

## Initiative for New Decks Essential for Economic Development (INDEED) Project

<b>Basic Project Information:</b>	
Project Name	Initiative for New Decks Essential for Economic Development (INDEED) Project
Sponsor	Maine Department of Transportation
Was an INFRA application for this project submitted previously?	No
<b>Project Costs:</b>	
<i>INFRA Request Amount</i>	\$48,000,000
<i>Estimated federal funding (excl. INFRA)</i>	\$16,000,000
<i>Estimated non-federal funding</i>	\$16,000,000
<i>Future Eligible Project Cost (Sum of previous three rows)</i>	\$80,000,000
<i>Previously incurred project costs (if applicable)</i>	\$50,115
<i>Total Project Cost (Sum of 'previous incurred' and 'future eligible')</i>	\$80,050,115
Are matching funds restricted to a specific project component? If so, which one?	No
<b>Project Eligibility:</b>	
Approximately how much of the estimated future eligible project costs will be spent on components of the project currently located on National Highway Freight Network (NHFN)?	\$63,617,000
Approximately how much of the estimated future eligible project costs will be spent on components of the project currently located on National Highway System	\$80,000,000
Approximately how much of the estimated future eligible project costs will be spent on components constituting railway-highway grade crossing or grade separation projects?	\$0
Approximately how much of the estimated future eligible project costs will be spent on components constituting intermodal or freight rail projects, or freight projects within the boundaries of a public or private freight rail, water (including ports), or intermodal facility?	\$0
<b>Project Location:</b>	
State(s) in which the project is located	Maine
Small or large project	Large
Urbanized Area in which project is located, if applicable.	Rural
Population of Urbanized Area.	N/A
Is the project located (entirely or partially) in a Federally designated community development zones?	Yes; Opportunity Zones: 23019000300, 23019030000, 23019031000, 23019028000, 23019004100, 23025965900; Empowerment Zones: Aroostook County
Is the project currently programmed in the: <ul style="list-style-type: none"> <li>• TIP</li> <li>• STIP</li> <li>• MPO Long Range Transportation Plan</li> <li>• State Long Range Transportation Plan</li> <li>• State Freight Plan</li> </ul>	Yes Yes No No, MaineDOT does not include specific projects in the LRTP No, but SOGR projects are recommended

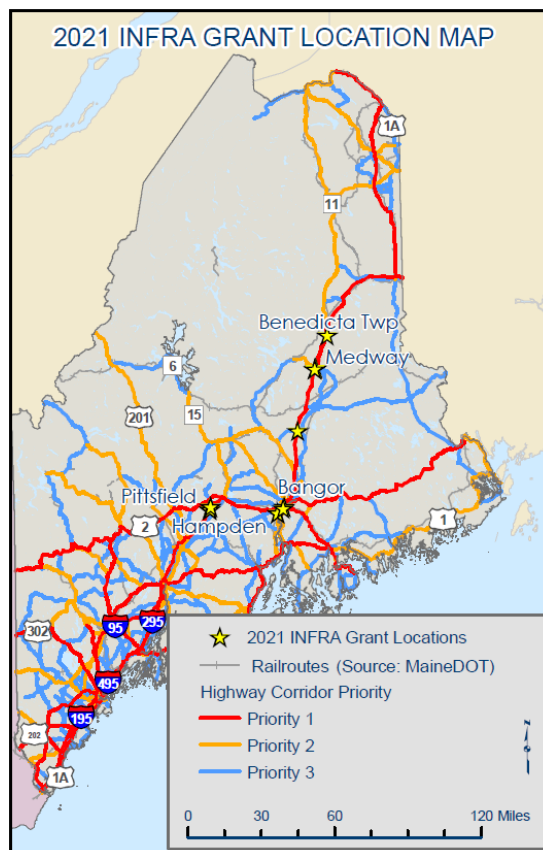
# Initiative for New Decks Essential for Economic Development (INDEED) Project

U.S. Department of Transportation  
INFRASTRUCTURE FOR REBUILDING  
AMERICA “INFRA” GRANT  
**APPLICATION**

Project Name: Initiative for New Decks Essential  
for Economic Development (INDEED) Project  
Project Type: State of Good Repair  
Project Location: Rural, Maine 2<sup>nd</sup> Congressional District  
Funds Requested: \$48,000,000– 60% of Total Eligible Project Cost  
Other Federal Funds Matched: \$16,000,000– 20% of Total Eligible Project Cost  
Non-Federal Funds Matched: \$16,000,000– 20% of Total Eligible Project Cost  
Total Future Eligible Project Cost \$80,000,000  
Non-Federal and Other Funds  
Previously Incurred: \$50,115  
Total Project Cost: \$80,050,115

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DUNS #: 809045966000



### Project Summary

Maine Department of Transportation (MaineDOT) is seeking \$48,000,000 from a U.S. Department of Transportation (USDOT) Infrastructure for Rebuilding America (INFRA) grant. The total future eligible cost of the Project is \$80,000,000, 40% of which (\$32,000,000) will be paid by MaineDOT and other Federal funds.

The Initiative for New Decks Essential for Economic Development (INDEED) Project will:

- a) Replace fifteen (15) aging bridge decks which have deteriorated to the end of their useful lives, are in poor condition, and are considered structurally deficient.
- b) Improve the safety and mobility of these bridges for all users.
- c) Improve the accessibility and long-term prospects for the economy in economically challenged rural regions by improving freight movement that is vital to industry and global competitiveness.
- d) Realize the USDOT stated goal of improving and facilitating freight movement across critical freight corridors into, within and out of the state of Maine.

The Initiative for New Decks Essential for Economic Development (INDEED) Project (Project) will replace fifteen (15) bridge decks on the National Highway System (NHS), eleven (11) of which are also part of the National Highway Freight Network. The aging bridge decks will be replaced with new, safe, and modern bridge decks, meeting current traffic safety standards.

Eleven (11) of the project bridges, provide access to and from northern Maine and Canada via Interstate 95. Northern Maine relies on Interstate 95 as a primary conduit to the rest of the state and country, and points south rely on Interstate 95 as a primary access to the eastern Canadian provinces. Four (4) of the project bridges connect points north and south via Route 202 to the port of Searsport, the primary port in Penobscot Bay and a critical component of freight movement in and out of the state. Maine relies on these bridges for both transportation of raw materials and finished goods within the state and beyond. Maine is already challenged by comparatively high costs of doing business and energy costs, and by its distance from major markets, especially in rural northern Maine. Any detours would create additional costs in the form of truck-miles on area roads, additional roadway safety concerns for other areas in the region, and higher production expenses that are burdensome to the employers in the area.

This Project will ensure improved transportation efficiencies for manufacturing and just-in-time delivery for agricultural facilities in rural northern Maine to remain competitive. Additionally, it will guarantee continued access to rural communities for Maine residents and visitors. These improvements satisfy USDOT's stated goal of *supporting economic vitality at the national and regional level* by facilitating the movement of goods and people and maintaining critical transportation access and service in rural communities across the state. Innovations in the bridges will satisfy the goal of *deploying innovative technology* as well as *climate change and environmental justice impacts*. The robust public outreach plan and very nature of the Project will help to achieve the goal of *racial equity and barriers to opportunity*, and Programmatic Agreements will help satisfy *innovative project delivery*.

This Project will ensure continued, efficient access to the far reaches of the state, creating long-lasting positive impacts on communities and industries in the surrounding region, as well as ensuring the preservation and creation of jobs and economic viability in this very rural part of the nation.

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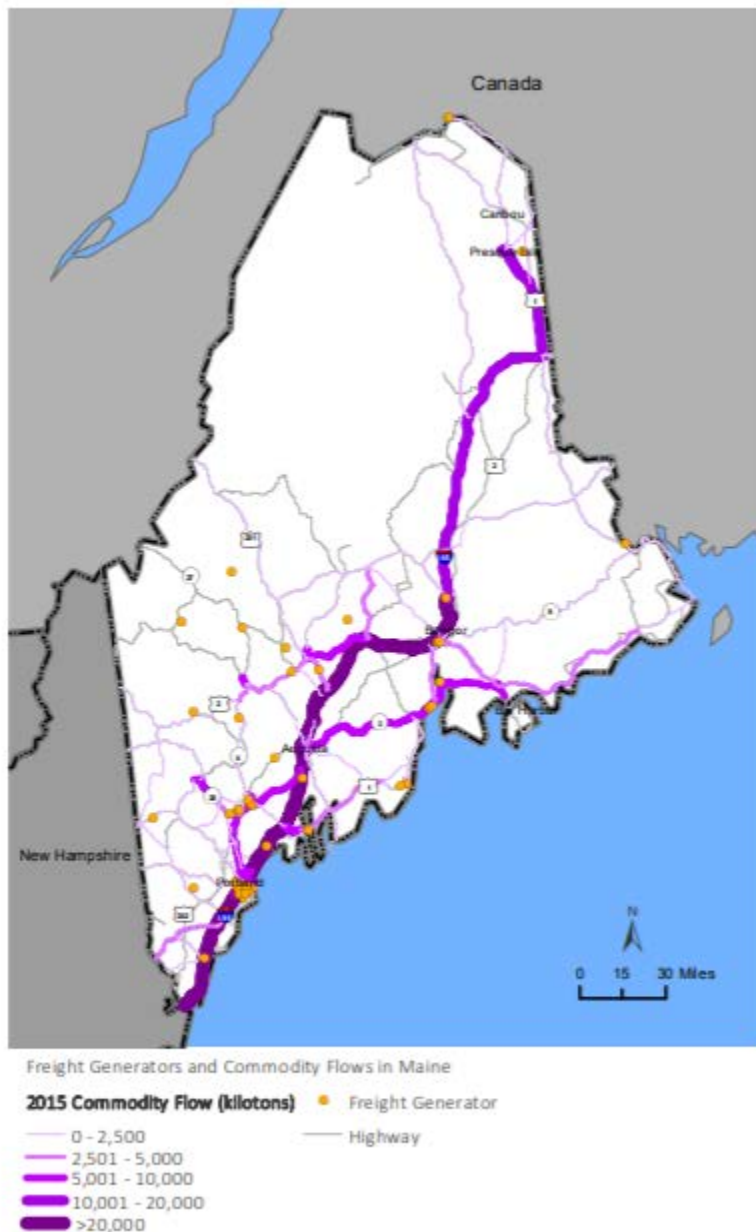
## Project Narrative

### I. Project Description

#### a) Project Details and Background

This large project consists of fifteen (15) bridge deck replacements. These bridges are in rural areas and located in and/or near qualified Opportunity Zone(s), as well as an Empowerment Zone. All fifteen (15) bridges are located on the National Highway System (NHS), and eleven (11) are also part of the National Highway Freight Network (NHFN). As such, this project is critical to maintaining the state's highway freight corridors that support the majority of Maine's freight and passenger transportation. Forest products, seafood, agricultural and other commodities are transported within, into and out of the state on these highway systems. Maine's international trade with Canada is also a vital component of freight movement in Maine. This Project will generate national and regional economic, mobility and safety benefits. The Project is cost effective and contributes to all the goals listed under 23 U.S.C. 150. The criteria used to select the specific bridges included in this Project include: their importance to their region's economic vitality; their poor bridge deck condition ratings; their status of not meeting current traffic safety standards; their benefit-cost ratios as components to the overall project; and their individual abilities to contribute to the goals under 23 U.S.C. 150.

Maine's highways are used to transport the vast majority of freight, capturing more than 80% of all freight tonnage moved within the state.<sup>1</sup> It is clear that Maine's freight network is the lifeblood of the state, providing critical access by which goods flow into and out of the state,



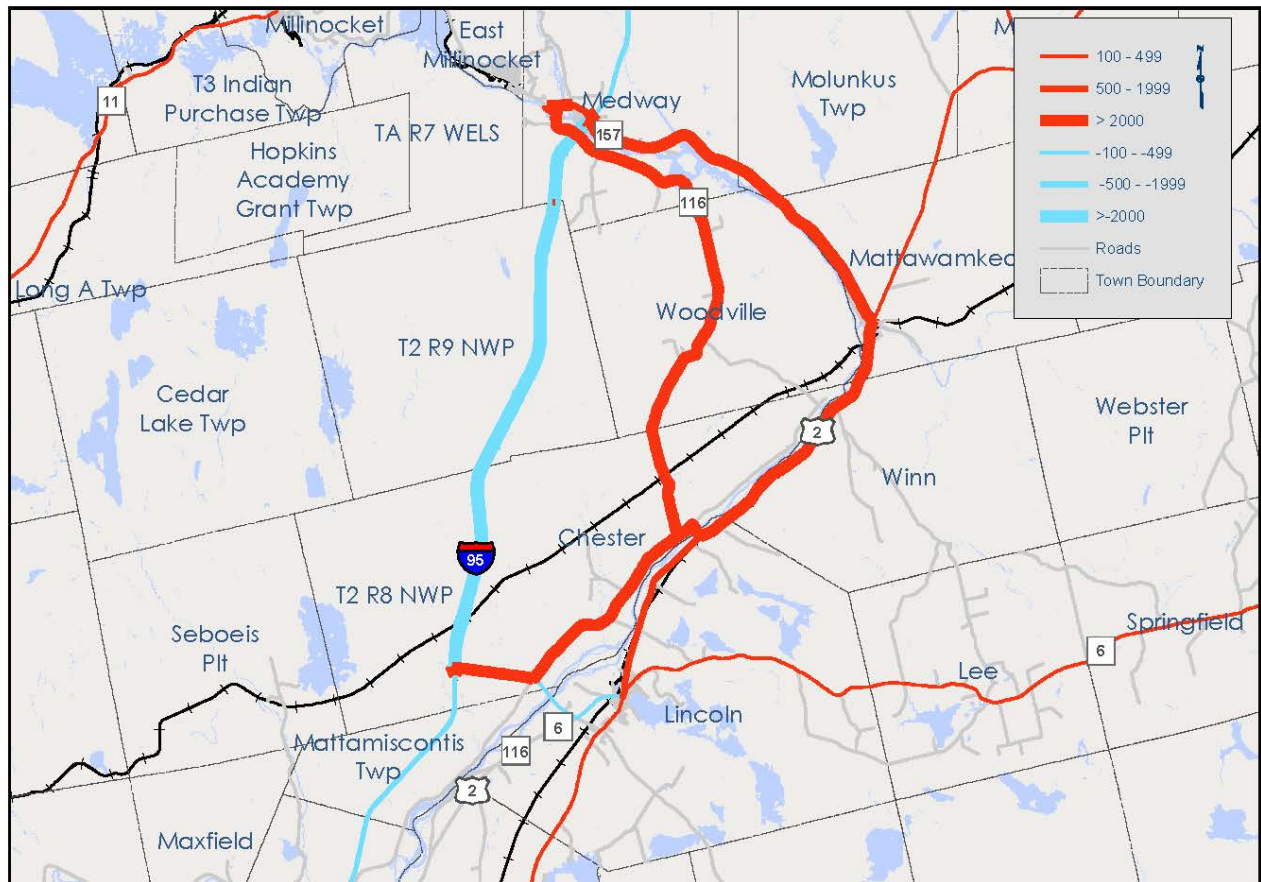
*Maine Commodity Flows and Freight Generators*

Source: *Maine Integrated Freight Strategy*, November 2017, <https://www.maine.gov/mdot/ofbs/docs/FreightStrat.pdf>, page 3-27

<sup>1</sup> *Maine Integrated Freight Strategy*, November 2017, <https://www.maine.gov/mdot/ofbs/docs/FreightStrat.pdf>, page 3-1

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and also offering local access to goods, services, healthcare and employment to residents, strengthening Maine's economy. Any bridge postings or closures pose major threats to this flow, by requiring costly reroutes (upwards of 7.4 miles and an additional 19 minutes in one instance, see detour map below), and decreased mobility on local roads that are not intended for or designed to handle the resulting volume of traffic, driving up costs for everyone long-term. By replacing these fifteen (15) bridge decks now, the state ensures continued access, efficiencies, and opportunities for those living in, working in and visiting Maine.



*7.4-mile detour (+19 minutes) for Medway Bridges*

The fifteen (15) bridge deck replacements are located in the communities of Benedicta, Medway, Howland, Bangor, Hampden and Pittsfield. The project bridge decks require replacement due to poor condition ratings, displaying varying levels of cracking from scattered to heavy, scattered delaminations, staining, pop-outs, and extensive cracking with efflorescence in some instances. All fifteen (15) bridges are considered structurally deficient. Structural engineers have evaluated each project bridge within the last inspection cycle in accordance with the *Manual for Bridge Evaluation* published by the American Association of State Highway and Transportation Officials (AASHTO). These evaluations have concluded that the bridge decks have deteriorated almost to the end of their useful lives and replacements are warranted.

**Individual Project Components  
2021 INFRA Grant - Bridge Deck Replacements**

Bridge #	Bridge Name	Town	County	Year Built	Facility Carried	Feature Intersected	NHS	NHFN
6165	Casey Road/I-95	Benedicta Twp	Aroostook	1967	Casey Road	I-95	*Yes	*Yes
1410	VAUGHAN DAGGETT MEM SB	Medway	Penobscot	1966	I-95 Southbound	Penobscot River, Main Street	Yes	Yes
6078	VAUGHAN DAGGETT MEM NB	Medway	Penobscot	1966	I-95 Northbound	Penobscot River, Main Street	Yes	Yes
1411	I95 SB / ROUTE 116	Medway	Penobscot	1966	I-95 Southbound	Route 116	Yes	Yes
6077	I95 NB / ROUTE 116	Medway	Penobscot	1966	I-95 Northbound	Route 116	Yes	Yes
6141	ROUTE 157/I-95 INTERCHANGE	Medway	Penobscot	1966	Route 157	I-95	*Yes	*Yes
6068	ROUTE 155 / I95	Howland	Penobscot	1965	Routes 6/155	I-95	*Yes	*Yes
6082	US 202 / I-395	Bangor	Penobscot	1964	US Route 202	I-395	Yes	No
6080	US 202 / MCRR	Hampden	Penobscot	1965	US Route 202	MCRR	Yes	No
1524	202SB / SOUADABSCOOK STR	Hampden	Penobscot	1965	US Route 202	Souadabscook Stream	Yes	No
6079	202 NB / SQUADABSCOOK STR	Hampden	Penobscot	1965	US Route 202	Souadabscook Stream	Yes	No
1447	I95 SB / SOMERSET AVE	Pittsfield	Somerset	1964	I-95 Southbound	Somerset Avenue	Yes	Yes
5985	I95 NB / SOMERSET AVENUE	Pittsfield	Somerset	1964	I-95 Northbound	Somerset Avenue	Yes	Yes
1449	I95 SB / WEBB ROAD	Pittsfield	Somerset	1964	I-95 Southbound	Webb Road	Yes	Yes
5984	I95 NB / WEBB ROAD	Pittsfield	Somerset	1964	I-95 Northbound	Webb Road	Yes	Yes

\*Intersects and provides direct access to I-95

### Quantitative and Other Facts

- The Project, conservatively, has a benefit-cost ratio of 8.06 to 1 and yields upwards of \$485 million in benefits based on a Net Present Value (NPV) at a 7% discount rate over 30 years.
- Savings will result from reduced maintenance costs, reductions in travel time and mileage for rerouted vehicles, reductions in mileage-driven highway injuries and fatalities, and reduced pollutant emissions.
- Non-Federal spending on the Project is \$16,000,000 committed by MaineDOT.
- Eligible matching funds are \$32,000,000, 40% of the total eligible project cost.
- Previously incurred expenses are \$50,115.
- The Project is in Aroostook, Penobscot and Somerset Counties in Maine.
- The Project is in Maine's Second Congressional Districts, represented by U.S. Representative Jared Golden.
- The state is represented by U.S. Senators Susan Collins and Angus King.
- This is a Rural project.
- Total Eligible Future Cost of the Project: \$80,000,000.

#### b) Statement of Work

The fifteen (15) project bridge decks each have a poor condition rating are nearing the end of their useful lives, and in need of replacement. None of the existing bridges traffic safety features meet current acceptable standards.

Many repairs to the bridge decks have been implemented over the past 50 years, including bridge joint repairs and wearing surface replacements. However, the rate of deterioration has accelerated to the point that the preferred and cost-effective solution is replacement of the bridge deck. Specific details and photos relating to the current condition of each bridge, as well as the proposed designs, may be found in *Appendix F, Project Summaries*.

In general, the bridge decks are exhibiting the following deficiencies contributing to their overall inadequacy:

- *Poor Condition rating* – All fifteen (15) bridge decks have a Poor condition rating, thereby all fifteen bridges are classified as structurally deficient.
- *Safety* – All fifteen (15) bridge decks will have safety improvements per the Manual for Assessing Safety Hardware (MASH) with crash worthy new bridge rail and bridge rail transitions.



*Route 155/I-95 Bridge –  
Scattered Cracking, Efflorescent Staining, and  
Delamination of Underside of Deck*



- *Extensive Deteriorating Repairs and Retrofits* – many repairs to the bridges have been made over the last 50 years, but the increased deterioration in the condition of the bridge decks cannot feasibly be slowed by increasing the extent of preservation and rehabilitation measures.



*I-95 NB/SB over Webb Road Bridges – Poor Deck End and Backwall Condition due to Failed Deck Joint*



*Vaughan Daggett Memorial Bridges- Condition of deck joint at north abutment and sub-standard bridge rail*

In an effort to increase efficiency and reduce impacts to the traveling public, MaineDOT has chosen to bundle the bridge decks by region and plans to advertise and award construction contracts in this manner, but reserves the right to determine the order in which the bundles advertise as well as the bridge decks within each bundle themselves. All bridge decks within the Project will meet the required obligation and construction requirements outlined in the Notice of Funding Opportunity. The Project descriptions following are grouped regionally into bundles as appropriate:

**Bridge #6165- Casey Road/ I-95. Carries Casey Road over Interstate 95 in Benedicta Twp.**

Originally constructed in 1967, the Casey Road/I-95 Interchange Bridge has advanced deck deterioration and requires a deck replacement. Interstate 95 is the primary highway corridor in Maine, and any disruption to traffic on this vital transportation link has a severely negative impact to the movement of freight, mobility of residents and visitors, and viability of businesses throughout Maine, but in northern Maine in particular. This structure is particularly important due to its rural location with no viable detour options for residences on the west side of Interstate 95. Any disruption to traffic along this corridor creates negative impacts throughout both the region and the local community.

I-95 improves access and efficiency of transportation by providing direct, efficient connections between communities. The Casey Road/I-95 interchange at Exit 259 is the only interchange in the town of Benedicta. Disruptions to this system requires long detours along local roads. This loss of efficiency will increase fuel usage and wear on vehicle tires, negatively impacting the environment. Rehabilitating this structure with a properly designed and constructed deck system will reduce environmental impact by

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maintaining efficient access through the state for the public and freight ultimately reducing the carbon footprint of the structure and reducing the impact on climate change.

The project focuses on redeveloping the existing infrastructure to remove this bridge from the list of structurally deficient bridges and return it to a state of good repair. The scoped deck replacement project provides an additional environmental benefit by innovative reuse of the existing substructure units and structural steel elements with selective rehabilitation of these elements. This economically intelligent and environmentally conscious decision will extend the useful life of the structure by reusing elements that are in satisfactory condition, resulting in fewer materials that will need to be mined, refined, delivered, and placed.

For residents on the western side of Interstate 95, no viable detour routes are available along local or state-maintained roadways. An 11-mile detour to the next exit north of the project site (Exit 264) and a temporary off ramp will be utilized in the traffic control plan to maintain access to these residences, allowing the bridge deck to be replaced with a full closure. This temporary off ramp will eliminate the need for expensive phasing techniques or a temporary bridge and will result in a shorter overall project duration.

The project redevelops the existing infrastructure to remove this bridge from the list of structurally deficient bridges and return it to a state of good repair. The project scope chosen is the best value which takes all the above-mentioned factors into consideration providing a lasting solution for the community and I-95, the State's highest priority public transportation and freight corridor.



*Casey Road/I-95 Interchange Bridge over Interstate 95 in Benedicta*

### **Interstate 95 in the Town of Medway, Maine**

This project consists of a bundle of five (5) structurally deficient Interstate 95 Bridges located in Medway, Maine. Originally constructed in 1966, the Vaughan Daggett Memorial Bridges, the I-95/Route 116 Bridges, and the Route-157/I-95 Interchange Bridge all have advanced deck deterioration and require deck replacements and strengthening. Interstate 95 is the primary highway corridor in Maine, and any disruption to traffic along this corridor creates negative impacts throughout both the region and the local community, including access to Baxter State Park, which includes the northern terminus of the Appalachian Trail, access to Eastern Maine Medical Center in Bangor, and access to the U.S.-Canadian border in Houlton, all of which utilize these bridges.

The deteriorating structures cause additional damage to vehicles, requiring maintenance and increasing the overall environmental impact. The current condition of the structures requires regular maintenance by crews mobilizing equipment to the sites to clean and clear debris spalling from the underside of the concrete decks. Not only is this spalling concrete a safety hazard, but this repetitive mobilization also negatively impacts the environment by using fuel and generating waste. Rehabilitating these structures with properly designed and constructed deck systems will reduce

environmental impact by maintaining efficient access through the state for the public and freight, reduce the maintenance needs on passing vehicles, and reduce trips for maintenance crews, all ultimately reducing the carbon footprint of the structures and reducing the impact on climate change. Additionally, re-using the existing in-water piers eliminates more invasive in-water temporary impacts.



*I-95 NB/SB over the Penobscot River - Vaughan Daggett Memorial Bridges*

Innovative use of interstate median crossovers will be utilized by bundling all four bridges carrying I-95 traffic together into a single traffic control plan, reducing the overall impact. This also improves safety during construction by having one coordinated traffic pattern. These interstate median crossovers will be constructed and used to divert traffic onto the adjacent barrel, maintaining a single lane of traffic in both directions for the entirety of the project, and eliminating the need for complete closures and detour routes. By utilizing the crossovers, the project can avoid costly temporary bridges in the median that would have been needed otherwise to maintain two lanes of traffic in each direction. The design team is also investigating

whether the crossovers can remain in place at the conclusion of the project so they can be utilized for future bridge preservation operations.

The Route 157/I-95 Interchange Bridge will be phased, constructing one-half of the bridge at a time while maintaining traffic on the adjacent half, similarly maintaining a single lane of traffic for the entirety of the project.

### **Route 155/I-95 Interchange in the Town of Howland, Maine**

Originally constructed in 1965, the Route 155/I-95 Interchange Bridge has advanced deck deterioration and requires a deck replacement. Interstate 95 is the primary highway corridor in Maine, and any disruption to traffic on this vital transportation link has a severely negative impact to the movement of freight, mobility of residents and visitors, and viability of businesses throughout Maine, but in northern Maine in particular. This structure is particularly important due to its rural location with limited viable detour options. This interchange at Exit 217 is the only interchange serving the town of Howland with the next closest 10 miles to the north. Any disruption to traffic along this corridor creates negative impacts throughout both the region and the local community, including access to Eastern Maine Medical Center in Bangor and access to the U.S.-Canadian border in Houlton.

The project focuses on redeveloping the existing infrastructure to remove this bridge from the list of structurally deficient bridges and return it to a state of good repair. The scoped deck replacement project provides an additional environmental benefit by innovative reuse of the existing substructure units and structural steel elements with selective rehabilitation of these elements. This economically intelligent and environmentally conscious decision will extend the useful life of the



*Route 155 /I-95 Interchange Bridge over Interstate 95 in Howland*

structure by reusing elements that are in satisfactory condition, resulting in fewer materials that will need to be mined, refined, delivered, and placed.

The project will be phased, constructing one-half of the bridge at a time while maintaining traffic on the adjacent half, maintaining a single lane of traffic for the entirety of the project. Based on the traffic volumes, this method was determined to be the best balance between economics and traffic management. This method avoids the need for a long detour or a costly temporary bridge.

### **Route 202 in the Towns of Bangor and Hampden, Maine**

This project consists of a bundle of two (2) structurally deficient Route 202 bridges located in Bangor and Hampden, Maine. Originally constructed in 1964 and 1965 respectively, the Route 202/I-395 and the Route 202/MCRR bridges both have advanced deck deterioration and require deck replacements. Route 202 is a principal arterial in Maine, and any disruption to traffic on this vital transportation link has a severely negative impact to the mobility of residents and visitors, and viability of local businesses in the Bangor area. Compounding the importance of these structures is their location at the edge of an urban area and relatively high traffic volumes. Any disruption to traffic along this corridor creates negative impacts throughout both the region and the local community.

Route 202 improves access and efficiency of transportation by providing direct, efficient connections between communities. The interchange between Route 202 and I-395 is already near capacity so keeping a lane open in each direction is imperative for the Route 202 over I-395 bridge.

Both bridges will be phased, constructing one portion of the bridge at a time while maintaining traffic on the adjacent portion. The Route 202/I-395 deck replacement will maintain one lane of traffic in each direction during construction which will require three phases. The Route 202/MCRR bridge, on the other hand, will utilize one-way alternating traffic and only require two phases.



*Route 202 over I-395 Bridge*

### **Route 202 over the Souadabscook Stream in the Town of Hampden, Maine**

This project consists of a bundle of two (2) structurally deficient Route 202 bridges located in Hampden, Maine. Originally constructed in 1965, the Route 202/Souadabscook Stream Bridges have advanced deck deterioration and require deck replacements. Route 202 is a principal arterial in Maine, and any disruption to traffic on this vital transportation link has a severely negative impact to the mobility of residents and visitors, the viability of businesses in the Town of Hampden, and the movement of freight through the region. Compounding the importance of these structures is their relatively high traffic volumes in a rural location, indicating their importance to the surrounding public. Any disruption to traffic along this corridor creates negative impacts throughout both the region and the local community.

Route 202 improves access and efficiency of transportation by providing direct, efficient connections between communities. If 202 were to be closed, traffic would likely divert through the I-95/I-395 interchange which is already near capacity. Diverting traffic through this interchange would increase delay for drivers. This loss of efficiency will increase fuel usage, negatively impacting the environment. Additionally, the deteriorating structures cause additional damage to vehicles, requiring maintenance and increasing the overall environmental impact. Rehabilitating these structures with properly designed and constructed deck systems will reduce environmental impact by maintaining efficient access through the state for the public and freight and reduce the maintenance needs on passing vehicles ultimately reducing the carbon footprint of the structures and reducing the impact on climate change.



*Route 202/Souadabscook Stream Bridges*

Innovative use of Route 202 median crossovers will be utilized by bundling both bridges carrying Route 202 traffic together into a single traffic control plan, reducing the overall environmental impact. These Route 202 median crossovers will be constructed and used to divert traffic onto the adjacent barrel, maintaining a single lane of traffic in both directions for the entirety of the project, and eliminating the need for complete closures and detour routes. By utilizing the crossovers, the project can avoid costly temporary bridges in the median that would have been needed otherwise to maintain two lanes of traffic in each direction. The design team is also

investigating whether the crossovers can remain in place at the conclusion of the project so they can be utilized for future bridge preservation operations.

### **Interstate 95 in the Town of Pittsfield, Maine**

This project consists of a bundle of four (4) structurally deficient Interstate 95 Bridges located in Pittsfield, Maine. Originally constructed in 1964, the I-95/Somerset Avenue Bridges and the I-

95/Webb Road Bridges all have advanced deck deterioration and require deck replacements and strengthening. The current condition of the structures requires regular maintenance by crews mobilizing equipment to the sites to clean and clear debris spalling from the underside of the concrete decks.



*I-95 NB/SB over Somerset Avenue Bridges*

All four bridges carry Interstate 95 over local roads. Interstate 95 is the primary highway corridor in Maine, and any disruption to traffic on this vital transportation link has a severely negative impact to the movement of freight, mobility of residents and visitors, and viability of businesses throughout Maine, but in central Maine in particular. Compounding the importance of these structures is their rural location with limited viable detour options. Somerset Avenue is the only exit that serves the town of Pittsfield. Any disruption to traffic along this corridor creates negative impacts throughout both the region and the local community, including access

to MaineGeneral Medical Center in Augusta and the Alford Center for Health, as well as access to Eastern Maine Medical Center in Bangor, all major employers and health centers for the region; and access to the U.S.-Canadian border in Houlton, all of which utilize these bridges.

Innovative use of interstate median crossovers will be utilized by bundling all four bridges together into a single traffic control plan, reducing the overall impact. This also improves safety during construction by having one coordinated traffic pattern. These interstate median crossovers will be constructed and used to divert traffic onto the adjacent barrel, maintaining a single lane of traffic in both directions for the entirety of the project, and eliminating the need for complete closures and detour routes. By utilizing the crossovers, the project can avoid costly temporary bridges in the median that would have been needed otherwise to maintain two lanes of traffic in each direction. The design team is also investigating whether the crossovers can remain in place at the conclusion of the project so they can be utilized for future bridge preservation operations.

## II. Project Location

Each of the bridges is located on the NHS and/or the NHFN and serve rural regions of the state.

- Detailed maps for individual project locations and GPS coordinates may be found in *Appendix B, Maps* and *Appendix H, EJSSCREEN Summary*.
- The project components are in Aroostook, Penobscot, and Somerset Counties in Maine.
- The Project is in Maine's Second Congressional District, represented by U.S. Representative Jared Golden. The state is represented by U.S. Senators Susan Collins and Angus King.
- This is a Large, Rural project.

### III. Project Parties

MaineDOT has initiated communication with environmental agencies and interested parties, including stakeholders, municipalities and local businesses and residents in each of the project communities. Project communities include: Benedicta, Medway, Howland, Bangor, Hampden, and Pittsfield. Specific details for each project location are available in *Appendix F, Project Summaries*. The Project has a wide variety of supporters, as evidenced by the letters of support (see *Appendix E, Letters of Support*).

### IV. Grant Funds, Sources and Uses of all Project Funding

The overall Project budget is summarized below. Please refer to *Appendix G, Budget* for individual project component breakdowns.

#### Overall Project Budget

*\*Not including expenditures to date and anticipated expenditures prior to grant award*

Project Phase	Amount
Preliminary Engineering (PE)	\$6,580,000
Right-of-Way (ROW)	\$15,000
Construction Engineering (CE)	\$6,605,000
Construction (CON)	\$66,800,000
<b>Total</b>	<b>\$80,000,000</b>

#### Grant Funds Sources and Uses

	Prior Expenditures*	Eligible Match			Total Eligible
	MaineDOT / Other Federal	MaineDOT	Other Federal	INFRA	
Preliminary Engineering (PE)	\$50,115	\$1,316,000	\$5,264,000	\$0	\$6,595,000
Right-of-Way (ROW)		\$3,000	\$12,000		
Construction Engineering (CE)		\$3,302,500	\$3,302,500	\$48,000,000	\$73,405,000
Construction and Demolition		\$11,378,500	\$7,421,500		
<b>TOTAL Future Eligible Project Cost</b>		<b>\$16,000,000</b>	<b>\$16,000,000</b>	<b>\$48,000,000</b>	<b>\$80,000,000</b>
<b>% of Total Eligible Project Cost</b>		<b>20%</b>	<b>20%</b>	<b>60%</b>	<b>100%</b>

*\*Includes expenditures to date*

Non-Federal Funding – \$16,000,000

Non-Federal funding for the Project comes from MaineDOT. MaineDOT is a cabinet-level state agency with primary responsibility for statewide transportation by all modes of travel. MaineDOT employs approximately 1,900 people and expends or disburses more than \$600 million per year, including federal, state, and local funds. The primary source of transportation funding in Maine is gas tax revenue, which by statute can only be used for highways and bridges. The funding source for the Project will be State General Obligation Bonds, representing 11% of the value in the current *MaineDOT Work Plan: 2021 Edition*. In Maine, that comes from state bonds approved by the legislature and taxpayers from 2015-2020. Due to its significant economic and transportation impact on the entire state and region, the Project has been prioritized by MaineDOT. This Project has been included in the current and next Statewide Transportation Improvement Program (STIP) and is consistent with MaineDOT's long-range plan.

MaineDOT's portion of the Project is \$16,000,000 and MaineDOT is committed to providing those funds and to completing the Project<sup>2</sup>.

**V. Merit Criteria**

a. Introduction

The Initiative for New Decks Essential for Economic Development (INDEED) Project fulfills USDOT's goal of *supporting economic vitality at the national and regional level* by facilitating the movement of goods and people in rural regions across the state. The Project is regionally significant and focuses on one of the most economically challenged regions in the northern U.S. More importantly, it addresses aging rural transportation infrastructure that has allowed for a slow and steady decline in connecting rural Mainers to each other and the rest of the country.

MaineDOT also recognizes the need to grow rural economies by strengthening the movement of job-supporting freight; improving reliable and affordable transportation for all; and enhancing the health and the safety of users with modern highways and bridges. The project bridge decks are all in need of replacement. They are built to last century's design standards, creating important safety issues, which are accelerating and becoming more expensive to remedy each year that the aging bridge decks continue to deteriorate during service. The Project inherently meets the intent of climate change and environmental justice impacts by replacing only the bridge decks and retaining and improving the other existing infrastructure, thus avoiding costly detours and excess emissions. It also contributes to the goal of racial equity and reducing barriers to opportunity by providing efficient access to both public and private transit and enabling current and potential workers to efficiently connect to the available employment opportunities throughout the region. This Project leverages the financial resources of the federal government with funds from the State of Maine, and MaineDOT is confident in the success of the Project and will commit to accountability measures.

b. Merit Criteria

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<sup>2</sup> See Appendix D, Match Commitment Letter



i. Support for National or Regional Economic Vitality

The overwhelming majority of freight travels over Maine’s roads and bridges and specifically, Aroostook County ranks near the top for the dominant-goods movement county in Maine (Freight Strategy A-17), with Interstate 95 being the critical rural freight corridor for the northern region of the state. “Maine’s freight assets are the backbone of the State’s economic vitality”.<sup>3</sup> Each year, millions of tons of goods travel over Maine’s roads, contributing millions of dollars to Maine’s economy. The state’s transportation system is a major component of retaining and attracting businesses, and the Project’s replacement of the fifteen (15) bridge decks will allow for the continuation of critical freight corridors within the state. The benefits of the Project are overwhelmingly positive, as indicated in the following explanation of the Benefit-Cost Analysis.

**Results of Benefit Cost Analysis**

ALL PROJECTS	Costs	Benefits
CAPEX	\$57,038,894	
M&O	\$3,202,694	\$7,306,377
Travel Time Savings		\$456,937,582
Safety		\$10,739,897
Emissions		\$4,100,192
Operating Costs		\$6,338,807
<b>TOTAL</b>	<b>\$60,241,589</b>	<b>\$485,422,855</b>
<b>Benefit-Cost Ratio</b>		<b>8.06</b>

*Explanation of Methodology*

The results of the Benefit-Cost Analysis (BCA) yield a conservatively calculated 8.06 to 1.0 ratio. An analysis period of 30 years was used with future cost and benefit values discounted to net present value (NPV) using a discount rate of 7% (except for carbon dioxide emission costs that were discounted at a 3% rate in accordance with BCA Guidance). The analysis examined the AADT traffic levels for each bridge and increased them with a 30-year growth factor of 1.15 based on Maine Statewide Travel Demand Model forecasts. The increase in vehicle miles traveled and vehicle hours traveled per user generated by the Maine Statewide Travel Demand Model was used to determine the detour caused by the bridge closure. The analysis assumed necessary maintenance repairs to address safety issues for the remaining service life of the bridge, after which the bridge would be closed to traffic to ensure public safety. Included in the deck replacement bridge rehabilitation costs was superstructure paint after completion of the deck replacement and a wearing surface replacement after 20 years of service.

*Summary of Benefits*

a. *Operating Costs*

<sup>3</sup> Maine Integrated Freight Strategy, November 2017, <https://www.maine.gov/mdot/ofbs/docs/FreightStrat.pdf>, pages A-17 and ES-1

## Initiative for New Decks Essential for Economic Development (INDEED) Project

Costs to operate vehicles according to the BCA Guidance for Discretionary Grant Programs includes costs such as fuel prices, maintenance, tires and depreciation. Using the BCA Guidance suggested values, this Project will result in operating costs savings of \$6 million over the course of 30 years. These costs savings are significant for the State of Maine.

Maintenance savings are a critical component of any highway infrastructure project. Maintenance costs are constant and make it difficult for the state to budget for large capital projects. Included as benefits in the BCA are the reduction in maintenance costs for each bridge as the new structures will incur less on-going maintenance costs than the continual repairs and rehabilitation that the existing bridges will require under their current condition. These benefits were determined by a full life cycle cost analysis of maintaining the structures throughout the 30-year analysis period and beyond. In addition to the construction costs, they include significant funding for biennial inspection, annual washings and periodic preservation treatments such as wearing surface mill and overlay.

### b. *Travel Time Savings*

The elimination of truck-miles from the highway decreases travel time for the average highway user thus improving mobility. The travel time that is critical to this project is avoiding the detour time, the capacity queuing time, slower through traffic and intersection delays for passenger and truck users of the bridges. Overall, the Project will save \$457 million in travel time costs over the course of 30 years.

### c. *Safety*

In Maine, the number of fatal crashes per 100 million vehicle miles traveled, averaged over 5 years from 2013 to 2017, is 0.93. Based on 5 years of State of Maine data, the average number of crashes that resulted in injuries per 100 million miles traveled was 56. To be conservative, this application assumes that all the injuries would be minor (i.e. Maximum Abbreviated Injury Scale Level 1). The economic impact of these crashes is \$4,500 per accident, which accounts for property damage only. The overall net benefit associated with safety over the 30-year project period is over \$10.7 million.

### d. *Pollutant Emissions*

Most heavy trucks are powered by diesel engines, which are major sources of emissions of nitrogen oxides (NO<sub>x</sub>), sulfur dioxide and particulate matter (PM). NO<sub>x</sub> reacts with volatile organic compounds to form ground-level ozone, commonly known as smog. The emission rates used in this analysis were generated using MOVES2014b, the U.S. Environmental Protection Agency's (EPA) mobile source emissions factor model, by Maine DEP personnel. The avoided net costs of emissions of sulfur dioxide, nitrogen oxide, and particulate matter (PM<sub>2.5</sub>) emissions are valued at approximately \$1.3 million over the 30-year life of the Project. Likewise, the avoided costs of emissions of carbon dioxide (CO<sub>2</sub>) over the course of the 30-year life of the Project are projected to be approximately \$2.8 million. The overall net cost associated with emissions over the 30-year project period is \$4.1 million.

### ii. Climate Change and Environmental Justice Impacts

MaineDOT utilizes the EPA EJSCREEN for all federally funded projects and a summary of the

information may be found in *Appendix H, EJSCREEN*.

The very nature of this Project, the replacement of bridge decks, meets the intent of this objective by enhancing existing, poor condition infrastructure. The Project provides an additional environmental benefit by innovative reuse of the existing substructure units and structural steel elements with selective rehabilitation of these elements. This economically intelligent and environmentally conscious decision will extend the useful life of the structure by reusing elements that are in satisfactory condition, resulting in fewer materials that will need to be mined, refined, delivered, and placed. In-water piers will be re-used which avoids new long term in-water impacts and reduces short term in-water impacts. Best Management Practices (BMPs) will be utilized throughout construction to avoid or minimize construction impacts on air quality, wildlife, and/or water quality.

Additionally, rehabilitating these structures with properly designed and constructed deck systems will reduce environmental impact by maintaining efficient access through the state for the public and freight, reduce the maintenance needs on passing vehicles, and reduce trips for maintenance crews, all ultimately reducing the carbon footprint of the structures and reducing the impact on climate change.

In June 2019, Governor Janet Mills signed LD 1679 into law to create the Maine Climate Council to combat climate change. The Council developed a Four-Year Plan for Climate Action titled *Maine Won't Wait* to help Maine meet the state's greenhouse gas emission reductions goals, which include a 45% reduction by 2030 and an 80% reduction by 2050. The transportation sector is responsible for 54% of the state's total greenhouse gas emissions. With such a large portion of the state's emissions coming from transportation, reductions in this sector are critical to reaching emission reduction targets. Electrification of the transportation sector was identified in the Plan as one of the most effective emission reduction strategies for Maine. It involves expanding both the number of electric vehicles on the road, along with the available charging stations. Greenhouse gas modeling suggests that to meet the emission reduction goals, Maine will need to have 41,000 light-duty electric vehicles on the road by 2025 and 219,000 by 2030.

The widespread adoption of electric vehicles in Maine will be accelerated with a Clean Transportation Roadmap that will identify necessary policies, programs, and regulatory changes needed to meet the state's ambitious electric vehicle and transportation emission reduction goals. This will include recommendations on how to provide equitable access to electric vehicles and charging infrastructure. Efficiency Maine Trust already provides rebates for electric vehicles and in December 2020, they expanded the program to include used electric vehicles and increased the rebates for low-income customers, governmental entities and tribal governments, and select non-profits.

These rebates address some equity concerns around transportation but there are still Mainers, including low-income, older adults, and those living in rural areas, who continue to have unmet transportation needs. MaineDOT is currently working on revising a strategic vision for rural transit to identify gaps and needs in the existing programs as well as an electric vehicle replacement plan. Additionally, MaineDOT will be re-acquiring and expanding the GO Maine rideshare program in 2022 to enable users to travel from origin to destination safely and efficiently across modes and providers, regardless of location, income, and disability.

As Maine continues to reduce emissions in the transportation sector by way of fleet electrification, there will be significant changes in driver preferences and needs. One thing that will remain the same is the driver's need for safe and reliable transportation infrastructure, particularly roads and bridges.

Electric vehicles need safe roads and bridges to travel over.

### iii. Racial Equity and Barriers to Opportunity

MaineDOT recently updated its Public Involvement Plan which outlines the department's efforts to ensure disadvantaged populations are afforded meaningful opportunities for public involvement. The Plan is available here: <https://www.maine.gov/mdot/planning/docs/2021/pipdraft-02012021.pdf> Additionally, the Project itself ensures safe, efficient access for all users of the transportation system, and by extending the service life of the existing infrastructure it avoids impacts outside existing ROW, which have the potential to disproportionately impact disadvantaged populations.

### iv. Leveraging of Federal Funding

The Project is a strong use of federal funds as \$64,000,000 (\$48,000,000 INFRA funds and \$16,000,000 other Federal funds) of federal investment is leveraging \$16,000,000 of non-Federal spending on the Project, 20% of the total future eligible cost. Those funds are available as a result of MaineDOT's prioritization of state bond funding. The opportunity to obtain private or other non-Federal funding for the Project was limited and impractical in the challenging economic environment of these rural communities. MaineDOT has a long history of successfully completing USDOT discretionary grant projects on time and within budget and can be fully relied upon to ensure that the non-Federal match and funding for the Project is met.

### v. Potential for Innovation

The project bridge deck replacements are still in the preliminary design phase; however, several innovations are being considered for implementation including:

- Selective reuse of major structural elements in satisfactory condition saves materials while simultaneously improving the load carrying capacity of the structure.
- Stainless steel reinforcing bars and Fiber-Reinforced Plastic (FRP) bridge drains will be used to ensure a long-lasting product requiring less maintenance.
- Bundling of the geographically close bridges into (5) regional bundles to advertise and construct as single contracts.

### Programmatic Agreements

The parties involved in this grant application are also applying an innovative means regarding the NEPA/permitting for this Project through Programmatic Agreements. MaineDOT recognizes that assuring sustainability of habitats, ecosystems and transportation infrastructure can occur in concert rather than in conflict. Toward that end, MaineDOT endeavors to exercise reasonable stewardship over both natural resources and transportation infrastructure through its commitment to addressing aquatic organisms, wildlife habitat and fish passage in cooperation with natural resource agencies, while weighing all aspects of a proposed project.

MaineDOT and various other state and federal departments have executed agreements to expeditiously but thoroughly review environmental impacts from projects. MaineDOT will take advantage of the following agreements, where applicable, to streamline the environmental review and approval process:

## Initiative for New Decks Essential for Economic Development (INDEED) Project

- a) Programmatic Agreement between the Federal Highway Administration, Maine Division and the Maine Department of Transportation Regarding the Processing of Actions Classified as Categorical Exclusions for Federal-Aid Highway Projects;
- b) Programmatic Agreement among Federal Highway Administration, Federal Transit Administration, the Advisory Council on Historic Preservation, the Maine State Historic Preservation Officer, and Maine Department of Transportation Regarding Implementation of the Federal Aid Highway and Federal Transit Programs in Maine;
- c) Cooperative Agreement between U.S. Department of the Interior Fish and Wildlife Service (USFWS), FHWA and the MaineDOT State Transportation Reviews by the USFWS in Maine 2015-2020;
- d) Cooperative Agreement between USFWS, FHWA and the MaineDOT State Transportation Reviews by the USFWS in Maine 2016-2021;
- e) Maine Atlantic Salmon Programmatic Consultation finalized January 23, 2017;
- f) Programmatic Agreement for the State of Maine concerning identification of listed and proposed species and designation of non-federal representative under the Federal Endangered Species Act between FHWA, Maine Division USACE, MaineDOT, USFWS, NOAA's National Marine Fisheries Service;
- g) Programmatic Agreement for the State of Maine Between MaineDOT, FHWA Maine Division, USFWS Regarding Endangered Species Act Section 7 Consultation for Canada Lynx;
- h) Memorandum of Agreement for Stormwater Management Between the MaineDOT, MTA and Maine Department of Environmental Protection; and
- i) FHWA Nationwide Programmatic Section 4(f) Evaluation for use of Historic Bridges.

### vi. Performance and Accountability

#### Dedicated Funding Source and Plan for Operation and Maintenance of the Project

MaineDOT has dedicated NHPP funding from FHWA. MaineDOT's Asset management strategy is described on their website at: <https://www.maine.gov/mdot/about/assets/docs/>. The strategy is based on Highway Corridor Priority (HCP) and Customer Service Levels (CSL):

*HCP: MaineDOT has gathered and analyzed straightforward, common-sense factors including the economic importance of the road as determined from input from regional economic development districts, federal functional classification, heavy haul trucking use and the amount of relative traffic on the road by region. With this and other data, MaineDOT has classified all 23,400 miles of Maine public highways into five, easy to-understand priority levels.*

*CSL: The next step is defining easy-to-understand customer service levels appropriate to the priority of the state's roads (1-5). We are using another intuitive scale: A, B, C, D and F. Using existing data on the safety, condition and service of the road, we can determine its customer service level. The result is a fair, consistent measure of how a road compares to other roads of the same priority across the state.*

The Department's *Transportation Asset Management Plan* outlines the plan for all NHS highways and bridges and can be found at:

[https://www.maine.gov/mdot/publications/docs/plansreports/MaineDOT\\_Transportation\\_Asset\\_M\\_Plan.pdf](https://www.maine.gov/mdot/publications/docs/plansreports/MaineDOT_Transportation_Asset_M_Plan.pdf).

Accountability Measure

MaineDOT has chosen to commit to an accountability measure related to project schedule; specifically related to meeting project construction begin and end dates. MaineDOT is confident that construction will begin by fall 2024, and that construction will end by the end of 2029 as indicated in Project Schedules (see *Appendix C, Schedules*).

**VI. Project Readiness**

Obtaining Project input from stakeholders and communicating well with the public is always a primary goal of project planners. Please see *Appendices C and F* for more specifics on the status of each Project component.

a. Technical Feasibility

Each Project component has begun Preliminary Engineering and made sufficient progress to demonstrate project readiness. More details on each project component may be found in *Appendices C and F*.

b. Project Schedule

MaineDOT has initiated communication with environmental agencies and interested parties. Baseline data collection to identify natural and cultural resources potentially affected by the Project is complete. This information will be used to avoid and minimize impact while meeting the purpose and need at each of the bridge locations. Preliminary engineering is ongoing, and the Project will be obligated and begin construction well before the required deadlines. The overall project schedule is as follows:

**Project Schedule**

Project Milestone	Date
Project Kickoff	2/14/2021
Preliminary Public Meeting	Fall 2021
Preliminary Design Report/ Preliminary Plan Complete	11/15/2022
Formal Public Meeting	Summer 2022
NEPA Complete	1/26/2024
Plan Impacts Complete	6/26/2023
Utilities Certified	5/26/2024
Environmental Approvals Complete	5/26/2024
Right-of-Way Certified	5/26/2024
PS&E Complete	6/26/2024
Advertise	7/17/2024
Award	8/21/2024
Begin Construction	10/18/2024
Construction Complete	11/30/2029

### c. Required Approvals

The project schedule (*see Appendix C, Schedule*) incorporates enough time for MaineDOT and FHWA to work directly with respective agencies and the public to address any potential issues that arise during NEPA and Permitting to maintain the overall Project delivery schedules.

#### 1) National Environmental Policy Act (NEPA)

While the project components have cumulative benefits if done together, the bridges have independent utility and will be classified separately as Categorical Exclusions in accordance with 23 CFR 771.117(c) and (d). FHWA Maine Division will be the lead agency for NEPA. The anticipated dates for NEPA completion are listed in the Project Schedule provided in *Appendix C, Schedules*.

#### 2) U.S. Coast Guard

MaineDOT anticipates receiving a U.S. Coast Guard permit exemption from FHWA for the Penobscot River bridge in Medway and the bridges over the Souadabscook Stream in Hampden. The remainder of the bridges are not over waters and do not require U.S. Coast Guard notification or permits.

#### 3) Section 106 of the National Historic Preservation Act

MaineDOT and FHWA have initiated the Section 106 process. The bridges in the Project are not National-Register Eligible and they are not located within National-Register-Eligible Historic Districts. The MaineDOT Historic Coordinator has reviewed the components of the Project and made a preliminary determination that it meets the criteria for abbreviated review pursuant to its Section 106 Programmatic Agreement<sup>4</sup>. This agreement acknowledges that work on the Interstate or other controlled access highways within existing interchanges, medians and travel ways within previously constructed slope limits has little or no potential to affect historic properties.

#### 4) Section 4(f) of the U.S. Department of Transportation Act

The MaineDOT Cultural Coordinator has reviewed the projects to identify potential Section 4(f) resources. As noted above, the bridges are not historic and are not located within historic districts. Bridge # 6082 (US 202/I-395) is located adjacent to Bass Park, which is a Section 4(f) resource. Because preliminary project information indicates that the project limits do not extend beyond the existing state right-of-way, no Section 4(f) uses are anticipated.

#### 5) Endangered Species Act

Each of the projects is located within the range of the Federally threatened Northern Long-Eared Bat. MaineDOT anticipates that the bridge deck replacement projects may affect but are not likely to adversely affect Northern Long-Eared Bats and that each project will be eligible for Streamlined Section 7 Consultation pursuant to the U.S. Fish and Wildlife Service Northern Long-Eared Bat 4(d) Rule.

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<sup>4</sup> *Programmatic Agreement among Federal Highway Administration, Federal Transit Administration, the Advisory Council on Historic Preservation, the Maine State Historic Preservation Officer, and Maine Department of Transportation Regarding Implementation of the Federal Aid Highway and Federal Transit Programs in Maine*

All of the bridges are located within the range of the Federally listed Gulf of Maine Distinct Population Segment (DPS) of Atlantic salmon (ATS). All except the Pittsfield bridges are located within designated ATS Critical Habitat. The following bridges cross waterbodies:  
-Bridge #1410 & 6078, Vaughan Daggett Memorial SB & NB, Medway, Penobscot River  
-Bridge #1524 & 6079, Route 202 SB & NB, Hampden, Souadabscook Stream  
Preliminary information suggests that in-water work is possible for construction access and/or pier rehab at the bridges over water. In addition, crossings of intermittent streams are likely to construct median crossovers for several of the bridges. Informal Section 7 Consultation with U.S. Fish and Wildlife Service regarding potential effects to Atlantic Salmon will be required for these activities. MaineDOT anticipates that these activities can be completed in accordance with the requirements of the Maine Atlantic Salmon Programmatic Consultation finalized January 23, 2017.

### 6) Essential Fish Habitat (EFH)

All of the bridges in the Project are located within designated Essential Fish Habitat for Atlantic Salmon. If in-water work is required as noted above, MaineDOT will consult with the National Marine Fisheries Service on potential effects to EFH.

### 7) Section 404 Clean Water Act Permit (Army Corps of Engineers)

Freshwater wetland impacts are expected to construct temporary median crossovers. MaineDOT will avoid and minimize temporary and permanent wetland impacts to the extent practicable. MaineDOT anticipates that wetland impacts and any in-water work for construction access, pier rehabilitation, or median crossovers will be eligible for Category 2 Permits under the Maine Programmatic General Permit.

8) Natural Resources Protection Act (Maine Department of Environmental Protection) Wetland and stream impacts are regulated by the Maine Natural Resources Protection Act. MaineDOT anticipates that wetland and stream impacts associated with the Project will be eligible for Permit-By-Rule Chapter 305, Section 11, which is a streamlined permit process for State Transportation Facilities.

### 9) Federal Transportation Requirements Affecting State and Local Planning

The Project is not required to be listed in the state long-range transportation plan. The Project is listed in the current and upcoming Statewide Transportation Improvement Program (STIP), as well as in the Bangor Area Comprehensive Transportation System (BACTS) MPO Transportation Improvement Program (TIP). The project components are also listed in the current *MaineDOT Work Plan: 2021 Edition* available here: <https://www.maine.gov/mdot/projects/workplan/>. Additionally, though the project is not explicitly listed in the Maine Integrated Freight Strategy, it is the recommendation of the plan that state of good repair (SOGR) projects on major truck routes and critical freight corridors be prioritized in Maine.<sup>5</sup>

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<sup>5</sup> *Maine Integrated Freight Strategy*, November 2017, <https://www.maine.gov/mdot/ofbs/docs/FreightStrat.pdf>, page ES-10



**Risks & Mitigations**

Environmental uncertainty

Risk	Mitigation
<p>Due to the potential presence of Atlantic salmon in Souadabscook Stream and the Penobscot River, Section 7 ESA Consultation and Section 404 permitting may limit the time of year that certain activities may be completed in the water</p>	<ul style="list-style-type: none"> <li>• Minimize permanent and temporary in-water structures, plan construction sequence to avoid sensitive times for salmon life stages, implement avoidance and minimization measures during construction to reduce potential effects from in-water work</li>   <li>• Begin early coordination with U.S. Fish and Wildlife and Maine Department of Marine Resources to obtain best available information on species presence and activity in the project area and incorporate measures to avoid and minimize effects early in design</li> </ul>

**VII. Large Project Requirements**

The Project satisfies several statutory requirements enumerated at 23 U.S.C. 117(g):

1. The Project generates regional economic mobility and safety benefits because it maintains critical freight access to several rural, economically challenged areas of Maine. It will deliver fifteen (15) safer bridges for motorists.
2. The Project is cost effective as stated in the BCA with \$485,422,855 of benefits (discounted at 7% over 30 years) and a benefit-cost ratio of 8.06.
3. The Project satisfies the following national goals under 23 U.S.C. 150:
  - 1) Safety – traffic fatalities or serious injuries, the Project makes each of the bridges safer. The new bridge decks will incorporate current traffic safety standards which will aid in elevating safety and maintaining and improving mobility.
  - 2) Infrastructure Condition – the Project aims to maintain a critical portion of the highway infrastructure asset system in a state of good repair. The new bridge decks will incorporate durable materials such as stainless steel reinforcing and FRP bridge drains to address causes of deck deterioration thus reducing long term maintenance needs.
  - 3) Congestion Reduction – completion of the Project will eliminate the potential for bridge load postings or reroutes that could result from further deterioration or closure of the bridges, and also keep motorists off of local roads, saving time, money and emissions.

- 4) System Reliability – the Project improves the efficiency and reliability of the surface transportation system by creating safer, and more reliable bridges on the National Highway System and National Highway Freight Network around the state.
- 5) Freight Movement and Economic Vitality – the Project improves the national freight network by maintaining and improving several key components of Maine’s National Highway System and National Highway Freight Network. It does so in a rural region that requires freight access via the project bridges to reach and compete in national and international markets. Maintaining and improving this access helps several rural, economically challenged communities across the state better compete in today’s difficult economy. A key to Maine’s regional economic development is having a viable transportation network.
- 6) Environmental Sustainability – Re-use of existing substructures and foundations provides huge savings in the amount of construction waste that would have otherwise been disposed in landfills. Reuse of existing steel girders saves over 3,000 tons of steel from hazardous waste disposal because of the lead paint. Additionally, by reusing rather than replacing the foundations, substructures, and girders, the carbon footprint that otherwise would be generated from the harvesting, mining, processing, fabricating and construction of replacements, is greatly reduced.
- 7) Reduced Project Delivery Delays – A large capital project with multiple stakeholders in various locations requires significant coordination to meet deadlines and manage risk. To ensure timeline delivery of Project design, the team has employed the following two key strategies:
  - Hosting regular meetings and partnering sessions with stakeholders, agency partners and project designers, used to coordinate needs, identify conflicts and constraints, assess project delivery risks, and stay apprised of decision-making efforts and their impacts on overall project schedule and delivery.
  - Creation of a project risk register to provide foresight with respect to potential project issues, streamlining project delivery through early identification of challenges. For additional information, please refer to *Section VI, Risks and Mitigations*.
4. Preliminary Engineering – Preliminary Engineering has begun for the Project. A consultant is under contract to assist in preliminary engineering and design. For more information on the details and status of the Project, please refer to *Appendices C and F*.
5. Funding
  - a. Non-Federal funding for the Project comes from MaineDOT. The opportunity to obtain private funding for the Project was not feasible. For more detailed information on fund sources and amounts, please refer to *Section IV, Grant Funds, Sources and Uses of Project Funds*.
  - b. Contingency Amounts at the 10% level are imbedded in the Project costs to cover unanticipated cost increases.
6. Ease and Efficiency of Funding – Maine and MaineDOT have been investing consistently in bridge improvements and replacements but additional funding sources are needed to continue to keep the 2,450 state bridges, 80% of which are in rural areas, in a state of

good repair.<sup>6</sup> The *MaineDOT Work Plan: 2021 Edition* has dedicated an estimated \$504 million (including previously awarded federal grant funding) for 166 capital bridge projects, including the INDEED Project bridge deck replacements, and another average \$10.3 million annually in bridge and structural maintenance, as well as an average of \$5.5 million annually in bridge infrastructure inspections and inventory.<sup>7</sup>

*In 2019, the Legislature, with the support of the Governor, established the Blue Ribbon Commission to Study and Recommend Funding Solutions for the State's Transportation Systems. See Resolve 2019, Chapter 97 (formerly LD 945). This bipartisan Commission of legislators, transportation professionals, and stakeholders was charged with studying how to reform and adequately supplement funding for the state's transportation infrastructure. In December 2019, after meeting throughout the Fall of 2019, the Commission issued a report that contained the following unanimous findings to date: Finding #1 Assuming an annual \$100-million general obligation bond package, the current unmet annual transportation funding need in Maine is approximately \$232 million. The annual shortfall for bridge projects is upwards of \$67 million, while the shortfall for traffic/mobility/capacity/ITS Improvements approach \$28 million annually.*<sup>8</sup>

Without Federal funding, the INDEED Project alone would consume such a large portion of total available state bridge funding, that it would either delay funding for other needed bridges and highway projects or would more likely continue to delay funding for the individual components of this Project. Therefore, the Project would not be easily or efficiently completed without Federal funding nor in a timely manner. Further, it is clear that there is a critical need for bridge investment throughout Maine given the number of structurally deficient bridges in the state.

7. Project Begin Date – Construction is scheduled to begin in the fall of 2024, well before the September 30, 2024 date of obligation of funds.

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<sup>6</sup> USDOT FHWA National Bridge Inventory, <https://www.fhwa.dot.gov/bridge/nbi/no10/fccount16.cfm>

<sup>7</sup> *MaineDOT Work Plan: 2021 Edition*, page xviii, <https://www.maine.gov/mdot/projects/workplan/>

<sup>8</sup> *MaineDOT Work Plan: 2020 Edition*, page xvii, <https://www.maine.gov/mdot/projects/workplan/>

## Appendix

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Grant applications materials may also be found at the “Current  
MaineDOT Grants” webpage: <https://www.maine.gov/mdot/grants/>

### Grant Request Supporters\*

MaineDOT's grant request for INFRA funds is supported by a diverse group of elected officials, shippers and stakeholders due to the significant economic impact the Project will have on the region. This list of supporters includes:

#### **Members of Congress** (*Letters will be sent to the Secretary's office*)

U.S. Senator Susan Collins

U.S. Senator Angus King

U.S. Congressman Jared Golden

#### **State Elected Officials/Offices**

Governor Janet Mills

Local Legislators

#### **Professional Organizations**

Maine Motor Transport Association

Maine Better Transportation Association

#### **Corporations**

Concord Coach Lines

John T. Cyr & Sons, Inc.

H.O. Bouchard, Inc.

Penquis

Pleasant River Lumber

Smith Farms, Inc.

\* As additional letters of support are submitted, they will be forwarded to USDOT with the Project name clearly labeled.