

WATERVILLE DOWNTOWN TRANSIT CORRIDOR, GATEWAYS, AND REVITALIZATION PROJECT



U.S. Department of Transportation
National Infrastructure Investments
Better Utilizing Investments to
Leverage Development
FY2018 BUILD Discretionary
Grant Application



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Full application and all supporting documents available at:
<https://www.colby.edu/downtown/2018-build>
Password: Waterville



SELECTION CRITERIA		PAGE
a. Safety	Safety benefits include reducing frequency of crashes by 50%, traffic calming improvements that reduce speeds and severity of crashes, enhanced pedestrian crossings, and better sight lines.	10
b. State of Good Repair	The net impact on the City's operating budget for maintenance and operations is expected to be negligible; the project has potential to create new value for the City and capture value in the Downtown TIF as potential method for maintaining transportation systems.	13
c. Economic Competitiveness	Enhances pedestrian and vehicular experience downtown with reduced speeds, improved streetscape, and two-way traffic circulation; project is part of a larger revitalization effort to create long-term economic growth in Waterville and the mid-Maine region.	13
d. Environmental Protection	The project incorporates several sustainability elements that include stormwater management, greater landscape biodiversity, resource conservation, and improved air quality.	15
e. Quality of Life	Expands access to essential services and connectivity to jobs, healthcare, and other goods and services; promotes healthy, active lifestyles.	16
f. (iii) Innovative Financing	BUILD proposal and larger revitalization effort engage multiple funding partners including municipal, state, federal, institutional (Colby College), foundation, and private philanthropic sources.	17
g. Partnership	Partnerships build on record of successful collaboration among the City of Waterville, MaineDOT, Colby College, Central Maine Growth Council, arts organizations, and downtown business and property owners.	17
h. Non-Federal Revenue	Project includes commitments from multiple sources and securing additional philanthropic funds.	18
PROJECT READINESS		
Technical Feasibility	Significant design review completed in project report; advancing design and engineering summer 2018.	19
Project Schedule	Final design will be near or at ready to start upon notice of BUILD 2018 award; final approvals and construction obligations are expected by February 2019 for 1.5-year construction completion by August 2020.	19
Required Approvals	The City of Waterville and MaineDOT will partner to secure any required permits. Permitting review process is currently underway. No NEPA or major environmental impacts have been identified.	20
Assessment of Project Risks and Mitigation Strategy	The project partners have extensive experience working together designing and managing construction projects, monitoring costs, and securing external support.	21
BENEFIT-COST ANALYSIS		
Benefit-Cost Analysis	Benefit/Cost Ratio = 2.3 (7% discount) Benefit/Cost Ratio excluding property value benefit = 1.5 (7% discount)	Appendix

I. PROJECT DESCRIPTION

This BUILD 2018 Grant funding request is for \$7,371,200 to design and construct the Waterville Downtown Transit Corridor, Gateways, and Revitalization Project. The requested BUILD grant contributes to an innovative public-private partnership to revitalize Waterville, Maine. The project proposes to convert two downtown streets from single-direction traffic to two-way traffic, to make improvements to five intersections, and to reconstruct sidewalks and major public spaces to promote accessibility and walkability throughout the downtown. The project will introduce streetscape features to calm traffic, promote walking and biking, and improve the attractiveness and quality of life downtown to increase economic activity. The total project cost is \$9,214,000 and, although it includes a public-private funding component, federal funds are needed to supplement the final funding package.

The proposed project is a result of a comprehensive planning effort to improve downtown Waterville that is focused on long-term economic development by ensuring Waterville is an attractive place to live, to raise a family, to visit, and to grow a business. The *Downtown Revitalization Framework*, adopted by Waterville City Council in February 2016, identifies four core strategies for revitalizing downtown Waterville:

1. Increase residential and commercial density to stimulate economic activity;
2. Leverage existing assets in the arts, athletics, and the natural environment to make Waterville an attractive destination for residents, visitors, and businesses;
3. Make improvements to the public realm, including addressing traffic flow, streetscape, and enhancing connections to the Kennebec Riverfront, to foster long-term growth; and,
4. Coordinate efforts to attract new businesses to downtown Waterville and support the expansion of existing businesses for longer-term business and economic growth.

Improving the public realm is a key priority of this integrated plan, and a more attractive downtown with improved traffic flows, increased pedestrian safety, and overall pedestrian friendliness will positively impact economic activity downtown and property values in the downtown and beyond—and help to broaden the tax base. Downtown’s central artery, Main Street, and its companion, Front Street, are both two-lane, single-direction roads, with Main Street directing traffic south toward the town of Winslow and Front Street directing traffic north to Waterville, Fairfield, and beyond. This configuration is detrimental to the vibrancy and vitality of downtown, with traffic flowing through or past downtown and not to downtown as a destination. Thus, a core goal of this proposed project is to direct slower, destination traffic to Main Street while serving commuters primarily on peripheral roads, including Front and Elm Streets. Combined with traffic calming features, rebuilt sidewalks, and new streetscape elements, downtown will be a safer and more attractive place for pedestrians which will, in turn, stimulate economic activity.

The essential modifications are listed below:

- The proposed Spring Street (south) intersection supports two-way Main Street and two-way Front Street and creates a pedestrian-accessible green space at this new gateway to the City of Waterville.
- The proposed northern intersections at College Avenue open a new route for both northbound and southbound U.S. Route 201 traffic, with direct access to the Waterville-Winslow bridge, the northern end of Main Street, and I-95.
- Two-way traffic will necessitate modifications to existing lane geometry on Main and Front Streets. Every effort has been made to keep planned improvements within the existing right of way and within the existing curb-to-curb width. One area at the intersection of Front Street and Temple Street may require right-of-way modifications.
- Two-way Front Street does not support any on-street parking. All available street width is required to provide a center turn lane to keep traffic moving at an acceptable level. Converting Main Street to two-way will incrementally reduce parking on Main Street by eliminating some angled parking stalls, adding delivery-vehicle areas, and prohibiting parking at intersections and crosswalks to ensure adequate sight distance. All these modifications should improve pedestrian, bicycle, and vehicular safety on both Front and Main Streets.
- Left turn lanes on Main Street were purposefully omitted to retain as much parking as possible. Left-turning traffic will slow traffic on Main Street.
- Pedestrian access and safety will be improved throughout the downtown area due to the reduced pace, improved crosswalk definition, and upgraded intersection designs, including the primary intersection and gateway to downtown at Main, Front, Spring, Water, and Bridge streets, where decreasing the size of the intersection and reducing pedestrian-vehicular conflicts are critical.

Improving traffic flows and enhancing pedestrian connectivity and the overall pedestrian experience will benefit redevelopment efforts by increasing the visibility and desirability of properties in the downtown for purchase and redevelopment. The potential development of several parcels downtown is complicated by the current road network. Head of Falls on Front Street is one such parcel, with approximately eight acres of prime real estate on the Kennebec River. The City of Waterville is currently constructing a 900-foot Riverwalk with public amenities at Head of Falls as an enabling project for development and an amenity for residents and visitors. However, despite the City's investment to catalyze development, the site is still bisected from downtown by the current traffic conditions on Front Street, a rail crossing, a poor streetscape experience on Temple Street, and a one-block primary connector between Main Street and Head of Falls. Converting Front Street to two-way traffic, rebuilding sidewalks, and enhancing pedestrian access and connectivity via Temple Street through streetscape interventions will greatly enhance the attractiveness of Head of Falls for future development.

The project also includes a funding request for improvements in Castonguay Square, Main Street's primary public park and green space, that serves as the home to a diverse set of community events including the Downtown Waterville Farmers Market, Waterville Rocks! concert series, the Maine International Film Festival, the Mid-Maine Chamber of Commerce's Annual Taste of Waterville, and more. Beginning in summer 2018, Waterville Creates! and its funding partners will lead a community-driven design process for Castonguay Square with support from an Our Town grant from the National Endowment for the Arts (\$75,000), the City of Waterville (\$25,000), Waterville Creates! (\$20,000), and Colby College (\$15,000). The project will be facilitated by Beyer Blinder Belle, the same urban planning firm that completed the [2016 Downtown Revitalization Framework](#), to ensure the design is consistent with the master planning principles articulated in that study.

Partners in the revitalization effort are mindful of Waterville's rich and enduring history as an industrial and manufacturing center for textiles and pulp and paper. Like so many towns and cities throughout Maine, New England, and the United States, the decline of manufacturing in the middle and latter part of the 21st century has had a profound and lasting impact. The manufacturing jobs that sustained Waterville's middle class and supported a deep tax base have left, and for several decades stagnation has depressed household incomes and property values and has burdened a shrinking tax base to continue to provide extensive services.

The aim of the multifaceted and interconnected effort underway today is to make structural improvements to Waterville's economy conducive to long-term economic growth and job creation for a stable and resilient community. Several investments have been made to bring new jobs to the region, including:

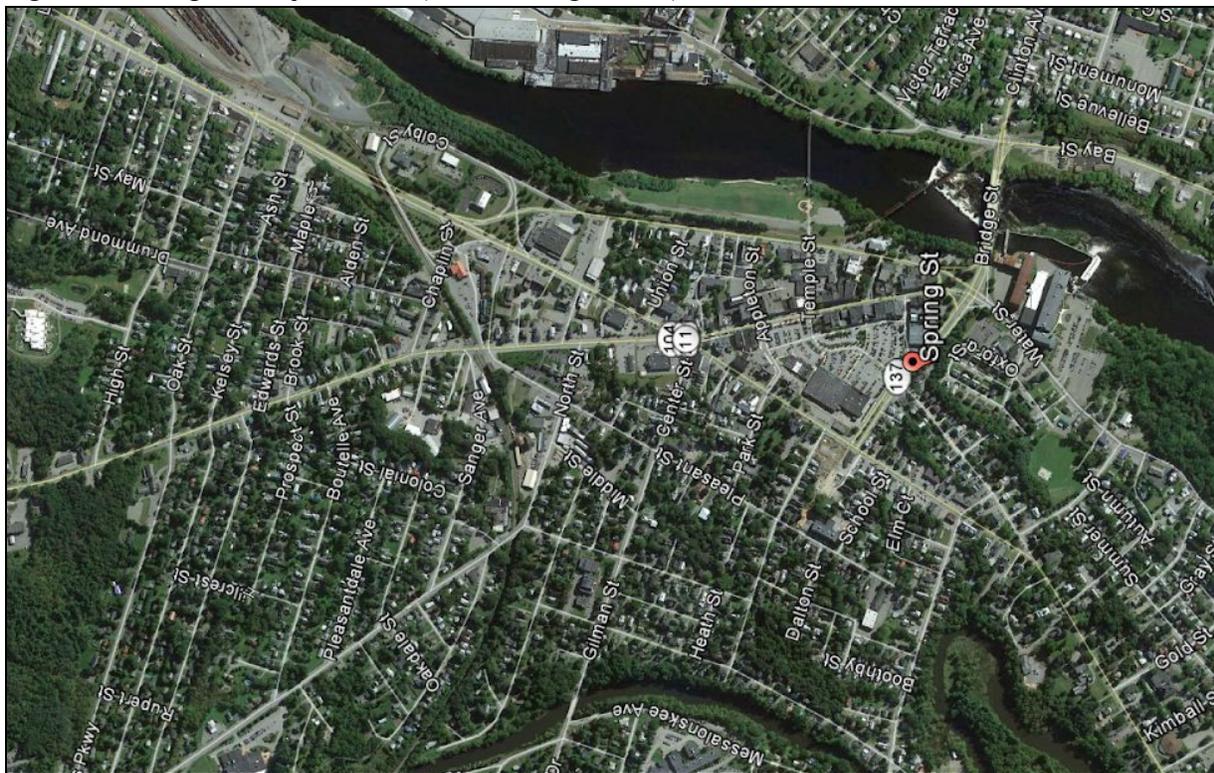
- July 2017 marked the completion of a new \$4.8-million I-95 interchange at Trafton Road in Waterville, fostering opportunities for businesses that will benefit from having direct access to the interstate highway at newly connected industrial properties on 921 acres. In the year since the interchange was completed, Trafton Properties reports filling more than 100 new jobs and has announced plans for a new 120,000-square-foot commercial building—an example of how transportation investment has already spurred economic growth in Waterville. This project was funded by the U.S. Department of Commerce, the Maine Department of Transportation, and Trafton Properties. In addition, the City of Waterville has created a new TIF district and has committed to \$500,000 in associated road improvements.
- Waterville's Colby College and the Central Maine Growth Council partnered to recruit Collaborative Consulting (now CGI Group) to the City, with a commitment of 200 new jobs in the areas of software development and the development and commercialization of technology intellectual property. Colby provided direct support to defray the startup costs in Waterville and facilitated \$2 million in private foundation support for workforce training and development. CGI is now operating in a recently renovated building downtown, and its arrival signals an important shift from manufacturing to technology as a core industry for the City's future.

- In total, the investments underway in downtown Waterville have already led to more than 400 new jobs created or committed. Improvements to traffic flows, safety, and making downtown a more attractive destination for pedestrians will further catalyze development and job creation.

Transportation Challenges

As an important service and economic core in central Maine, downtown Waterville is critical to providing safe transportation connections to employers, healthcare and educational institutions, essential goods and services, arts and cultural opportunities, dining, and recreation. However, the system of roadways, intersections, and sidewalks is not conducive to a thriving and vibrant downtown. Improvements proposed in the Downtown Transit Corridor, Gateways, and Revitalization Project would increase activity on Main Street and better support commuters.

Figure 1.1: Map of Project Area (See also Figure 4.1)



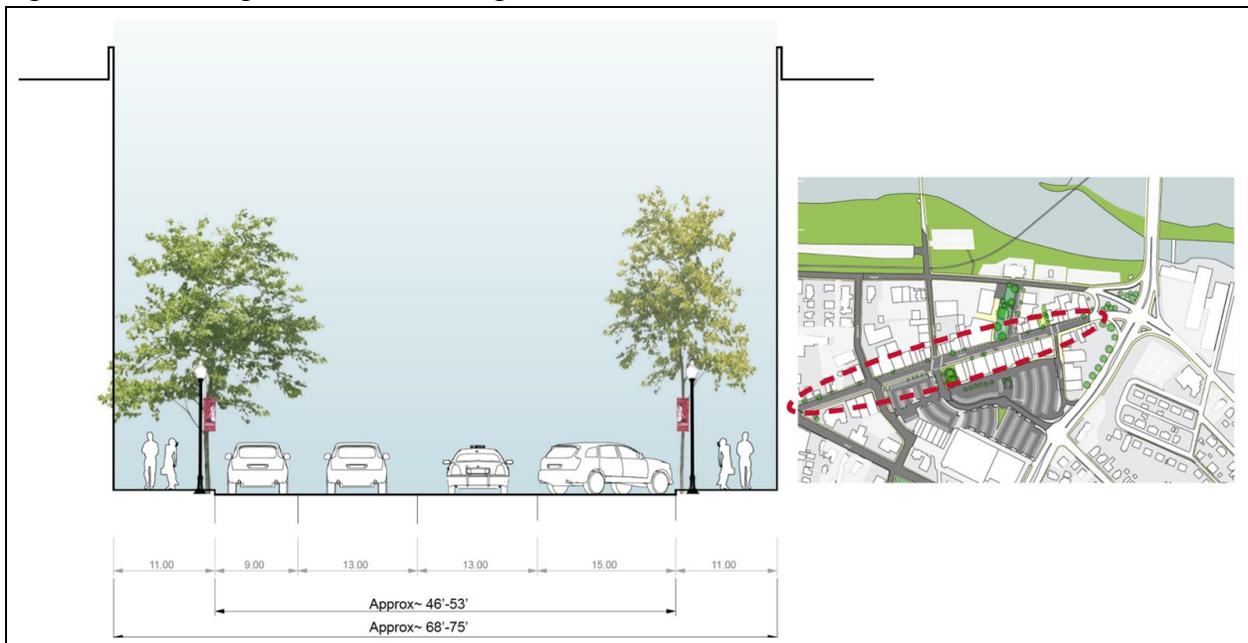
Source: 2016 Downtown Waterville Feasibility Study

The project area includes Main Street from the intersection of College Avenue and Elm Street to Spring Street; Front Street from Colby Street to Spring Street; and Temple Street between Main Street and Front Street. The Main and Front Street corridors have aging public infrastructure, including roadways and sidewalks in various states of disrepair, physical barriers limiting public accessibility, and conflicts between vehicular traffic, parked vehicles, and pedestrians. The Spring Street intersection at the southern terminus of Main and Front Streets bisects downtown from the adjacent South End neighborhood, the city’s densest residential community, whose residents rely heavily on pedestrian access across the Spring Street intersection for essential

goods and services. The project area focuses on improvements along a five-block stretch of Main and Front Streets and includes improvements to intersections outside these boundaries to accommodate traffic flow and new traffic patterns.

Main Street is one of the City's highest crash sites due to travel speeds, volume of pedestrians, and diagonally parked cars backing into two lanes of one-way traffic. Many pedestrian and vehicular accidents have resulted in devastating and incapacitating injuries. The street includes several mid-block crosswalks and, with travel lanes flanked by parallel-parked cars on the east and diagonally parked cars on the west, sight distance for vehicles backing out of parking spaces is limited. Additionally, parked vehicles encroach on the areas that would typically be used for bicycles (there are currently no dedicated bicycle lanes). Bicyclists have noted their discomfort with the Main Street conditions and often ride on the city sidewalks, creating a safety issue for pedestrians and violating city ordinance. Current conditions limit the opportunity for bus shelters and barrier-free access to public transportation. The proposed design includes a number of delivery and drop-off areas along Main Street that could serve as designated zones for public transportation.

Figure 1.2: Existing Main Street Configuration



Source: 2016 Downtown Feasibility Study, Beyer Blinder Belle

Planning Process

The last major improvements to downtown Waterville occurred during Urban Renewal in the 1960s and 1970s. Since that time, several studies have presented opportunities, planning visions, and design concepts in an effort to improve the downtown area of Waterville.

These studies include:

- [*2009 Spring Street Intersection Study*](#) – a planning-level feasibility study for improvements to the intersection at Main Street, Spring Street, Front Street, Water Street, and Bridge Street. The study assessed several different layout options for the intersection that met level of service requirements while improving pedestrian safety.
- [*2014 City of Waterville Comprehensive Plan*](#) – among several elements, presents a capital investment framework for improving city streets that prioritizes streetscape improvements, maintaining and improving pedestrian lights and crosswalks to ensure user-friendliness and safety for all users, and providing for cost-effective maintenance of roads and sidewalks.
- [*2016 Downtown Revitalization Framework*](#) (Beyer Blinder Belle) – the official master plan for the downtown, adopted by Waterville City Council in February 2016, that articulates integrated development priorities, strategies to improve traffic and parking needs, and a vision for improved streetscape and enhancements to public spaces.
- [*2016 Riverwalk at Head of Falls Plan*](#) – a master site plan for development at Head of Falls, including a 1.3 acre Riverwalk park that is currently under construction, and the locations and dimensions of three future development parcels.
- [*2016 Downtown Waterville Feasibility Study*](#) (Gorrill Palmer; Mitchell & Associates) – this feasibility study looked at the technical parameters for reconstructing five critical intersections, converting one-way traffic to two-way traffic on Main and Front Streets, and implementing a complete street design to increase safety and improve the diversity of transportation options. This study is the basis of design for the proposed BUILD project.
- [*2018 Safety and Travel Time Savings for BUILD Grant Application*](#) (Gorrill Palmer) – this analysis evaluated the estimated monetary travel time and safety benefits of the proposed intersection and road segment concepts.

The *2014 City of Waterville Comprehensive Plan* is the basis of this proposed project and resulting funding request. It articulates the importance of downtown to the City’s overall economic health; the need to address traffic flow, pedestrian access and safety, and key intersection design to connect surrounding neighborhoods to downtown; the desire to add traffic-calming features and improve streetscapes to attract people to downtown; the importance of two-way traffic to improve traffic flows; and the acknowledgment that increased trips downtown are needed to support economic activity. Importantly, the *Comprehensive Plan* states that the significant capital cost of rebuilding and redeveloping roadways is an inhibitor to economic development.

The *2016 Downtown Revitalization Framework* builds on the *Comprehensive Plan* through a focused planning effort led by the City of Waterville, Colby College, business and arts organization leaders, and community members to develop a set of strategies that could be immediately implemented to catalyze growth and activity in downtown Waterville. The premise of the study was that every great American city has a thriving downtown (or main street) and, while Waterville faces multiple challenges, improvements to the downtown would have tangible benefits to the broader community. The plan mutually leverages a range of existing assets,

focused investments by Colby College and the private sector, and improvements to the public realm to attract jobs, residents, and visitors to Waterville.

Stemming from the *2016 Downtown Revitalization Framework* is the preliminary design and engineering study for improvements to transportation, known as the *2016 Downtown Waterville Feasibility Study*. This study, undertaken through a three-way agreement with the City of Waterville, the state of Maine, and Colby College and facilitated by the transportation planning and engineering firm Gorrill Palmer of South Portland, Maine, forms the basis of design and engineering planning for this proposed project for BUILD support. This study incorporated previous planning studies of the Spring Street Intersection and proposed methods for enhancing safety at pedestrian crossings.

Overall Project Benefits to Waterville as a Rural Community

This project is a critical component of the City's downtown revitalization strategy, which looks to reverse the lack of growth and the loss of vitality Waterville experienced with the shifting of the industrial economy. More recently, the Great Recession of 2008-2009 created challenging consequences for the local and regional economy. Now, this transportation investment initiative introduces significant economic multipliers that will contribute to reversing economic trends of the past, to revitalizing Waterville's downtown district, and to transitioning Waterville's post-industrial mill and manufacturing economy into a thriving and sustainable economy for the 21st century.

With its focus on the core downtown gateways and corridors, this project will also positively impact the region's economic development. Waterville is the employment center for the Waterville micropolitan statistical area with 10,895 jobs supplied in 2010. When last studied in 2011, 83 percent of the jobs in Waterville were filled by commuters to Waterville, with a daytime population increase of approximately 5,000 people. The *Comprehensive Plan* identified 572 employers in the City of Waterville, with education, healthcare, and social services being the largest employment sectors followed by retail and arts, entertainment, recreation, accommodation, and food services. As a service center community (Downtown Waterville Trade Area) covering 17 surrounding towns, Waterville and its downtown are a destination for individuals seeking everyday goods and services. Ensuring the roadways in and around the downtown continue to serve the needs of commuters is essential, and the proposed project will improve commuting traffic while at the same time directing purpose-driven traffic into the downtown. For these reasons, as well as the close proximity to businesses, academic, and professional institutions, the improvements and changes to traffic flow and transit routes are projected to aid in the growth of the local and regional economy.

At the same time, Waterville has comparatively low residential real estate values regionally and a high rate of renter-occupied housing (51 percent in Waterville compared to 29 percent in Kennebec County and 28 percent statewide¹). These factors, along with the availability of medical and social service agencies, make the City attractive to a high proportion of people

¹ Source: City of Waterville

with limited resources who utilize these services. Many of these services are located in and around the downtown area and, importantly, many of the residents who rely upon these services live in the communities immediately adjacent to downtown and often rely upon public transportation or walking. This project has the potential to benefit these residents by providing safer and easier pedestrian access downtown, especially with the redesign of the Spring Street intersection, which has long been identified as a barrier to access for residents who live to the south of this intersection.

Waterville is also an important cultural center for the state, with the Colby College Museum of Art, Waterville Opera House, Maine Film Center/Railroad Square Cinema, the Maine International Film Festival, and Common Street Arts. More than 125,000 patrons already attend arts and cultural events annually, with 50,000 coming from outside of Waterville. Nearly \$2 million is spent in Waterville each year on arts and cultural activities, supporting 259 full-time equivalent jobs². A central strategy of Waterville's revitalization is to leverage the arts to make Waterville a leading tourist destination. Plans include an \$18- to \$20-million center for contemporary art and film on Main Street (anticipated opening in 2020-2021), a \$75-million new center for arts and innovation at Colby (anticipated opening 2021-2022), and continued growth and prominence of the internationally renowned Colby College Museum of Art. In addition, a community arts organization, Waterville Creates!, provides support and programming for a range of art and cultural activities. Coupled with a new hotel in downtown, new restaurants and retail, and an improved downtown that is attractive, safe, and accessible, the arts are and will continue to be a major driver of economic activity and a distinctive asset for this rural community.

Figure 1.3: Proposed center for contemporary art and film



² Arts & Economic Prosperity: The Economic Impact of Nonprofit Arts and Cultural Organizations in the City of Waterville, ME (FY2015) Source: Susan T. Rodriguez Architecture and GO Logic

II. PROJECT SITE LOCATION

Waterville is a small city with a population of 16,406 at the 2016 U.S. Census. It is located approximately 20 miles north of the state’s capital, Augusta, and is part of the Augusta-Waterville micropolitan statistical area as defined by the U.S. Census Bureau. The project area’s downtown district is located within the Kennebec County Census Tract of 024102 (land area of 1.53 sq. mile), which has a population of 5,024. Waterville is in a U.S. Census Bureau-designated urban cluster, which meets the definition of a rural project per BUILD guidelines.

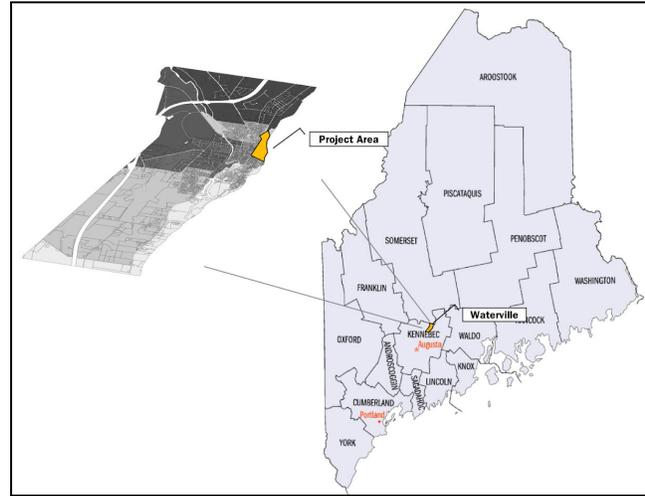


Figure 2.1: Project area map

III. GRANT FUNDS AND SOURCES / USES OF PROJECT FUNDS

The City of Waterville, Maine, requests \$7,371,200 to construct the Waterville Downtown Transit Corridor, Gateways, and Revitalization Project. This amount represents 80 percent of the total estimated project costs of \$9,214,000. The remaining \$1,842,800 balance will be provided by \$1,295,000 in committed funding from project partners (Colby College, Maine Department of Transportation, the National Endowment for the Arts, and Waterville Creates!). The remaining \$547,800 in funding will be raised from other community partnership sources, including foundations, government grantors, business development groups, individuals, and potentially the Waterville Downtown Tax Increment Finance (TIF) District.

Table 3.1: Waterville Downtown Transit Corridor, Gateways, and Revitalization Project Sources and Uses

	Amount	Percent of Total Project Cost
BUILD 2018 Grant Funds: Project implementation upon award of grant; ready for construction beginning spring 2019	\$7,371,200	80%
Project Partners Funding Commitments: Design to begin in 2018 to facilitate project implementation upon grant award	\$1,295,000	14%
Remaining Project Funds to be Raised: Fundraising to begin upon grant award and completed by fall 2019	\$ 547,800	6%
Project Cost	\$9,214,000	100%

Note: In-kind contributions associated with project administration and management to be provided by the City of Waterville, Maine Department of Transportation, and Colby College are not included in the project budget.

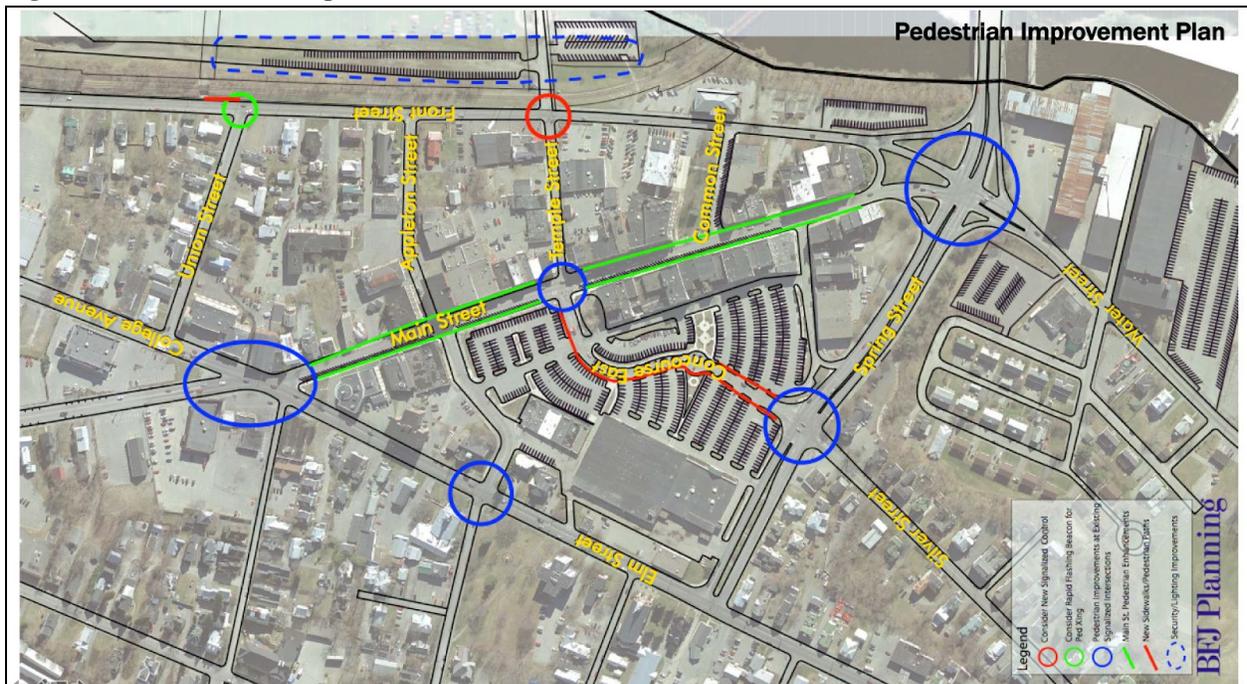
IV. CRITERIA

Merit Criteria

Safety

Both Main and Front Streets currently have two one-way lanes in their downtown sections, with no turning lanes. The proposed project will convert Main and Front Streets from one-way circulation to two-way circulation, allowing commuter traffic on U.S. Route 201 to pass through Waterville on Front Street and, to a lesser extent, Elm Street on the periphery. This will create a destination environment on Main Street that is conducive to pedestrian access, safety, and mobility. Currently drivers, lacking adequate sight distance, must turn into and out of fast-moving traffic, which leads to collisions, injuries to pedestrians, and damage to property and vehicles. The economic vitality of Waterville’s downtown is contingent on a safe and attractive pedestrian environment where people can park downtown and safely walk to multiple destinations, including residential and commercial/retail establishments.

Figure 4.1: Pedestrian Improvement Plan



Source: 2016 Downtown Waterville Feasibility Study

Shifting to two-way traffic on Main Street is essential to slowing traffic and increasing growth and development downtown. Studies show that one-way streets often have higher speeds³, lead

³ Ehrenhalt, A. [The Return of the Two-Way Street](#). Accessed July 14, 2018.

to more collisions⁴, and pose increased risk to cyclists and pedestrians. These results provide evidence that conversions can promote mobility, safety, and livability. When motorists travel at high speeds, houses and businesses are less appealing, and it is more difficult to notice and curtail illegal activities and crime. Reduced traffic speeds and improved safety create the foundation for other improvements: benches, trees and plantings, bike lanes, community gardens, public art, building renovations, and improved property. This street conversion would create a more walkable, safe, and prosperous environment that better reflects the rich past and vibrant, sustainable future of Waterville.

Figure 4.2: Conceptual Rendering of Enhanced Pedestrian Crossings and Improved Streetscape



Source: Mitchell & Associates, 2016 Downtown Waterville Feasibility Study

Nine intersections and roadway segments in the project area are currently identified as high-crash locations. Seven collisions involving pedestrians occurred from 2012 to 2014, with all resulting in injury to the pedestrians, and eight collisions involving bicyclists were recorded during that same time period, with seven of them resulting in injury to the bicyclists. Gorrill Palmer, a traffic engineering and design firm, conducted a safety analysis of the proposed change in traffic circulation on facilities most affected by a conversion of Main and Front Streets to two-way traffic.

⁴ Baco, M. E. *One-way to Two-way Street Conversions as a Preservation and Downtown Revitalization Tool: The Case Study of Upper King Street, Charleston, South Carolina*. ProQuest, 2009.

Table 4.1: Projected crash decreases

	Total	Injury	Property Damage Only
Existing Crashes Per Year	29.96	10.83	19.12
Proposed Crashes Per Year	13.69	4.98	8.71
Decrease as a result of project	16.27	5.85	10.41

Source: 2016 Downtown Waterville Feasibility Study

Detailed operational analyses were conducted to quantify the projects’ safety benefits in terms of reduced crashes. Further detail, assumptions, and calculations are included in the Benefit-Cost Analysis section.

Projected Crash and Safety Savings - Waterville Downtown Improvements	
Expected present worth (2018) value of the project’s safety improvement benefits over a 20-year service life	\$12,103,314

Travel Time

The proposed conversion of two one-way streets to two-way streets also includes creating signalized intersections. This creation of connections will improve the flexibility in travel routes for both private and commercial vehicles, thus reducing both vehicle miles travelled and overall travel times. For the purpose of this evaluation, three signalized intersections were reviewed, with a focus on the P.M. peak hour, which was the most congested time period.

The two existing signalized intersections are forecast to maintain approximately the same delay, resulting in no net travel-time savings benefit for the purpose of the BCA. For the proposed signalized intersection at College/Front/Main, numerous movements comparing predevelopment travel time to intersection delay for that same movement were calculated. The new signalized intersection at College/Front/Main is expected to result in fewer delays, therefore an expectation of travel-time savings. Detailed operational analyses were conducted to quantify the project’s benefits in terms of travel time savings. Further detail, assumptions, and calculations are included in the Benefit-Cost Analysis section.

Projected Travel Time Savings - Waterville Downtown Improvements	
Expected present worth (2018) value of the project’s travel time savings benefits over a 20-year service life	\$831,190

State of Good Repair

The Waterville Downtown Transit Corridor, Gateways, and Revitalization Project will be a part of a properly planned and programmed effort to improve conditions of the existing downtown Waterville facilities and regional transportation network. Continued growth of Waterville's downtown, surrounding neighborhoods, and the central Maine region depends on reliable transportation and transportation infrastructure. The improvements will benefit the transportation system from a safety and operational perspective, while addressing critical accessibility barriers.

Since the comprehensive Urban Renewal project, several smaller streetscape repairs and underground utility infrastructure upgrades have been made, including the expansion of broadband access through much of the downtown area and the recent installation of natural gas lines.

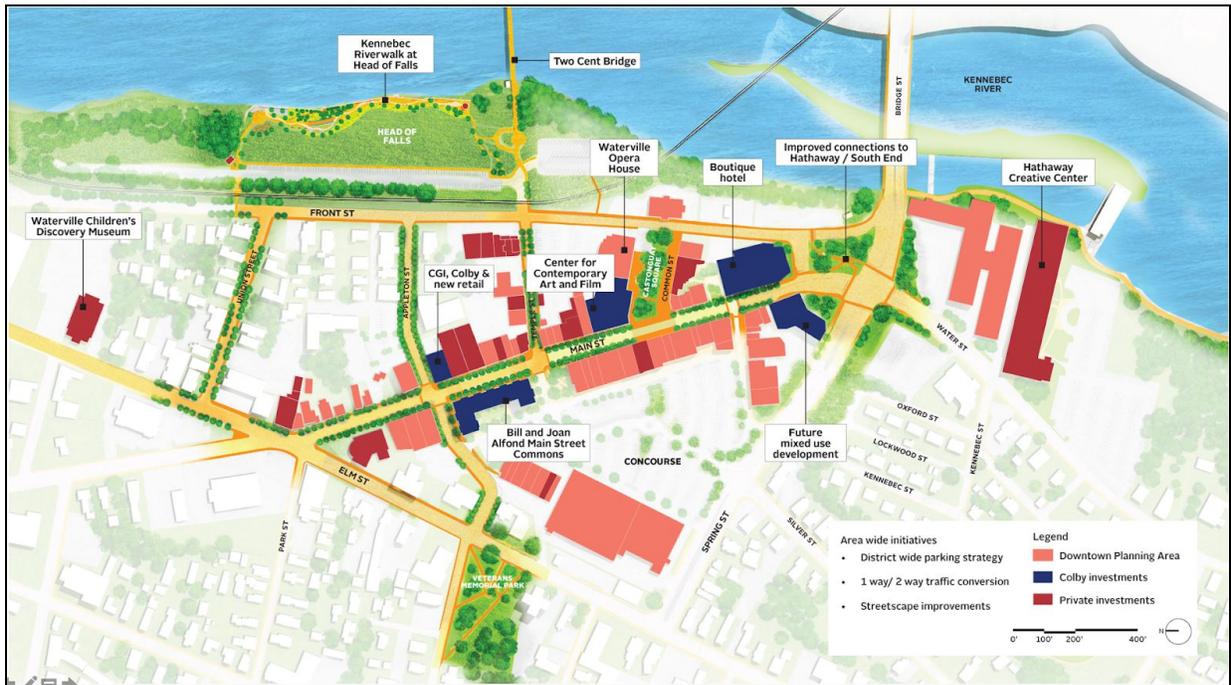
Waterville's comprehensive plan presents a capital investment framework for improving city streets that prioritizes streetscape improvements, maintaining and improving pedestrian lights and crosswalks to ensure user-friendliness and safety for all users, and providing for cost-effective maintenance of roads and sidewalks. Given this project consists primarily of the reconstruction of existing roadways, sideways, and intersections, the net impact on the City's operating budget for maintenance and operations is expected to be negligible, though it is reasonable to anticipate a higher expectation for maintenance of these improved areas with increased public enjoyment and use. The project has the potential to create new value for the City through increased property values in the downtown that will be captured through the existing Downtown Tax Increment Financing (TIF) District, where maintaining transportation systems in the district is a permitted expenditure.

Economic Competitiveness

The downtown complete streets and streetscape improvements are well overdue and will offer direct economic benefit to property values, business atmosphere, and growth. Downtown Waterville is important to the entire City and the region's economic well-being. The total taxable assessed value in the downtown and its surrounding areas is more than \$102.7 million, generating nearly \$2 million in property tax revenues, or approximately 13 percent of Waterville's total tax revenues. With the shifts in the formula for state of Maine funding for municipalities (revenue sharing), a greater burden is placed on revenues collected from property taxes. Property values, therefore, have a profound effect on Waterville's economic competitiveness.

The revitalization efforts underway, of which this project is a significant contributor, have already begun to yield positive results. In the two years since the adoption of the downtown revitalization strategy by Waterville City Council, the 400-plus jobs created or committed have been in the technology, manufacturing, professional/management, healthcare, and hospitality/service sectors of the economy. At the same time, Waterville's population has peaked since 1997, with 16,406 residents per the 2016 U.S. Census, and the real estate market is at its strongest point in recent years, with a near-30-percent increase in the number of residential homes sold from 2016 to 2017 and an increase of 9.85 percent in the average price.

Figure 4.3: Downtown Revitalization Framework and Map of Current and Anticipated Downtown Projects



Source: Beyer Blinder Belle, June 2018

Colby College has committed to more than \$65 million in development projects downtown, including a mixed-use student apartment and retail complex; the renovation of a historic bank building to serve as a high-tech center with new retail; a 50-room hotel; and a new center for contemporary art and film, leveraging Waterville’s strong art and cultural assets to attract thousands of visitors annually.



Figure 4.4: Mixed-use residential and retail project; opening August 2018



Figure 4.5: 173 Main Street; Retail/office space; renovations completed August 2017

In addition to Colby’s investments, significant private sector activity is underway, including the purchase and renovation of more than a dozen additional commercial properties over the last three years (up from a median commercial property sale in the downtown of less than one per year in the decade prior), with more than 20 new and renovated street-level businesses. And, 40 years after the removal of the former Wyandotte Mill at Head of Falls, the City of Waterville’s Riverwalk project will increase access to the Kennebec River and promote the viability of Head of Falls as a future residential and commercial development site. Improved traffic flows along Front Street and improved pedestrian connectivity to Main Street via Temple Street and Castonguay Square will enhance that project’s viability.

Figure 4.6: Artist’s Rendering of the Riverwalk at Head of Falls



Source: Mitchell & Associates, June 2017

As detailed in the Benefit-Cost Analysis, this project is expected to have significant positive impact on the value of properties in and around the downtown, with estimates projecting a 10-percent increase over the 20-year service life of the project.

Projected Property Value Benefits - Waterville Downtown Improvements	
Expected present worth (2018) value of the project’s property value benefits over a 20-year service life	\$6,786,069

Environmental Protection

The project proposes to incorporate DEP Chapter 500 Stormwater Management design standards as applicable per the Department of Transportation Highway Design Manual. Additionally, it will fully adhere to the Natural Resource Protection Act (NRPA) to minimize or avoid impacts to natural resources. All Best Management Practices in State and Federal Regulations relative to stormwater management and erosion control will also be employed. To the greatest extent all

improvements will be performed on currently developed transportation infrastructure with no increase in impervious surfaces.

The project proposes to incorporate several sustainability elements that include stormwater management, greater landscape biodiversity, and resource conservation. For example, landscaped stormwater runoff swales will be constructed in rights of way; native plantings in public spaces will support pollinators, use less water, and be more climate resilient; and the installation of 75 new trees within the project zone will include a mix of native species and non-invasive varieties that will contribute to biodiversity, additional stormwater management, improved air quality, and shading buildings along the street for better climate control. Replacing inefficient street lighting with new fixtures and confining the project’s scope to currently developed land are also energy- and land-conserving measures.

Projected Street Tree Benefits - Waterville Downtown Improvements	
Expected present worth (2018) value of the project’s street tree benefits over a 20-year service life	\$189,316

Quality of Life

The “Overall Project Benefits to Waterville as a Rural Community” section (P. 6) describes the range of benefits and opportunities this project will create for City and area residents, including expanding access to essential services and connectivity to jobs, healthcare, and other goods and services. This project presents additional opportunities to contribute to quality of life and healthy, active lifestyles for residents of Waterville and central Maine as well as visitors.

Inherent in the strong central geography of the site location, this project will also create public health benefits by increasing connectivity, access, and vibrancy to the downtown district. The adoption of the complete street plan (*2016 Downtown Waterville Feasibility Study*) for the downtown allows for pedestrian connections into a regional “hub and spoke” trail system, accessible approximately 550 linear feet from Main Street. Thus, downtown and the Riverwalk will serve as a regional trail hub, increasing public access and bike and pedestrian activity. With the downtown district serving as a primary hub and regional catchment for area residents, proposed transportation investment will have significant socioeconomic benefits on abutting municipalities with existing trail connectors into the project site location including the towns of Winslow, Fairfield, Oakland, and Sidney. In addition to trail connections, the complete streets enhancements will also greatly improve and increase pedestrian access to downtown services and amenities from adjacent neighborhoods, where many residents lack personal vehicles.

This project will improve access and serve a broad and diverse demographic of users and addresses demographic challenges in the region including an aging population, high rates of chronic disease, poverty, and economic stagnation.

Innovation—Innovative Financing

An innovative funding partnership for Waterville’s downtown revitalization is already underway. Colby College is playing a unique role as an anchor institution committed to catalyzing further development in the downtown area. Colby has successfully attracted significant philanthropic resources for redevelopment efforts, including \$10 million from a partnership with the Harold Alfond Foundation in support of Main Street development priorities. Through developing partnerships and committing its own institutional and philanthropic resources, Colby has become an anchor institution in leveraging investment to attract further development and bearing financial risk in support of other development activities. Beyond the financial commitment, Colby’s extensive network of alumni, parents, and friends is also participating in downtown revitalization efforts in a variety of ways, including purchasing and redeveloping properties, investing in local businesses, and leading several community organizations that are deeply engaged in Waterville’s future.

Prior success in raising private and foundation funds for the Riverwalk project and other development priorities in the downtown area provides confidence that fundraising 6 percent (\$547,800) of the project total is achievable. Private developers in Waterville have shown exceptional willingness to invest given the funding partnerships that are in place and the unique structure that mitigates financial risk through the engagement of multiple sources of capital. The addition of BUILD funds to this overall financing stack for Waterville will help to attract even more private investment, leveraging the BUILD investment even further to encourage development.

Partnership

Through an extensive planning process, the Waterville Downtown Transit Corridor, Gateways, and Revitalization Project has resulted in the development of strong partnerships between the City of Waterville, Colby College, Central Maine Growth Council, the Mid-Maine Chamber of Commerce, Waterville Creates!, and a host of business and property owners throughout the downtown, as well as residents throughout Waterville.

The City of Waterville is the project sponsor and will be the administrator of the BUILD 2018 grant. Waterville has extensive experience in managing State and Federal grant programs, including recently securing a U.S. Economic Development Administration (EDA) grant for the aforementioned I-95 interchange at Waterville’s Trafton Road. Jointly funded by MaineDOT, Trafton Properties, and the City of Waterville, the project received a \$1 million EDA grant and has leveraged more than \$34 million in private capital. Since the EDA federal award, the Trafton Road Project has been identified as a model public-private partnership (P3) and is helping to attract new business and employment to the city, has grown economic development in the form of industrial workspaces, and is yielding significant new job growth. MaineDOT will serve as project manager on the proposed project and will work with the City of Waterville to manage public meetings, gather and analyze public input, and provide a range of technical and support services.

Non-Federal Revenue for Transportation Infrastructure Investment

Project partners’ commitments totaling \$1,295,000 at the time of grant submission include \$495,000 for engineering and design work associated with the project: \$400,000 for engineering/design for intersection improvements (\$200,000 each from MaineDOT and Colby) and \$95,000 for Castonguay Square design (\$75,000 from the National Endowment for the Arts and \$20,000 from Waterville Creates!). Colby has also pledged \$800,000 toward project construction, contingent upon BUILD grant funding. The remaining \$547,800 will be secured through a mix of sources, including foundations, development organizations, private individuals and government grant programs (see Innovative Financing section, above). Project partners will begin securing this funding upon grant submission, with a focus on foundation, development organizations, and government grants in the fall of 2018 and individual and corporate contributions immediately following notice of grant award. Additional funding is available, if necessary, from the Waterville Downtown Tax Increment Financing District through higher property valuations and tax revenue resulted from the Project.

Table 4.2: Projections for Securing Funding Commitments

Key Milestones	July 2018	Sept. 2018	Oct. - Dec. 2018	Jan. - Mar. 2019	Apr. - May 2019
BUILD grant submission					
Identification of funding prospects					
Cultivation and solicitation of prospects:					
Foundations, development organizations, government grants					
Private sources—individual and corporate					
Application for Waterville Downtown TIF funding (if necessary)					

There are no fiscal or legal constraints limiting Waterville’s ability to generate non-Federal revenue, as the Waterville City Council has approved the project’s direction through previously enacted resolutions (see: [Waterville City Council Resolution 131-2017](#)).

Project Readiness and Permitting

Final design will be near or at ready to start upon notice of BUILD 2018 award; final approvals and construction obligations are expected by February 2019 for 1.5-year construction completion by August 2020. Permitting review is underway and no major impacts to environmental, social, or cultural resources are expected. Similarly, the project does not impact sensitive natural areas or wetlands, or cross any streams, rivers, or waterways.

Through MaineDOT’s Public Planning Initiative (PPI) and an ongoing P3 between the City of Waterville, MaineDOT, and Colby College, findings show that redesigning the transit corridors to facilitate two-way traffic flows and implementing complete street initiatives are well within the scope of reasonable technical feasibility. Likewise, through significant study and public input dating back several years, MaineDOT has conceptual approvals of both the technical engineering and permitting pathways for the Waterville Downtown Transit Corridors, Gateways, and Revitalization Project.

Technical Feasibility

While design review has formed the basis of this project, several recent studies inform the technical approach and feasibility. These studies have been completed to plan for downtown growth and development and include review of major gateway intersection reconstruction. This project is congruent with past findings, including, but not limited to, the studies outlined on page 5 and available online [here](#).

The City of Waterville, and with oversight by City Engineer Nick Champagne P.E., project management led by Gorrill Palmer, and the landscape design firm Mitchell & Associates, will manage technical construction issues as well as associated permitting and regulatory compliance. Mr. Champagne is a licensed professional engineer in the State of Maine and has experience overseeing and managing projects for the City. Retained to continue its work on this project, Gorrill Palmer has reviewed existing necessary permits and will continue to accompany the City to permitting and MaineDOT and Maine Department of Environmental Protection (MDEP) scoping meetings. Likewise, Gorrill Palmer will draft the necessary environmental compliance construction documents to bid the project and assist with environmental issues as necessary.

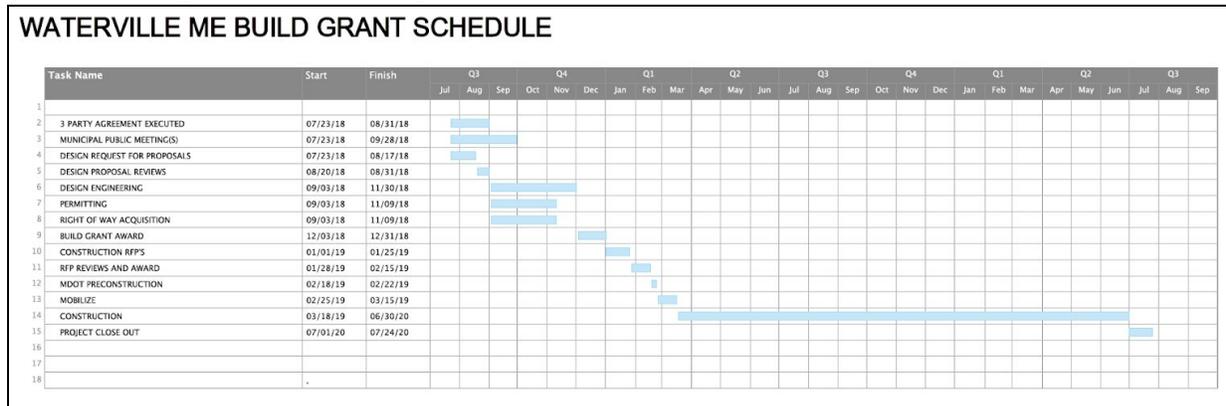
To date, the complete street design portion of the project, including landscape and streetscape, has been outlined by Mitchell & Associates, which was chosen for its reputation for innovative problem solving, creative landscape design, and economical solutions. Colby College is contracted with urban planning and design firm Beyer Blinder Belle to provide master planning services and consultation for the design and implementation of resulting improvements.

Project Schedule

Given the extensive preliminary design and analysis already completed, including the community-driven *2016 Downtown Revitalization Framework* and Gorrill Palmer's resulting *2016 Downtown Waterville Feasibility Study* sponsored by the City of Waterville, MaineDOT, and Colby College, this project is ready for immediate expenditure upon notice of award.

Pre-engineering is underway during summer 2018 and use of grant funds for design and permitting would start immediately upon grant being awarded. Final design, permitting, and the public approval process are expected to be completed no later than December 2018. Construction is expected to be complete in August 2020.

Table 4.3: Project schedule - Project Timeline Chart



Source: City of Waterville and Colby College Office of Commercial Real Estate

Legislative, State, and Local Approvals

No legislative approvals are required for this project. This initiative has been endorsed by MaineDOT, Waterville City Council, regional planning organizations, and is already included in MaineDOT’s two-year work plan. Given Maine’s strong “home rule,” permits are expected to be handled and approved largely via the municipality. Project partner MaineDOT has significant experience and confidence in obtaining permitting pathways and securing required traffic movement permits, and the road construction would occur on state-managed roadways.

Local and State Permitting

The City of Waterville and MaineDOT will partner to secure local and state permitting requirements. Today, Main Street is designated as southbound Route 201 and Front Street is designated as northbound Route 201. With each becoming two-way, the existing designations could be reevaluated and potentially reclassified. Until this occurs, however, and based on the evaluation of previous traffic studies as well as discussions with MaineDOT, it should be noted that “any modification to the State Highway System, particularly from one-way to two-way, needs MaineDOT approval and such consideration will be site specific based on how individual roadways function.”

As expressed in previous traffic studies, “MaineDOT’s review of the Waterville Downtown [Feasibility] Study reflects MaineDOT Highway Corridor Priorities and Practical Design Guidance in that both Main and Front Street are HCPs (Highway Corridor Priority) 3s.” MaineDOT’s conceptual approval of changes in Waterville resulted from a collaborative study effort over several months with significant public input.

Environmental Approvals

At the time of the completion of the 2016 Downtown Waterville Feasibility Study, National Environmental Policy Act (NEPA) approvals were not deemed necessary. Since the announcement of the BUILD 2018 Discretionary Grant program, the City of Waterville and project partners have begun a review process of necessary permits. To date, project partners and engineering staff have assessed only limited environmental impacts. In the coming weeks, and in

conjunction with MaineDOT project partners, the team will be reviewing requirements and attending scoping meetings with the Federal Highway Administration and Army Corps of Engineers (FHWA-ACOE).

There are no wetland impacts, no flood protection impacts, and as a streetscape improvement project, no noise or air-quality impacts are expected. The majority of the work will be completed in the existing public right of way. Design and pre-engineering work during summer 2018 may identify a limited number of privately owned parcels that could require right-of-way acquisition, and the project budget carries an allowance should this be necessary. A preliminary project environmental review will be completed by MDEP, where staff is expected to concur that the project has limited environmental impact.

Given the project's limited impact and based upon similar projects completed by the City involving State and Federal funds, Waterville expects to have permitting completed by December 2018.

Assessment of Project Risks and Mitigation Strategy

1. Design and construction management: While the project scope is fairly limited, design and construction of the improvements to the impacted roads, intersections, sidewalks, lighting, and park will require close coordination among the partners. The City of Waterville, MaineDOT, and Colby College have partnered to design and execute several prior collaborative projects to improve transportation infrastructure. The three organizations have sufficient administrative and technical resources to execute the project.
2. Construction costs: The proposed project of \$9,214,000 includes construction costs of \$6.2 million based on 2017 estimates for intersection and road construction (see *2016 Downtown Waterville Feasibility Study*) and preliminary design concepts for streetscape and park improvements. The proposed budget includes approximately \$700,000 in allowance for construction cost escalation and \$1.3 million in allowances for design and construction contingency. Waterville, MaineDOT and Colby have extensive experience managing design and construction of projects of this scope; the budget is sufficient to accomplish the objectives identified in the project scope.
3. Fundraising: Project partners have committed \$1,295,000 of the \$1,842,800 non-BUILD-grant sources needed to fund the project. As noted above, the remaining \$547,800 will come from a range of other sources and there is strong recent history of attracting philanthropic support. Waterville was recently successful in raising \$1,444,000 (towards a \$1,500,000 project cost) in private sources to support completion of the Riverwalk project at Head of Falls and Colby has secured private and foundation support totaling, to date, \$35 million for its downtown efforts. Additionally, the Waterville Downtown Tax Increment Financing District has the capacity to provide funding, if necessary, particularly given projections for new value to be created in the district.

4. Realization of benefits: The Benefit-Cost Analysis identifies several sources of return on the BUILD grant investment. Benefits associated with travel time savings and traffic and pedestrian safety improvements were developed consistent with U.S. Department of Transportation guidance for the BCA, and environmental benefits were calculated using i-Tree Planting Calculator (Version 1.1.3). Inflationary adjustments to project benefits were made using guidance from the Office of Management and Budget and the Bureau of Economic Analysis, which advised 2.3 percent; a more conservative 2.0 percent was used for these calculations. The project is estimated to increase property valuations by approximately 10 percent over the life of the project based on vacancy rates on Main Street—particularly on the upper floors of existing buildings, undeveloped and underdeveloped properties (e.g., three development parcels at Head of Falls/Riverwalk, vacant mill buildings in the downtown area), recent property sales in the downtown area, and current and planned development projects. Including property valuation benefits over a 20-year project lifetime, the net present value of the project generates \$19.9 million of benefits with an associated benefit cost ratio of 2.3 project cost. Excluding the property valuation benefits from the BCA, the net present value of project benefits is \$13.1 million with an associated benefit cost ratio of 1.5 project cost.

While the project presents risks, so does not moving forward. The Waterville downtown revitalization project is based on an integrated set of initiatives: improving vehicular and pedestrian safety and circulation, increasing population density and visitors, redeveloping vacant and dilapidated buildings, stimulating economic growth, and connecting the enhancements associated with the Riverwalk project, with its health and recreation facilities, to the residential and business nexus on Main Street. Delaying or omitting the project will prevent realization of the full quality-of-life benefits that come with implementing the vision and planning framework developed by the community.