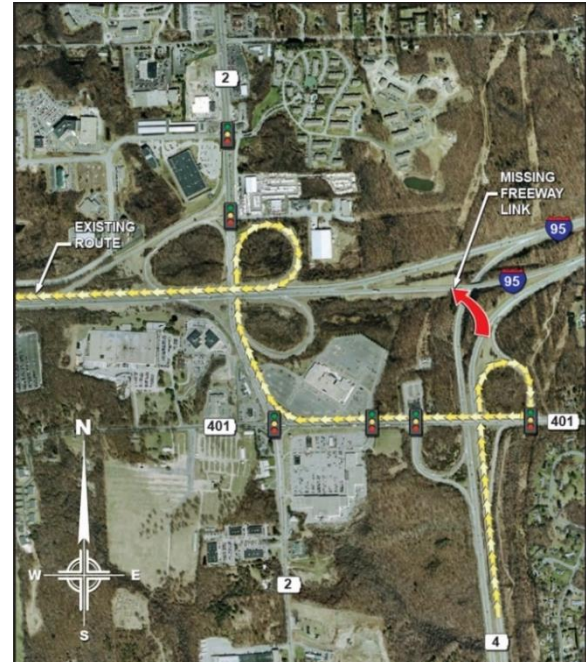


FIGURE 2 – EXISTING TRAFFIC PATTERNS AT THE INTERCHANGE OF ROUTE 4 AND I-95

design and environmental assessment of this connection. Construction is estimated to begin in the summer of 2022.

The preferred alternative identified by that study is a trumpet-style interchange layout for a semi-direct ramp connection from Route 4 northbound to I-95 southbound on the right side of the roadway. This layout would allow for adequate weaving distance for the vehicles entering from Route 4 northbound onto I-95 southbound and the vehicles exiting Route 95 southbound via Exit 8 to Route 2.

Component 2: The Quonset Connector Ramps

Also included in this planning project are three previously deferred ramps for Route 403. Route 403 in North Kingstown is a relatively new 4.5-mile limited access highway, constructed to provide freeway access to the 3,214-acre Quonset Business Park (QBP), one of the state's largest economic engines, from Route 4 and Interstate 95. The original Route 403 project was completed in 2008, however, construction of three ramps was deferred in an effort 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, the missing ramps have arisen as a significant transportation challenge for the Park and the surrounding areas in North Kingstown.

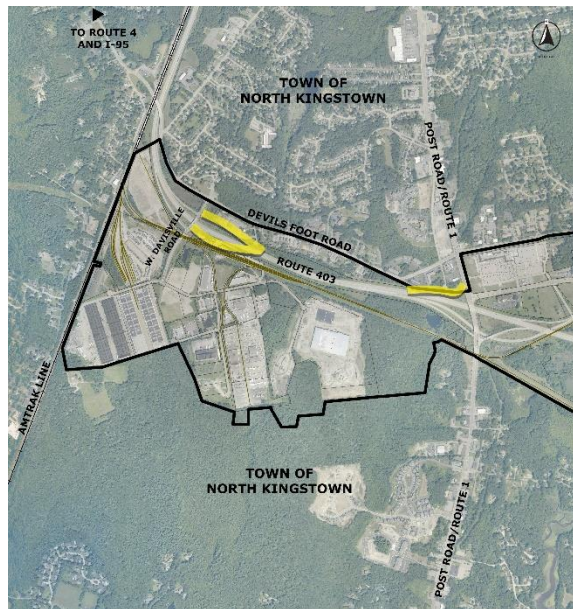


FIGURE 3 -- LOCATION OF PROPOSED QUONSET CONNECTOR RAMPS

This component of the study will evaluate vehicular operational efficiencies in and out of the QBP with the goals of improving the movement of freight within the QBP and alleviating unnecessary industrial and manufacturing traffic from neighboring residential areas. The proposed ramps support the continued growth of the Park and therefore the Park's continued contributions to the overall economic health of Rhode Island. Improved truck traffic capacity and more direct connections within the QBP will improve supply chains for manufacturers, distributors, and providers of the many goods produced in and transported through the QBP.

Without the Quonset Connector ramps, businesses within the QBP are forced to utilize Devil's Foot Road to travel between the eastern and western portions of the Park. Devils Foot Road is a 2-lane street through a residential neighborhood with subsidized, low-income, and rental housing. The ramp deferment has forced industrial traffic onto this and other local roads, in opposition to the original purpose and intent of building Route 403.

This rerouting of traffic can be observed in several examples. First, oversize timber piles that are bound for BB&S Lumber in West Davisville arrive at the Port of Davisville and are off-loaded at Pier 2. They are then placed on trucks which leave the Park via Gate Road, turn north onto Post Road, left onto Devil's Road for almost a mile, and then left onto West Davisville Road rather than using the highway. Similarly, General Dynamics Electric Boat Division has its main Quonset Point facility in the waterfront district of the Park, employing over 4,000 people. The defense contractor has a large amount of warehouse space in West Davisville and are forced to move product back on forth via local streets due to the absence of the ramps.

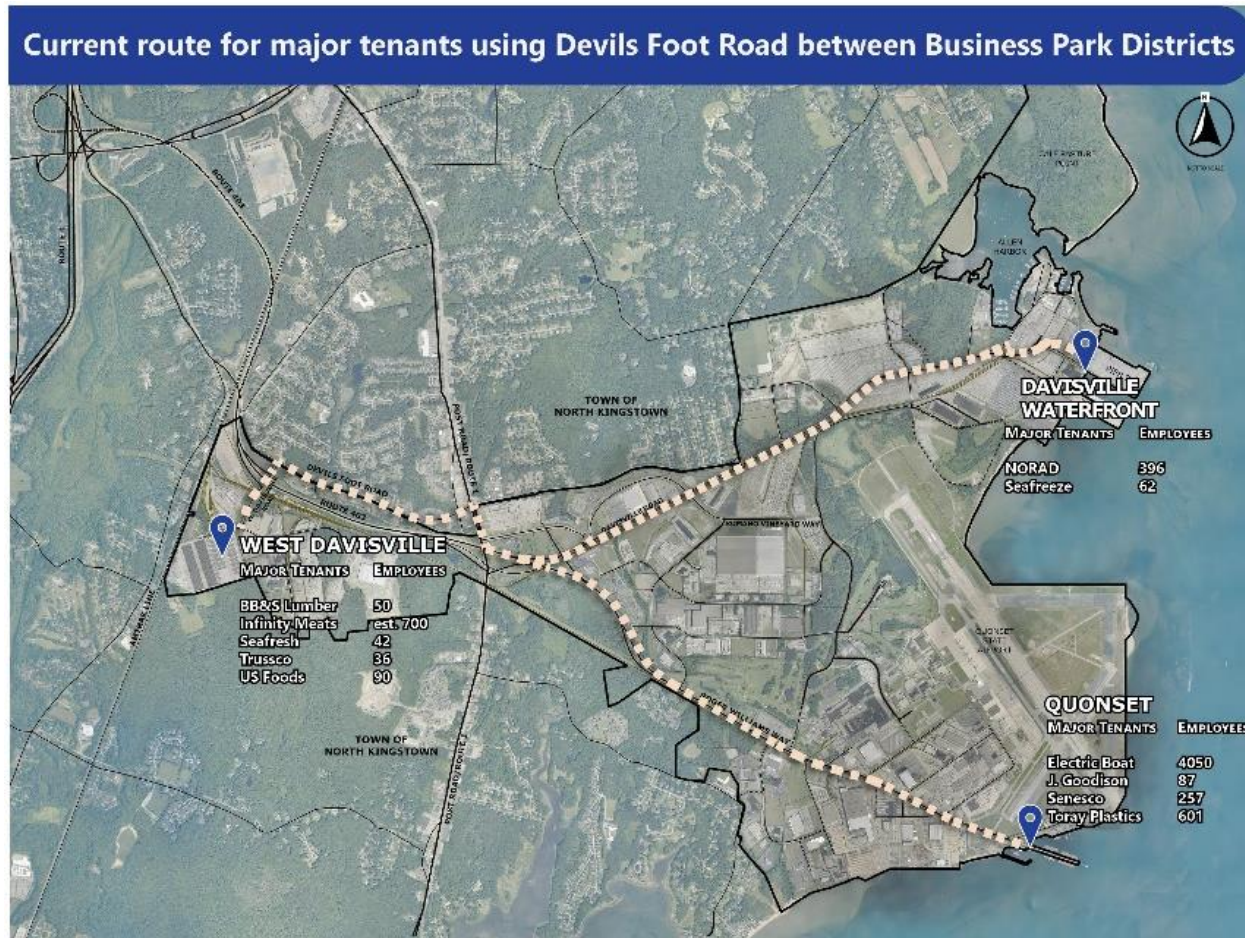


FIGURE 4 -- CURRENT TRUCK ROUTE THROUGH RESIDENTIAL AREA

Another tenant, T. Miozzi and Sons, an asphalt plant in West Davisville, contributes to additional industrial traffic by serving construction projects both in and outside of the Park. Finally, Infinity Meats, a new 700,000 sq. ft. meat packing and distributing facility is scheduled to open in 2020, with an estimated 700 new employees. This will add additional freight and commuting traffic to Devils Foot Road and the Business Park.

Post Road (US Route 1) is a major five-lane commercial corridor in North Kingstown that bisects the Business Park. It is a heavily traveled arterial road that serves the community and the Park and is a busy lunchtime destination for thousands of Park employees (more than 600 in the West Davisville District alone, with another 700 to be added with the opening of Infinity Meats). This

added traffic, on the neighborhood streets due to the absence of the ramps, increases congestion at three signalized intersections on Post Road (Quonset, Gate Road and Devil's Foot/Newcomb Roads).

This planning study will aid in determining how the new ramps could accommodate industrial park traffic between West Davisville and the remainder of the Port and Business Park, remove industrial and highway bound traffic from Devil's Foot Road, and improve the flow of traffic on Post Road at Gate Road and Devil's Foot Road intersections.

This project focuses on improving the movement of freight and vehicular transportation in southern Rhode Island. Incorporating the deferred ramps into this planning study will help determine the full breadth of the economic benefits of the improved connections by including the benefits to the Port of Davisville and the Quonset Business Park, and thus, the statewide economy.

Project Scope

For both components of this planning project, the planning process will include:

1. Development of an approved NEPA document;
2. Development of preliminary engineering plans for both the Missing Move and the Quonset Connector Ramps

NEPA Documentation

This project will include the development of approved NEPA documents for both components. The NEPA document for the Missing Move will address a freshwater wetland crossing for the ramp, right-of-way acquisition, utility relocation and detention ponds.

The planning study will consider both operational and safety analysis, including mass transit, transportation management systems, and demand management, a detailed operational and safety analysis for the proposed access improvements to determine the impacts of the change in access on the highways and local road networks, and will look at existing conditions, future conditions, alternatives for the access points, safety analysis, capacity and volumes, project limits, socio-economic and population factors and design study.

Preliminary Engineering

The purpose of the proposed design study is to provide a path to constructing full freeway-to-freeway access between I-95 and Route 4, and from QBP to Route 4 via Route 403. The planning process includes the start and completion of NEPA and other environmental reviews including permitting, preliminary design completion, right-of-way acquisition, plan approvals, specifications and refined construction cost estimates.

The requested BUILD grant funds will also support the development of a plan to finance the construction phase of the project that emerges from the NEPA process as the Preferred Alternative. The completion of this effort will prove invaluable during final design and construction stages of the project. Rather than set aside a significant amount of funding with an uncertain budget or schedule in place, the planning efforts financed by the funds requested in this application will

allow RIDOT to be sure of the project's critical path, key stakeholders' inputs, and the financial needs of the endeavor as early in the project development process as possible. As a result, the project should be expected to have a much more reliable, well-researched budget and schedule than it otherwise might without the support of BUILD planning funds.



FIGURE 5 -- PRELIMINARY PREFERRED ALTERNATIVE DESIGN, MISSING MOVE

II. Project Location

This project location spans two, separate yet connected areas:

1. The interchange of I-95 and Route 4 (the Primary Project Area, for the Missing Move) and
2. The portion of Route 403 within the Quonset Business Park (the Secondary Project Area, for the Quonset Connector Ramps).

The Primary Project Area (Component 1) is located in the City of Warwick and the Town of East Greenwich, while the Secondary Project Area is located entirely in the Town of North Kingstown.

Primary Project Area

The Primary Project Area includes the entirety of the interchanges between I-95, Route 2, and Route 4. I-95 will be examined between the Route 2 Interchange to the south and the I-95 South/Route 4 Interchange to the north.

The project limits on Route 4 are defined by the I-95 Interchange to the north and the point at which realignment would need to begin to the south, roughly 1100 feet south of the Division Street Bridge.

The study area also includes the Route 401 (Division Street) from the Route 4 Interchange to the Route 2 signalized intersection, and Route 2 from the Route 401 signalized intersection to the I-95 Interchange.

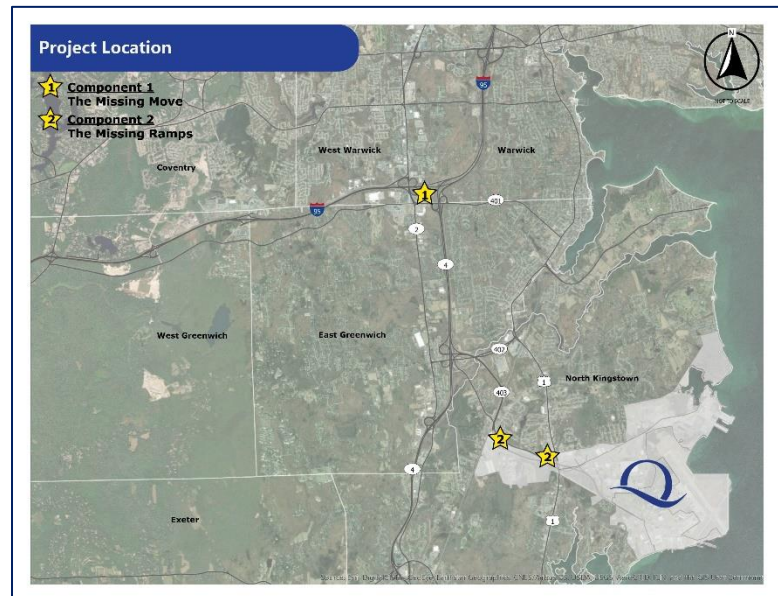


FIGURE 6 -- PROJECT LOCATIONS IN CONTEXT



FIGURE 7 -- MAP OF PRIMARY PROJECT AREA

Secondary Project Area

The Secondary Project Area is the eastern end of Route 403, within the Quonset Business Park, including RI-403's connections to West Davisville Road and Post Road. Route 403 was completed in 2008 without the three deferred ramps that would have provided a direct connection to the West Davisville district of the Quonset Business Park and Post Road.



FIGURE 8 – MAP OF SECONDARY PROJECT AREA

Two ramps are located at the West Davisville interchange (WD-C and WD-D) and one ramp at the US Route 1/Post Road interchange (Ramp C). As a result of the deferment, Park traffic between West Davisville and points east (Route 1, the Gateway retail district, the Port of Davisville, and the eastern parts of the Business Park) must travel on Devil's Foot Road, as described in the Project Description section. The secondary project area extends from Post Road (US-1) west along Route 403 to the West Davisville Road interchange.

III. Grant Funds, Sources, and Uses of Project Funds

Project Budget

Preliminary engineering for this project will cost \$5 million. RIDOT and the Quonset Development Corporation will provide a 20% match, equal to \$1,000,000. The Quonset Development Corporation will provide \$100,000 in matching funds and the remainder of the matching contribution, \$900,000, will be state-funded.

As shown in the figures below, 80% of the planning costs for this project will therefore be supported by federal funds, while 18% will be supported by State funds and 2% will be supported by Other funds from Quonset Development Corporation.

FIGURE 9 -- PROJECT COST ESTIMATE BY TASK

Task	Federal Fiscal Year (FFY)	Expected Cost (\$)	Contingency (\$)
Detailed Project Work Plan, Budget, and Schedule	2021	\$1,500,000	\$150,000
Preliminary Engineering	2021	\$2,000,000	\$250,000
Environmental Review	2022	\$1,000,000	\$100,000
SUBTOTALS		\$4,500,000	\$500,000
Total Estimated Project Costs, Proposed BUILD Project		\$5,000,000	

FIGURE 10 -- PROJECT COST SHARE BY FUNDING SOURCE

Task	Total Expected Cost (\$M)	Federal Share	State Share	Other Share (Quonset)
Detailed Project Work Plan, Budget, and Schedule	\$1.650	80%	18%	2%
Preliminary Engineering	\$2.250	80%	18%	2%
Environmental Review	\$1.100	80%	18%	2%
Total Planned Share by Source	\$5.000	80%	18%	2%

FIGURE 11 -- PROJECT CONTRIBUTIONS BY SOURCE

Task	Total Expected Cost (\$M)	Federal Share	State Share	Other Share (Quonset)
Detailed Project Work Plan, Budget, and Schedule	\$1.650	\$1.320	\$0.297	\$0.033
Preliminary Engineering	\$2.250	\$1.800	\$0.405	\$0.045
Environmental Review	\$1.100	\$0.880	\$0.198	\$0.022
Total Contributions by Source	\$5.000	\$4.000	\$0.900	\$0.100

Previously Incurred Expenses

The state of Rhode Island has committed resources to this project since at least 2001, when RIDOT began preparing an Environmental Assessment examining alternatives to connect Route 4 to I-95 and reduce traffic on Division Street. Since that time, the project has appeared in the State's 2016 Freight Planning Needs Assessment, multiple iterations of the STIP, the Long-Range Transportation Plan, and has been the subject of resolutions from the East Greenwich Town Council and the City of Warwick's Comprehensive Plan.

In total, RIDOT has spent approximately \$1.6 million on the project to date, all on preliminary engineering, design, and environmental review. The existing STIP includes \$2.5 million to support initial scoping and environmental review for the project in FFY20 and 21. The \$5 million in planning funds would augment that funding.

Future Eligible Costs

The future eligible project cost for the Missing Move project is estimated to be approximately \$90 million. \$5 million will support planning, preliminary engineering, and environmental review, while an additional \$85 million will be required for final design, construction, and related contingencies. Final design and construction cost estimates will be refined and updated throughout the planning and preliminary engineering process.

Total funding sources for the project are \$4 million of BUILD, \$900,00 from the state highway maintenance account (RIHMA) and \$100,000 QDC funds.

IV. Selection Criteria

Primary Selection Criteria

Safety

RIDOT's 2016 operational and safety analysis concluded that the proposed change in access does not have a significant adverse impact on the safety and operation of the Interstate facility or on the local street network based on both the current and the planned future traffic projections. With this planning study the analysis will expand to include at least the first adjacent existing or proposed interchange on either side of the proposed project.

It is anticipated that both the Missing Move and the Quonset Connector Ramps will increase safety on the local transportation network that is currently used to make these connections. A direct, safe link that takes Quonset freight from the business park directly to I-95 north and south, via the new Route 4 and Route 403 ramps, will remove a significant amount of traffic from the current route of travel on Routes 2, 401 and Devil's Foot Road, improving the safety of the local road network.

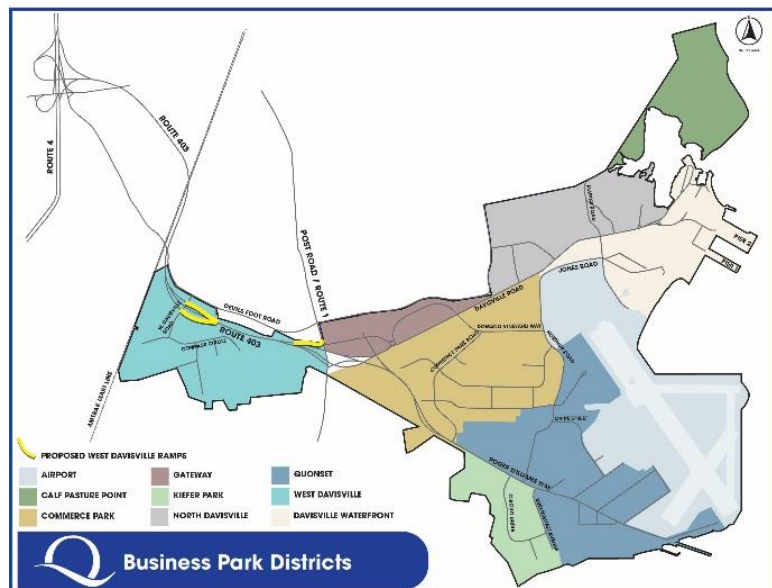


FIGURE 12 -- QUONSET DISTRICT MAP

State of Good Repair

Although there is no national standard for a State of Good Repair, RIDOT has developed asset-specific definitions in coordination with the FHWA within its 2019 Transportation Asset Management Plan (TAMP). To facilitate this process, RIDOT inspects bridge assets on a regular basis according to their National Bridge Inventory (NBI) rating. According to the FHWA, Rhode Island's bridges rank worst in the nation. 22.21% of Rhode Island's 1,162 bridges are rated as being in Poor condition. This includes 22.3% of the state's 779 NBI bridges. The analysis will evaluate how future construction of the 403 ramps could remove heavy trucks from the local roads, thus reducing wear and tear on the local road. In addition, potential impacts to overall highway maintenance, and snowplowing operations should be evaluated, as having a simplified, complete interchange could streamline efficiencies and movements within the highway system.

Economic Competitiveness

The biggest stakeholder in this planning grant application is Quonset Development Corporation (QDC), which operates the Quonset Business Park. The Quonset Business Park is host to more than 200 companies and more than 12,000 employees.

The Quonset Business Park has seen steady expansion throughout the years, adding new capabilities and state of the art facilities for current and new businesses to operate. This includes the construction of new Flex Industrial spaces, new offices, food industry, and new manufacturing. The investments, new construction, and increased capabilities have supported the creation of thousands of new jobs at the Quonset Business Park, which account for 4.5% of all employment in Rhode Island, and 1/6th of all manufacturing jobs.

The Port of Davisville is located within the Park and is in the top ten in North America for imports of finished automobiles for the 11th time in 12 years. Additionally, there are nearly 95 acres of available development land in the Park as well as upland port terminal space, creating unique opportunities for industrial growth, global shipping, and job creation. Industrial users rely on the surface transportation network for their raw materials and finished product as well as employee commuting. Cargo shipped in and out of the Port and Business Park include submarine hull cylinders, finished automobiles, propane, lumber, food products, product packaging, 3D printed objects, wind turbine components, and much more.

It is expected that the Park will continue to expand and bring an increase in employment at the Park to 16,695 workers by 2030 (Quonset Business Park, 2019 Economic Impact Assessment, Bryant University, June 2019). This demonstrates that the Quonset Business Park contributes significantly to the state economy through direct employment and income creation, and is a viable asset to the economic vitality of the State of Rhode Island.

In addition, the nearby area in the towns of North Kingstown and East Greenwich have dramatically grown in the decades since Route 4 was built. In North Kingstown alone, commercial development in that corridor has grown exponentially, adding nearly one million square feet of new commercial real estate to local tax rolls since 1990. As the Park and the surrounding area continue to grow, the potential impacts

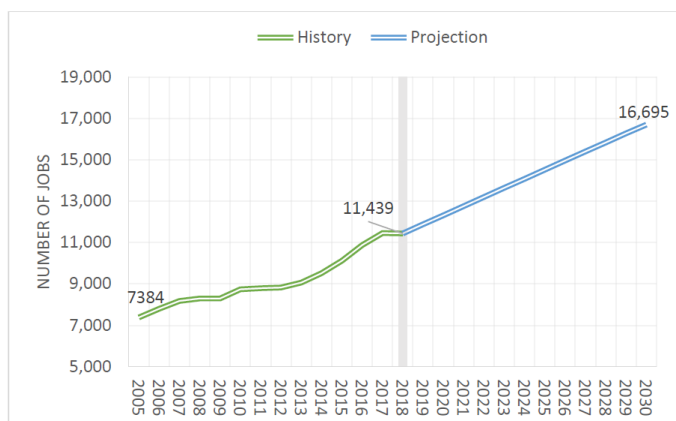


FIGURE 13 -- QUONSET EMPLOYMENT HISTORY AND PROJECTION, 2005 - 2030

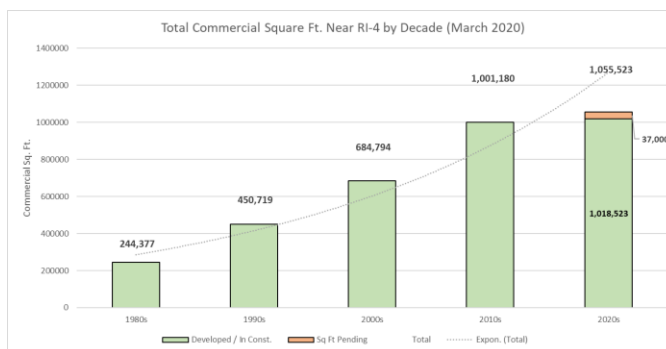


FIGURE 14 -- COMMERCIAL REAL ESTATE GROWTH NEAR ROUTE 4 BY DECADE

of the Missing Move and the Quonset Connector Ramps are increasing.

The planning activities for this project will assess how the construction of these missing components will enhance the economic competitiveness of the region due to the enhanced movement of freight from southern Rhode Island to I-95. It is anticipated that completion of the desired interchanges will improve competitiveness and save businesses in the cost of transportation of goods.

Environmental Sustainability

This project will promote environmental sustainability by reducing oil dependency and congestion-related emissions by lowering congestion, improving traffic flows, and further incentivizing development within the Quonset Business Park, by diverting traffic from local streets to an easy on-off highway ramp system.



FIGURE 15 -- TORAY PLASTICS ANNIVERSARY PHOTO, 2015

Over the next 12 months, the Quonset Business Park will see an expansion with Toray Plastics, as well as a new construction debris transfer facility expected to transfer approximately 2,000 tons of construction debris daily at peak operation, the opening of a new 700,000 square foot food distribution facility, and ongoing expansions at the Electric Boat campus.

The existing traffic capacity of Devil's Foot Road is limited today, and will be impacted with this impending business growth. This study will evaluate how these new

ramps will accommodate the growth of the Quonset Business Park and how they will affect the maintenance of efficient, fluid, and safe operations in and out of the Park.

This project could contribute to the environmental sustainability of Rhode Island by accommodating the continued growth in manufacturing and industrial traffic generated by Quonset Business Park tenants by providing direct industrial and manufacturing truck access off Route 403 to the Park. This could alleviate congestion, pollution, and provide a long-term, sustainable, viable resolution to the existing 'missing movement' elements of this proposal. It is estimated that with the expansion of Toray Plastics and the new transfer facility, truck traffic volume could increase by 10,400 round trip truck trips per year. Without the ability to create a fluid and efficient transportation option for new and existing customers in and out of West Davisville, as well as the remainder of the Quonset Business Park, traffic will be forced to continue use the residential roads to accommodate any growth. Without the ramps, this increase in truck traffic may impact human

and environmental health of both the surrounding residential and commercial areas. The proposed 403 ramps could, therefore, have a positive impact on air quality and overall environmental sustainability, by limiting traffic and congestion in residential areas and providing a direct route to manufacturers and employers.

Existing daily queues extend from Route 4 to the I-95 interchange in East Greenwich. The completion of this project will eliminate the traffic on the northbound queue and local streets trying to access I-95 South.

Eliminating queues will reduce congestion and increase traffic flow, helping promote environmental sustainability on the Rhode Island roadways through emissions reductions. This project will study annual emission benefits and evaluate the environmental impact of the congestion mitigation efforts over 30 years.

Quality of Life

This study will evaluate the substantial social and environmental justice benefits to be gained by removing truck traffic off a residential street that has mostly subsidized, low-income, and rental housing with many children who walk to school. Quality of life could be enhanced in general by robust infrastructure that allows private sector growth and economic opportunities for Rhode Islanders in both temporary construction jobs and long-term permanent jobs. Quality of life could also improve by shorter commuting times and less traffic congestion.

Approximately 64,000 vehicles travel on Route 4 on their way to and from Interstate 95. Better access to southbound I-95 means quicker travel to South County Hospital, transit hubs at Wickford Junction (commuter rail and bus) and Amtrak service at Kingston Station. Students at the University of Rhode Island commute along this route, as do visitors to the tourism areas of the South County beaches and nearby Newport on Aquidneck Island.

The installation of the Missing Move and Quonset Connector Ramps will mitigate congestions in the area, one of the most gridlocked in the state. Rhode Island's 2016 Freight and Goods Movement Plan noted that northbound travel time reliability along Route 4 averages just 13 percent, due in part to the lack of connectivity between Route 4 and I-95.

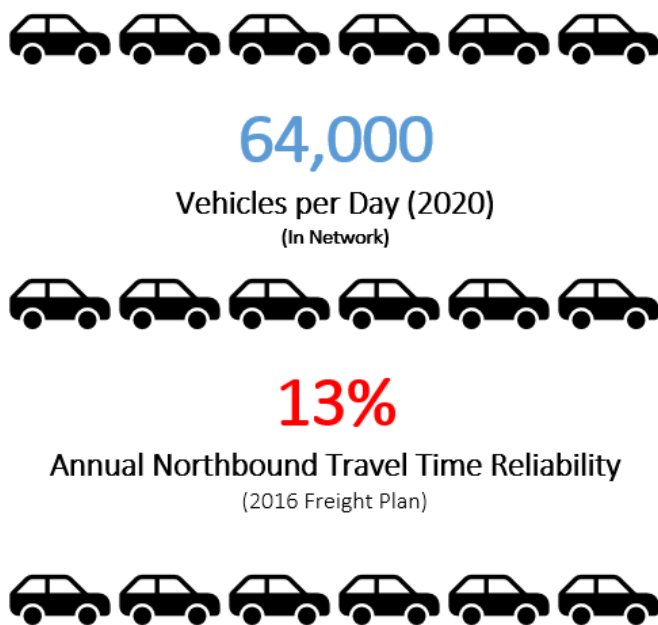


FIGURE 16 -- TRAVEL TIME RELIABILITY SUMMARY

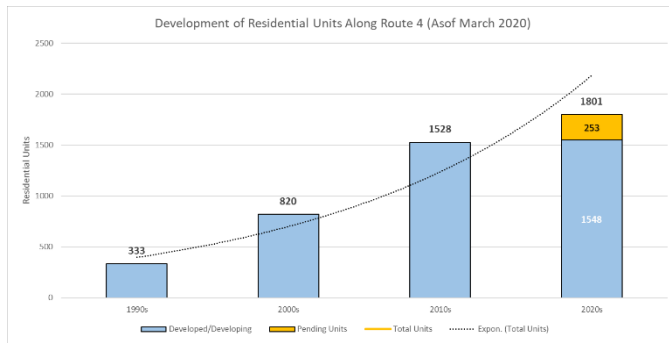


FIGURE 17 -- RESIDENTIAL GROWTH IN ROUTE 4 CORRIDOR, NORTH KINGSTOWN, RI

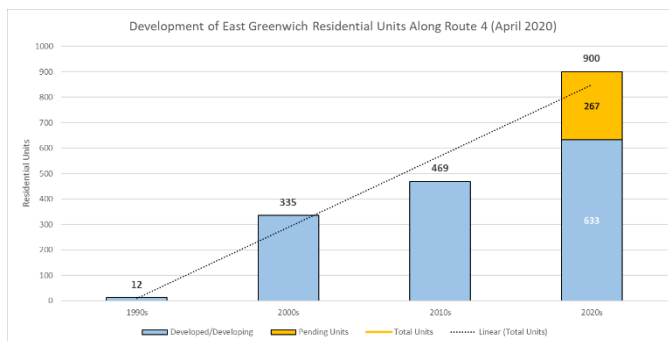


FIGURE 18 -- RESIDENTIAL GROWTH IN ROUTE 4 CORRIDOR, EAST GREENWICH, RI

This area also boasts some of the most desired residential properties in Rhode Island. Since the early 1990s North Kingstown has grown by more than 1,500 residential units in the Route 4 corridor alone, and another 253 are under development in just the first year of the current decade.

The Town of East Greenwich, an adjacent community to the North, has experienced similar growth. Since the 1990s, East Greenwich has grown by more than 600 residential units in the immediate vicinity of the Route 4 corridor, and another 267 units are under development in 2020.

This development is a key reason why the 2016 freight plan projected AADT on Route 4 to exceed 139,000 by 2035. As residential and commercial growth in the area continue, congestion mitigation will become an even bigger priority.

Secondary Selection Criteria

Innovation

Innovative Technologies

The planning and preliminary engineering work on this project will identify innovative construction techniques and phasing schemes to minimize lane and ramp closures during construction. RIDOT and QDC will work with design consultants, FHWA, and local officials to identify the most efficient means of leveraging innovative technologies to advance this project through design and construction.

Innovative Project Delivery

If this project is supported by BUILD grant funds, RIDOT will utilize concurrent permitting and environmental review to accelerate project delivery. While the EA is being developed, the project management team will advance concurrent review and approvals with the required regulatory agencies to ensure that permitting milestones are met.

Accelerated Bridge Construction

RIDOT will use the design and preliminary engineering period to coordinate with key stakeholders on this project and evaluate the feasibility of accelerated bridge construction methods.

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.

The Quonset Development Corporation is a quasi-state agency [created by the RI General Assembly](#) to develop and manage the Quonset Business Park and Port of Davisville. QDC's operations are self-funded from land leases, utilities, and port revenues.

The funding contribution of QDC is considered as a private source of funding, as it is not derived from tax revenue but from the operations of the Corporation.

Asset Management Innovation

This project is a crucial component of RhodeWorks, the basis for RIDOT's Ten-Year Plan and cornerstone of the Rhode Island STIP, implementing an asset management approach to achieving the desired state of good repair in a cost-effective manner. This approach accounts for lifecycle costs, including the future costs of allowing assets to further deteriorate. RhodeWorks is the foundation for the State Transportation Improvement Plan (STIP).

Partnership

The parties engaged as part of the project and subsequent BUILD application include federal, state, and local officials; RIDOT; Quonset Development Corp. (QDC) and the Federal Highway Administration (FHWA). The State of Rhode Island is unique in its tradition of planning. The state is small enough to have an effective State Guide Plan, and municipalities are required to have local comprehensive plans that are reviewed and approved by the State Planning Council provided they are consistent with the State Guide Plan. This process then compels the state to abide by the local comprehensive plan. This partnership between the state and municipalities serves to coordinate transportation, economic development, and land use. Construction of the Missing Move and Quonset Connector Ramps are consistent with State and local plans as evidenced by the state planning document excerpts in the [state freight plan](#) and the Town of North Kingstown.



FIGURE 19 -- RI FREIGHT PLAN

RIDOT is the lead applicant for this BUILD Grant and tasked with completing the project outlined herein. QDC will act as a co-applicant providing both matching funds and supporting staff resources. QDC will coordinate with RIDOT to monitor progress, review upcoming tasks and will

meet with RIDOT as required to review progress, updates on milestones, and review planning outcomes.

FHWA will act as a monitoring entity in the process, ensuring that the necessary steps are taken to guarantee that the applicable guidelines are being followed.

V. Environmental Risk Review

Technical Feasibility

The major project milestones are as follows:

- | | |
|--|-------------------------|
| • Start Pre-Planning Process: | March 1, 2020 |
| • Complete Scoping, Preliminary Engineering, and NEPA: | January 31, 2021 |
| • Begin preparing RFP for Design-Build Contract: | March 31, 2021 |
| • Advertise for Design-Build Procurement: | October 31, 2021 |
| • Notice to Proceed to Design-Build Team: | May 31, 2022 |
| • Construction Begins: | July 31, 2022 |
| • Substantial Completion: | May 31, 2025 |

Engineering Design Studies and Activities

With the support of BUILD grant funding, RIDOT will commission a design contract to advance the project through preliminary engineering. This effort will advance all elements of the project design (including but not limited to, highway, structural, traffic, drainage, utilities) to a level sufficient for RIDOT to advertise the project as a design-build contract. This includes plans, specifications, and estimates to a level tantamount to a 10 percent design review submission under a conventional design-build procurement approach. The selected consultant will also support RIDOT in the preparation and submission of permit applications, modifications, and extensions to the authorities having jurisdiction over the work.

Development of Design Criteria and Basis of Design

The flaws in the existing design of the interchange(s) between I-95, Route 4, and Route 2 have led to the development of the design criteria for this project. The basis of design presented in this narrative is the inability for drivers to move from Route 4 to I-95—two limited-access freeways—without passing through a series of traffic lights and intersections. The primary objective of this project is to change partial interchanges to full interchanges by installing those missing movements in the most cost-effective, efficient, and environmentally friendly manner possible.



FIGURE 20 -- EXISTING ROUTE, I-95 NB TO RI-4 SB

Basis for Cost Estimate

The cost estimate for this project is based on three inputs:

1. The estimated scope of work needed to advance the project to design;
2. Recent expenditures on other large-scale highway enhancements, including the Washington Bridge Rehabilitation and Redevelopment project, and the Providence I-95 Northbound Viaduct Project; and
3. The information gathered in the 2016 study focused on this project area.

As indicated in Section III, RIDOT's estimates that planning and preliminary engineering on the project will cost approximately \$5 million, while final design, construction, and contingencies will total another \$85 million in future years.

Project Scope, Schedule, and Statement of Work

Environmental Permits and Reviews

RIDOT has completed a high-level evaluation of the proposed project and project scope in efforts to determine which environmental documentation is required to effectively and accurately evaluate the environmental impact of this project's construction and rehabilitation.

NEPA

The 2016 missing move design study showed only an Environment Assessment (EA) would be needed if the "preferred alternative" design is selected. However, based on preliminary discussions with FHWA-RI, RIDOT expects the project is likely to qualify for a Categorical Exclusion (CE) as the project will not have significant individual or cumulative impacts to the interests protected by the National Environmental Policy Act (NEPA). The work included in this project most closely aligns with the following CE-eligible activities under 23 CFR § 771.117 (c):

- **Item 26:** Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes or parking lanes; and
- **Item 28:** Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings.

It is anticipated that this project likely will not significantly impact social, economic, or sensitive environmental resources including, but not limited to, floodplains, wetlands, endangered species, wildlife habitat, historic and archaeological sites, parklands, air quality, noise, right-of-way, minority or low-income population, travel patterns, and environmental grounds.

Reviews, Approvals, and Permits by Other Agencies

Rhode Island's Coastal Resource Management Council (CRMC) requires a Maintenance Assent. This permit is required for any new construction project regardless of project scope. In addition,

project notifications must also be sent to the Army Corp of Engineers (ACOE). ACOE permit and approval is required prior to start of construction.

These three agencies will play an active role in the NEPA process. RIDOT will seek concurrence from USCG, ACOE, and CRMC to determine the preferred action in efforts to minimize delay and response costs.

Environmental Studies

Environmental studies shall be conducted in combined efforts with the NEPA to determine the impact of bridge and ramp construction on both the land and water areas surrounding the proposed new movements.

Discussions with DOT Field Office Regarding Compliance

RIDOT is working closely with FHWA-RI throughout the NEPA development and review process to ensure that the project meets all federal requirements and proceeds on-schedule.

Public Engagement

RIDOT will provide multiple opportunities for the general public to comment on the project details as the project moves forward. In accordance with Federal Highway policy, as listed in 23 CFR 771.105(c), “Public involvement and a systematic interdisciplinary approach are essential parts of the development process.” These requirements will be followed carefully by the Department, with support from FHWA and the relevant community stakeholders.

RIDOT is coordinating with Quonset and local officials in North Kingstown and East Greenwich and will continue to do so throughout the life of this project.

State and Local Approvals

Aside from the permitting approvals listed in the prior section, no additional planning approvals are required for this project at this time.

Right-of-Way

The 2016 study of this project identified three right-of-way acquisitions required to install the proposed missing movements:

- In the northeast quadrant of the I-95/Route 4 interchange, the proposed p-loop ramp from Route 4 northbound to I-95 southbound would require the acquisition of approximately 25 acres of undeveloped land that is currently zoned for residential uses. No relocations are expected.
- In the southwest quadrant of the I-95/Route 4 interchange, the proposed ramp from I-95 northbound to Route 4 southbound would require the acquisition of approximately 3 acres of land that is currently part of an electric transmission line corridor. No relocations are expected.

- In the southwest quadrant of the Route 4/Route 401 interchange, the proposed ramps would require the acquisition of approximately 20.3± acres of undeveloped land that is currently zoned for residential and farming uses. No relocations are expected.

Federal Transportation Requirements Affecting State and Local Planning

This project is included in the Statewide Transportation Improvement Program for FFY2018-2027 with mixed funding sources. The project will secure all necessary federal approvals—including a FONSI referenced above—before construction begins.

Assessment of Project Risks and Mitigation Strategies

The 2016 study of this project identified two potential red flags in an environmental scan, both of which are easily mitigated.

First, there are two cemeteries in the City of Warwick situated adjacent to the I-95/Route 2 interchange and a third cemetery in the City of Warwick situated on Route 401 just east of the Route 4/Route 401 interchange. All three of these cemeteries will be avoided by the proposed improvements.

Second, the “Oliver A. Wickes House” is located at 794 Major Potter Road in the City of Warwick. The house was constructed in 1855 and was added to the National Register on August 8, 1983. The house is situated on Lot 8 of Assessor’s Plat 225 which is 5± acres in size and located on the south side of Major Potter Road. The adjacent Lots 1 and 11 are also under the same ownership which creates an overall parcel of 23.5± acres. The proposed p-loop ramp from Route 4 northbound to I-95 southbound would require the acquisition of property from all three lots; however, the ramp would be no closer than 650’± to the nearest accessory building on Lot 8 which is located approximately 225’± away from main house. A preliminary estimate of the required acquisition area on Lot 8 is 0.25 acres, and a total of 8.4 acres would be required from Lots 1 and 11.

RIDOT will revisit these issues as design and preliminary engineering work advances on the project to ensure they are mitigated appropriately.

VI. Benefit-Cost Analysis

The planning and preliminary engineering work proposed in this application will support the collection and analysis of data required to produce a robust benefit-cost analysis for this project. Based on the results of BCAs for recent comparable projects, RIDOT is confident that this project will produce significant long-term benefits. The benefits outlined below will serve as key objectives for the project as planning and design move forward.

Safety Benefits

This project will aim to correct safety issues on Route 4, I-95, and Division Street. Upon the completion of this project, vehicles traveling from I-95 to Route 4 southbound and from Route 4

NB to I-95 southbound will no longer be required to leave the highway and utilize local streets to complete their route to their final destination. This will result in a significant improvement to the safety and operation of the Route 2/Route 401 corridor.

Emissions Benefits

Installing missing movements between I-95 and Route 4 will improve traffic flows, reducing congestion on both arterials and major freeways without dramatically increasing daily traffic. As a result, this project should reduce emissions over time. A 2016 analysis for the state's freight plan estimated that establishing a direct connection between I-95 South and Route 4 North would generate environmental benefits of more than \$2 million, an estimate which will be revisited during using the planning funds requested in this application.

Time Travel Savings

The proposed improvements outlined in this application should improve traffic flows for both north- and south-bound commuters on Route 4, southbound drivers on I-95, and all drivers on Route 401 and Route 2. While a detailed traffic analysis will be conducted during the design phase, this project should generate significant time travel savings benefits.

Freight traffic will be among the key beneficiaries of the congestion reduction measures anticipated by this project. In 2016, it was estimated that more than 155,000 trucks pass through the I-95 / Route 4 interchange, with traffic expected to increase annually over the next several decades. Improving traffic flows through that interchange will have significant benefits for supply chain managers throughout Southern New England.

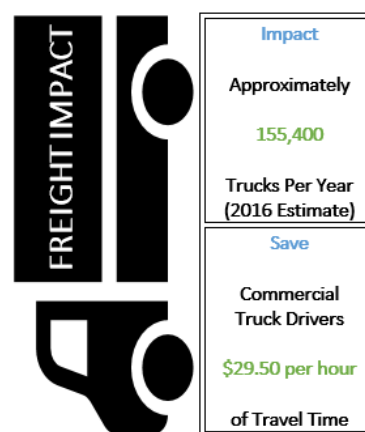


FIGURE 21 -- FREIGHT IMPACTS

Job Creation Benefits

This project will generate both direct and indirect job growth. While the cost estimates on this project need to be refined, if the full project expenditure ultimately matched the \$85 million construction and final design estimate detailed in previous sections, this project could generate more than 1,100 job-years, creating up to 58 new jobs. The total value of these job creation benefits could exceed \$7.47 million. The completion of this project will also facilitate more efficient movement of people and goods throughout the state, easing the flow of commerce and incentivizing economic development across Southern New England.