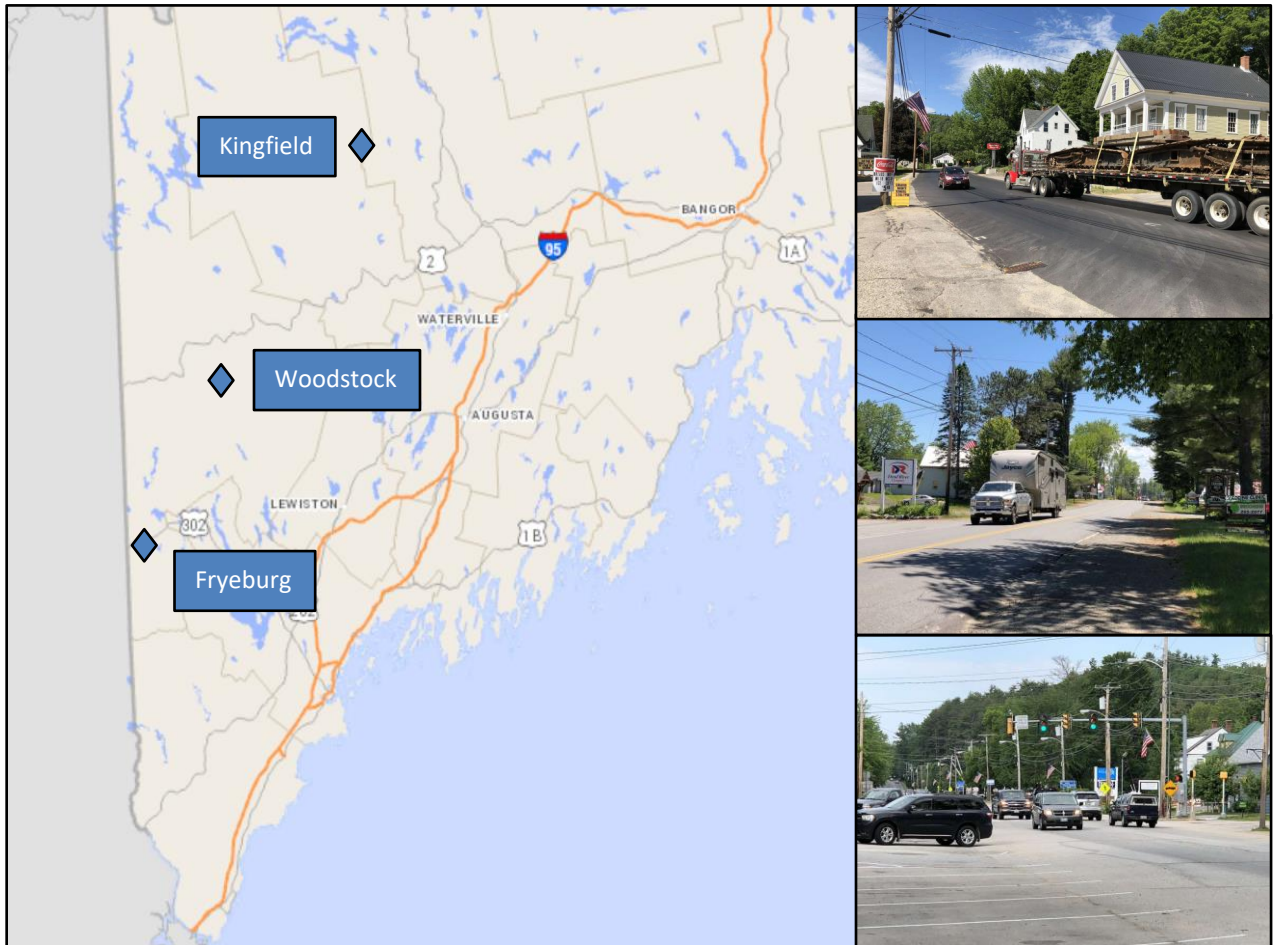


U.S. Department of Transportation

**BETTER UTILIZING INVESTMENTS TO LEVERAGE DEVELOPMENT
“BUILD” TRANSPORTATION DISCRETIONARY GRANTS
FY 2018 GRANT APPLICATION**

Project Name: Maine Western Gateways Project
Project Type: Road Repair/Replacement
Project Location: Rural, Maine 2nd Congressional District
Funds Requested: \$11,027,500 - (50%)
Funds Matched: \$11,027,500 - (50%)
Total Project Cost: \$22,055,000
Contact: Mr. Andrew Bickmore, Director of Results and Information
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Maine Western Gateways Project
REBUILDING HIGHWAY ACCESS TO MAINE’S RURAL COMMUNITIES



Project Summary

Maine Department of Transportation (MaineDOT) is seeking \$11,027,500 from a U.S. Department of Transportation (USDOT) Better Utilizing Investments to Leverage Development (BUILD) FY 2018 grant. The total cost of the project is \$22,055,000, 50 percent (\$11,027,500) of which will be matched by MaineDOT.

The *Maine Western Gateways Project* ("Project") will:

- a) Repair, resurface, improve drainage, and strengthen sub-surfaces to a network of three key roadways, including two National Highway System routes, through three towns in rural Maine.
- b) Improve the safety of these roads for motorists, bicyclists, and pedestrians, including schoolchildren, by modernizing design attributes and pedestrian flow.
- c) Provide safe and efficient access to rural retail, commerce, employment centers, and the vital recreation and tourism points critical to Maine's economy.
- d) Create uninterrupted supply chains for businesses in the region, including Maine's tourism economy as well as the industrial lumber economy.
- e) Meet the Americans with Disabilities Act (ADA) standards and MaineDOT standards for pedestrians and bicyclists regarding sidewalk, road crossing and bike lane safety.

The Project entails resurfacing and improving three roadways with numerous potholes and rutting in rural Franklin and Oxford Counties. The Project elements are linked together in a common objective; all three roads are pivotal routes through western Maine. Furthermore, each portion of the Project, five miles in total, requires completion in order to finish the final segment of longer road reconstruction projects already concluded by MaineDOT. The already completed portions are located in the remote areas directly *outside* of these towns; what remains now is making the necessary improvements *through* the towns. Due to historic buildings, pedestrian walkways and parking needs, special care is required of any such road upgrade project when performed through a historic town or municipality. As such, these projects require additional funding to address unique challenges including: space constraints with historic buildings so close to the right-of-way, allocation for pedestrian sidewalks and crosswalk improvements in town, ADA compliance improvements, intersection upgrades, and driver sight-distance improvements. The impact of poor roads and sidewalks on the residents in the region, as well as those traveling through the region for business or to enjoy Maine's many outdoor recreational opportunities, is great. These roads are clustered in a rural region that relies on tourism as a primary driver of the economy. The Project also takes into account the need to improve access to schools and basic emergency services for residents in this rural region. These roads allow businesses in Maine to connect to main arteries such as Interstate 95 while allowing recreational enthusiasts continued access to Maine's outdoor activities that drive the tourism. The roads pass through small towns, yet on an average daily basis nearly 22,000 vehicles utilize them, including almost 1,900 heavy trucks. The vehicle count is expected to grow to 26,000 by 2038, numbers that belie the population of the towns themselves. Maine's legislators as well as MaineDOT have been investing consistently in road improvements and replacements statewide, but additional funding sources are now required to complete these particularly complex road improvements through the towns. They possess a need that goes beyond simply repaving. MaineDOT is an accomplished

and responsible recipient of past TIGER, FASTLANE and INFRA grants. As such, MaineDOT can be relied upon to fully fund and commence the Project in advance of the 2020 obligation date and to complete the project by the 2025 requirement. Upgrading the three routes ensures this region improves mobility and ends burdensome challenges that this rural area simply cannot afford.

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Standard Form 424, Application for Federal Assistance

Project Narrative

I. Project Description

a) PROJECT DETAILS AND BACKGROUND

Of all the states in the U.S., Maine has the highest proportion of its residents living in rural areas, some 61.3% according to the Census Bureau definition.¹ In fact, 89% of the total land in Maine is forestland.² Maine is the most sparsely populated state east of the Mississippi with only 41.3 people per square mile.³ The three road improvement needs that combined make up the Project are all in rural Maine in Franklin and adjacent Oxford counties. “Rural residents tend to be more heavily reliant on their limited transportation network - primarily rural roads and highways - than their counterparts in more urban areas. Residents of rural areas often must travel longer distances to access education, employment, retail locations, social opportunities and health services.”⁴ But the need for these road improvements stretches well beyond meeting the needs of local residents. Maine’s multi-billion-dollar tourism industry benefits when those visiting Maine travel on roads that are smooth, modern and safe. The roads are vital to Maine’s lumber industry, which provides nearly 15,000 direct jobs and 34,000 total jobs statewide, but is an industry facing recent challenges competing in a global environment. Soft demand and low energy prices have contributed to recent wood mill closures in Maine.⁵ One of the roads

¹ <https://www.quora.com/Which-U-S-state-has-the-most-rural-land-out-of-all-the-other-states>

² <http://maineforest.org/wp-content/uploads/2016/09/Maines-Forest-Economy-10-12-2016.pdf>, page 2 of pdf

³ https://visitmainemediaroom.com/sites/default/files/maine-facts-2018_0.pdf

⁴ http://www.tripnet.org/docs/Rural_Roads_TRIP_Report_2017.pdf, page 2

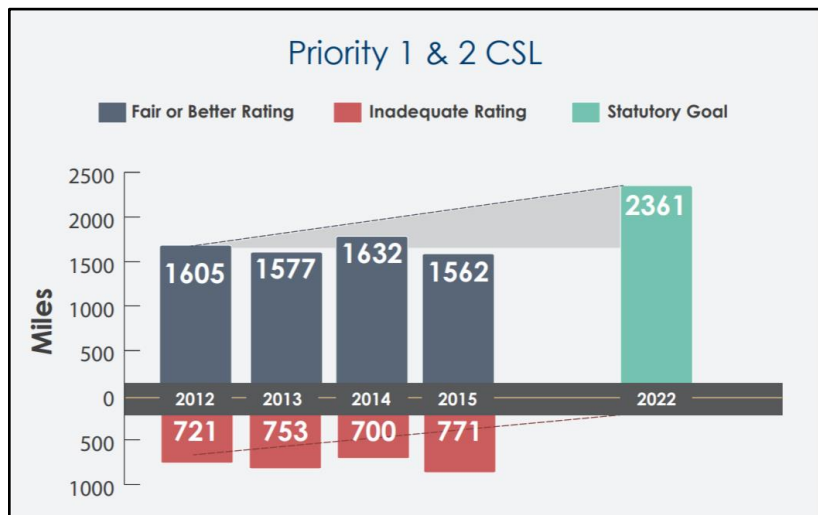
⁵ Supra note 2, page13

associated with the Project links Maine to Canada at a permit port of entry between the U.S. and that country. Tourism and trade are two important ways the impacts of the Project will be felt well beyond residents living directly along these roads. Meanwhile, local residents will benefit as well. The roads in the Project provide residents living in Kingfield, Woodstock, Fryeburg, as well as many other small rural towns, access to schools and shopping, health and emergency services and basic life necessities. Each of the three towns through which the Project traverses has a population fewer than 3,500 residents; Kingfield has fewer than 1,000. The two counties have a population of 29,988 (Franklin County) and 57,439 (Oxford County). The roads provide access for residents and visitors to Maine seeking state parks, lakes, beaches, ski resorts and snowmobile trails that drive the tourism industry, which had more than 35.8 million visitors in 2016, generating nearly \$6 billion in spending.⁶ “With an economy based largely on manufacturing, agriculture, tourism and fishing, the quality of Maine’s transportation system plays a vital role in the state’s economic growth and quality of life.”⁷ Therefore, the Project solves a critical problem faced by rural residents in many parts of Maine: having to use outdated roads prone to cracking and deterioration, with few safety features, sidewalks, or signage – roads that commerce also depends upon to handle more and more cargo, including heavy truck traffic. Thus, a road of poor quality that combines heavy truck traffic with residential traffic is a dangerous mix. Add to the mix narrow paths of gravel acting as bicycle shoulders in many areas, and the safety concerns intensify.

There are 23,400 miles of public highways in Maine of which MaineDOT is responsible for 8,659 of those. The roads in the Project are Highway Corridor Priority 1 (Fryeburg) and Priority 2 (Kingfield and Woodstock).

Maine has 2,361 miles of roads in those categories, of which 771 have received an “inadequate rating,” including the roads in the Project. As such, the Project roads are all prioritized for replacement by MaineDOT, but presently there is not enough funding to accomplish the work because of higher costs associated with improvements through towns. “The needs of the

transportation system in Maine, as in all other states, continue to outpace available federal and state resources. Our state’s large land area, relatively low population, and high number of state-jurisdiction highway miles all contribute to Maine’s challenge. According to 2014 statistics, Maine ranks 7th in the nation in percentage of public



From the MaineDOT Roads Report 2016 (see footnote 7, page 6)

⁶ <https://www.pressherald.com/2017/03/15/maine-tourism-economy-continues-growth-in-2016/>

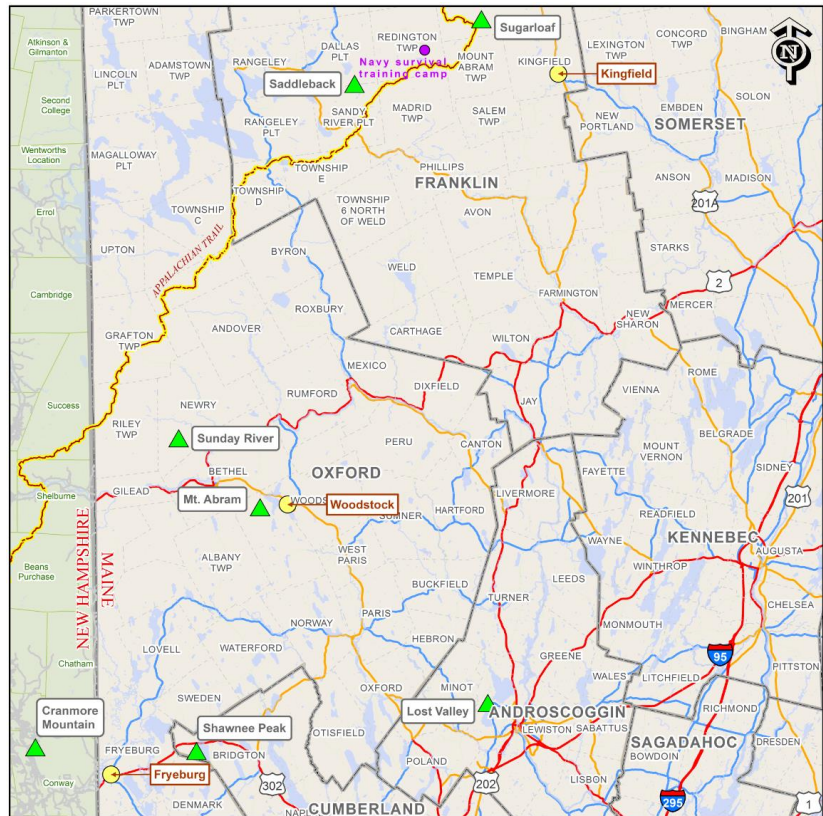
⁷ http://www.tripnet.org/docs/ME_Transportation_by_the_Numbers_TRIP_Report_October_2016.pdf, page 2

MAINE WESTERN GATEWAYS PROJECT
REBUILDING HIGHWAY ACCESS TO MAINE'S RURAL COMMUNITIES

miles that are state responsibility. Funding per centerline mile in other northern New England states is more than twice Maine's funding."⁸

These roads provide access to rural forestlands in Maine that are vital to the forest industry. That industry, while in decline, is still a great driver of Maine's economy. The industry provides 33,538 total jobs (both direct and indirect) and an \$8.5 billion total economic impact to a state with \$60 billion in GDP.⁹ Roads provide necessary access to the region's tourist and recreation areas, including ski resorts, hiking trails, lakes, mountains, snowmobile trails, and beaches. The Ski Maine Association notes

the three Project roads provide access to the top three busiest ski resorts in the state. The ski resorts contribute to traffic flow not only in the winter months. Business conferences, weddings, mountain biking, and golf make the resorts a summertime destination as well. Maine is home to the northernmost miles of the Appalachian Trail, which terminates at Mount Katahdin. Maine is known among hikers as having the most challenging, rugged, remote, and wildest feel of any area along the famous trail. Maine's 282 miles of the trail have some exciting features that are rare elsewhere on the Appalachian Trail, including moose and loons and pristine lakes. It's



Ski Resorts and Appalachian Trail Map

also famous for hosting the hardest mile of the Trail: Mahoosuc Notch.¹⁰ One of only two of the U.S. Navy's SERE (Survival, Evasion, Resistance and Escape) Schools, a military training facility that helps troops held captive behind enemy lines survive and cope with their capture, is located 20 miles west of Kingfield. It is accessed via Route 27, a Project road. Opened in 1961, the facility has trained more than 60,000 troops.¹¹ These roads are regionally important as they connect Maine residents with Canada and neighboring New Hampshire. They promote cross-border commerce.

⁸ <https://www1.maine.gov/mdot/docs/2016/roadsreport2016.pdf>, page 5

⁹ Supra note 2, Maine Forest Economy, page 2 of pdf

¹⁰ <http://www.appalachiantrail.org/home/explore-the-trail/explore-by-state/maine>

¹¹ http://www.navy.mil/submit/display.asp?story_id=68336

Quantitative Facts¹²

Project Name: Maine Western Gateways Project

- The \$22,055,000 in roadway infrastructure investment will yield \$18,446,609 in economic output for this region (on a discounted basis).
- This project will replace three rural road surfaces, built in the 1930s and 1950s, with modern surfaces.
- The Project has a total Net Present Value (NPV) benefit of at least \$18.44 million and a benefit-cost ratio of at least 1.05 to 1. For the purposes of this BUILD grant application, the Benefit Cost Analysis is conservative, as it assumes no traffic growth after 20 years.
- The Project is regional in scope and is located in a rural region of the country.
- The roads in the Project are located in two counties: Franklin and Oxford.
- The Project is located in Maine's 2nd Congressional District (Representative Poliquin). The state is represented by U.S. Senators Susan Collins and Angus King.¹³
- Total Cost of the Project: \$22,055,000
- Total amount of BUILD FY 2018 funds requested: \$11,027,500 (50 percent of the total cost of the project). A match has been committed by the Maine Department of Transportation in the amount of \$11,027,500 (50 percent).¹⁴
- The Project's geospatial data can be found in a table in Project Location.
- The BCA analysis conservatively estimates that a no build scenario will lead to vehicle crashes at current levels, continued potential for a significant flood and current levels of maintenance.

b) CURRENT AND FUTURE CONDITIONS OF THE ROADS

Built between the 1930s and 1950s, these roads are well beyond the end of their useful lives despite undergoing life-extending "band-aid" improvements in the past, such as top-layer road-only resurfacing. The Project's mission is to bring the roads up to current modern state and federal standards, beyond simply a smooth surface. The roads need to be safer. Additionally, all have insufficient shoulders to allow bicyclists safe passage. Most do not have today's pedestrian crossing safety necessities or ADA requirements to meet current standards. Periodically filling cracks and potholes or adding a thin top layer to the road surface does not address structural issues that have developed underneath due to age, continued upkeep of yesteryear's asphalt technology, and poor drainage. Each of these conditions will be remedied with surface replacement, drainage improvements, safety upgrades, and pedestrian-suitable modernization. In each case, road access during construction will be maintained to avoid any reroute complications or costs. If the Project is not completed the roads will continue to deteriorate and the safety issues will intensify. The Project roads have the combination of high needs and cost, making them a top priority of MainesDOT, which is responsible for a majority of roads in the state.

¹² See Appendix A, Benefit-Cost Analysis, for an explanation of the statistics cited below.

¹³ See Appendix D, Support Letters.

¹⁴ See Appendix E, Match Letter.

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Details of current road conditions, the impact of continued roadway deterioration and replacement plans for each road in the Project follow:

I. Kingfield – Maine Route 16/27 north-south for 2.3 miles through Kingfield, ME

Originally Constructed	National Highway System (NHS)	Highway Corridor Priority (HCP)	Annual Average Daily Traffic (AADT)		Percentage Trucks	5-Year Crash Count
			2018	2038		
1950s	No	2	5,640	6,770	12%	27

a) Current State



Photos from the Project route through Kingfield, ME (clockwise from top left) showing timber truck traffic through the rural town, deteriorated sidewalks in downtown and soft shoulders inhibiting safe vehicle pull off and bicycle access.

Kingfield is located on Route 27 in Franklin County. The route begins in Southport and terminates at the U.S.-Canadian border at Coburn Gore. The southern portion of Route 27 serves the very popular communities surrounding the Boothbay Harbor region, while the northern portion serves ski areas. Kingfield is a mountain resort village with unique historic and cultural

qualities. It is on the Maine Scenic Byways route, a route rich with scenic beauty for tourists, especially in the fall when the trees display their vibrant fall colors. The largest ski area in eastern Maine, Sugarloaf Ski Resort, is on this route. The very popular resort is built on the second highest summit in Maine and hosts 350,000 skiers annually.¹⁵ Kingfield is also home to the Ski Museum of Maine, honoring the importance the winter sport plays in the state. The Kingfield area and the broader Carrabassett Valley is a destination for a variety of hiking trail enthusiasts; the Appalachian Trail traverses a number of the 4,000-foot mountain ranges in the area. Mountain bike trails and wilderness preserves abound. The Maine Huts and Trails System, a series of huts for hikers, bikers, and cross-country skiers in the area, offers affordable lodging and food along many outdoor enthusiast's various pathways. Kingfield is also home to a Poland Springs Water bottling plant, which is the 20th largest employer and 4th largest manufacturer in the county. Route 27 is also an important international commerce route. Located at the north end of the route is a permit port of entry between the U.S. and Canada, established by the Canadian government. This is also known as the Coburn Gore (U.S.-side) – Woburn (Canadian-side) Border Crossing. The primary commerce use of this crossing is by truckers for log products destined to Fontaine Lumber in Woburn, QC and to Stratton Lumber in Stratton, ME. Also, wood chips are delivered to Stratton Energy, the 48-megawatt biomass electric generating plant in Stratton. Trucks carrying "quick lime" from Quebec to the paper mills in Rumford, Livermore, and Skowhegan also depend on this pathway. Recently there has been a noticeable uptick in the number of passenger vehicles passing through the port, according to customs personnel. The port is on the most direct route from Montréal and Sherbrooke, QC, to Maine and the Maritimes. This trend is expected to continue.

The Project will address the road's numerous potholes, rutting, and weak side slopes. Outdated pedestrian signage, or none at all, makes the mix of pedestrians and heavy truck traffic a danger. The road suffers from poor drainage and outdated guardrails attempting to protect drivers from the Carrabassett River.

b) Description of Roadway Replacement

The Project plan calls for improving the safety and functionality of Route 27 through the town of Kingfield. There are three distinct segments:

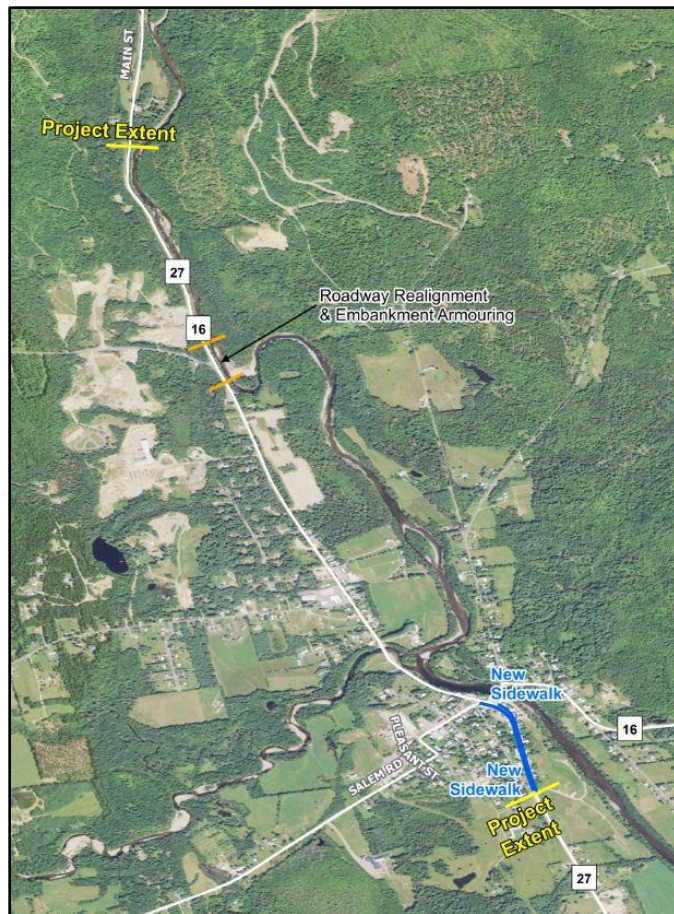
1. 25 mph - Downtown Historic
2. 30 mph - Commercial/Residential
3. 45 mph – Rural

Construction will provide a consistent 11-foot travel lane in each direction along with 5-foot paved shoulders. In addition, sidewalks will be rebuilt to a 5-foot width and include provisions for meeting ADA standards. Sidewalks will also be extended to make better connections throughout the downtown. The drainage infrastructure will be rebuilt as well. Rectangular Rapid Flashing Beacons may be utilized to better identify pedestrian crossings at mid-block crosswalks. On-street parking will be defined in a better manner. Beyond the downtown

¹⁵ <http://mountainvertical.com/best-skiing-in-new-england.php>

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segment, the alignment has been shifted in order to minimize impacts from the Carrabassett River. Slopes leading to the river will be stabilized to minimize the impact of future high-water events. A guardrail will be modernized along the road to protect vehicles from the waterway in the event of a crash. There will be sections where the road centerline will be shifted to avoid impeding historic town buildings and the nearby river.



Improvements Beyond Pavement	Cost within the Project
Sidewalks	\$650,000
Guardrails	\$125,000
Drainage	\$1,000,000
Safety Signs	\$10,000
TOTAL	\$1,785,000

If the Project is not completed, the road will continue to be a dangerous mix of high volume truck traffic and pedestrian movement. The road surface will continue to deteriorate, leading to minimal road surface treatments every seven years. However, those treatments do not address a weakening road substructure and poor drainage. The route will continue to be subject to future high-water events due to the current road alignment adjacent to the Carrabassett River. These road problems, in turn, will continue to subject Maine tourists to poor roads in small towns.

2. Woodstock – Maine Route 26 southeast-northwest for 2.5 miles through Woodstock, ME

Originally Constructed	National Highway System (NHS)	Highway Corridor Priority (HCP)	Annual Average Daily Traffic (AADT)		Percentage Trucks	5-Year Crash Count
			2018	2038		
1930s	Yes	2	2018	4,950	8%	39
			2038	5,940		

a) Current State



While Route 26 through Woodstock (Bryant Pond Village) recently received an asphalt topcoat, heavy truck traffic continues to weaken the old road structure underneath. A lack of bike lanes and defined sidewalks creates a safety concern for pedestrians.



Route 26 begins in North Deering, in the Portland area, and joins U.S. Route 2 in Bethel and continues into New Hampshire, providing access to the Lake Umbagog National Wildlife Refuge. Both Route 26 to Bethel and U.S. Route 2 are part of the National Highway System. The highway provides critical east-west connections to northern New Hampshire and Vermont from a large area of Maine stretching from the Lewiston-Auburn area to the Augusta-Waterville area. The section of Route 26 through Woodstock was built in the 1930s and, like the other projects, is located in between two recently rebuilt road sections on both ends of this Project. As with the other projects, this one also passes through a historic town district, Bryant Pond Village, and Route 26 serves as Main Street. This route is used to access ski resorts. It is also home to a large amount of truck traffic, nearly 400 per-day. Route 26, with its connection to U.S. 2, is a primary route for long-distance trucking from south-central Maine to northwestern New York. Regional truck traffic is also prevalent, as forest products such



The road's current shoulder, a mix of gravel and old pavement, is a danger to bicyclists.

as timber and other raw materials, as well as finished lumber, move to and from the mills throughout western Maine. Trucks entering Woodstock encounter steep grades, 90° turns, a town with limited pedestrian protection, and a road width that encourages speeding through the historic town. Route 26 is a major route to Mount Abrams Ski Area in the neighboring town of Greenwood as well as Sunday River Ski Resort, two popular resorts in Maine. The current road condition is rough with numerous potholes and rutting. The road has narrow gravel shoulders. Heavy truck traffic has created the recent need for a thin topcoat of asphalt as a temporary band-aid, but the road continues to deteriorate. Several sections of the route have steep embankments on either side of the road with missing, damaged or non-existent guardrails providing little protection from potentially serious accidents. There is a very high-degree curve at the south and east end of the segment through Bryant Pond Village that lacks modern warning devices about the upcoming curve.

b) Description of Roadway Replacement

This portion of the Project has 2 segments:

1. Downtown Historic – 30 mph
2. Rural – 50 mph

Construction will provide a consistent 12-foot travel lane in each direction along with 5-foot to 8-foot paved shoulders. The sidewalks will be rebuilt to a 5-foot width and including provisions for meeting ADA standards. Alignment adjustments will be made to improve sight distance to



and from side roads. The drainage infrastructure will be rebuilt. A dynamic “Speed Too Fast for Curve” sign is being considered for the approaches to a ninety-degree curve that has been the sight of numerous crashes. A guardrail will shield a house that has been struck multiple times and another will shield the town baseball field, while a third will be installed between the roadway and a steep slope leading to nearby railroad tracks. The project guidelines include ensuring large vehicles like school busses can negotiate turns at intersections with ease.

A high number of crashes have been tallied at the north end of this project (where Route 26

intersects with Rocky Road twice as that road loops in a semi-circle.) The visibility of that intersection will be improved, and super-elevation will be adjusted.

Improvements Beyond Pavement	Cost within the Project
Sidewalks	\$225,000
Guardrails	\$100,000
Drainage	\$1,250,000
Safety Signs	\$10,000
TOTAL	\$1,585,000

If the Project is not completed, the road surface will continue to deteriorate, leading to minimal surface treatments every seven years. Smoothing of the curve in Bryant Pond Village will not occur without Project funding. The lack of adequate sidewalks through town will continue to make pedestrian and bicycle movements along town road more challenging. The disabled will continue to move about through the community without proper ADA elements. The current guardrails along the route are a safety issue as well.

3. Fryeburg – US Route 302 east-west for 1.2 miles through Fryeburg, ME

Originally Constructed	National Highway System (NHS)	Highway Corridor Priority (HCP)	Annual Average Daily Traffic (AADT)		Percentage Trucks	5-Year Crash Count
			2018	2038		
1930s	Yes	1	2018	11,370	7%	48
			2038	13,250		

a) Current State



Potholes and rutting characterize the road surface of U.S. Route 302. Shown in Fryeburg in front of Molly Ockett Middle School.

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Sidewalk improvements in town will help with continuity and connect residential areas with schools, recreation and commerce.



U.S. Route 302 is an east-west highway connecting Portland, Maine and Montpelier, Vermont. It is one of the most heavily used highways for vehicles crossing the Maine-New Hampshire border. Fryeburg is a gateway to both states. The town, located essentially on the state line, is an access point to many lakes in western Maine and eastern New Hampshire. This area of western Maine comprises some of the most desired vacation spots in Maine, not only due to sparkling clear water and rural charm, but also for the sweeping vistas of the White Mountains and other peaks of the Appalachian Mountains. The White Mountain National Forest area's extensive private land holdings produce wood for lumber and fuel as well as pulp for the paper industry. The route through Fryeburg to neighboring New Hampshire is popular for Maine residents and tourists traveling to the North Conway, NH, area for retail shopping and recreational opportunities. Many inns and bed & breakfasts line the route as well and are an essential part of the economy of the town and region. The road traverses past Fryeburg Academy, a high school and one of the nation's oldest private boarding schools. Fryeburg is also home to the Fryeburg Fair, taking place in early October. It is commonly ranked as one of the best agricultural fairs in New England¹⁶, with attendance for the 8-day event topping 170,000 people, well over 10% of Maine's population.¹⁷ Traffic on area roads is very high during this time, with the combination of the fair, other Columbus Day weekend festivities, and drivers flocking to Maine's backroads to witness this part of New England's famous fall foliage splendor. U.S. Route 302 is the main artery between Maine's southern coastal region and north-central New Hampshire and Vermont, including the scenic White Mountain National Forest of central New Hampshire and western Maine. The road was originally constructed as part of the Federal Aid Project in the 1930s, as well as other projects. All mainline travel lanes were constructed 10 feet wide with 3-foot shoulders and 9 inches of gravel. This older design and use of subsurface gravel traps water below the pavement, making it less stable. Therefore, the road suffers from numerous potholes and rutting. The project is part of a 10.8-mile road

¹⁶ <https://newengland.com/today/seasons/fall/biggest-agricultural-fairs-in-new-england/>

¹⁷ https://www.conwaydailysun.com/news/local/good-weather-strong-attendance-at-fryeburg-fair/article_5220a3c6-ad28-11e7-bb71-a3030ef49f03.html

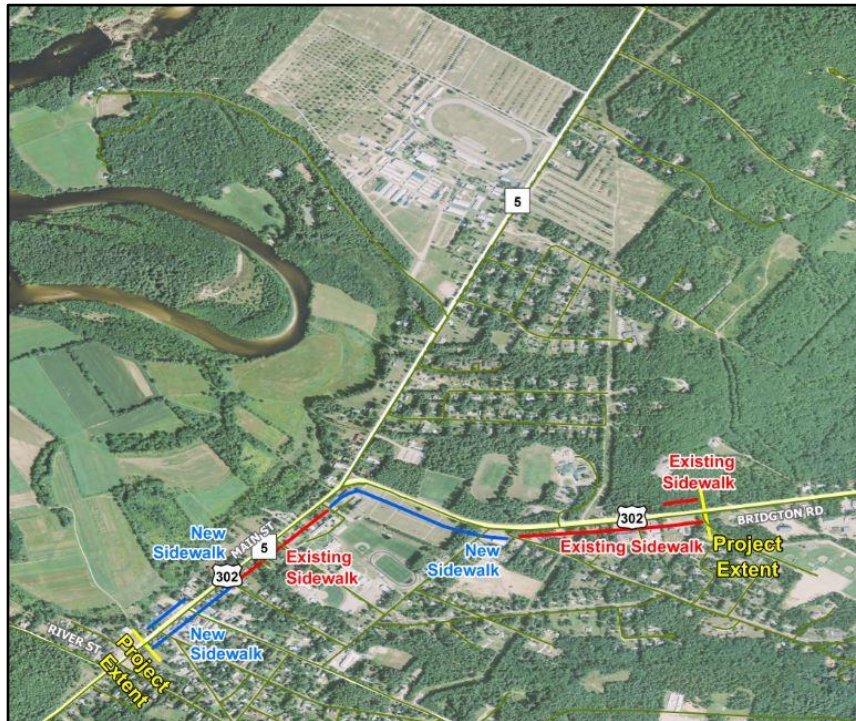
project from Bridgton, Maine west to the New Hampshire state line. The section through Fryeburg is the final portion of this route requiring completion. As in the other towns, additional care is required beyond road surfacing. Turn lanes, sidewalks, crosswalks, parking and bike lanes add to the costly but needed additions that will ensure public safety. These features will allow visitors to the inns easier access to amenities and business establishments in town. Similarly, school children attending Fryeburg Academy or Molly Ockett Middle School are proximate to downtown but cannot gracefully access the town without walking across numerous different sidewalk structures. This is also an especially difficult challenge for the disabled.

b) Description of Road Improvements

The project has 2 segments:

1. Downtown Historic – 30 mph
2. Commercial/Residential – 35 mph

The project will correct poor road conditions, drainage, and pedestrian safety. Construction will provide a consistent 11-foot travel lane in each direction along with 10-foot paved shoulders in the downtown area and 6-foot paved shoulders in the commercial and residential areas. Sidewalks will be rebuilt to a 5-foot width and include provisions for meeting current ADA standards. Sidewalks will also be extended to connect downtown with the Molly Ockett Middle School and the town's recreation complex. Signs will be used to help drivers identify pedestrian crossings at mid-block crosswalks. Intersections will be defined better for turning movements and existing signals will be upgraded to create a better flow of traffic. On-street parking will be improved. A granite curb is proposed to adhere to the aesthetic requirements of the area.



If the Project is not completed, downtown will not be adequately connected to the two schools and the town's recreation complex via needed sidewalks. The

Improvements Beyond Pavement	Cost within the Project
Sidewalks	\$400,000
Drainage	\$100,000
Safety Signs	\$10,000
TOTAL	\$510,000

blend of truck and pedestrian traffic without crosswalks and associated signage upgrades will intensify dangers as truck volume increases in the decades ahead. The road surface will continue to deteriorate and welcome tourists to Maine from Canada and neighboring New Hampshire on an unstable road. The drainage issue in town will continue to persist.

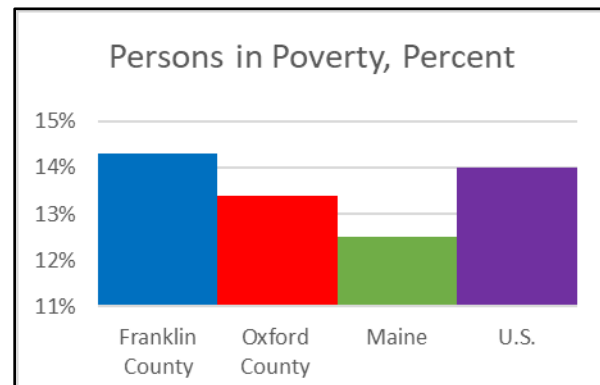
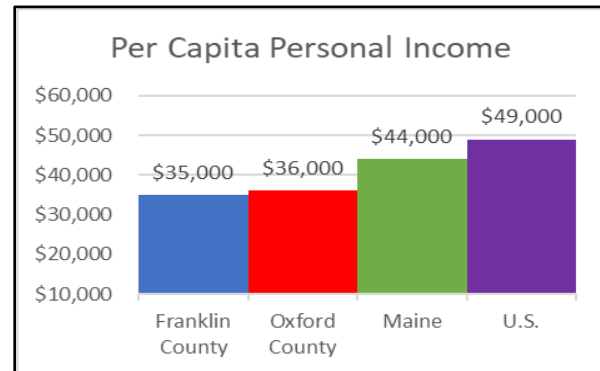
II. Project Location

Location - Maps, geo-spatial information¹⁸

The roads in the Project are in Franklin and Oxford Counties in Maine’s 2nd Congressional District. They are located in the towns of Fryeburg, Kingfield, and Woodstock (Bryant Pond Village).

PROJECT	Longitude	Latitude	County
Kingfield	-70.1643	44.96783	Franklin
Woodstock	-70.6565	44.3867	Oxford
Fryeburg	-70.97264	44.02104	Oxford

Of the more than 8,600 miles of Maine State Highways, 18 percent are in poor or unacceptable condition. According to the American Society of Civil Engineers, that costs an estimated \$485 per motorist per year in repair costs from driving on poor roads.¹⁹ These roads were selected due to their access to the region and their poor ranking in a region struggling to overcome economic hardship. The roads are within a 55-mile radius of one another in western Maine, making them a concentrated safety concern for the two-county area that has more than 14 percent (Franklin County) and more than 13 percent (Oxford County) of the county population living in poverty.²⁰ The roads are key to connecting the region’s employment, emergency services, access to healthcare, tourism and recreation. With public transportation in this rural part of the region virtually non-existent, residents rely on personal vehicles and local roadways to get to and from work. In Franklin County, 85

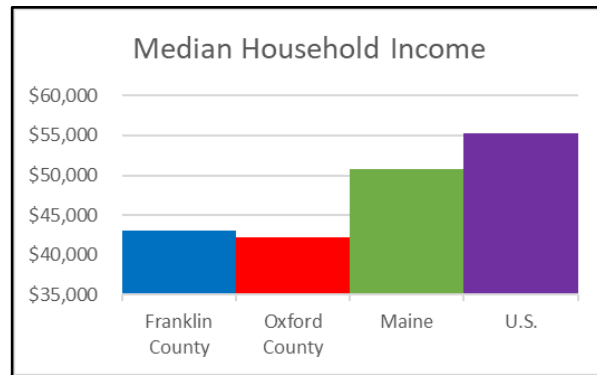


¹⁸ See Appendix B, Maps with Project Locations

¹⁹ https://www.infrastructurereportcard.org/wp-content/uploads/2016/10/Maine-Report_Card_final_booklet.pdf, Roads section, pages 2 and 4

²⁰ <https://www.census.gov/quickfacts/fact/table/US/PST045217>

percent of the population relies on a personal vehicle to commute to work while seven percent walk. In Oxford County, those numbers are 91 percent and three percent, respectively.²¹ Incomes and poverty are challenges in each of these counties. In 2016, these counties trailed both the state of Maine and the nation in Per Capita Personal Income by substantial margins.²² Similarly, for the number of people living in poverty, both counties exceeded the Maine average by fairly wide margins.



Source of three graphs: census.gov/quickfacts

III. Grant Fund Sources/Uses

Table showing sources and uses of project funds and percentage:

	MaineDOT	BUILD	TOTAL
Preliminary Engineering (PE)	\$420,000	\$0	\$955,000
Right-of-Way (ROW)	\$535,000		
Construction Engineering (CE)	\$1,850,000	\$0	\$21,100,000
Construction	\$8,222,500	\$11,027,500	
TOTAL	\$11,027,500	\$11,027,500	\$22,055,000
% of TOTAL Project	50%	50%	100%

All BUILD grant funding for the Project will be spent on actual construction costs. Federal funds will not be used for engineering-related costs or any right-of-way acquisition.

MaineDOT – Funding match: \$11,027,500

The Maine Department of Transportation (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 be used for highways and bridges only. The funding source for the Project will be State General Obligation Bonds. In Maine that comes from state bonds approved by the legislature and taxpayers from 2015-2018. Due to its significant economic and transportation impact on the entire state and region, the Project has been prioritized by MaineDOT. This Project will be included in the next Statewide Transportation Improvement Program (STIP) and is consistent with MaineDOT’s long range plan.

²¹ <http://Statsamerica.org/distress/distress.aspx>, 2018 data for each county

²² Supra note 20, Census Quickfacts

MaineDOT is well equipped to manage and administer this grant, having received and managed numerous USDOT grants for highway, railroad and transit programs including previous TIGER, FASTLANE, and most recently INFRA awards. Those awards include two Maine bridge projects which utilized MaineDOT matching funds. Preliminary engineering and minimal right-of-way acquisition for the Project, with an estimated cost of \$1,295,000, will be incurred by MaineDOT prior to contracting of the Project with FHWA. It is not included in the cost of the Project and is separate and apart from MaineDOT's matching dollars. A match commitment letter from the MaineDOT Commissioner is attached in Appendix E.

IV. Merit Criteria

a) Introduction

The Project is regionally significant and meets all of the merit criteria, both primary and secondary. It addresses past underinvestment in rural transportation that has allowed a slow and steady decline in connecting rural Americans to each other and the rest of the country in the same manner that urban transportation investment has mobilized those residents. MaineDOT recognizes, as USDOT does, the need to grow rural economies by strengthening the movement of freight, improving reliable and affordable transportation, and enhancing healthcare access and the safety of residents. The Project roads are in need of immediate repair and are built to yesterday's design standards, creating an important *safety* issue for those using these roads. MaineDOT has already spent \$43 million upgrading these three roads for miles outside of the three towns/improvement areas. Now comes the time to make improvements to the roads *within* the town limits and tie previous improvement projects together. The Project would place all of these roads in a *state of good repair*. Rural residents generally do not have the same transportation options as their urban counterparts. The Census Bureau estimates that Franklin County has a population of 29,988 residents. The mean travel time to work is 23 minutes. Meanwhile, the Census Bureau estimates that Oxford County has a population of 57,439 and the mean travel time is 29 minutes to work.²³ With few alternative routes, none of which are reasonable and practical, these roads are important to these rural residents. Outdoor recreation and the environment play a vital role to Maine and its tourist industry. As such, the Project will be constructed in an *environmentally sustainable* way reflective of the unique and recent agreement MaineDOT has with FHWA for NEPA. The Project has a broad base of support from numerous stakeholders, enabling MaineDOT to once again be a great *partner* with USDOT for a significant federal grant.

b) Primary Selection Criteria

1) Safety

The Project aims to make these roads safer in many ways. One is by redesigning the roads in order to change the perception of speed upon entering the towns. The use of crosswalks, safety signage and other safety features, works to accomplish this. Speed limits outside the parameters of the Projects are between 45 and 55 mph. The "outside of town" portions of these roads have already been upgraded. By undertaking the Project, traffic will naturally slow through town and amplify the level of safety for all involved, including pedestrians. Furthermore, bicyclists will

²³ Supra note 20, Census Quickfacts

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ride safer since the Project calls for widening and strengthening road shoulders, creating a better riding surface. Having a defined wider and smoother lane for bikes will increase safety as well by giving motorists a better level of confidence as they pass bikes on these roads. The Project calls for lessening the degree of a sharp curve at Woodstock, used by many semi-trucks. The Project will also reduce the likelihood of future high-water events along the Carrabassett River that could impact the road and cause significant damage. Additionally, the Project will create more sidewalks, walking space, crosswalks, pedestrian warning devices, and ADA attributes, making the overall pedestrian experience safer and better in these towns. Proper signage, guardrails, marked parking spaces, and crosswalks being incorporated into the Project will elevate safety. In total, \$1,530,000 of the project spend is for safety signage, guardrails and sidewalk improvements.



A semi-truck rounds the sharp curve in Bryant Pond Village, part of the Woodstock portion of the Project.

Over the five miles of the three segments within the Project, there were 48 traffic accidents between 2013 and 2017 costing more than \$4.3 million based on the KABCO level of the accidents. Based on traffic calming studies and the continued AADT of nearly 22,000 vehicles growing less than 1% annually, with a CMF of 0.80, the Project would save more than \$2 million in accidents on an NPV basis at a seven-percent discount rate. The analysis also estimates the avoidance of one fatality over the 30-year life of the Project as a result of the project improvements. (The BCA results section describes this in greater detail.)

<i>Project Element</i>	<i>Kingfield</i>	<i>Woodstock</i>	<i>Fryeburg</i>
Travel lane width	11'	12'	11'
Shoulder/bike lane width	5'	5'-8'	6'-10'
Sidewalk width	5'	5'	5'
Crosswalks	√		√
ADA compliance upgrades	√	√	√
Signage	√	√	√
Guardrails	√	√	
Drainage	√	√	√
Alignment adjustments		√	√
Speed Limit	25/30 mph	30 mph	30/35 mph

2) State of Good Repair

Maine has the lowest funding per mile of the six New England states and a projected \$68 million annual funding gap.²⁴ Maine motorists spend an extra \$1 billion per year in vehicle operating costs, congestion delays, and crashes due to deteriorating road conditions and increasing traffic volumes. Exactly 3,459 miles out of 8,645 miles, or 40%, were rated fair to unacceptable condition, the same percentage as the 2012 Report Card. Exactly 2,640 miles of Priority 1 through Priority 4 roads (42% of Maine's major roads) have fair to unacceptable conditions (an increase from 38% reported in the 2012 Report Card).²⁵ The Project roadways are each considered "unbuilt" by MaineDOT. That means they have never been built to modern design standards. They have *no* remaining service life and receive only a maintenance paving on a 7-year cycle to keep them continuously operable. Performance of these roadways is considered inadequate because they do not have an acceptable base layer, sub-base, or geometrics to perform at their designated levels. These deficiencies make the roads less safe, more susceptible to frost, and accelerate deterioration including rutting, cracking, and loss of cross slope. As mentioned previously the new roads, when constructed, will have pedestrian safety improvements where none or outdated safety features currently exist. Additionally, where the Carrabassett River flows proximate to the route through Kingfield, there is the risk of high water overflowing during flooding events and damaging the road. The Project will help to prevent this from happening.

3) Economic Competitiveness

a. THE GOODS ECONOMY

The roads are an example of rural infrastructure supporting commerce and economic growth in a region that is economically challenged. In this rural area with no alternate means of transportation, existing roads are key to the economic and social livelihood of the area. A network of rural roads provides the foundation for residents and raw materials to connect to the economy outside their area. Kingfield in Franklin County is home to a *Poland Springs Natural Spring Water* bottling plant, which is the 20th largest employer and 4th largest manufacturer in the county. Raw timber and forest products that feed the \$8.5 billion pulp and paper industry move along these roads. Maine residents from the Atlantic coastline to the border with New Hampshire use the roads to travel to that state in order to make purchases in the popular North Conway, NH, shopping area. But at the same time, they provide a quiet, meaningful quality of life for those living along them.

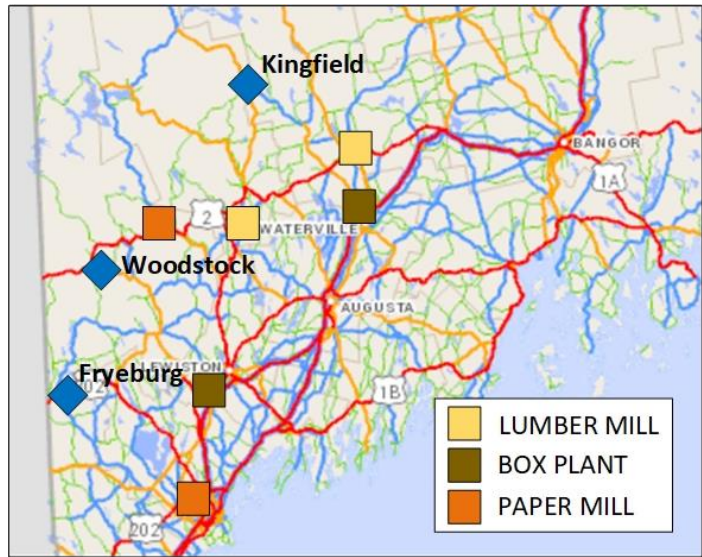
International trade, including imports and exports, supports 177,519 Maine jobs, more than one in five.²⁶ While total employment declined from 2004 - 2013, trade-related jobs grew by 24 percent, with large and small companies, farms and factories participating in global trade in the past decade. Canada is Maine's largest trading partner and receives 47.5% of the state's exports.

²⁴ Supra Note 19, page 1

²⁵ Supra Note 19, page 1

²⁶ http://tradepartnership.com/wp-content/uploads/2015/01/ME_TRADE_2013.pdf, page 1

Meanwhile, 51% of Maine's imports originate from Canada.²⁷ At the northern terminus of State Route 27, fifty miles northwest of Kingfield, is the U.S.-Canadian Permit Port of Entry at Coburn Gore, Maine. This border crossing, which sees a variety of vehicles from passenger cars to semi-trucks, is one of only two crossings between Maine and Quebec that are open 24 hours. Passenger vehicle travel from the Montreal and Sherbrooke areas of Canada to the Maritime provinces has increased over the past few years. The route through Kingfield is the shortest distance between those points as Canadians essentially travel through this part of Maine in order to access the eastern Maritimes of their own country.



Lumber Industry facilities surrounding the Project towns contribute to constant semi-truck traffic on these rural roads.

Use of this route is on the rise. Meanwhile, the economic impact of Maine's forest products industry was estimated to be \$8.5 billion in 2016 and provided nearly 34,000 jobs in the state. The industry is having to change its focus in the face of global competition and challenging external factors. The hope is that by increasing the variety of wood products produced both large (e.g., OSB) and small (e.g., golf tees) that will, in turn, make each remaining company more stable in the state. Improved transportation routes are crucial to keeping costs within the industry low enough to enable the industry to compete equitably worldwide.

b. THE SERVICE ECONOMY

“Western Maine has harsh weather conditions in the winter and spring months which, when mixed with the forestry industry and tourist's use of the roads, creates huge maintenance problems. Both industry users must contend with impacts from spring thaw and other changing road conditions. Coordination between the major paper companies and local municipalities is a must in order to keep roads maintained and in proper condition. The tourist industry brings an influx of various travel modes ranging from bicycles to tour buses to motor homes. Many of the tourist activities take visitors on roadways that are less than adequate to serve the vast numbers.”²⁸ Travel, tourism and recreation are important to any state cultivating their economic well-being. Tourism drives the broader economy in Maine, and solid roads and bridges are keys to the fluidity allowing tourists to move safely, conveniently and affordably. The three road projects are in the heart of Maine's Lakes and Mountains Region, featuring numerous ski resorts, recreational lakes, snowmobile trails, hiking and biking trails, paddling and whitewater rafting

²⁷ Supra, page 2

²⁸ Joan A. Walton, Regional Transportation Planner & Civil Rights Officer, Androscoggin Valley Council of Governments, Auburn, Maine

lakes and rivers, as well as inns and bed and breakfasts. Three out of four overnight visitors use their personal car to travel to Maine.²⁹ In Maine, outdoor recreation generates \$2.2 billion in wages and salaries and \$548 million in state and local tax revenue.³⁰ Tourism supports about 16% of employment in the state, or 1 out of every 6 jobs. Total direct expenditures on tourism equaled nearly \$6 billion in 2016, a 6% increase from the previous year, according to the Maine Office of Tourism.³¹ Maine residents also enjoy exploring their own backyard. According to the Outdoor Industry Association, 70% of Maine residents participate in outdoor recreation each year.³² Meanwhile, Canadian tourists consistently head south to enjoy Maine's coastline and beaches and the majority of those trips are made by car. The Project roads are often their pathway to the coast. In 2016, Canadian tourists spent \$975 million in Maine. That year Canadian visits to Maine rose 10% to 4.5 million from 4.1 million visits the previous year.³³ The current strong dollar has only slightly weakened Canadians' appetite for the Maine coastline. A vacation in this area often includes, or in fact *is*, a long drive to take in the scenic beauty, especially in fall when the mountain foliage is bursting with color. Each of the region's scenic byways include archaeological, cultural, historic, natural, recreational, and scenic qualities. Three of the state's scenic byways are on the Project routes. Route 26 through Woodstock is part of the Grafton Notch Scenic Byway. Meanwhile, the Maine High Peaks Scenic Byway begins in Kingfield and meanders northwest for 40 miles to the Canadian border. The Pequawket Trail Scenic Byway runs through Fryeburg from Standish, Maine near Portland through the White Mountain National Forest. Maine is home to 18 alpine ski areas, five of those are within 20 miles of at least one of the project areas. The ski resorts in Maine contribute \$300 million to the economy and frequently include multi-night stays. Meanwhile, snowmobile activity in Maine pumps more than \$350 million annually into the state's economy. The state's Interconnected Trail System (ITS) is made up of 14,500 miles of snowmobile trails. Kingfield is located on one of the trails, while another is 10 miles outside of Fryeburg. This activity provides 2,300 full-time jobs in the state.³⁴ Meanwhile, the League of American Bicyclists ranks Maine 17th in the nation for bicycle friendly states.³⁵ Driving that above-average ranking is the state's commitment to bike-friendly legislation and enforcement as well as route evaluation and planning. Where the state fails, according to the League, is regarding infrastructure and funding. The Project directly addresses that lack of funding in an area that will help cyclists safely use and benefit from an additional five miles of better bike lanes in the state.

4) Environmental Sustainability

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

²⁹ <https://visitmaine.com/research> 2017 Annual Report

³⁰ Supra, 2017 Annual Report

³¹ http://digitalmaine.com/decd_docs/169

³² https://outdoorindustry.org/wp-content/uploads/2017/07/OIA_RecEcoState_ME.pdf

³³ <https://visitmaine.com/research> 2016 Canada Market Analysis Report

³⁴ http://www.pressherald.com/2013/02/09/snowmobiling-puts-cold-cash-into-maines-economy_2013-02-10/

³⁵ https://bikeleague.org/sites/default/files/BFS2017_StateRanking_Chart.pdf

passage in cooperation with natural resource agencies, while weighing all aspects of a proposed project. An agreement between the Federal Highway Administration, Maine Division and the Maine Department of Transportation authorizes MaineDOT to determine on behalf of the FHWA whether a project qualifies for a NEPA Categorical Exclusion (CE) if the project does not have a significant effect on the human environment.³⁶ MaineDOT and various other state and federal departments have executed agreements to expeditiously but thoroughly review environmental impacts from projects (*and they are listed in Project Readiness.*)

5) Quality of Life

Few tangible assets act as more of a “welcome mat” for an area than its roads and sidewalks. Roads are significant “pathways of introduction” for tourists visiting an area for the first time. Therefore, a region’s quality of life is enhanced when residents and guests share roads and sidewalks they can use with ease and an expectation of safety. In the Lakes & Mountains region of western Maine there are few transportation options, therefore roads and their condition are critical. Access to schools, shopping and the area’s robust outdoor recreation activities requires dependable roads and bridges, especially during the region’s harsh winters.

c) Secondary Selection Criteria

1) Innovation

The Project has a fairly limited impact on this merit criteria. To the contrary, that which makes it so reliable to come in on schedule and on budget, also is indicative that there is little in the way of innovation or other riskier attributes. The technology that will be used in project completion is very sound and repeatable, although the plan is to incorporate conduit for eventual fiber installation. From a project delivery perspective, the Highway Program at MaineDOT will follow the standard operating procedures that enable it to complete well over 90% of projects within 30-days of schedule. There are no innovative financing aspects to the project, but it does have the commitment of the Maine government.

2) Partnership

The project has wide support from a variety of stakeholders. They stand ready to assist in completing approvals rapidly and completing the Project with as little disruption as possible to traffic and adjoining communities. Appendix D contains numerous letters confirming stakeholder collaboration and project support. The stakeholders understand the importance of these roads to residents, workers, tourists, emergency responders and area schools.

The three towns and MaineDOT have held extensive communication sessions and will continue to do so regarding expectations and details of construction. There are cooperative agreements between MaineDOT and Kingfield and Woodstock. The partnership that exists will ensure that modern safety and design features will coexist while preserving each town’s historic heritage.

³⁶ Programmatic Agreement between the FHWA, Maine Division and the MaineDOT Regarding the Processing of Actions Classified as Categorical Exclusions for Federal-Aid Highway Project

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There will be another unique partnership at play in the Project. MaineDOT and FHWA have established several programmatic agreements to expedite the NEPA process handling state and federal reviews concurrently. These agreements cover Categorical Exclusions, programmatic wetlands findings, state and national historic preservation and the Federal Endangered Species Act. Signatories to these agreements also include US Army Corps of Engineers (ASACE), US Fish & Wildlife Service (USFWS), Advisory Council on Historic Preservation and Maine State Historic Preservation Officer, NOAA's National Marine Fisheries Service and the Maine Turnpike Authority. These partnerships greatly expedite construction projects such as these road replacements (*and will be discussed further in Project Readiness*) in the Project.

V. Project Readiness

a) Technical Feasibility

The road segments in the Project will be designed by and construction will be led by seasoned project managers from the Highway Program at MaineDOT. This team has completed all projects and well over 90% within 30-days of the originally scheduled deadlines despite facing the challenging Maine climate. Given the scheduled completion dates of the end of 2021 for the Project, there is minimal risk of approaching the funds expended deadline in 2025. MaineDOT's Team North will deliver Kingfield and Woodstock and Team South will deliver Fryeburg. Both teams have delivered very complex and challenging projects in the recent past:

Bar Harbor, Route 3	\$25M
Phase I of the Presque Isle Bypass	\$15M
Abutting Fryeburg project	\$12M
Downtown Hallowell	\$ 7M
Downtown Belgrade	\$ 4M

While no roadway improvement project is without some level of challenge, the project segments in these three rural towns are all well within the capability of the team and none have complicated engineering design challenges nor technical issues.

The Cost Estimate of the Project by roadway and broad category is as follows:

Project Location	Preliminary engineering (PE)	Right of Way (ROW)	Construction engineering (CE)	Construction	TOTAL
Kingfield	\$160,000	\$45,000	\$600,000	\$7,250,000	\$8,055,000
Woodstock	\$180,000	\$395,000	\$650,000	\$7,000,000	\$8,225,000
Fryeburg	\$80,000	\$95,000	\$600,000	\$5,000,000	\$5,775,000
TOTAL	\$420,000	\$535,000	\$1,850,000	\$19,250,000	\$22,055,000

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b) Project Schedule/Gantt Chart

Project Schedule Key Events³⁷

Task	Kingfield			Woodstock			Fryeburg		
	Duration	Start	Finish	Duration	Start	Finish	Duration	Start	Finish
Project Kickoff	0 days	11/10/11	11/10/11	0 days	1/28/15	1/28/15	0 days	11/15/15	11/15/15
Gather existing data	15 days	11/12/11	11/21/11	15 days	1/30/15	2/13/15	15 days	11/17/15	12/1/15
Initial team meeting	0 days	8/1/13	8/1/13	0 days	5/12/16	5/12/16	0 days	6/16/16	6/16/16
Prelim public meeting	0 days	6/28/16	6/28/16	0 days	5/3/17	5/3/17	0 days	9/9/16	9/9/16
Prelim alignment complete	0 days	7/8/16	7/8/16	0 days	7/11/17	7/11/17	0 days	9/29/18	9/29/18
PDR/Prelim plan complete	0 days	8/15/18	8/16/18	0 days	8/27/18	8/27/18	0 days	10/31/18	10/31/18
Midway team meeting	0 days	8/16/18	8/16/18	0 days	8/27/18	8/27/18	0 days	10/31/18	10/31/18
Plan impacts complete	0 days	11/14/18	11/14/18	0 days	12/5/18	12/5/18	0 days	11/10/18	11/10/18
Formal public meeting	0 days	10/15/18	10/15/18	0 days	10/26/18	10/26/18	0 days	12/10/18	12/10/18
Enviro coordination	257 days	1/25/19	10/8/19	257 days	2/5/19	10/19/19	60 days	9/30/18	11/28/18
Agency review	100 days	9/7/18	1/24/19	100 days	9/18/18	2/4/19	75 days	11/22/18	3/6/19
Section 7 signoff	0 days	1/24/19	1/24/19	0 days	2/4/19	2/4/19	0 days	3/6/19	3/6/19
NEPA complete	0 days	1/24/19	1/24/19	0 days	2/4/19	2/4/19	0 days	3/6/19	3/6/19
R/W mapping	150 days	11/15/18	4/13/19	150 days	12/6/18	5/4/19	75 days	12/31/18	3/15/19
Utilities final coordination	257 days	11/15/18	7/29/19	257 days	12/6/18	8/19/19	257 days	11/11/18	7/25/19
Final R/W maps	20 days	7/3/19	7/22/19	20 days	8/3/19	8/22/19	50 days	6/15/19	8/3/19
R/W valuation	150 days	5/24/19	10/20/19	150 days	6/24/19	11/20/19	90 days	5/26/19	8/23/19
Utilities certified	0 days	10/8/19	10/8/19	0 days	10/19/19	10/19/19	0 days	9/22/19	9/22/19
Enviro approvals complete	0 days	10/8/19	10/8/19	0 days	10/19/19	10/19/19	0 days	9/22/19	9/22/19
R/W certified	0 days	1/25/20	1/25/20	0 days	2/25/20	2/25/20	0 days	11/8/19	11/8/19
PS&E complete	0 days	1/25/20	1/25/20	0 days	2/25/20	2/25/20	0 days	11/8/19	11/8/19
Advertise	0 days	2/14/20	2/14/20	0 days	3/17/20	3/17/20	0 days	11/29/19	11/29/19
Construction begin	0 days	4/15/20	4/15/20	0 days	5/17/20	5/17/20	0 days	1/29/20	1/29/20
Construction	571 days	4/15/20	11/6/21	539 days	5/17/20	11/6/21	570 days	1/29/20	8/20/21
Construction complete	0 days	11/6/21	11/6/21	0 days	11/6/21	11/6/21	0 days	8/20/21	8/20/21

The project plan for each segment anticipates both obligation of funding and completion of the Project well within the September 30, 2020, and 2025 deadlines, respectfully.

c) Required Approvals

Communication with environmental agencies and interested parties has been initiated. Baseline data collection is underway to identify natural and cultural resources potentially affected. Alternatives will be evaluated under state and federal laws. The NEPA process will be completed prior to the final design of the preferred alternatives.

a) National Environmental Policy Act (NEPA)

The (NEPA) process will inform and be incorporated into preliminary design efforts. The Project is anticipated to be classified as a Categorical Exclusion in accordance with 23 CFR 771.117(d) (13). The FHWA Maine Division will be the lead agency for NEPA review. NEPA

³⁷ See Appendix C for full Gantt Chart.

is underway. Should any issues arise, MaineDOT will work directly with the respective agencies to quickly resolve them. The NEPA process is expected to be completed by January, February and March 2019 for the project elements in Kingfield, Woodstock and Fryeburg respectively. In the event of any issues forthcoming, there will be ample time to address them prior to the required BUILD Discretionary Grant obligation date in September 2020.

b) Other Federal and State Environmental Permits

A U.S. Army Corps of Engineers permit will be required for work being conducted within waters of the United States and these impacts both the Kingfield and Woodstock segments of the Project. A Maine Department of Environmental Protection permit will also be required. All permit approvals for the three segments are expected to be received by September and October 2020.

c) Historic and Archeological

The Section 106 process has begun, including identification of historic resources. This will be led by the MaineDOT Environmental Office and FHWA.

d) Section 4(f) of the Department of Transportation Act

Identification of 4(f) resources is complete. If the proposed design requires use of an identified resource, MaineDOT will work with FHWA to obtain approval under Section 4(f).

e) Endangered Species Act (ESA) and Essential Fisheries Habitat (EFH)

MaineDOT has identified the Federal Endangered Species and EFH (where applicable) within the project areas. MaineDOT and FHWA will coordinate with federal agencies during project design to avoid and/or minimize effects to ESA/EFH. MaineDOT and FHWA will complete the required consultations well within necessary timelines in 2019.

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d) Risks & Mitigations

Project Risks	Mitigations
<p>Environmental permitting/restriction</p> <ul style="list-style-type: none"> • Due to the presence of Atlantic Salmon, environmental permits will limit in stream work time and limit noise generated during construction • Historic Properties 	<p>Minimize in water work</p> <ul style="list-style-type: none"> • Collaborative agreements with MaineDOT, USFWS, USACE, FHWA and MTA under the Endangered Species Act through a process that expedites endangered species consultations and aims to meet both wildlife and project goals³⁸ • Choose a final design that minimizes in water work. • Constructability reviews will be completed during preliminary design to insure the selected alternative is buildable given the various environmental restrictions <p>Minimize impacts to historic properties</p> <ul style="list-style-type: none"> • Material selection will need to be reviewed/approved • Avoid/minimize impacts to 4f properties
<p>Cost control</p> <ul style="list-style-type: none"> • While the preliminary design phase has begun, the final recommended improvements could lead to scope and cost increases if additional required work is identified. 	<p>Thorough preliminary evaluation</p> <ul style="list-style-type: none"> • Multiple alternatives will be evaluated during preliminary design with many scenarios of how to maintain traffic being considered • Constructability reviews will be a key focus during preliminary design with a focus on <i>most constructible</i> and cost effective.
<p>ROW acquisition</p> <ul style="list-style-type: none"> • There is right-of-way acquisition for each of the projects 	<p>State of Maine law for required takings³⁹</p> <ul style="list-style-type: none"> • Statutes in the State of Maine allow for this process to be completed expeditiously and according to an existing process that MaineDOT executes often. • Follows a 5-step process <ol style="list-style-type: none"> 1. Mapping 2. Appraisal 3. Negotiation 4. Offer 5. Condemnation • The process cannot be stalled at any phase including condemnations as there is a separate appeal process that allows the project to proceed with no delay • The entire Right-of-Way process is allotted up to 16 months in the project schedule • There are no local statutes or challenges that can impact the process

Further mitigating any project delay are numerous programmatic agreements MaineDOT has with reviewing agencies. MaineDOT will take advantage of the following agreements to streamline the environmental review and approval process:

- i. Cooperative Agreement between US Department of the Interior Fish and Wildlife Service (USFWS), FHWA and the MaineDOT State Transportation Reviews by the USFWS in Maine 2015-2020

³⁸ <http://www.maine.gov/mdot/maspc/>

³⁹ See MaineDOT's The Land Owner's Guide to the Acquisition Process *Revised 12/2014*, <http://www.maine.gov/mdot/publications/docs/brochures/landownersguideoct2014.pdf>

- ii. Cooperative Agreement between USFWS, FHWA and the MaineDOT State Transportation Reviews by the USFWS in Maine 2016-2021
- iii. Maine Atlantic Salmon Programmatic Consultation between the USFWS, MaineDOT, U.S. Army Corps of Engineers (USACE), and the Maine Turnpike Authority (MTA finalized on January 23, 2017), which covers activities that involve work in streams to construct, preserve and maintain the state transportation system
- iv. 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
- v. Programmatic Agreement between the FHWA, Maine Division and the MaineDOT Regarding the Processing of Actions Classified as Categorical Exclusions for Federal-Aid Highway Project
- vi. Programmatic Agreement for the State of Maine Between MaineDOT, FHWA Maine division, USFWS Regarding Endangered Species Act Section 7 Consultation for Canada Lynx
- vii. Section 106 Tribal 106 Programmatic Agreement
- viii. Memorandum of Agreement for Stormwater Management Between the MaineDOT, MTA and Maine Department of Environmental Protection

Also mitigating potential delay is the extent to which MaineDOT has already worked with all three towns regarding expectations surrounding the details of the construction.

Kingfield and MaineDOT have a cooperative agreement regarding what elements of the town that it wants to preserve while the roadway upgrades take shape. Kingfield has also been working closely with MaineDOT regarding coordinated drainage design for the project in order to foster good water runoff practices. As far back as May 2014, after meeting on various occasions, Kingfield and MaineDOT executed a cooperative agreement regarding what elements of the town should be preserved while the new road design takes shape. The overall mission for the town is "to preserve or enhance the overall appearance and charm of Kingfield Village and adjoining commercial areas while increasing safety for all users and promoting economic development."

Similarly, the town of Woodstock also executed a cooperative agreement with MaineDOT in August 2014 after extensive input during the agreement development process. The town provided significant feedback and offered proactive solutions regarding potential right-of-way acquisitions necessitated by the Project and MaineDOT has taken those suggestions into project design and planning at every opportunity. Several elements of the project design were added in response to the feedback.

Fryeburg had extensive coordination with MaineDOT as they built the Molly Ockett Middle School, on the Project's path. Fryeburg and MaineDOT coordinated plans to connect the downtown by sidewalk to the school as well as the town's recreation fields. MaineDOT also coordinated with the town to accommodate parking needs as well as pedestrian enhancements into the Project design.

MaineDOT and its Highway Division have years of experience completing road improvement projects on time and within budget. The Project will meet all statutory deadlines required for a BUILD grant.

Results of Benefit Cost Analysis

7% NPV Summary over 30 Years		
	Costs	Benefits
CAPEX	\$17,649,729	
Crash Savings		\$5,636,500
Property Value Improvements		\$10,910,927
Flood Damage Avoidance		\$609,722
Maintenance Savings		\$323,692
Residual Value		\$965,767
TOTAL	\$ 17,649,729	\$ 18,446,609
Benefit-Cost Ratio		1.05

See Appendix A for detailed BCA

The results of the Benefit-Cost Analysis (BCA) yield a conservatively calculated 1.05 to 1.0 ratio. By the nature of the improvements of the Project, many of the normal quantifiable benefits are absent. The Project will not improve travel times or cause a more cost-efficient routing of traffic. It is not expected to increase traffic in a measurable way. The improvements will make transit through the three towns safer, less costly to maintain and will improve the aesthetics and quality of life for residents, customers and tourists. Those significant aesthetic and connectivity improvements will improve the property values of the rural towns. The analysis is conservative, presuming only a 30-year life of the improvements even though the prior road work in the town was undertaken between 60 and 80 years ago. It assumes no traffic growth beyond the modest increases MaineDOT AADT studies conclude, which is only 18 percent growth over a 20-year period between 2018 and 2038. It assumes the property value enhancements are only a mere two percent. While the BCA is not greatly in excess of 1.0, it is challenging for a project in a rural area that improves the safety and quality of life and is not targeted to increase traffic or reduce travel time or mileage.

Explanation of Methodology and Benefits

The analysis examined the AADT traffic levels for each town and increased them linearly between 2018 and 2038, holding the level constant thereafter. It used the last 5-year crash history across the specific segments of the Project and cost of each event to determine the rate of crash dollars spent per vehicle and presumed that 20% would be reduced as a result of the Project. This assessment was based on an examination of Crash Modification Factors (CMFs) from the clearinghouse per USDOT BCA guidance. There was a broad range of CMFs for “traffic calming” studies that correlated with the aims and results of the Project. They ranged

from 0.67 to 0.97. The analysis utilized a 0.80 factor and presumed a corresponding 20 percent reduction. Additionally, while fortunate that there were no traffic fatalities during the preceding 5-year period, the analysis presumed that over the next thirty years one fatality would be avoided as a result of the Project and that was not until year 15.

For road maintenance savings, presently MaineDOT's means for continuing to limp along under the current funding levels and needs of the towns is to add a top layer of asphalt every seven years. Upon completion of the Project it was presumed that there would not be that sort of maintenance for the first 20 years and then it would resume every seven years thereafter. Property values will indeed be enhanced by the Project. Nearly all studies related to the impacted of road improvements are related to highways or freeways. There is minimal research devoted to a project analogous to this one. The research around larger investments remains fairly inconclusive with some studies showing an increase in values and others showing a diminishment. What many studies do conclude however, is that results like this Project will yield enhanced property values. "Changes in property values are driven by, and hence reflect, the value associated with local changes in community impacts (**accessibility, safety, noise, visual amenity, and community cohesion**), as well as **economic development** impacts (business productivity.) In general, a transportation project would only lead to changes in property values (and subsequent land use) if it causes a direct change in one or more of these other local factors that affect the desirability of a location."⁴⁰ This Project specifically targets the bolded areas above. The analysis utilized the valuations that the state of Maine does for each municipality to determine the property value for each town and then presume a one-time two percent improvement to those values upon completion of the Project.⁴¹ Conservatively, the analysis used the 2018 property value assessment and did not assume any growth between now and completion of the Project in 2021 when the benefits were included.

A key element of the portion of the Project in Kingfield is a realignment of the roadway to minimize impact of the neighboring Carrabassett River. That river and the angle it flows towards the existing roadway is a threat to create damage from flooding. Maine is a state that is proven to be susceptible to the impact of floods. Over the last 30 years, Maine has seen major flood events five times; 1987, 1996, 2007, 2008 and 2011, principally driven by snowpack melt runoff in April (three of the four floods were in April.) The 1987 flood, in particular, impacted the Carrabassett River. The analysis conservatively presumes the avoidance of flood damage one time at the midpoint of the 30-year period. In the 2011 flood, damage resulting from the Carrabassett River flooding a few miles north of Kingfield caused more than \$5 million in physical damages, including damage to three bridges. The BCA includes avoidance of a similar event over the thirty-year period in Kingfield but conservatively assumes one at the mid-point of the 30-year analysis period. It excludes the cost of the bridge repairs and also excludes the reroute costs during repairs along with concurrent lost commerce during that same time.

Overall, the quantifiable benefits are significant and meaningful to the towns and the region. They are then well supplemented by the less quantifiable benefits associated with a tighter knit community resulting from the improved pedestrian aspects for all including tourists to inns and

⁴⁰ <http://bca.transportationeconomics.org/benefits/community-impacts>, Property Values

⁴¹ https://www.maine.gov/revenue/propertytax/sidebar/2018_state_valuation.pdf

museums and the ability for all residents and travelers to enjoy a safer and smoother ride through town. As described, the town leaders have been well involved and clearly support these long-awaited improvements and the impact to the towns and their businesses.

VI. Federal Wage Rate Certification

See Appendix F.

Grant Request Supporters

MaineDOT's grant request for BUILD FY 2018 funds is supported by a diverse group of elected officials, shippers and stakeholders due to the significant impact the Project will have on the region. This list of supporters includes:

Members of Congress (*expected*)

U.S. Senator Susan Collins
U.S. Senator Angus King
U.S. Congressman Bruce Poliquin

State Elected Officials/Offices

Governor Paul LePage
State Legislators from Franklin and Oxford Counties
Town of Kingfield, ME
Town of Woodstock, ME
Town of Fryeburg, ME

State and Local Organizations

Greater Franklin Development Council

Please visit <https://www1.maine.gov/mdot/grants/>

** As additional letters of support are submitted, MaineDOT will place them on the website noted above.

APPENDIX

Benefit-Cost Analysis Worksheet	A
Maps with Project Locations	B
Gantt Chart	C
Letters of Support	D
Match Commitment Letter	E
Federal Wage Certification Letter	F