

Application for Federal Assistance SF-424		
* 1. Type of Submission: <input type="checkbox"/> Preapplication <input checked="" type="checkbox"/> Application <input type="checkbox"/> Changed/Corrected Application	* 2. Type of Application: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision	* If Revision, select appropriate letter(s): <input type="text"/> * Other (Specify): <input type="text"/>
* 3. Date Received: <input type="text"/> Completed by Grants.gov upon submission.	4. Applicant Identifier: <input type="text"/>	
5a. Federal Entity Identifier: <input type="text"/>	5b. Federal Award Identifier: <input type="text"/>	
State Use Only:		
6. Date Received by State: <input type="text"/>	7. State Application Identifier: <input type="text"/> New Hampshire	
8. APPLICANT INFORMATION:		
* a. Legal Name: <input type="text"/> City of Keene, NH		
* b. Employer/Taxpayer Identification Number (EIN/TIN): <input type="text"/> 02-6000441	* c. UEI: <input type="text"/> YYAFC9KA35K1	
d. Address:		
* Street1: <input type="text"/> 3 Washington Street	Street2: <input type="text"/>	
* City: <input type="text"/> Keene	County/Parish: <input type="text"/> New Hampshire	
* State: <input type="text"/> NH: New Hampshire	Province: <input type="text"/>	
* Country: <input type="text"/> USA: UNITED STATES	* Zip / Postal Code: <input type="text"/> 03431-3124	
e. Organizational Unit:		
Department Name: <input type="text"/> Public Works	Division Name: <input type="text"/>	
f. Name and contact information of person to be contacted on matters involving this application:		
Prefix: <input type="text"/> Mr.	* First Name: <input type="text"/> Donald	
Middle Name: <input type="text"/> R.	* Last Name: <input type="text"/> Lussier	
Suffix: <input type="text"/>	Title: <input type="text"/> City Engineer	
Organizational Affiliation: <input type="text"/> City of Keene, NH		
* Telephone Number: <input type="text"/> 16033526550	Fax Number: <input type="text"/>	
* Email: <input type="text"/> dlussier@keenenh.gov		

Application for Federal Assistance SF-424

*** 9. Type of Applicant 1: Select Applicant Type:**

C: City or Township Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

69A345 Office of the Under Secretary for Policy

11. Catalog of Federal Domestic Assistance Number:

20.933

CFDA Title:

National Infrastructure Investments

*** 12. Funding Opportunity Number:**

DTOS59-24-RA-RAISE

* Title:

FY 2024 National Infrastructure Investments

13. Competition Identification Number:

RAISE-FY24

Title:

FY24 RAISE Grants

14. Areas Affected by Project (Cities, Counties, States, etc.):

Add Attachment

Delete Attachment

View Attachment

*** 15. Descriptive Title of Applicant's Project:**

Revitalizing Downtown Keene, NH
The downtown complete streets improvement project replaces aging utilities and reallocates space for mobility and resiliency improvements.

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant

* b. Program/Project

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment

Delete Attachment

View Attachment

17. Proposed Project:

* a. Start Date:

* b. End Date:

18. Estimated Funding (\$):

* a. Federal	<input type="text" value="13,729,600.00"/>
* b. Applicant	<input type="text" value="7,172,400.00"/>
* c. State	<input type="text" value="0.00"/>
* d. Local	<input type="text" value="0.00"/>
* e. Other	<input type="text" value="0.00"/>
* f. Program Income	<input type="text" value="0.00"/>
* g. TOTAL	<input type="text" value="20,902,000.00"/>

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

a. This application was made available to the State under the Executive Order 12372 Process for review on .

b. Program is subject to E.O. 12372 but has not been selected by the State for review.

c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

Yes No

If "Yes", provide explanation and attach

Add Attachment

Delete Attachment

View Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)**

** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: * First Name:

Middle Name:

* Last Name:

Suffix:

* Title:

* Telephone Number: Fax Number:

* Email:

* Signature of Authorized Representative:

* Date Signed:

ATTACHMENTS FORM

Instructions: On this form, you will attach the various files that make up your grant application. Please consult with the appropriate Agency Guidelines for more information about each needed file. Please remember that any files you attach must be in the document format and named as specified in the Guidelines.

Important: Please attach your files in the proper sequence. See the appropriate Agency Guidelines for details.

1) Please attach Attachment 1	FY 2024 RAISE Project Informa	Add Attachment	Delete Attachment	View Attachment
2) Please attach Attachment 2	Project Description.pdf	Add Attachment	Delete Attachment	View Attachment
3) Please attach Attachment 3	Project Location File.kmz	Add Attachment	Delete Attachment	View Attachment
4) Please attach Attachment 4	Project Budget.pdf	Add Attachment	Delete Attachment	View Attachment
5) Please attach Attachment 5	Funding Commitment Letter.pdf	Add Attachment	Delete Attachment	View Attachment
6) Please attach Attachment 6	Merit Criteria.pdf	Add Attachment	Delete Attachment	View Attachment
7) Please attach Attachment 7	Project Readiness.pdf	Add Attachment	Delete Attachment	View Attachment
8) Please attach Attachment 8	BCA Narrative.pdf	Add Attachment	Delete Attachment	View Attachment
9) Please attach Attachment 9	BCA Calculations.xlsx	Add Attachment	Delete Attachment	View Attachment
10) Please attach Attachment 10	Keene Letters of Support.pdf	Add Attachment	Delete Attachment	View Attachment
11) Please attach Attachment 11		Add Attachment	Delete Attachment	View Attachment
12) Please attach Attachment 12		Add Attachment	Delete Attachment	View Attachment
13) Please attach Attachment 13		Add Attachment	Delete Attachment	View Attachment
14) Please attach Attachment 14		Add Attachment	Delete Attachment	View Attachment
15) Please attach Attachment 15		Add Attachment	Delete Attachment	View Attachment

The following attachment is not included in the view since it is not a read-only PDF file.

Upon submission, this file will be transmitted to the Grantor without any data loss.

FY 2024 RAISE Project Information Form.xlsx

A. PROJECT DESCRIPTION

A.1. OVERVIEW

The City of Keene is requesting \$13,729,600 million in Rebuilding American Infrastructure with Sustainability and Equity (RAISE) funds for the Revitalizing Downtown Keene Project (“Project”). This project will complete a 2-year community-driven planning and design process leading to the construction of a project that will:

- ▶ Allow Downtown to better accommodate entertainment-oriented activities that bring the community together and enhance the downtown’s vibrancy
- ▶ Prioritize the pedestrian environment and non-vehicular modes of travel
- ▶ Create a mobility hub that connects the area’s trail network, bringing more people to Keene’s downtown businesses
- ▶ Connect APP communities in Keene and beyond to the downtown
- ▶ Support a more sustainable built environment that sets precedent for the community’s climate resilience by integrating innovative green infrastructure for stormwater management, mitigating heat island effect, and introducing solar powered street lighting, EV charging and a downtown electrical circuit for public event use
- ▶ Deliver on the primary project purpose of creating an opportunity corridor to promote local inclusive economies and entrepreneurship by defining the Gilbo corridor and the expansion of downtown for long-term economic growth

A.2. STATEMENT OF WORK

The project will enhance downtown utility infrastructure resilience by upgrading the existing utility systems to better withstand needs and environmental challenges. It will further define and revitalize connections to Keene’s downtown

district by improving access to multimodal transportation and facilitating a more pedestrian-friendly environment. The project will create more open, flexible, and accessible spaces to expand community event opportunities. Collectively, the project’s components aim to promote a sustainable and resilient built environment that offers alternatives to occupied vehicles, reduces carbon emissions, creates safer streets, and implements green stormwater and sustainable infrastructure within Keene’s downtown core.

The primary components of the project’s scope will include:

- ▶ **Community engagement and design.** Important work has been completed on creative and proactive approaches to engagement in and around the downtown project area through the project’s preliminary design phase. Hands-on workshops, partnering with community groups, and stakeholder collaboration will inform the final design.
- ▶ **Final design process.** Keene has completed an extensive [Keene Downtown Improvements Planning Study](#) which has informed an ongoing preliminary design process currently underway. The project will build upon preliminary design efforts and continue to work with the community for the completion of the final design and all necessary permitting.
- ▶ **Construction.** The Project will include utility upgrades, the addition of pedestrian and bicycle infrastructure, reconstruction of portions of the roadways, and expansion and improvement of sidewalks.

The proposed improvements include elements that fall across the following categories: downtown corridor operations, intersection operations, crosswalk improvements, flexible sidewalk space, bike lanes, environmental resilience, sustainable infrastructure, and enhance tree canopy management. Each project element contributes to the overall goal of revitalizing and creating alternative connections to downtown, enhancing connectivity and access to the regional trail network, especially for members of APP communities, and in reinforcing Keene as a sustainable economic and cultural hub within the Monadnock region.

FIGURE 1-1: PROJECT OVERVIEW

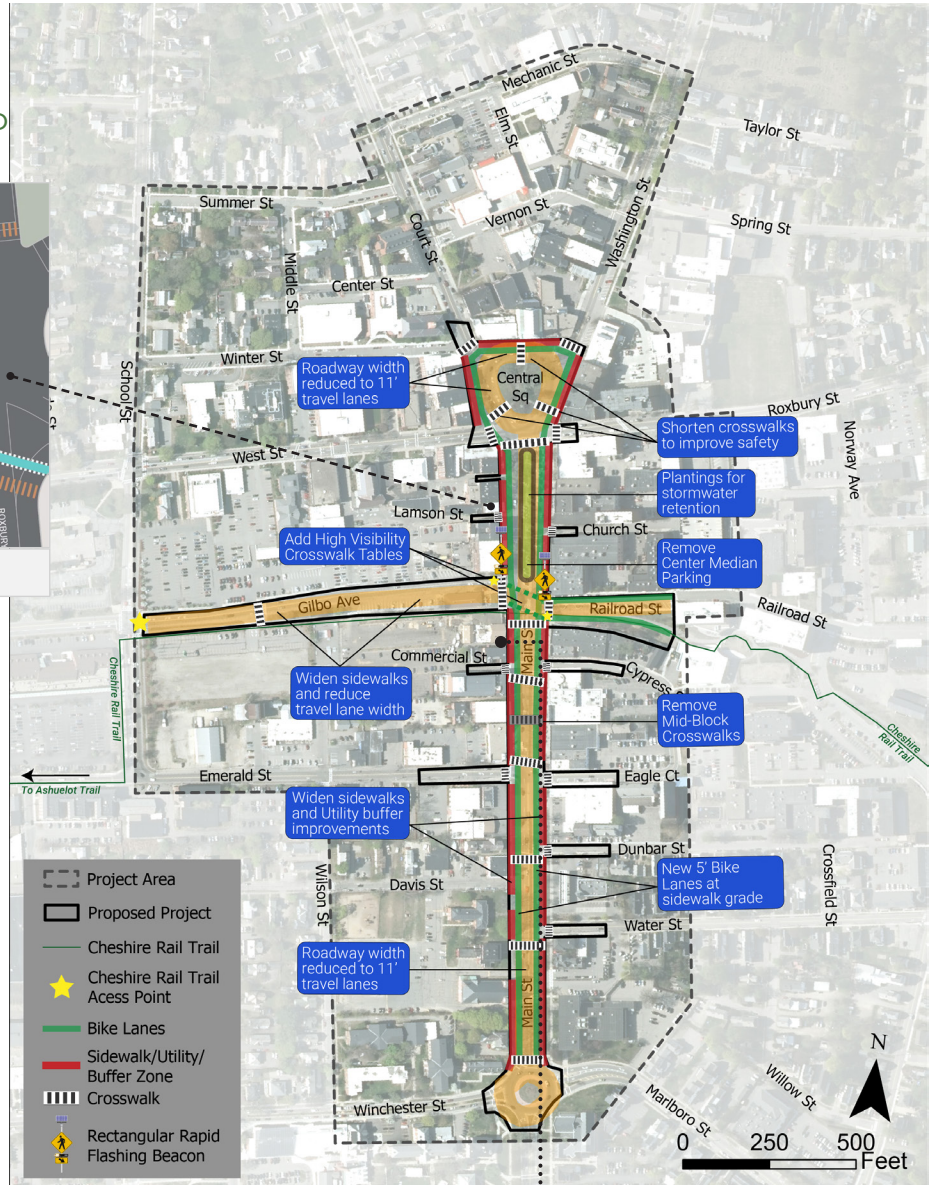
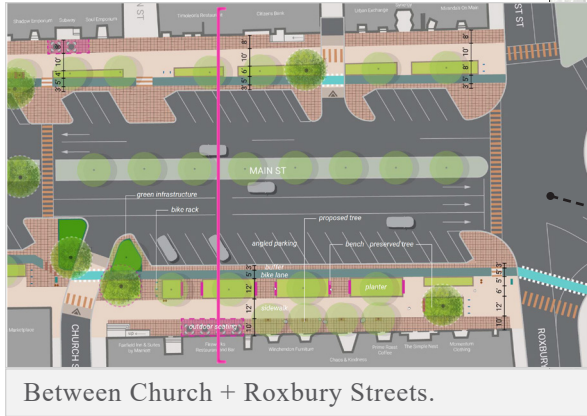
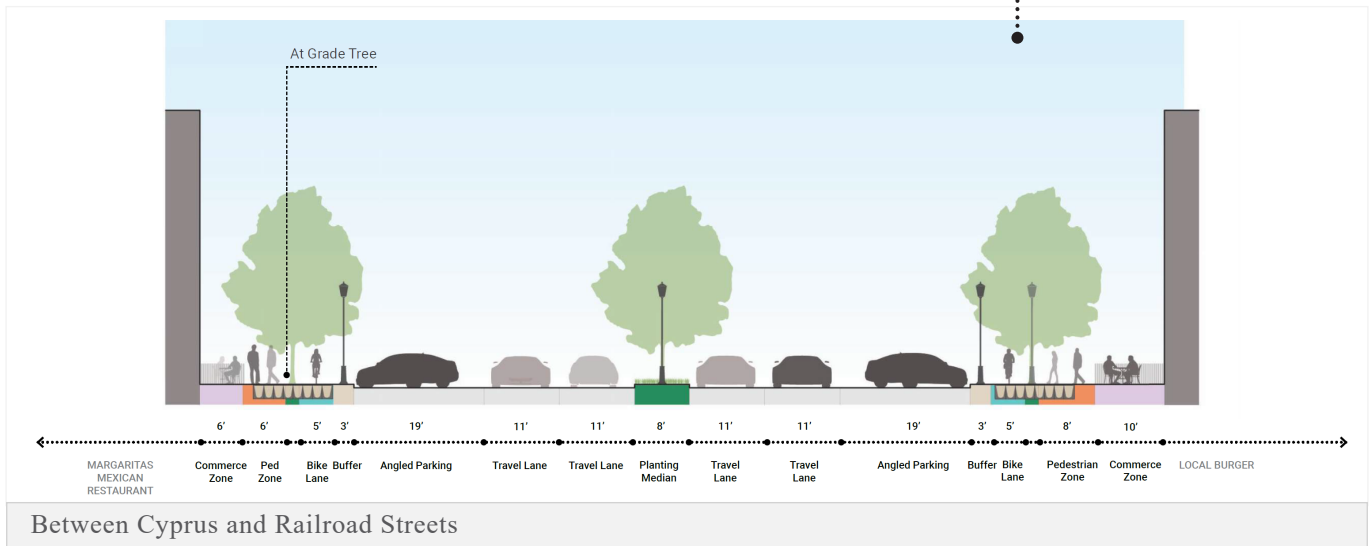


FIGURE 1-2A: PLAN VIEW OF PROPOSED CORRIDOR SECTION ON MAIN STREET



Between Church + Roxbury Streets.

FIGURE 1-2B: PROPOSED PED CORRIDOR SECTION ON MAIN STREET



Between Cyprus and Railroad Streets

A.3. TRANSPORTATION CHALLENGES THE PROJECT ADDRESSES

Keene’s downtown and project area faces several challenges that were identified by the project design team and raised by community members through an extensive public engagement process as part of the [Keene Downtown Improvements Planning Study](#). In addition to reliability and capacity issues relating to the city’s aging utility infrastructure, there are concerns about pedestrian and bicycle safety, traffic congestion, the accessibility of downtown, and the environment that have direct implications downtown’s residents, visitors, and local businesses.

Pedestrian and Bicycle Safety

Crosswalks lengths do not allow ample time for pedestrians to cross the street. Additionally, areas of the downtown project area have limited street lighting, signage, and poorly maintained sidewalks which limit visibility and compromise pedestrian safety. Limited to no dedicated bike lanes and bikes routes through the downtown in combination with limited bicycle storage and racks also discourage cycling as a viable transportation option.

Traffic Congestion

Aged and inefficient traffic signal systems downtown create traffic congestion, especially during commuting hours that lead to delays, increased travel times, and added stress for drivers. This creates conditions that take away from the pedestrian environment of downtown and can also impede emergency vehicle access.

Accessibility

The public realm in Keene’s downtown project area does not currently meet universal accessibility standards making it less accessible to individuals with disabilities and those with limited mobility. Several portions of sidewalks and 29 building entrances are in need of adequate curb cuts, tactile paving, ramps, and other ADA compliant infrastructure. Similar interventions are also needed to make many of Keene’s businesses accessible. Reducing physical barriers to business and building entrances through ramp installation, automatic doors, clear signage, and educating businesses on accessibility will go a long way in making Keene’s downtown more welcoming and usable for all.

Environment

Sections of downtown are susceptible to flooding during frequent and intensive rain events which can cause significant property damage and put lives at risk. Concentrated amounts of greenhouse gas emissions from traffic congestion also contribute to greater air pollution and related health impacts. The downtown contains considerable amounts of impervious surfaces that amplify heat during the summer, leading to higher temperatures and health impacts. Trees are integral players in enhancing a community’s climate resilience as they help to manage stormwater, purify air, regulate temperature, and provide shade. Downtown Keene’s tree canopy is in fair condition, but preservation and replacement is needed to ensure the environmental health of the city. Reducing the community’s energy footprint is a top priority and the project includes solar powered street lighting, EV charging and downtown electrical circuits.

A.4. PROJECT HISTORY

A strong history of intentional and innovative planning in Keene has allowed the city to cultivate an engaged community with a distinctive identity and a high quality of life. Despite being the heart of the region, downtown Keene’s last major revitalization occurred in 1988. Since then, the City has planned and implemented several plans that have included visions and improvements for its streets and downtown. Increasingly, its focus is on transforming streets and downtown infrastructure to better accommodate the modern needs and preferences of its residents and businesses and support a more accessible, livable, and better-connected multi-modal transportation system.

These efforts have included the following plans and initiatives:

[Keene Comprehensive Plan \(2010\)](#): Plan for six vision areas: a quality-built environment, a unique natural environment, a vibrant economy, a strong citizenship and proactive leadership, a creative learning culture, and a health community.

[Complete Streets \(2015\)](#): Adopted complete streets resolution for well-balanced and connected transportation infrastructure that is safe, more livable, and welcoming for all users.

[Downtown Revitalization Study \(2018\)](#): Review of economic state of downtown and study how the streetscape could better accommodate a modern downtown.

[Strengthening Connections: Downtown and Trails \(2021\)](#): Report leveraging the City’s natural assets for economic vibrancy, specifically related to better connecting trails/rail trails with the downtown.

[Strategic Parking Plan \(2021\)](#): A strategy plan for improving and optimizing parking to better meet the diverse needs to Keene's residents, visitors, and workforce.

[Housing Needs Assessment & Strategy \(2023\)](#): Needs assessment and strategy study to identify markets and forces that affect the city’s housing supply and demand over the next 10 years.

A.5. RELATED PROJECTS

The project follows several other planning and infrastructure projects the City has taken on and reflects its forward-thinking approach to transportation choice and connectivity within Keene and beyond.

In addition to the plans referenced in Section 1.4, the project directly relates to Keene's [Complete Streets Design Guidelines](#) and its accompanying Rethink Marlboro Street initiative as well as the goals of its [Climate Adaptation](#) and [Climate Action Plans](#) and its [Greenhouse Gas Emissions Inventory](#). It also complements the [Marlboro Street Corridor Economic Revitalization Zone](#), [RSA 79-E](#), [Marlboro Street Rezoning Initiative](#), [Cottage Court Overlay](#), and [Neighborhood Parking Plan](#) which focus on regulatory changes for infill development and economic development near downtown.

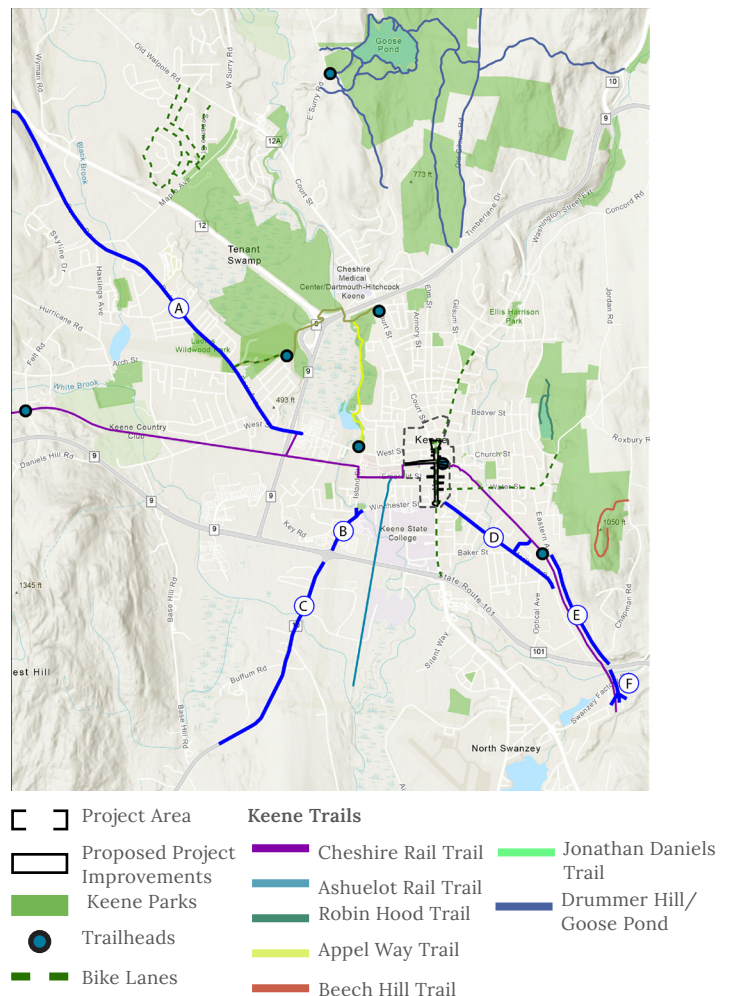
The project also ties into six other planned infrastructure projects that are expanding multimodal opportunities, creating complete streets, and developing more formal connections to the regional rail trail network. These include the Cheshire Rail Trail Phase 3 Project (A), the Upper (B) and Lower (C) Winchester Street Reconstruction Projects, the Marlboro Street Corridor Project (D), and Phase 1 (E) and future phases (F) of the Transportation Heritage Trail Project (Shown in Figure 1-4 below).

A.6. PROJECT LOCATION

The Project is located in downtown Keene, NH and includes areas within and just north of Central Square (up to Vernon Street), Railroad Street to 93rd Street, Gilbo Avenue to School Street, Main Street south to the Main/Marlboro/Winchester intersection, portions of West Street, and Roxbury Street to Roxbury Plaza. The Main/Marlboro/Winchester roundabout and Central Square anchor the southern and northern ends of the project area, respectively. The Cheshire Rail Trail intersects the project area on Main Street at the Gilbo Avenue/Railroad Street intersection and serves as a prominent downtown connection to other neighborhoods and surrounding communities. See Section B. Project Location for the Project Location File.

There are 3 distinct census tracts (CT) as defined by the U.S. Census Bureau: CT 9714.03, CT 9711, and CT 9713. CT 9714.03, which runs along the

FIGURE 1-4. LEVERAGED PROJECTS



western side of Main Street is designated as an Area of Persistent Poverty (APP) as defined per US DOT's HDC tool per US DOT'S definition of Area of Persistent Poverty¹. Additionally, three other APP CTs are located just south (CT 9709.02 and 16 miles southwest (CT 9684 and 9685) of the project site. The Ashuelot and Cheshire Rail Trails and NH Route 10 connect these communities to downtown Keene.

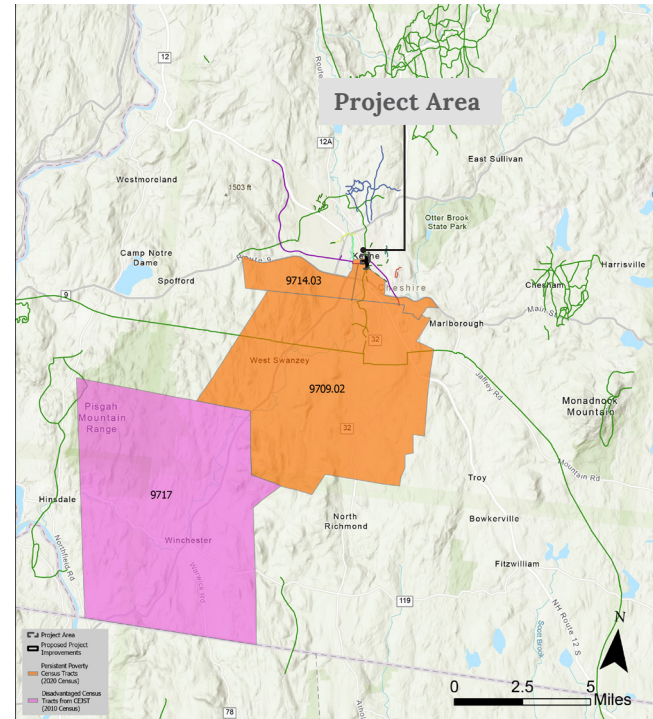
As noted in the recent [Keene Housing Needs Assessment and Strategy](#) (2023), nearly 12% of Keene's population lives in poverty which is higher than the Cheshire County average (10%) and NH state average (7%). Many of those afflicted are children, placing Keene's percentage of children in poverty also higher than the county and state averages. There is one Persistent Poverty Census tract within Keene, and it overlaps with and borders the proposed project area. Additional Areas of Persistent Poverty (APP) and one Historically Disadvantaged Community (HDC) are located to Keene's west, southwest, and northwest in the nearby communities of Winchester, Brattleboro, and Springfield.

A.7. CURRENT DESIGN STATUS

Acknowledging the significance of Downtown Keene as the community's economic engine with a commitment to maintaining its vibrancy, relevance, and functionality, the City of Keene sought out to plan and study its downtown through the comprehensive Downtown Infrastructure Improvement and Reconstruction Project.

Ensuring broad community input, the project established an Ad-Hoc Steering Committee, a Technical Advisory Committee, coordinated with key City departments, and collaborated with Council Advisory Committees. Originally planned as a 9-month project selection process, the 16-month planning phase included two (2) open public workshops amongst seven (7) public Ad-Hoc Steering Committee meetings where six (6) preliminary design alternatives for Main Street, three (3) preliminary design alternatives for Central Square, and three (3) preliminary design

FIGURE 1-5: AREAS OF PERSISTENT POVERTY



alternatives for the Gilbo Avenue/Railroad Square were presented. The Committee's efforts resulted in a preferred alternative recommendation to City Council.

In an effort to clarify the recommendations by the Ad-Hoc Steering Committee, Keene City Council expanded the project engagement process and hosted two (2) open public informational meetings and two (2) open public design workshops amongst three (3) City Council meetings, resulting in forwarding project recommendations to the Municipal, Services, Facilities, and Infrastructure (MSFI) Committee. MSFI hosted two (2) open public advisory committee meetings where a design alternative recommendation was returned to City Council for consideration.

A final design alternative was selected by City Council in July 2023 and the preliminary design phase of the project is underway. Preliminary design (30% design) is schedule to be completed by August 2024 (see [Project Webpage](#) for current design status and latest information). Final design, included in the Revitalizing Downtown Keene project, will start shortly thereafter. See **Project Schedule** in Section E, Project Readiness, for RAISE Grant schedule.

¹ Areas of Persistent Poverty & Historically Disadvantaged Communities tool, US DOT, <https://www.transportation.gov/RAISEgrants/raise-app-hdc>.

The following attachment is not included in the view since it is not a read-only PDF file.

Upon submission, this file will be transmitted to the Grantor without any data loss.

Project Location File.kmz

C. PROJECT BUDGET

C.1. SOURCES, USES, AND AVAILABILITY

The City of Keene is requesting **\$13,729,600** in Rebuilding American Infrastructure with Sustainability and Equity (RAISE) funds for the Revitalizing Downtown Keene Project. This project will commence following a 2-year community-driven planning and design process leading to its construction. The overall project is estimated to cost **\$20,902,000**, including final design, public engagement, permitting, construction and contract administration. The total project cost estimate includes a nominal contingency of about 13%.

Table C-1 provides a high-level breakdown of costs by major project component and phase. Major project components include final design and permitting, water and sanitary sewer sustainability improvements, mobility and resiliency improvements, traffic control, mobilization, project and construction administration, and a project contingency. The water and sanitary sewer replacement improvements are **funded 100% by local water and sewer funds** and will not be participatory in the RAISE Grant federal fund request.

This project was first introduced as a **high priority utility replacement project** given age and poor condition of the downtown utility infrastructure. The project includes the replacement of underground water and sanitary sewer utility mains and services. Appurtenant structure including valves, hydrants, manholes and service stops are included. Some sections of pipe will be upsized to account for future needs of the downtown corridor. This project has been planned for some time but unfortunately had been deferred through several budget cycles. The project is now prioritized for final design and construction is scheduled for late 2025. Funding for the utility replacement project have been documented in the Keene Capital Improvement Program and **fully funded by Keene City Council**.

In 2022, Keene City Council began a series of discussions with staff and key stakeholders to the utility replacement project to consider streetscape

improvements following restoration from the water and sewer replacement project. Those discussion resulted in the solicitation for planning, engagement and engineering services to engage the broader Keene community and determine just how the top-side infrastructure would be restored. The Downtown Infrastructure Improvement Project completed a comprehensive study that now informs the **Revitalizing Downtown Keene project**.

The existing roadway sections along Main Street, Court Street, Washington Street, and Gilbo Avenue will be reinvented as complete street facilities, free of accessibility issues, added safety features designed to reduce vehicle crash incidents, and wider sidewalks to accommodate a generous pedestrian space and protected bicycle facilities. Innovative stormwater infrastructure will include Silva Cells and structural planting soils along Main Street, Central Square and Railroad Square. Bioretention and rain garden systems will be featured in open spaces and landscaped areas throughout the project area. Traffic signal upgrades will be required at the Main/West/Roxbury intersection to support better signal coordination, fire/police preemption, transit priority and improved pedestrian crossings. Other project costs include raised crosswalk tables, Rapid Rectangular Flashing Beacons (RRFB's) at critical crossing locations. Resiliency improvements such as new tree plantings, a reduction in overall impervious areas throughout the downtown corridor and expanded

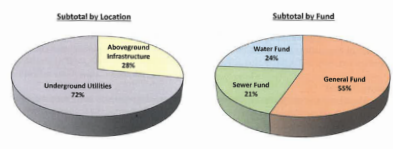
DOWNTOWN INFRASTRUCTURE IMPROVEMENT AND RECONSTRUCTION PROJECT
CONSOLIDATED FUNDING OVERVIEW

The proposed Downtown Infrastructure Improvements and Reconstruction project will combine funding from a number of general fund programs as well as funds from the water and sewer funds. The table below summarizes the source of funds and the year that funding is requested. Since the project is planned to occur in three separate construction phases, the timing of expenditures may be different than the schedule shown below, based on the development of final phasing plans.

Description	Fund	FY25	FY26	FY27	Total by Program
Street/Sidewalk/Other Improvements	General	\$680,000	\$1,200,000	\$1,240,000	\$4,460,000
Traffic Signal Replacement	General	\$190,800	\$100,700		\$899,500
Stormwater Resiliency Program	General		\$1,669,000	\$1,321,900	\$4,518,600
Sewer Improvements	Sewer	\$339,035	\$615,300	\$1,267,600	\$4,827,535
Water Distribution Improvements	Water	\$262,000	\$1,299,300	\$1,911,800	\$4,043,900
Subtotal by Annual Funding		\$1,433,835	\$4,994,300	\$5,771,300	\$16,899,535
Project Grand Total					\$16,899,535

Subtotal by Location		Total
Aboveground Infrastructure		\$4,800,500
Underground Utilities		\$12,099,035

Subtotal by Fund		Total
General Fund		\$8,818,100
Sewer Fund		\$1,827,535
Water Fund		\$4,043,900



Keene Capital Improvements Program funding.

TABLE C-1: PROJECT BUDGET SUMMARY BY PHASE

Funding Source	Design + Permitting Amount	Phase 1 Amount	Phase 2 Amount	Phase 3 Amount	Project Total Amount	RAISE	Non-Fed
Utility Infrastructure (100% Local)							
Water Infrastructure	\$0	\$744,000	\$558,000	\$1,860,000	\$0		\$1,860,000
Sanitary Sewer Infrastructure	\$0	\$616,000	\$462,000	\$462,000	\$1,540,000	\$0	\$1,540,000
Utility Design	\$340,000	\$0	\$0	\$0	\$340,000	\$0	\$340,000
Streetscape Improvements (80/20% Share)							
Final Design/Permitting	\$1,000,000	\$0	\$0	\$0	\$1,000,000	\$800,000	\$200,000
Mobility							
Streetscape Improvements	\$0	\$1,020,000	\$825,000	\$775,000	\$2,620,000	\$2,096,000	\$524,000
Roadway/Sidewalks/Signals	\$0	\$1,930,000	\$1,370,000	\$1,120,000	\$4,420,000	\$3,536,000	\$884,000
Resiliency							
Stormwater/Green Infrastructure	\$0	\$685,000	\$540,000	\$675,000	\$1,900,000	\$1,520,000	\$380,000
Central Solar Power/EV Charging	\$0	\$800,000	\$175,000	\$175,000	\$1,150,000	\$920,000	\$230,000
Traffic Control/MOT	\$0	\$611,400	\$540,000	\$465,600	\$1,617,000	\$1,293,600	\$323,400
Mobilization/Project Administration	\$0	\$615,000	\$510,000	\$500,000	\$1,625,000	\$1,300,000	\$325,000
Contingency	\$0	\$730,000	\$550,000	\$550,000	\$1,830,000	\$1,464,000	\$366,000
Construction Administration	\$0	\$400,000	\$300,000	\$300,000	\$1,000,000	\$800,000	\$200,000
Project Total	\$1,340,000	\$8,151,400	\$5,830,000	\$5,580,600	\$20,902,000	\$13,729,600	\$7,172,400
						65.7%	34.3%
RAISE Funds	\$800,000	\$5,433,120	\$3,848,000	\$3,648,480	\$13,729,600		
Other Federal Funds	\$0	\$0	\$0	\$0	\$0		
Non-Federal Funds	\$540,000	\$2,718,280	\$1,982,000	\$1,932,120	\$7,172,400		
Total Project Costs	\$1,340,000	\$8,151,400	\$5,830,000	\$5,580,600	\$20,902,000		

TABLE C-2A: 2020 CENSUS TRACT - PROJECT COST PER CENSUS TRACT

2020 Census Tract(s)	Total Costs per Census Tract
9713 (Central Square - North)	\$8,021,400
9714.03 (Main Street - West)	\$6,965,000
9711 (Main Street - East)	\$5,915,600
Total Project Costs:	\$20,902,000

TABLE C-2B: 2010 CENSUS TRACT - PROJECT COST PER CENSUS TRACT

2010 Census Tract(s)	Project Costs per Census Tract
9713 (Central Square - North)	\$8,021,400
9714.03 (Main Street - West)	\$6,965,000
9711 (Main Street - East)	\$5,915,600
Total Project Costs:	\$20,902,000

TABLE C-2C: CENSUS-DESIGNATED PROJECT COSTS

Urban/Rural	Project Costs
Urban (2020 Census-designated urban areas with a population greater than 200,000)	\$0
Rural (Located outside of a 2020 Census-designated urban area with a population greater than 200,000)	\$20,902,000
Total Project Costs:	\$20,902,000

plaza and park spaces round out the proposed improvements.

The streetscape portion of the infrastructure improvement project will be funded by a request for RAISE grant funding to supplement a local cost share of 20% for the improvements. **Local matching funds for the streetscape portion is \$3,432,400.** These funds have also been documented in the Keene Capital Improvement Program and fully funded by Keene City Council.

Table C-2a, C-2b, and C-2c summarize project fund expenditures based on Census Tract (CT) location for both the 2020 and 2010 census. In the case of Keene, census tracks have not changed. It is noted that CT 9714.03, which runs along the western side of Main Street is designated as an Area of Persistent Poverty (APP) as defined per [US DOT’s HDC tool](#) per US DOT’S definition of Area of Persistent Poverty (Areas of Persistent Poverty & Historically Disadvantaged Communities | US Department of Transportation). Additionally, three other APP CTs are located just south (CT 9709.02

and 16 miles southwest (CT 9684 and 9685) of the project site. The Ashuelot and Cheshire Rail Trails and NH Route 10 connect these communities to downtown Keene. The City of Keene is a Census-designated rural area.

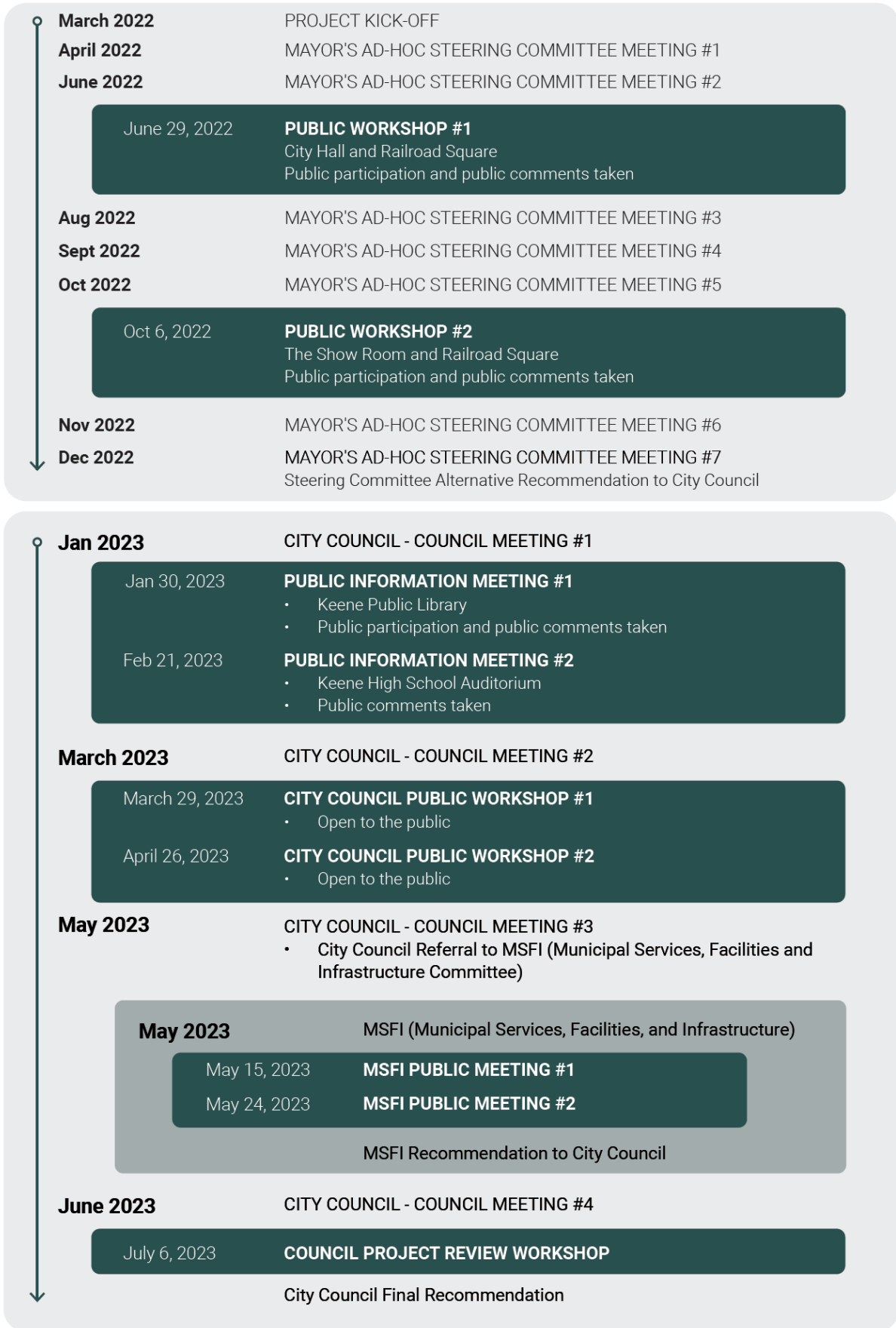
C.2. CONTINGENCY AMOUNT

A 13% contingency has been added on all construction components and phases of work. Based on latest project costs estimates and related projects, this contingency amount is adequate to support overall project costs through preliminary design. At the conclusion of preliminary design that is currently underway, revised project estimates will be adjusted to reflect 30% design completion.

C.3. LEVEL OF DESIGN

Acknowledging the significance of Downtown Keene as the community's economic engine with a commitment to maintaining its vibrancy, relevance,

FIGURE C-1: PROJECT TIMELINE AND LEVEL OF EFFORT IN PROJECT DESIGN PROCESS



and functionality, the City of Keene, informed by previous planning initiatives including downtown infrastructure, utilities, housing, resiliency, and sustainability, sought out to plan and study the comprehensive [Downtown Infrastructure Improvement Project](#).

Ensuring broad community input, the Keene Mayor established an Ad-Hoc Steering Committee, a Technical Advisory Committee, coordinated with key City departments and collaborated with Council Advisory Committees. Originally planned as a 9-month project selection process, the **16-month planning phase** included two (2) open public workshops amongst seven (7) public Ad-Hoc Steering Committee meetings where six (6) preliminary design alternatives for Main Street, three (3) preliminary design alternatives for Central Square, and three (3) preliminary design alternatives for the Gilbo Avenue/Railroad Square were presented. The Committee's efforts resulted in a preferred alternative recommendation to City Council.

In an effort to clarify the recommendations by the Ad-Hoc Steering Committee, Keene City Council expanded the project engagement process and hosted two (2) open public informational meetings and two (2) open public design workshops amongst three (3) City Council meetings, resulting in forwarding project recommendations to the Municipal, Services, Facilities, and Infrastructure (MSFI) Committee. MSFI hosted two (2) open public advisory committee meetings where a design alternative recommendation was returned to City Council for consideration.

A final design alternative was selected by City Council in July 2023 and the preliminary design phase of the project is underway. Preliminary design (30% design) is scheduled to be completed by August 2024 (see link to [Project Webpage](#) for current design status and latest information) . Final design, included in the Revitalizing Downtown Keene project, will start shortly thereafter. See **Project Schedule** in Section E, Project Readiness, for RAISE Grant schedule.

C.4. COST ESTIMATES

Construction costs were estimated based on a corridor concept and New Hampshire Department

of Transportation (NHDOT) average unit costs generally from 2023 to reflect recent cost escalations. Quantity assessments were derived from the corridor concept designs and preliminary design for most of the largest items. Estimates for smaller items were based on total corridor length and concept quantities. **Cost estimate worksheets** are provided in NHDOT format for detailed review.

C.5. COST SHARE OF NON-FEDERAL FUNDING MATCH

As outlined in Table C-1, total project cost is estimated at \$20,902,000. The City of Keene seeks \$13,729,600 or about 65.7% of the streetscape portion of the project costs with RAISE grant funding. The City has secured the funding commitment total of \$7,172,400 or about 34.3% of the remaining project costs through the City's [Capital Improvement Program \(CIP\)](#).

Local funding sources include Water Fund and Sewer Fund Bonds for 100% of the utility replacement improvements (\$3,740,000) through the project funding years FY25, FY26, and FY27 (7/1/2024 though 6/30/2027). At current time, total water and sewer funds appropriated and approved are \$6,990,400, providing adequate funding for the anticipated locally-funded project components of this project. Local funding sources include General Fund Obligation Bonds for the streetscape improvements (\$3,432,400) in the same funding years outlined above. At current time, total general funds appropriated and approved are \$3,923,700, again providing adequate available funding for this project. This is a significant buffer if needed to support any unanticipated costs not covered by the contingency.

As noted in the RAISE Grant Notice of Funding Opportunity (NOFO), projects located within rural areas as well as projects located within Areas of Persistent Poverty (APP) required no local funding match. In this case, the City of Keene is well prepared and has committed to over 34% of the costs of this project.

It is also important to note that the City of Keene has invested about \$1.5M in the planning study and preliminary design effort in order to ready this project for the 2024 grant appropriations.



February 28, 2024

The Honorable Pete Buttigieg, Secretary
United States Department of Transportation
1200 New Jersey Avenue, S.E. Washington, DC 20590

RE: **Revitalizing Downtown Keene**
2024 RAISE Grant Application
Funding Commitment Documentation

Secretary Buttigieg,

This letter is intended to serve as documentation of the City of Keene's commitment of local matching funds for the above referenced grant application.

As outlined in Section C. Project Budget, Table C-1, total project cost is estimated at \$20,902,000 for the **Revitalizing Downtown Keene** project. The City of Keene seeks \$13,729,600 or about 65.7% of the project total costs with 2024 RAISE grant funding. The City has secured funding for project costs totaling \$7,172,400 or about 34.3% of the total project costs through funds secured in the City's Capital Improvement Program (CIP).

Local funding sources include Water Fund and Sewer Fund capital reserves and bonds totaling 100% of the utility replacement improvements (estimated \$3,740,000), through the project funding years FY25, FY26, and FY27 (7/1/2024 through 6/30/2027). At current time, total water and sewer funds appropriated and approved are \$6,990,400, providing adequate funding for the anticipated locally-funded project components of this project. Other local funding sources include General Fund Obligation Bonds for the streetscape improvements (\$3,432,400) in the same funding years outlined above. At current time, total general funds appropriated and approved are \$3,923,700, again providing adequate available funding for this project. This is a significant buffer if needed to support any unanticipated costs not covered by the contingency outlined in the RAISE Grant application.

This communication confirms the availability of funds noted above and affirms the City of Keene's capability to raise and fund our obligations to this project.

Sincerely,

Elizabeth A. Dragon
City Manager

D. MERIT CRITERIA

D.1 SAFETY

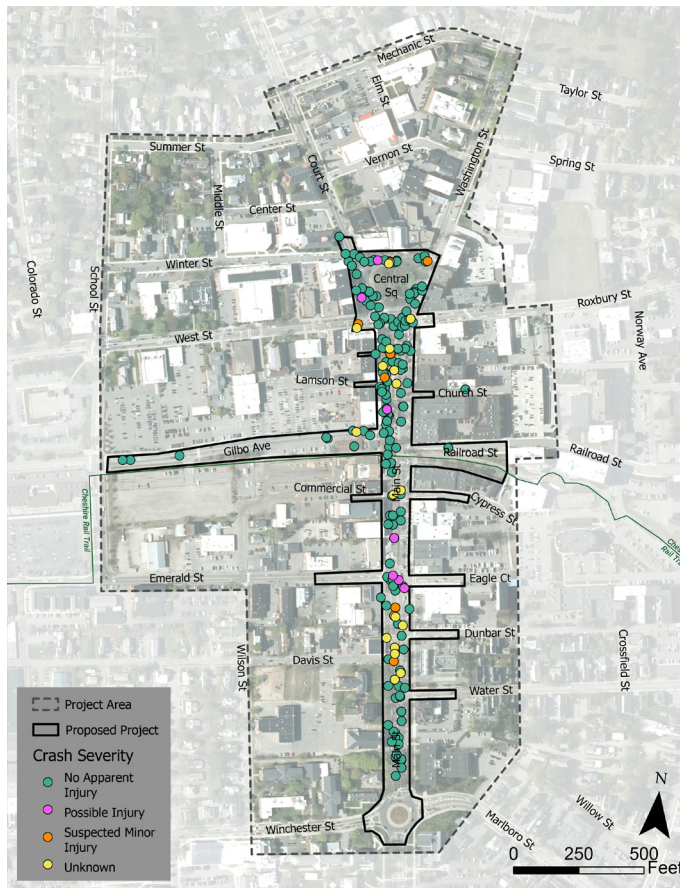
According to the Keene Public Works Department, analysis of City streets as part of the Vision Zero Plan, Main Street as well as the area within Central Square (Washington Street and Court Street) are among the highest crash corridors within the City of Keene. Multi-lane roadways, excessively wide lanes within Central Square, as well as center median parking along Main Street from the intersection with West Street and Roxbury Street to the intersection with Gilbo Avenue creates additional conflict points within the corridor and invites mid-block “jay walking” pedestrian crossings. The existing downtown corridor has no bike lanes nor dedicated bicycle facilities, and the lack of pavement markings and adequate lighting, pedestrian and bicycle safety has become a top priority. Additionally, the Cheshire Rail Trail crosses Main Street at the Gilbo Avenue/ Railroad Street intersection where sight distance is compromised by a sharp deflection in the Main Street corridor alignment and the shared use path crossing is understated and a concern for safety.

The Project is designed to slow traffic and improve access for people walking, biking, and rolling across the Downtown corridor, both by slowing motorized traffic and providing protected and higher-visibility paths for these vulnerable uses, and reallocating space within the existing public right-of-way to introduce complete streets elements that don’t exist today.

Additional benefits will be realized by:

- ▶ Roadway travel lanes will be reduced to **improve pedestrian visibility and shorten crosswalks**
- ▶ Center median parking will be removed to **eliminate the conflict threat of vehicles** entering and exiting spaces opposite from one another, as well as frequency of pedestrians “jay walking” to get to sidewalks.
- ▶ With the reallocation of space within the right-of-way by eliminating center median parking, the sidewalk panel can be widened to **introduce wider flexible sidewalk space as well protected bike lanes at the sidewalk grade.**

FIGURE D-1. CRASHES



- ▶ The inclusion of **protected bike facilities** will have a transformative safety benefit. Municipalities with protected bike facilities experience, on average, 44% fewer deaths and 50% fewer serious injuries across all user groups (not just bicyclists) than cities without such facilities.

KEY IMPACTS TO SAFETY:

- ▶ *Pedestrian and bicycle focused complete streets improvements increased access for people walking, biking, rolling, and taking transit in this under served community*
- ▶ *Resiliency infrastructure investments related to reducing wind and providing shade (e.g., trees, covered shelters, etc.) can help increase comfort and reduce barriers of access to non-car travel modes*
- ▶ *Investments in the Downtown corridor represents investments in the heart of Keene’s neediest community, near key community assets*

- ▶ According to the BCA, the addition of improved bike/ped infrastructure will result in an annual reduction of 19.51 No Injury (O) crashes per year, 0.17 Possible Injury (C) crashes per year, and 0.67 Non-incapacitating (B) crashes per year.
- ▶ **Pedestrian-focused safety improvements** include **raised crosswalks/bike lanes** to sidewalk grade at all side street intersections with Main Street that will benefit walkers and cyclists alike.
- ▶ Recognizing the significance of the Cheshire Rail Trail crossing on Main Street at Gilbo Avenue and Railroad Street, a Main Street wide raised crossing table with activated **rapid flashing beacons (RRFB's)** will be added to improve crossing sight lines and prioritize crossings. This location will become the hub to Main Street and downtown Keene from locations hundreds of miles away.
- ▶ Added bus stop locations offer transit riders will benefit from more stop frequency and **shaded sheltered waiting areas**.
- ▶ Signal phasing improvements and approach lane modifications are designed to reduce conflicts and **decrease angle-crash conflicts**.

D.2 ENVIRONMENTAL SUSTAINABILITY

Like many cities, Keene is facing the consequences of a changing climate, including extreme temperatures, heavy and prolonged precipitation, and inland storms. According to recent experiences, stormwater flooding already impacts the downtown areas including roadways, sidewalks and transit routes along Main Street, Gilbo Avenue and Central Square. In fact, Main Street and Gilbo Avenue will be impacted by long-term flooding as noted in Figure D-2.

The Project seeks to improve environmental sustainability and quality of life in this underserved and overburdened neighborhood through focused interventions in two major areas: transportation and resiliency.

Specific strategies that the City will pursue include:

Transportation

- ▶ Based on safety opportunities introduced

FIGURE D-2. STORMWATER FLOODING ALONG BEAVER BROOK



Nuisance flooding at the intersection of Eagle Ct. and Main Street.

through complete street solutions, modal shift from dependency on motor vehicles to walking, bicycling and the use of transit can expect reductions in greenhouse gas emissions. Reduction in vehicle travel times create better system reliability from the project for the Downtown neighborhoods.

- ▶ Redesigning these corridors to prioritize people walking, biking, and taking transit will reduce the release of air pollutants from private vehicle travel. At the regional level, by increasing the performance of the transit network as well as the trail network connectivity, this project will reduce transportation-related environmental

KEY IMPACTS TO SUSTAINABILITY:

- ▶ *Preservation and increase in tree canopy will provide natural air and water quality benefits*
- ▶ *Increase in beneficial green infrastructure elements and stormwater improvements will reduce flooding in high-risk areas*
- ▶ *Provision of additional green space will reduce the effects of urban "hot spots" helping protect the health and safety of this community by reducing their exposure to heat risks, which can lead to excess morbidity and mortality*
- ▶ *Reducing the effects of heavy precipitation events reduces flood risk and flood-related damage to transportation-related infrastructure and other critical infrastructure*
- ▶ *High quality multimodal facilities will induce people to use these modes of transportation rather than drive, causing reducing vehicle miles traveled and thus carbon emissions*

impacts associated with the City's growing economy.

- ▶ Installing infrastructure for EV charging in the public right of way, which will promote this greener choice for others while supporting existing EVs.

Resiliency

With opportunity to repurpose the Downtown public right-of-way to include resilient green infrastructure solutions, landscaped medians, stormwater bumpouts, and silva cell treatments can store, treat, and mitigate stormwater runoff flows and aid in water quality filtration. Innovative stormwater solutions include bio-swales, permeable pavements, and infiltration systems allow the recharge of water back into the ground.

Preservation and addition of street trees to provide shade and reduces the heat risk to residents. The additional tree canopy also helps to reduce air-borne, transportation-related pollutants that exacerbate health issues.

Promote energy efficiency and reduce the amount of energy used to support downtown infrastructure.

The project will include co-locating a centralized solar system on a multi-purpose canopy structure to provide solar energy offsets to downtown lighting and electrical services, while also serving the needs for heat cover and downtown events.

There are 30 stormwater bumpouts proposed for Main Street, Gilbo Avenue, Washington Street and Court Street (Central Square). Each bumpout will treat approximately 0.25 acres of impervious surface for a total of 7.5 acres of managed impervious surface. The stormwater bumpouts will support significant vegetation that will be an air quality benefit and reduce heat island effects in the area.

Along the Main Street raised island, a band of Silva Cells is proposed which will provide storage for stormwater and contribute to tree growth. As a result of the Silva Cells the trees will grow faster with a larger canopy which will increase their potential for managing stormwater and provide much needed shade.

D.3 QUALITY OF LIFE

Downtown Keene is the economic center of the community and region in western NH.

The downtown is home to many community assets such as community centers, minority-owned businesses, artist communities, business incubators, historic homes, and popular to recent immigrant communities. As noted on Table D-1, the Census Tracts EJ Screen Analysis, the majority of the residents within the Project Area are low-income and would rely more heavily on transit and alternative active modes of transportation in commuting to work than state and national averages.

A community's social vulnerability is influenced by a variety of social conditions that impact its ability to prevent or adapt to shocks, disasters, or other impacts like economic crises and climate change. The CDC/ATSDR Social Vulnerability Index ranks Keene's census tracts at a high level of vulnerability compared to state and national averages. This indicates that the local population faces a higher proportion of socioeconomic, household, minority, and/or housing conditions that can compromise quality of life. For example, a significant proportion

TABLE D-1: EJ SCREEN¹ ANALYSIS OF PROJECT AREA CENSUS TRACTS

Demographic Indicators	Project Area	Keene	Cheshire County	NH	United States
CENSUS TRACTS: 9714.03, 9711, 9713					
People of Color Population	7%	9%	6%	7.4%	39%
Low Income Population	57%	27%	23%	7.2%	31%
Linguistically Isolated Population	0%	0%	0%	0%	5%
Population with <HS Degree	7%	7%	6%	12.4%	12%
Population < 5 years of age	1%	4%	5%	4.5%	6%
Population > 64 years of age	10%	20%	20%	20%	17%
Persons with disabilities	12%	14%	14%	12.1%	13%
KEY TRANSPORTATION CHARACTERISTICS					
Public Transportation Commute Share	0.4%	0.18%	0.17%	-	5%
Walk/Bike/Other	9%	8%	5%	-	4%
Zero Vehicles Available	5.64%	4.32%	2.36%	2.77%	8.3%

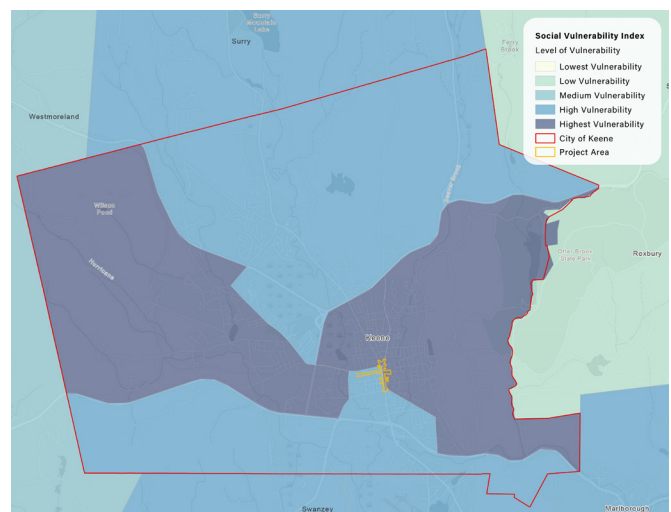
1 [US Environmental Protection Agency’s environmental justice \(EJ\) mapping and screening tool](#); based on nationally consistent data, combines environmental and demographic indicators in maps and reports.

of the population in Keene identifies as low income, minority, over the age of 65, or as living with a disability. Such groups tend to be more vulnerable and less resourced and therefore more impacted by changing economic, environmental, or public health conditions

The Revitalizing Downtown Keene Project increases quality of life primarily by increasing transportation choice for individuals to provide more freedom on transportation decisions. Through the extensive public review process, participants continued to remark that the current downtown “seems to be focused on cars and parking”. This project is intended to encourage economic equity by reducing barriers to opportunity that come to residents and workers that must live, work and play in autocentric environments and create interconnected centers for employment, business, education, affordable housing and recreation.

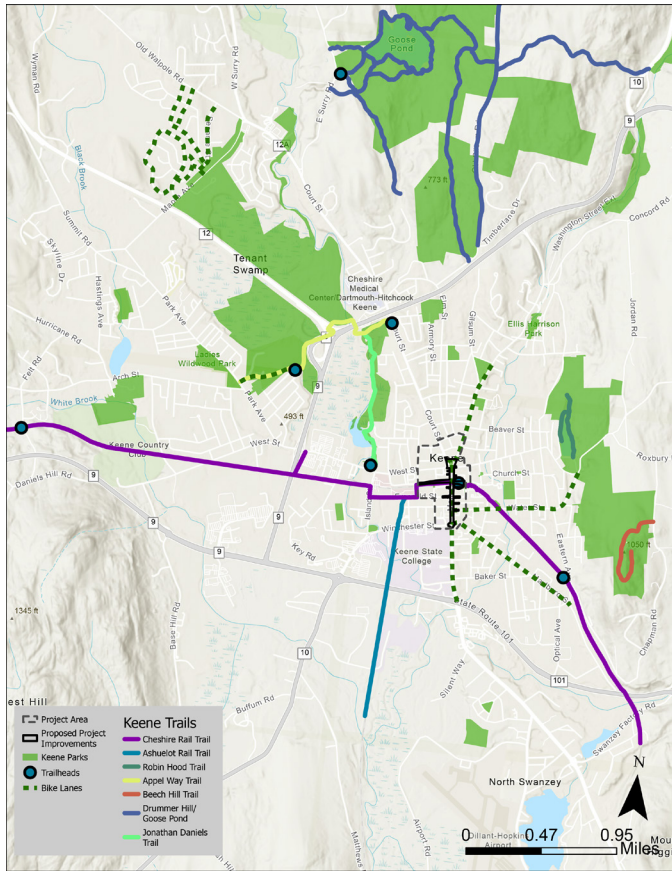
Each phase of the project will expand transportation choice by narrowing lanes along Main Street and through Central Square, widening sidewalks for safe, contiguous access, and for the introduction of protected bikes lanes at sidewalk grade connecting all downtown residential, business, civic and

FIGURE D-3. SOCIAL VULNERABILITY



Map generated from the [CDC/ATSDR Social Vulnerability Index](#). The social factors used to determine vulnerability include socioeconomic status, household characteristics, racial and ethnic minority status, housing type, and access to transportation.

FIGURE D-4. EXISTING RAIL TRAIL AND PATHWAYS FACILITIES



recreation centers to the vast network of rail-trails and shared pathways to other neighborhoods.

The project will improve the quality of life of residents in a number of ways, including:

- ▶ Safer connections to transportation alternatives including walking, biking and bus transit, enhancing residents’ connection to major employment centers, vital healthcare institutions, retail sites, and other critical destinations at the regional level.
- ▶ Increase in tree canopy, green infrastructure to increase health and safety of area residents and provide cooling benefits and additional street buffer for all users.
- ▶ Reducing the effects of high heat days, which in turn reduces the amount of fatigue associate with travel during hotter days, helping more people to choose walking, rolling, and biking to community destinations.
- ▶ Additional transit stops along Main Street will

KEY IMPACTS TO QUALITY OF LIFE:

- ▶ *Universal Design features for all elements of the project including sidewalks, curbs, bus shelters, and pedestrian signalized crossings*
- ▶ *Project components that mitigate the effects of extreme heat and heat gain for the transportation infrastructure along these corridors will increase use by non-motorized travelers maintaining their comfort and reducing fatigue*
- ▶ *Improved crossings will knit community streets together, as opposed to today when these corridors act like barriers.*

encourage more use and improve current service levels in Downtown.

- ▶ Landscaped bump outs, protected crossings, and improved mid-block crossings with rapid flashing beacons increase safety for non-motorized travelers.

D.4 MOBILITY AND COMMUNITY CONNECTIVITY

The Downtown corridor is challenged by a lack of safe pedestrian and bicycle accommodations. Figure D-4 illustrates only limited portions of the corridor that have dedicated bicycle lanes which is Washington Street north of Central Square. This section is disconnected from the rest of the Downtown neighborhood to the south.

The Revitalizing Downtown Keene Project will include a range of improvements for downtown vehicle traffic, parking bus access, pedestrians, and bicycles. In addition, the majority of the downtown corridor does not have reliable ADA accessible sidewalk sections and curb ramps at street crossings further hindering accessibility to individuals with limited mobility.

Overall project universal design features will include:

- ▶ Wide sidewalks and pathways
- ▶ Shaded bus shelters
- ▶ Micro parks and areas off main paths for respite
- ▶ Well-lit and consistent lighting

- ▶ Green infrastructure including street trees and bioswales to reduce heat, buffer street noise, and reduce glare
- ▶ Upgrade signalized intersections with audible warnings
- ▶ Add pedestrian activated rectangular rapid flashing beacons (RRFB's) at mid-block crosswalks

The Project will enhance pedestrian and bicyclist connectivity, access, and safety throughout the downtown corridor, home to schools, the library, City Hall, Keene State College, the community center for every stage of life, grocery stores, cultural and entertainment sites, and centers of learning and worship. This in turn encourages thriving communities where people can truly work, live, and play without a car.

The project will proactively incorporate the latest in universal design, including targeting improvements at intersections and mid-block crosswalks. This includes use of detectable warning strips, audible crossing cues, and pedestrian-level lighting. In addition, the Project provides these additional community connectivity benefits:

- ▶ Safe pedestrian and bicycle connections to all downtown areas from the Cheshire Rail-Trail to the rest of Keene areas to the north, south, east and west.
- ▶ Reconstructed sidewalks including ADA-accessible curb ramps and pedestrian-scale lighting for better visibility.
- ▶ Dedicated bicycle lanes at sidewalk grade along Main Street, Gilbo Avenue, Washington Street and Court Street transforming this downtown corridor into a multimodal hub that allows people to access downtown through a variety of transportation choices.
- ▶ Safer mid-block crossings with cross walk lane markings and rectangular rapid flashing beacons (RRFB's) helping to provide safe cross-neighborhood connections throughout the corridor.

KEY IMPACTS TO MOBILITY AND CONNECTIVITY:

- ▶ *Lower vehicle speeds, narrower crosswalks and universal access will improve multimodal connectivity in downtown service that is faster, more reliable, more frequent, and less crowded*
- ▶ *Better connections to sections of downtown that are not on Main Street*
- ▶ *Improves the streetscape and pedestrian environment supporting local businesses and supports revitalization of the downtown corridor*
- ▶ *Provides residents with better connections to educational, training, and workforce development opportunities*

D.5 ECONOMIC COMPETITIVENESS AND OPPORTUNITY

Today's downtown corridor essentially serves as a barrier to connectivity, from measurable threats such as crashes and lack of protected pedestrian and bicycle facilities, to qualitative issues such as heat island effects, a threatened tree canopy and excessive roadway width. Area residents need a reliable transportation system for access to jobs and activities. Further, the project area is one of lower income residents, for whom owning a vehicle is likely a large financial burden. However, the built environment is not friendly to other modal choices besides driving, despite the expense.

The Project will transform the downtown corridor to contribute to the local economy. The design will be safer and more convenient for residents and visitors to walk and bike between destinations, improving the viability of small local businesses.

In a historic city such as Keene, there are limited areas of developable land remaining in the Downtown near major economic drivers and near existing and potential transit hubs. The City needs to encourage development to remain competitive, attract new jobs, and increase the tax base to provide necessary City services for the current residents, while steering development to the right locations.

However, opportunities for Keene’s economic success is limited given its outdated transportation infrastructure. This RAISE grant project enhances economic competitiveness by creating opportunity to expand transportation choice and unlock the potential for redevelopment along the Gilbo Avenue corridor, essentially expanding the footprint to Downtown Keene.

Gilbo Avenue Corridor

The Gilbo Avenue corridor is a about an 11-acre area located in the core of downtown Keene. It is a long linear corridor stretching from the area of the Monadnock Food Co-op on Eagle Court to the east, crossing Main Street and ending at the School Street to the west. On the east side of Main Street, it is a narrow corridor, which includes the Cheshire Rail Trail and Railroad Square. On the west side of Main Street, the corridor widens to include several City owned parking lots and land owned by Keene State College. The Gilbo corridor is primarily made up of streets, large parking lots and unused open space. This area is still strongly impacted by its railroad history which has left it with an open character, including several large parking areas, giving the area a character that does not fit well with the traditional small city character and urban form of much of Keene. The Cheshire Rail Trail connects through this area running south of Gilbo Avenue. The area of the former train station is the home of the current Transportation Center and of the Corner News.

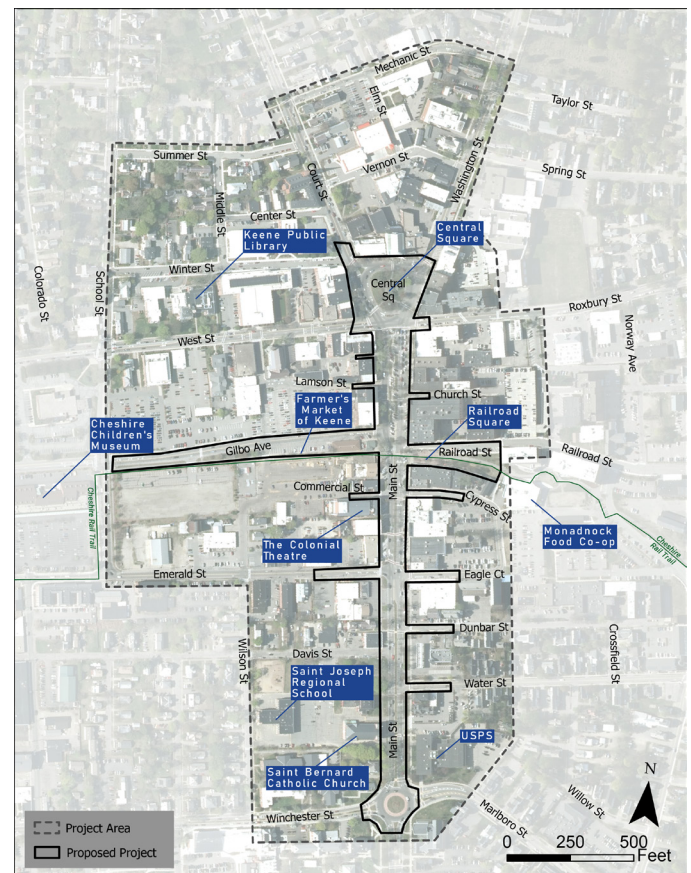
The [Arts and Culture Corridor Study](#), prepared by the Monadnock Economic Development Corporation, looked to create an arts and culture corridor along Gilbo Avenue. The Arts and Culture Corridor is an ambitious and visionary project looking to reinvent a core portion of downtown Keene. The corridor will define the City as an active and vibrant place to visit, shop, stroll, eat, meet friends and bring the family and will promote the Gilbo corridor as a place of character and culture which will attract locals and visitors alike. Currently the city has a strong core of artists, many businesses that have an artistic vibe and sensibility and several organizations and institutions that strive to support these. There are also a number of strong cultural institutions and venues in the corridor area.



Gilbo Avenue Corridor.

Since the completion of the corridor study in 2020, the project has not advanced given limited resources. The **Revitalizing Downtown Keene** project presents an incredible opportunity to invest in the Gilbo corridor as a jump-start to reciprocal development through reinvention and redevelopment. A new multi-modal streetscape along Gilbo Avenue will create a defined shared-use boulevard where excessively wide pavement widths will be reduced making way for wider sidewalks

FIGURE D-5. CORE COMMUNITY AMENITIES WITHIN THE PROJECT AREA



and flexible plaza and open spaces. The project will further reveal the arts and cultural resources of the city and bring their artistic power to bear on the character of the area, while also striving to support the people and institutions in the arts and culture community. Connecting both east sides and west sides of Main Street create instant depth to downtown Keene and abundant opportunity to create new and exciting spaces and destinations. Job creation and rising property values will follow. The Gilbo Arts and Culture Corridor is a clear economic priority for Downtown Keene and offers the best opportunity to promote local inclusive economic entrepreneurship and create long-term growth and new development/redevelopment in downtown.

Cheshire Rail Trail Connection

Most notably to mention is the unique connections to downtown by its area rail-trails and pathways and the positive economic impacts it can drive. The [Strengthening Connections: Downtowns & Trails](#) report completed by the University of NH Cooperative Extension on behalf of the City of Keene outlined that trails and natural spaces provide many benefits and services - some of which are quantifiable (such as spending on recreation) and others, such as improving water quality and flood control, as less easily quantified but nonetheless important. These “ecosystem services,” which are essentially benefits humans receive from nature, all

contribute to community wellbeing and quality of life.

In 2017, the Outdoor Industry Association reported significant economic benefits from the outdoor recreation economy and when outdoor recreation intersects with a community’s downtown center, strong economic outcomes follow. The outdoor recreation economy accounts for \$887 billion in annual spending, supports nearly 7.6 million jobs, and generates \$124.5 billion in annual federal, state and local tax revenue. Furthermore, according to U.S. Department of Commerce’s Bureau of Economic Analysis (BEA), the outdoor recreation economy in 2022 accounted for 2.2 percent of the overall U.S. Gross Domestic Product, contributing \$563.7 billion to the economy (BEA, 2022).

By focusing on rail trail and pathway connectivity to downtown, the **Revitalizing Downtown Keene** project will incorporate a raised table crosswalk with high visibility signage and pavements to recognize the importance of the trail crossing resource. Connecting Railroad Square to the Gilbo corridor now provides a pedestrian and bicyclist priority connection to downtown and its new protected bike lanes and widened sidewalks. The vast network of City rail trails and pathways that stretch hundreds of miles to and from the Keene community now connect to downtown Keene and can serve as an alternative transportation and recreation corridor.

KEY IMPACTS TO ECONOMIC COMPETITIVENESS:

- ▶ *Addresses equity as a principal project concern by integrating expanded transportation choice and universal design principals to downtown neighborhoods experiencing the disproportionate impacts that limit access*
- ▶ *Delivers primary project purpose of creating an opportunity corridor to promote local inclusive economies and entrepreneurship by defining the Gilbo corridor and the expansion of downtown and long-term economic growth*
- ▶ *Recognizes the importance of Keene's rail trails and pathways and the significance of having a downtown center connection*

D.6 STATE OF GOOD REPAIR

Keene’s downtown serves as an economic, social, and cultural hub for the city and surrounding Monadnock Region. Over the last 10-15 years, it has seen a transformation from retail to more entertainment-oriented activities as residents, visitors, and other users’ needs and interests have changed alongside economic shifts. Meanwhile, the last major downtown revitalization in Keene occurred in 1988 and this work has supported the Downtown for the last 30 years.

Most of the existing underground utility infrastructure services date back over 120 years, and roadway, sidewalk and open space areas have not been fully universally designed. Revitalization efforts in 1988 only included limited improvements

TABLE D-2. HOW PROJECT IMPACTS COMMUNITY CHALLENGES

Downtown Keene Challenges Today	Community Impact	Project Corridor Benefits	Community Impact
Aging utility infrastructure	Service disruptions + water quality issues	Upgraded water, sanitary sewer, drainage, + private utility infrastructure	High-quality + consistent utility services to residents + businesses that can withstand environmental challenges
Traffic congestion + delays	Increased travel times; Concentrated vehicle emissions + degraded air quality	Dedicated bike lanes increase safety + feasibility of non-vehicular transit to and from downtown	Reduced travel times for commuters + alternative mobility options for residents + visitors accessing downtown
Flood-prone areas	Creates delays + property damage	Improved drainage + stormwater management features manage excess water during heavy rain events	Safer environment for all users, less infrastructure + property damage
Lack of accessibility for all users	Creates barriers to the public realm and businesses for users of different abilities	Universal design features, wide paths, + ADA-accessible street crossings + curb cuts	Increased use by everyone, including children, people with disabilities, + seniors
Wide streets	Creates unsafe pedestrian environment	Reduced street widths on Main Street + Central Square	More comfortable environment for pedestrians to cross Main Street
Narrow sidewalks	Limits pedestrian travel + does not accommodate outdoor dining + public realm amenities	Flexible space + expanded sidewalk area added along Main Street	Creates space for sidewalk commerce + a more enjoyable + safer walking environment
Limited to no bicycle facilities	Makes biking downtown dangerous + deters cycling as a viable transportation option	Bike lanes at sidewalk grade + connections to regional rail trail network	Safer + more inviting conditions for biking that can connect users to downtown + beyond

and as such, Downtown infrastructure has seen failures and issues with capacity that are expected to continue and to increase. Operations and maintenance costs have never been higher to keep up with aging infrastructure.

Keene’s existing downtown environment and aging infrastructure pose several issues and concerns surrounding utility reliability, environmental impacts, traffic congestion, pedestrian and cyclist safety, limited access to public transit, and universal accessibility to the downtown’s public realm and businesses. Recognizing conditions are critical, the City has prioritized the replacement of underground water and sanitary sewer infrastructure to ensure it can effectively address future demand and development and redevelopment needs. With this comes the opportunity to transform the downtown streetscape into a dynamic corridor that accommodates expanding community uses, prioritizes multimodal and active transportation access, expands connections to downtown, and integrates climate adaptation and resiliency measures. New infrastructure can address traffic and public safety issues, create a universally accessible downtown, support a changing climate, and meet the demands on infrastructure that support the needs of Keene’s community over the next fifty years.

The Revitalizing Downtown Keene Project will

replace core utility infrastructure to a state of good repair to serve the downtown’s evolving resident and business population, improve intersection operations, upgrade the walking and cycling environment, create new flexible community spaces, and incorporate resiliency elements that will reduce flooding, support better air quality, and reduce the impacts of heat island effect. Reduction in roadway widths, crosswalk and sidewalk improvements, and new sidewalk grade bike lanes will prioritize people over cars and support the wider use of multi-modal transit across a greater diversity of groups including those with high social vulnerabilities. Furthermore, the project will cement Keene’s downtown as a hub within the regional trail network that threads through different neighborhoods and connects to areas of persistent poverty (APP) communities within and surrounding Keene. The increased accessibility provides alternative transportation choices for people to connect to downtown and the wider region.

The existing conditions of Downtown infrastructure including water and sanitary sewer mains, storm drainage systems, street pavements, sidewalks, and crosswalk ramps all contribute to high annual operations and maintenance costs. To manage its assets city-wide, the City maintains an extensive asset management data-base on street pavement and sidewalk conditions that support its comprehensive

Capital Improvement Plan. The following infrastructure assessments are summarized.

Main Street:

- ▶ Ramps: 50% of the ramps on Main Street are ADA non-compliant.
- ▶ Sidewalks: Sidewalks are in fair condition with a Sidewalk Condition Index (SCI) of 75. Sidewalk grades, irregularities and tripping hazards reduce overall effectiveness.
- ▶ Pavements: Pavement areas for Main Street is in fair condition with a Pavement Conditions Index (PCI) of 68. Sections of Main Street are on the verge of deteriorating into poor condition and requiring restoration beyond resurfacing in the next few years.

Washington Street:

- ▶ Ramps: 25% of the ramps on Washington Street are non-compliant.
- ▶ Sidewalks: Sidewalks are in good condition with an SCI of 89. Sidewalk grades, irregularities and tripping hazards reduce overall effectiveness.
- ▶ Pavements: Pavement area for Washington Street (within the Central Square area) is in fair condition with a PCI of 58. Sections of pavement area from Roxbury Street to Washington Street is in poor condition and needs to be reconstructed.

Court Street:

- ▶ Ramps: 50% of the ramps on Court Street are non-compliant.
- ▶ Sidewalks: Sidewalks are in good condition with



Keene's strong history of planning and civic engagement has contributed to the vibrancy of its downtown as a cultural and economic center.
Source: City of Keene

KEY IMPACTS TO STATE OF GOOD REPAIR:

- ▶ *The Project prioritizes the replacement of core water and sanitary sewer utilities throughout the downtown area*
- ▶ *Infrastructure replacement will include re-purposing space within the right-of-way to prioritize safety, expansion of multimodal access, and resilient and sustainable design for stormwater management*
- ▶ *The projects' focus on state of good repair is centered on design that promotes ease and consistency to reduce operations and maintenance costs*

an SCI of 83. Sidewalk grades, irregularities and tripping hazards reduce overall effectiveness.

- ▶ Pavements: Pavement area for Court Street is in fair condition with a PCI of 56. Sections along Court Street as well as West Street are in poor condition and need to be reconstructed.

Gilbo Avenue:

- ▶ Ramps: 25% of the ramps on Gilbo Avenue are non-compliant.
- ▶ Sidewalks: Sidewalks are in good condition with an SCI of 80. Sidewalk grades, irregularities and tripping hazards reduce overall effectiveness.
- ▶ Pavements: Pavement area for Gilbo Avenue is in fair condition with a PCI of 58. Sections along Gilbo Avenue are excessively wide and will be narrowed and sections where pavement is in poor condition will be reconstructed.

Water Infrastructure:

- ▶ Based on 2022 unaccounted water loss totaling 121.34 million gallons system wide, Downtown water systems account for about 1.37% of the total network pipe area. The estimated lost water from leakage is about 2,223 HCF. Proposed replacement of water mains and services assumes loss rate will reduce from 18% to 2% within the project area.

This project will address the non-compliant and substandard conditions throughout the Downtown corridor. In addition to maintaining the performance of the infrastructure within the downtown corridor in a state of good repair, it's critical to invest in and modernize the assets to be prepared for the impacts of climate change, so that the same or better level of service can be provided, and more climate friendly modes can be prioritized. Furthermore, by increasing travel by climate friendly modes (bus transit, walking/rolling, and biking) this project will help to reduce single occupancy vehicle traffic thereby reducing wear and tear on roads from personal vehicle use.

The City of Keene has the necessary equipment and budget to maintain this infrastructure once it is reconstructed. In addition to standard snow removal, the addition of bioswales and green infrastructure will require yearly inspection and period maintenance but is anticipated to reduce costs related to stormwater flooding and related damage, resulting on overall net decrease in ongoing costs. This net decrease in future Operations and Maintenance expenses is reflected in the negative ongoing costs in the BCA analysis.

D.7 PARTNERSHIP AND COLLABORATION

The City of Keene has completed this project using an inclusive and consensus-based approach. The City will continue its partnership with local businesses, residents, and visitors. The City will partner with FHWA and NHDOT to coordinate this project with other area roadway reconstruction projects as needed.

The comprehensive planning study has been completed and preliminary design is underway. A robust planning and engagement phase for preliminary design will continue. This includes a diverse range of stakeholders such as:

- ▶ Monadnock Region Chamber of Commerce
- ▶ Keene Downtown Merchants Association
- ▶ Southwest Regional Planning Commission
- ▶ NH Governor Chris Sununu
- ▶ NH Department of Transportation

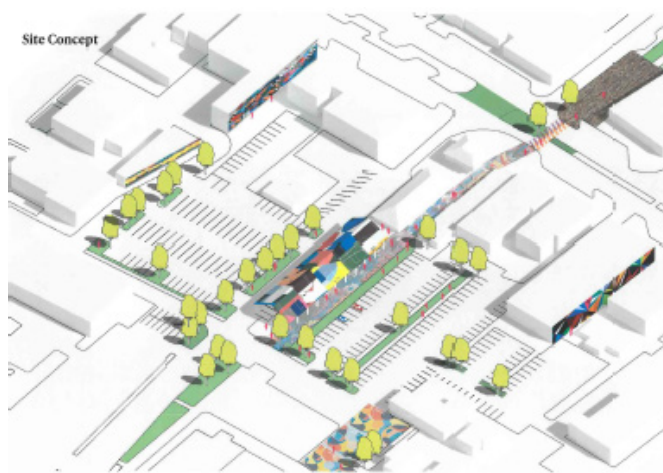
- ▶ Keene State College
- ▶ Colonial Theater
- ▶ Cheshire Medical Center
- ▶ Art's Alive
- ▶ Keene Bicycle, Pedestrian, Pathways Advisory Committee
- ▶ Keene Energy and Climate Advisory Committee

D.8 INNOVATION

Faced with the ever-changing challenge of a changing climate, extreme weather and temperatures, heavy precipitation, and more frequent inland storms, Keene residents surrounding the dense downtown center suffer from above average heat indexes and poorer air quality due to a combination of a thinning tree canopy and large expanses of impervious pavements. The City must be as lean and innovative as they can be to face the future.

Innovative Technologies

The project will establish a **centralized solar power and battery storage source** to power downtown street lighting, downtown electrical circuit for events, and EV charging stations. To accomplish this, the centralized solar power location will come in the form of a covered pavilion that will **serve as solar power platform but function as a covered event pavilion**. Located along Gilbo Avenue, the structure will anchor the Arts and Culture Corridor as a flexible space cover. Rooftop photovoltaic



Pavilion Structure, Art's Alive 2019 Arts Corridor Session

(PV) panels supported by a battery storage source will contribute to the downtown electrical power needs including on-street and plaza space lighting, downtown electrical power circuit for event uses and electric vehicle (EV) charging stations. The innovative centralized solar power source approach will help Keene achieve its **net zero goals**.

Innovative stormwater strategies offer multiple benefits, addressing both flooding and water quality improvement challenges. As technologies continue to improve, the use of innovative stormwater strategies have become more of the norm in some places, however Keene simply hasn't had the change to explore options with constrained downtown areas and limited funding.

Low Impact Development (LID) is designed to mimic natural water balances by combining infiltration, evaporation, and transpiration while limiting runoff. Revitalizing Downtown Keene will introduce state-of-the-art LID technologies including porous concrete or permeable pavers that allow water to pass through, reducing runoff.

Green Infrastructure (GI) integrates natural features into urban areas to manage stormwater including bioretention areas or rain gardens. This project will include planted depressions that capture and treat stormwater, bioswales and subsurface bio-treatment areas will improve water quality and reduce runoff. When design in unison with a robust tree canopy plan, benefits can be measurable. The project includes some 30 locations where Silva Cells can be installed to mitigate runoff flows and provide a good water source for trees, limiting the use of municipal water to support irrigation systems.

D.9 KEY BENEFITS

As detailed in the Benefit-Cost Analysis Report and summarized in Table D-3, the project will generate total benefits of \$24,545,416 over its 20-year life cycle. Benefits include improved traffic safety, vehicle travel times savings, emission reductions and vehicle operating costs. Benefits resulting in the reallocation of right-of-way space through lane reductions, widening sidewalks and adding protected bikes represents about 70% of all benefits.

KEY IMPACTS TO INNOVATION:

- ▶ *Addresses equity as a principal project concern by integrating innovative heat and stormwater resilience into the project design to defend against impacts of climate change*
- ▶ *Incorporating innovative technologies like a centralized solar power and battery storage structure that functions as an event pavilion but serves as the power needs of downtown lighting and electrical systems*
- ▶ *Expand on-street EV charging in key locations downtown to serve the needs of the community*

There is projected to be a significant increase in bicycling, walking/rolling as a result of the new bicycle and pedestrian infrastructure including up to 11,688 new trips by bike annually as a result of the Project. Benefits as a result in reductions in stormwater runoff, public health, reduced pavement damage avoidance round out the benefits.

The multimodal infrastructure that includes new pedestrian and bicycle facilities will enhance safety for all users. Raised crosswalks at sidewalk grade



The Keene Evening Sentinel mural at 28 Washington Street designed by Joe Diaz in partnership with Keene Walldogs.

TABLE D-3: SUMMARY OF QUANTITATIVE BENEFITS OVER PROJECT LIFE CYCLE

(in units of 2020\$ (rounded), discounted by prescribed 7%, with the exception of emissions reductions at 2%)

Description	Value
Benefit 1: Improved Traffic Safety	\$3,343,285
Benefit 2: Travel Time Savings	\$181,845
Benefit 3: Vehicle Operating Cost Savings	\$212,760
Benefit 4: Emissions	\$56,701
Benefit 5: Avoided Highway Externalities	\$64,196
Benefit 6: Amenity Benefits	\$12,682,942
Benefit 7: Health Benefits	\$4,933,077
Benefit 8: Pavement Damage Reduction	\$20,548
Benefit 9: Stormwater Runoff Avoided Infrastructure	\$508,698
Total Benefits	\$24,545,416
Capital Costs	\$18,123,279
Ongoing Costs	(\$2,542,047)
Residual Value	\$15,581,232
Total Costs	\$20,894,000
BENEFIT COST RATIO (BCR)	1.35
NET PRESENT VALUE (NPV)	\$6,422,136

on all side streets as well as crosswalks on Main Street that are raised tables with crossing signals allow non-vehicle users including seniors and people with disabilities, to have safe passage across streets.

In addition to improving opportunities to expand transit use, the project is anticipated to greatly expand walking and biking. The addition of healthy transportation options for residents will also have qualitative benefits in helping to provide healthy exercise options in the neighborhood.

In addition to quantitative benefits, the project will realize the following qualitative benefits:

- ▶ Long-term vitality of the commercial corridor, which lies within an area of persistent poverty, by reducing air quality impacts and providing pedestrian and bicycle infrastructure
- ▶ Creates an opportunity to expand downtown through investment on Gilbo Avenue and the Cheshire Rail Trail connecting the east and west sides of main Street
- ▶ Increased appeal and use of active transportation modes, which improve public health out-

- comes while minimizing transportation-related environmental impacts
- ▶ Opportunities for higher income jobs for local residents by providing direct, safe connections between the educational institutions and work-force development centers on the Corridors and regional job centers
- ▶ Minimized health and economic impacts of climate change and high heat indices for those living along the corridors through the employment of resiliency design features and innovative green stormwater management



E. PROJECT READINESS

E.1. OVERVIEW

The City of Keene administers and manages millions of federal grant dollars from various federal agencies including the US Department of Housing & Urban Development (HUD), the US Federal Highway Administration (FHWA), through its partner New Hampshire Department of Transportation (NHDOT), and the NH Department of Environmental Services (NHDES).

The City of Keene and its partners possess the technical experience to undertake this project, the practical experience and capacity to ensure that it meets state and federal requirements and that legal remedies are sought for noncompliance with specifications and/or construction deadlines, and the financial capacity to carry out this project to completion.

E.2. PROJECT SCHEDULE

As outlined in Section C.3, Project Budget, Level of Design, the City of Keene completed an extensive [Keene Downtown Improvement Project](#) planning phase in 2023 and preliminary design of this project began is underway and is expected to be complete in August 2024. Final design and permitting is included in the RAISE Grant scope of work and is expected to commence following successful award of this grant and agreement with FHWA.

If awarded in June 2024, we expect final FHWA Grant Agreement to be completed by September 2024 and final design will begin in October 2024. Final design, permitting, and final plans, specifications, and estimates (PS&E) will be completed in August 2025, with a Construction Contract Agreement and Notice to Proceed award by October 2025 – **well in advance of the statutory deadline of September 30, 2028, for obligation of project funds.** This favorable timeline is possible given the City’s commitment to the Revitalizing Downtown Keene project, its extensive public partnership in completing a comprehensive planning study for this project and

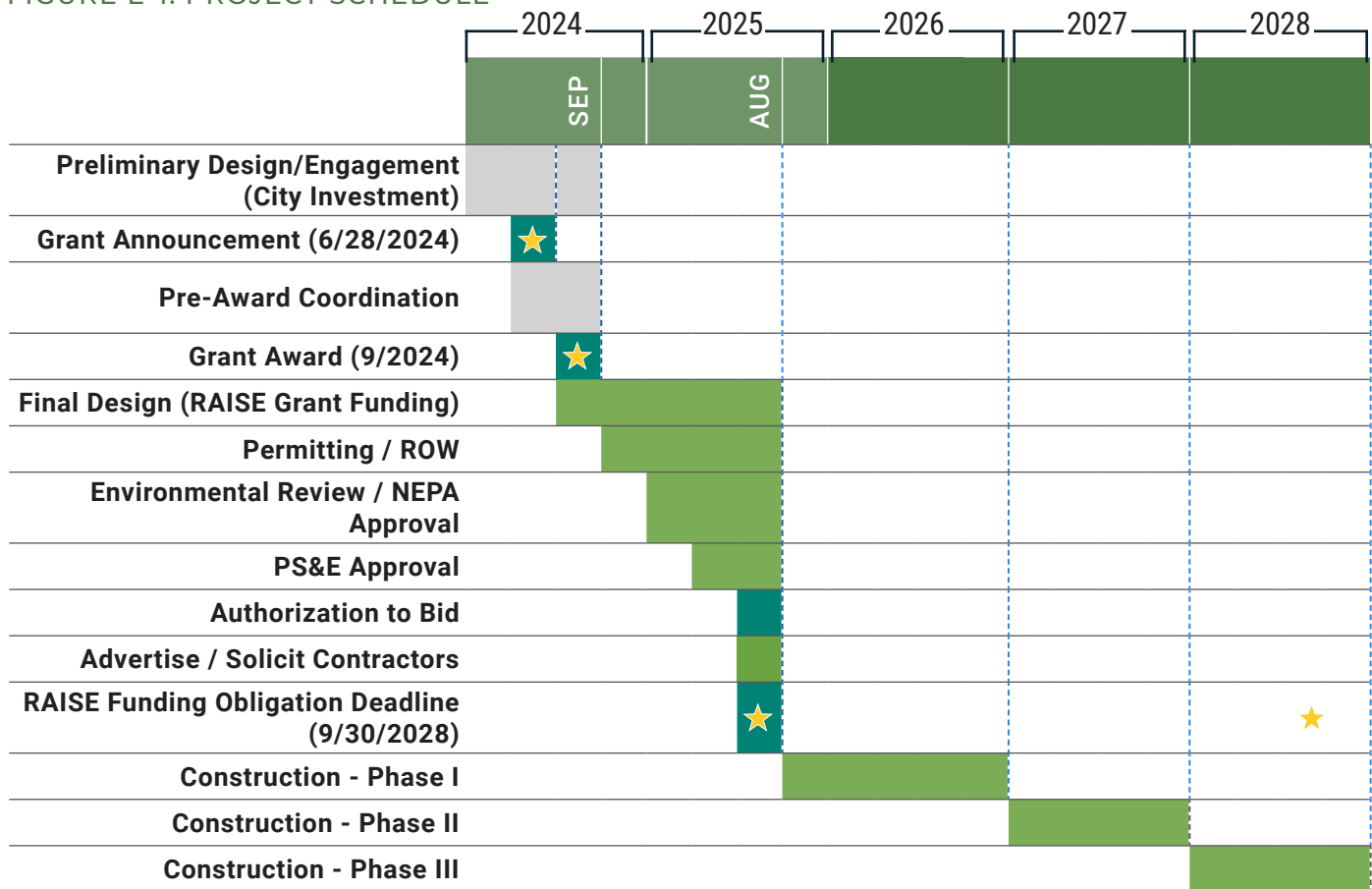
commissioning its preliminary design in advance of the RAISE Grant award.

The project includes three (3) phases of construction: Phase I – Central Square, Phase II - Main Street (North), Phase III – Main Street (South). Inclusive of the work is replacement of water and sanitary sewer main and services through the downtown area. Where this work is funded with City water and sewer enterprise funds, the water and sewer replacement work is non-participating in the Federal grant request. A detailed construction phasing plan will be developed to coordinate the work throughout downtown. It is expected that each phase will be completed in its entirety in each phase year. An extensive stakeholder communication will be development for critical communications during construction.

E.3. ENVIRONMENTAL RISK ASSESSMENT

The environmental risks for the Project are minimal. Federal environmental approvals for construction of this project would be required under the National Environmental Protection Act (NEPA) and Section 106 of the National Historic Preservation Act. It is expected that the FHWA would approve a Categorical Exclusion, as this project would take place entirely within the existing operational right-of-way (23 C.F.R. §771.117 (c)(3)). A Categorical Exclusion does not require documentation and normally requires a simple administrative approval. The NEPA process for this project is straight-forward because the project is contained within the existing right-of-way in the downtown corridor. The primary vertical elements limited to a transit shelters and signage would be located along the roadways thereby limiting visual effects to the surrounding area. It does not have potential to affect natural resources or to adversely impact air or noise thresholds, or Environmental Justice (EJ) populations. In fact, the Project will result in an improvement of natural resources and water quality through the extensive green infrastructure planned to minimize stormwater flows and improve water quality. Where every effort to minimize impacts to trees will be prioritized, the net count of trees will be significantly increased because of the project.

FIGURE E-1: PROJECT SCHEDULE



Agency correspondence and data review will be ongoing during the spring/summer of 2024.

The biggest risk anticipated as part of the Environmental Review will be related to cultural resources. Relatively limited historical impacts for the project lends itself to a streamlined Section 106 process. The City of Keene has experience in the Section 106 process for similar projects. It is expected that documentation, FHWA coordination, and State Historic Preservation Officer (SHPO) consultation can be completed in 6-months from the availability of information on the location and dimensions of overall infrastructure improvements. Initial consultation with SHPO and the NHDOT Bureau of Environment is expected to be complete by August 2024 as part of the preliminary design phase.

The City of Keene will provide documentation required to support the FHWA in Section 106 consultation with the NH Division of Historic Resources (NHDHR), which serves as the SHPO. During the comprehensive [Keene Downtown](#)

[Improvement Project](#) design study, documentation for a [Request for Project Review](#) was prepared by the project’s historic preservation team. The team’s efforts included review of NHDHR files via the online EMMIT platform and noted several resources in the Area of Potential Effects (APE) that have been surveyed on NHDHR inventory forms. These properties include the National Register-listed Colony’s Block at 4-7 Central Square, United Church of Christ at 23 Central Square, the Cheshire County Court House at 12 Court Street, and the Grace Methodist Episcopal Church at 34 Court Street.

Forms were completed for the Central Square District, Cheshire Railroad, and City Hall but needed more information to determine eligibility. The [Keene Main Street Historic District](#) includes resources just south of the Project Area from Water Street south to Route 101. While individual resources described in the Keene Main Street form are not part of the Project Area, this form provides context for the area and Main Street.

The Keene Townwide form completed in 1995 suggests areas that have potential to qualify as historic districts. Those included as part of or adjacent to the Project Area include:

- ▶ Central Square (mid-nineteenth through early twentieth century – mostly commercial)
- ▶ Court Street (mid-nineteenth through early twentieth century residential)
- ▶ Main Street (mid-eighteenth century through early twentieth century residential and commercial)
- ▶ Roxbury Street (nineteenth century residential)
- ▶ Washington Street (mid-late nineteenth century)

Several resources are also considered eligible for the National Register either as an individual resource or part of a historic district. However, it is expected that the project's effects to historic properties would not be adverse.

It is not anticipated that the FHWA will determine that there is a Section 4(f) Use of the USDOT Act. It is possible that the current trail along Cheshire Rail Corridor, which is the paved trail that travels east/west through Main Street, could be considered a Section 4(f) property. As this Project will improve the recreational use of this property, it is anticipated if a Section 4(f) determination is made, it would result in a de-minimis determination, which requires no further action. Should a Section 4(f) determination be required, the City would provide



National Register-listed sites at 1870 Colony's Block, 4-7 Central Square.(at right) and 1900 City Hall, 3 Washington Street (at left).

FHWA with the documentation necessary to support issuing a determination.

E.4. FEDERAL, STATE, AND LOCAL APPROVALS

Other than an EPA Construction General Permit, no federal environmental permits are anticipated to be required. At the State and Local level, there are no jurisdictional wetlands within the project area that will require a Wetlands permit, or water bodies that would trigger the need for a Shoreland Permit through NHDES. Project impacts will exceed the threshold for an Alteration of Terrain (AoT) permit through NHDES. The City is well versed in this process and the full project will be permitted in accordance with current AoT requirements. The City's intent to incorporate green infrastructure into the project will simplify this process, as will the fact that the project is likely to maintain or even slightly decrease the impervious area within the project limits.

In addition, no other thresholds for environmental review would be triggered by the Project. As part of the community engagement process and preliminary design, the Keene Public Works Department maintains a continually updated project website and will continue its open and transparent design development process through final design.

The project will be added to the NHDOT State Transportation Improvement Plan (STIP) as well as the Southern NH Regional Planning Commission (SNHRPC) Regional Transportation Improvement Plan (TIP). Letters of support from State and Regional officials have been included in the [Letters of Support](#) section for this project.

E.5 ASSESSMENT OF PROJECT RISKS AND MITIGATION STRATEGIES

The proposed project does not include any significant material risks. The proposed project does not require the acquisition of any land, vehicles, or abnormal construction materials. The City has already engaged private utility companies that have infrastructure in the project area - all of which is underground. The utilities are on board with the

project and will be collaborating with the City to upgrade some of their infrastructure along with this project. No aerial relocations will be necessary. The City has indicated that previous contaminated soils encountered within the Main Street/Emerald Street intersection area (site of a former gas service station) were remediated and removed. Although we don't expect to encounter additional contaminated soils in this area, a geotechnical investigation to support new structural elements and stormwater BMP's will be conducted as part of the preliminary and final design efforts. The effort will also confirm any limits of extended contaminated soils and develop mitigation plans if necessary.

The greatest risks that the proposed project faces are continued escalation of construction costs and unanticipated shortages of construction labor or materials. While these risks are difficult to prevent, steps have been taken to mitigate the potential impacts of these risks. Conservative estimates for construction unit costs have been utilized to determine the overall project cost estimate and appropriate annual inflation rates have been applied to the costs. Additionally, the proposed project schedule is relatively conservative and would allow ample time for bidding and Contractor procurement of necessary materials.

E.6 TECHNICAL CAPACITY

The City of Keene is the largest community in Cheshire County and is the center of western New Hampshire's commerce and transportation networks. City staff managing the 37 square miles of land area have a depth of experience and resources to both understand and adhere to the regulations and oversight requirements associated with a project of this magnitude. The City is responsible for the maintenance of 121 miles of roads within the community, which include several State routes and designated truck routes carrying large volumes of traffic, and 8.4 miles of formal shared street bicycle facilities (sharrows and bike lanes). The City also features an extensive rail-trail and pathway network totaling over 12 miles. There are also 12.3 miles of unimproved bike trails on City-owned land.

The City of Keene regularly completes State and Federally aided projects and possesses the



Existing street configuration near Central Square.

technical experience to undertake this project, the practical experience (and legal capacity) to ensure that it meets state and federal requirements and that legal remedies are sought for noncompliance with specifications and/or construction deadlines, and the financial capacity to carry out this project to completion. Staff have been trained to manage Federally funded projects through the Office of Federal Compliance administered by the NHDOT.

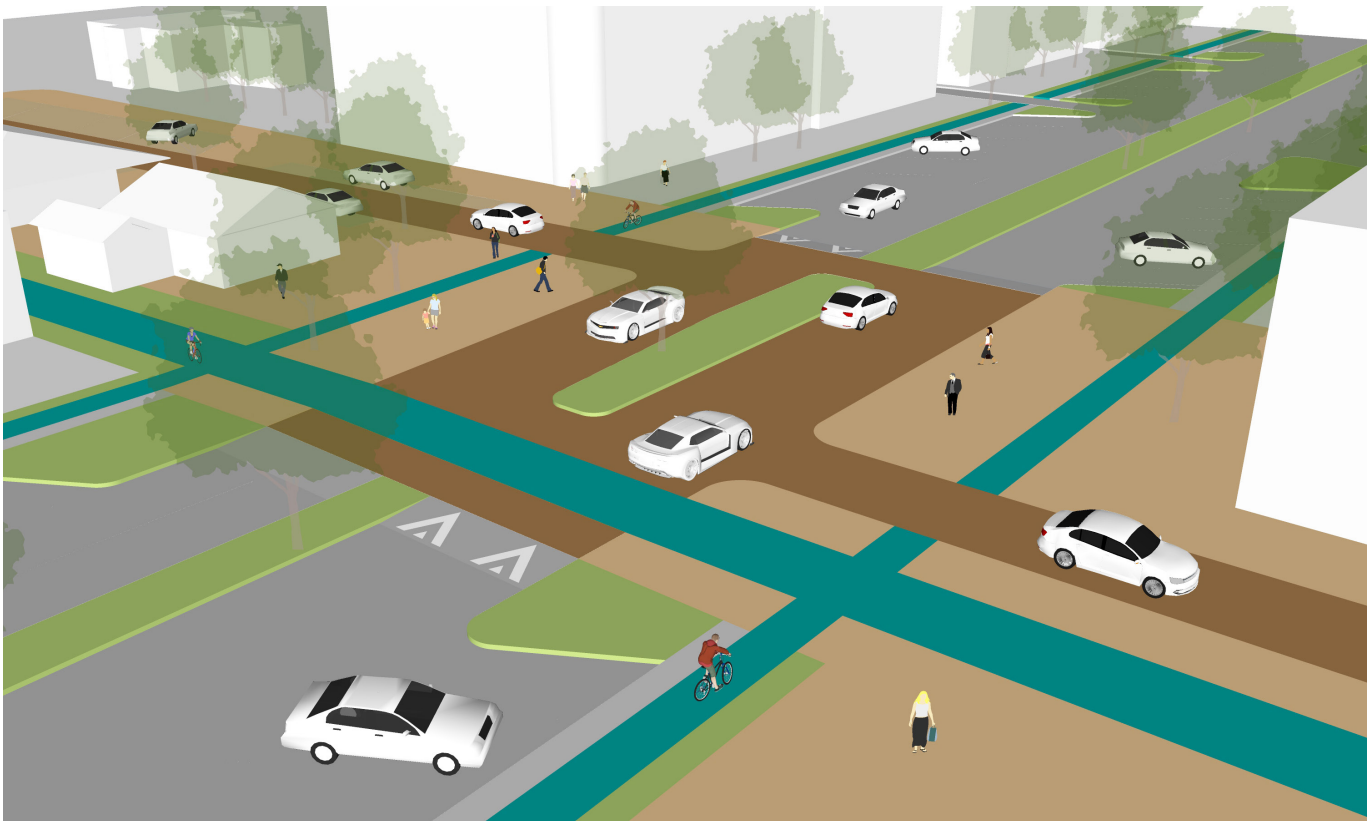
The Keene Public Works Department and Finance Department have the financial accounting and audit systems in place and has substantial experience effectively managing large federal grants and executing large-scale transportation projects. The Keene Purchasing Department has developed an array of standardized participating and non-participating Federal contract documents including the use of requirements such as Buy American, Davis-Bacon Wage Rates; and follows the Brooks Act for qualification-based selection processes for its service providers.

As the steward of the public rights-of-way in question, the City prioritizes accessible and inclusionary public outreach efforts during project design, allowing opportunity for all community members to participate. Through a qualifications-based selection process, the City of Keene has engaged a consulting design team to support both the planning study and preliminary design of this project. It is expected that consulting design and construction administration teams will be assigned to complete final design and construction services for this project.

FIGURE E-2: RENDERING OF PROPOSED PROJECT IMPROVEMENTS AT CENTRAL SQUARE



FIGURE E-3: PERSPECTIVE OF PROPOSED PROJECT IMPROVEMENTS AT RAILROAD SQUARE



Revitalizing Downtown Keene Benefit-Cost Analysis



**BENEFIT-COST ANALYSIS
TECHNICAL MEMORANDUM**
Revitalizing Downtown Keene

February 28, 2024

Prepared for:
RAISE Grant Program

Prepared by:
The City of Keene with Stantec Consulting, Inc.



Attachment 3

Table of Contents

EXECUTIVE SUMMARY	1
1 INTRODUCTION.....	1
2 GENERAL ASSUMPTIONS.....	5
3 PROJECT COSTS.....	6
3.1 Capital Costs	6
3.2 Operations and Maintenance	7
3.3 Residual Value	9
4 PROJECT BENEFITS.....	10
4.1 Baseline Assumptions	11
4.1.1 Baseline Existing & Growth in Demand by Mode.....	11
4.1.2 Annualization	12
4.1.3 New/Induced Annual Person Trips.....	13
4.1.4 VMT Reduction.....	13
4.1.5 No Build VMT	14
4.2 Benefit calculations.....	15
4.2.1 Safety: Crash Reduction.....	15
4.2.2 Vehicle Travel Time Savings.....	22
4.2.3 Vehicle Operating Cost Reduction	23
4.2.4 Change in Emissions.....	24
4.2.5 Avoided Highway Externalities	25
4.2.6 Mobility Amenity Benefits	25
4.2.7 Health Benefits	29
4.2.8 Pavement Damage Reduction	30
4.2.9 Stormwater Runoff Reduction	30
5 SUMMARY	33



EXECUTIVE SUMMARY

The City of Keene is requesting **\$13,729,600** in fiscal year 2024 RAISE discretionary grant funds for construction of the “Revitalizing Downtown Keene” Project (hereafter referred to as “the Project”). A benefit cost analysis was completed for the Project on behalf of the City of Keene in accordance with the benefit-cost analysis (BCA) methodology as outlined by the U.S. Department of Transportation (USDOT) in the Benefit-Cost Analysis Guidance for Discretionary Grant Programs dated December 2023.

The analysis estimates that the total discounted project benefits will be **\$24,545,416** 2022\$ over 20 years, shown in Table 1. The benefit cost ratio (BCR) is estimated at **1.35** and the net present value (NPV) at **\$6,422,136** 2022\$ for the Project. Paired with a qualitative assessment of the project, it is clear community benefits from the Project far exceed project costs.

The Project will reshape two of the most important corridors in Downtown Keene - Main Street and Gilbo Avenue - into multimodal links which offer safer, more comfortable, and faster connections for all users.

Table 1 – Project Benefits Summary

Benefit #	Benefit Description	Merit Criteria	Monetized Benefits (Discounted at 3.1%)
1	Safety: Improved traffic safety and crash reduction	Safety Improved Mobility & Community Connectivity	\$3,343,285
2	Vehicle Travel Time Savings	Quality of Life Improved Mobility & Community Connectivity	\$181,845
3	Vehicle operating cost reduction	Economic Competitiveness Environmental Sustainability	\$212,760
4	Emissions reduction: (a) non-CO2 and (b) CO2	Environmental Sustainability	<u>Non-CO2:</u> \$4,910 <u>CO2:</u> \$51,791 (note that CO2 emissions are discounted at 2%)
5	Avoided Highway Externalities: (a) reduced congestion, (b) reduced noise pollution, (c) improved safety resulting from overall reduction in vehicle travel	Quality of Life State of Good Repair Safety Improved Mobility & Community Connectivity	\$64,196
6	Mobility amenity benefits: (a) Expand sidewalk, (b) Reduce traffic speed, (c) New dedicated cycling lane	Quality of Life Improved Mobility & Community Connectivity	\$12,682,942
7	Public health benefits (improved health): (a) related to	Quality of Life	\$4,933,077



Revitalizing Downtown Keene Benefit-Cost Analysis

Benefit #	Benefit Description	Merit Criteria	Monetized Benefits (Discounted at 3.1%)
	walking and (b) related to cycling		
8	Pavement Damage Reduction	Economic Competitiveness Environmental Sustainability	\$20,458
9	Stormwater Avoided Infrastructure Costs	Economic Competitiveness Environmental Sustainability	\$508,698
	Operations and Maintenance Savings	NA	(\$2,542,047) <i>Negative number</i>
All Benefits			\$24,545,416*
*Note that this number is not the same as the sum of the benefits because of order of operations. To calculate the total discounted benefits, benefits (including O&M) are aggregated by year, discounted by year, then summed together for all years of the analysis period.			

In comparison, the monetized and discounted costs are summarized in Table 2. The full **\$20,902,000** in capital costs was converted to the discounted cost, **\$18,123,279**, by applying a 3.1% discount rate. The ongoing Operations and Maintenance Costs are estimated to be a savings (negative cost) because the new roadways will cost less to maintain than it would cost to continue to maintain the existing aging infrastructure. The residual value is calculated to be \$0 because the design life of the project is assumed to be the same as the analysis period of this BCA, 20 years.

Table 2 – Project Costs

Cost Description	Monetized Costs* (Discounted)
Capital Costs	\$18,123,279
Operations and Maintenance Costs	(\$2,542,047)
Residual Value	\$0
All Costs	\$15,581,232

The following project benefits were modeled quantitatively within the BCA:

1. **Safety** due to multimodal safety improvements
 - a. Leveraging historical 5-year crash data, traffic safety benefits were modeled by forecasting collision reduction as a result of the following safety countermeasures:
 - i. Reduce Lane Width
 - ii. Install Bicycle Lane
 - iii. Upgrade to High Visibility Crosswalk
 - iv. Install Raised Ped Crosswalks
2. **Vehicle Travel Time Savings** due to operational improvements at the intersection of Main Street at West Street/Roxbury Street
 - a. Vehicle travel time savings were estimated by aggregating peak hour intersection delay improvements, converting to person trips, and scaling to an annual estimate
3. **Vehicle Operating Cost Reduction** due to mode shift



Revitalizing Downtown Keene Benefit-Cost Analysis

- a. Vehicle operating cost savings were modeled by estimating the reduction in vehicle-miles travelled (VMT) as a result of the mode shift from driving to walking or biking, induced by the enhanced walking and biking facilities provided by the Project
4. **Emissions Reduction** due to mode shift
 - a. Emissions reduction benefits were modeled by applying the emissions costs per VMT to the reduction in VMT, as a result of the mode shift from driving to walking or biking, induced by the enhanced walking and biking facilities provided by the Project. Modeled for both:
 - i. **non-CO2 emissions**
 - ii. **CO2 emissions**
5. **Avoided Highway Externalities** due to mode shift
 - a. Highway externality benefits were modeled by estimating the reduction in VMT as a result of the mode shift from driving to walking or biking, induced by the enhanced walking and biking facilities provided by the Project. Modeled externalities include:
 - i. **Congestion**
 - ii. **Noise**
 - iii. **Safety**
6. **Amenity Benefits** for people walking and cycling due to improved amenities and facilities
 - a. Pedestrian and bicyclist mobility amenities benefits were modeled by estimating the existing plus new/induced person-miles of walking or cycling on segments associated with the following benefits:
 - iii. **Expand sidewalk**
 - iv. **Reduce traffic speed**
 - v. **New dedicated cycling lane**
7. **Health Benefits** due to an increase in active transportation miles travelled
 - a. Public health benefits were modeled by estimating the new/induced person-miles of active transportation, induced from driving, within the appropriate age ranges for both:
 - vi. **Walking**
 - vii. **Cycling**
8. **Pavement Damage Reduction** due to mode shift
 - a. Pavement damage benefits were modeled by estimating the reduction in VMT as a result of the mode shift from driving to walking or biking, induced by the enhanced walking and biking facilities provided by the Project
9. **Stormwater Runoff Reduction** due to Green Infrastructure
 - a. Calculated using the Triple Bottom Line (TBL) Green Stormwater Infrastructure (GSI) Tool developed by the Water Research Foundation as part of project 4852, Economic Framework and Tools for Quantifying and Monetizing the Triple Bottom Line Benefits of Green Stormwater Infrastructure

The quantitative benefits of the project were modeled to determine their contribution to the BCR. This BCA report describes the detailed methodology for how these benefits were determined, including sample calculations.

For further information on the calculations and assumptions, you are invited to review in detail the enclosed unlocked Excel workbook containing the full BCA Model (Attachment 10 of the grant submittal).



1 INTRODUCTION

The City of Keene is requesting **\$13,729,600** in fiscal year 2024 RAISE discretionary grant funds for construction of the Keene: Revitalizing Downtown Keene Project (hereafter referred to as “the Project”). The City will provide **\$7,172,400** in local funds to support this project, which will cost **\$20,902,000** in total. This project will complete a 2-year community-driven planning and design process leading to the construction of a project that will:

- Allow Downtown to better accommodate entertainment-oriented activities that bring the community together and enhance the Downtown’s vibrancy
- Prioritize the pedestrian environment and non-vehicular modes of travel
- Create a mobility hub that connects the area’s trail network, bringing more people to Keene’s Downtown businesses
- Connect Areas of Persistent Poverty (APP) communities in Keene and beyond to the Downtown
- Support a more sustainable built environment that shapes/sets precedent for the community’s climate resilience by integrating innovative green infrastructure for stormwater management, mitigating heat island effect, and introducing solar powered street lighting, EV charging and a Downtown electrical circuit for public event use
- Deliver on the primary project purpose of creating an opportunity corridor to promote local inclusive economies and entrepreneurship by defining the Gilbo Avenue corridor and the expansion of Downtown for long-term economic growth

The project will enhance Downtown utility infrastructure resilience by upgrading the existing utility systems to better withstand needs and environmental challenges. It will further define and revitalize connections to Keene’s Downtown district by improving access to multimodal transportation and facilitating a more pedestrian-friendly environment.

The project will create more open, flexible, and accessible spaces to expand community event opportunities. Collectively, the project’s components aim to promote a sustainable and resilient built environment that offers alternatives to single-occupied vehicles (SOV), reduces carbon emissions, creates safer streets, and implements green stormwater and sustainable infrastructure within Keene’s Downtown core.

A benefit cost analysis was completed for the Project on behalf of the City of Keene in accordance with the BCA methodology as outlined by the USDOT in the Benefit-Cost Analysis Guidance for Discretionary Grant Programs dated December 2023. The analysis estimates the BCR at **1.35** and the NPV at **\$6,422,136**. This analysis gives a clear indication that the project should proceed as the BCR is significantly higher than 1.00. Paired with a qualitative assessment of the project, it is clear that there are benefits in each of the merit criteria areas.

Revitalizing Downtown Keene Benefit-Cost Analysis

The Project is described in the Narrative, and Table 3 below provides an overview of key proposed design elements compared to existing characteristics that are relevant to the BCA analysis. The project includes corridor improvements at Central Square and on Main Street and Gilbo Avenue; corridors that facilitate and provide circulation to and through Downtown Keene.

Table 3 – Proposed Street Profile Changes

Location	Element	Existing	Proposed
Central Square	Vehicle	Average lane width of greater than 11 feet	Average lane width of 11 feet
	Bicycle	No bicycle facility	Add new 5-foot sidewalk-level protected bike lane
	Walking	Faded crosswalks	Moderate change to sidewalk width Shorten crossing distances Upgrade to high visibility and raised crosswalks at all side streets
	Parking	<i>No Change</i>	<i>No Change</i>
	Plantings	Thinning tree canopy, shrubs, and plants, failing irrigation system	Significant tree and plantings plan, preservation of priority trees, replace irrigation system
	Stormwater Management	Aging drainage systems, under capacity, prone to flooding	Replace drainage systems, reduce impervious area, infiltration systems to reduce runoff
Main Street (Central Square to Winchester Street)	Vehicle	Average lane width of 13 feet	Average lane width of 11 feet
	Bicycle	No bicycle facility	Add new 5-foot sidewalk-level protected bike lane
	Walking	Average sidewalk width of 11.1 feet Faded crosswalks	Average sidewalk width of 13 feet Upgrade to high visibility and raised crosswalks at all side streets Add Rectangular Rapid Flashing Beacon (RRFB) to Main Street at Gilbo Avenue / Railroad Avenue crossing
	Parking	Angled parking on center median and adjacent to curb	Remove center median angled parking
	Plantings	Thinning tree canopy, shrubs, and plants, failing irrigation system	Significant tree and plantings plan, preservation of priority trees, replace irrigation system
	Stormwater Management	Aging drainage systems, under capacity, prone to flooding	Replace drainage systems, introduce bio-treatment, Silva Cells, infiltration systems to reduce runoff
Gilbo Avenue (Main Street)	Vehicle	Average lane width of 21 feet	Average lane width of 11 feet
	Bicycle	<i>No Change</i>	<i>No Change</i>

Revitalizing Downtown Keene Benefit-Cost Analysis

Location	Element	Existing	Proposed
to School Street)	Walking	Average sidewalk width of 8 feet	Average sidewalk width of 12 feet
	Parking	<i>No Change</i>	<i>No Change</i>
	Plantings	Thinning tree canopy, shrubs, and plants, failing irrigation system	Significant tree and plantings plan, preservation of priority trees, replace irrigation system
	Stormwater Management	Aging drainage systems, under capacity, prone to flooding	Replace drainage systems, reduce impervious area, introduce bio-treatment, Silva Cells, infiltration systems to reduce runoff

The table below describes the quantified project benefits and costs:

Table 4 – Project Benefits Matrix

Benefit #	Section Reference in RAISE BCA Report	Benefit Description	Change causing benefit	Type of Impacts	Population Affected by Impacts	Economic Benefit	Monetized Benefits (Discounted at 3.1%)
1	4.2.1	Safety: Improved traffic safety and crash reduction	Implementation of the following safety countermeasures: <ul style="list-style-type: none"> • Reduce Lane Width • Install Bicycle Lane • Upgrade to High Visibility Crosswalk • Install Raised Ped Crosswalks 	Reduced collisions involving people walking, bicycling, and driving	All future users walking, bicycling, or driving on the study corridors	Monetized value of collision reduction	\$3,343,285
2	4.2.2	Vehicle Travel Time Savings	Improved signal operations at Main Street at West Street/Roxbury Street	Improved vehicle travel time through reduced delay at the signalized intersection	All future drivers or passengers who travel through this intersection in a vehicle	Monetized value of time spent travelling	\$181,845
3	4.2.3	Vehicle operating cost reduction	Reduction in VMT due to mode shift due to enhanced walking and biking facilities	Reduced user vehicle operating costs because of fewer VMT	All future users walking or biking on the study corridors (directly) and local business owners (indirectly)	Monetized value of additional investment into the local economy permitted by user cost savings	\$212,760

Revitalizing Downtown Keene Benefit-Cost Analysis

Benefit #	Section Reference in RAISE BCA Report	Benefit Description	Change causing benefit	Type of Impacts	Population Affected by Impacts	Economic Benefit	Monetized Benefits (Discounted at 3.1%)
4	4.2.4	Emissions reduction: (a) non-CO2 and (b) CO2	Reduction in VMT due to mode shift due to enhanced walking and biking facilities	Reduced emissions because of fewer VMT	Residents, employees, and visitors of Downtown Keene	Monetized value of reduced emissions	Non-CO2: \$4,910 CO2: \$51,791 (note that CO2 emissions are discounted at 2%)
5	4.2.5	Avoided Highway Externalities: (a) reduced congestion, (b) reduced noise pollution, (c) improved safety resulting from overall reduction in vehicle travel	Reduction in VMT due to mode shift due to enhanced walking and biking facilities	Reduced congestion, noise pollution, and collisions because of fewer VMT	Residents, employees, and visitors of Downtown Keene	Monetized value of reduced congestion, reduced noise pollution, and improved safety	\$64,196
6	4.2.6	Mobility amenity benefits: (a) Expand sidewalk, (b) Reduce traffic speed, (c) New dedicated cycling lane	(a) Expanded sidewalk, (b) Reduced traffic speed due to lane narrowing, (c) New dedicated cycling lane	Enhanced cycling and walking experiences on the study corridors	All future users walking or biking on the study corridors	Monetized value of improvement bike and pedestrian infrastructure	\$12,682,942
7	4.2.7	Public health benefits (improved health): (a) related to walking and (b) related to cycling	Increase in active mode trips due to enhanced walking and biking facilities	Improved public health as a result of more active lifestyles (increase in active mode trips)	New users walking or biking on the study corridors	Monetized value of health benefits and a lesser burden on the local healthcare system	\$4,933,077
8	4.2.8	Pavement Damage Reduction	Reduction in VMT due to mode shift due to enhanced walking and biking facilities	Reduced pavement damage as a result of fewer VMT	All future road users (directly) and all local taxpayers (indirectly)	Monetized value of pavement damage avoidance	\$20,458
9	4.2.9	Stormwater Avoided Infrastructure Costs	New Green Infrastructure, Reconnect roof drainage from sewer system to	Reduced Stormwater Runoff and reduced treatment of stormwater at	City of Keene (direct) taxpayers (indirect)	Monetized value of savings in stormwater infrastructure	\$508,698

Revitalizing Downtown Keene Benefit-Cost Analysis

Benefit #	Section Reference in RAISE BCA Report	Benefit Description	Change causing benefit	Type of Impacts	Population Affected by Impacts	Economic Benefit	Monetized Benefits (Discounted at 3.1%)
			drainage system	sewer facilities.			

The final BCR of **1.35** and NPV of **\$6,422,136** indicate that the Project will generate a significant return on investment, with respect to safety, quality of life, and environmental sustainability for the local community along the project corridor.

2 GENERAL ASSUMPTIONS

The BCA for the Revitalizing Downtown Keene project was completed as described below to assess the level to which the expected benefits of the project justify the costs. The BCA compared a “No-Build” scenario with the proposed “Build” Scenario to document the expected benefits.

The detailed BCA was conducted for the Project using best practices for BCAs in transportation planning and reflecting current RAISE BCA guidance (USDOT BCA Guidance for Discretionary Grant Programs – December 2023). All calculations were made using a BCA spreadsheet template, provided by USDOT. All dollar figures in the BCA are expressed in constant 2022 US Dollars (2022\$). Detailed values are provided in the BCA model spreadsheet.

Values within the BCA model are subjected to a 3.1% discount rate, except for carbon emission reduction benefits which use a 2% discount rate, in accordance with BCA best practices and the RAISE BCA guidelines. However, values within this memo, such as sample calculations, may be reported in undiscounted dollars to show consistency with source data and make the underlying calculations easier to understand. Where values are discounted within the memo, it will be indicated.

The analysis was performed over the period from 2024 to 2048 (inclusive), with 2024-2028 being the design/construction years and 2029-2048 being the 20-year analysis period in which all project elements are open to the public and realize societal benefits.

The 20-year analysis period was used for this BCA analysis because it matches the expected useful service life of the roadway. The RAISE BCA guidelines recommend a 30-year analysis period for the initial construction or full reconstruction of highways or similar facilities and a 20-year analysis period for projects aimed at capacity expansion or to address other operating deficiencies of existing facilities.

3 PROJECT COSTS

3.1 CAPITAL COSTS

The costs associated with the project include final design, continued community engagement, engineering costs, pre-construction activities, construction costs, and construction inspections. These costs are reported in Table 5 in undiscounted (2022\$) dollars and in discounted (at 3.1%) dollars. The cost that uses 2022\$ were discounted to present value and are used in the BCR calculation.

Construction costs were estimated based on a variety of sources including the New Hampshire Department of Transportation (NHDOT) weighted bid unit prices, recent bids for work in the City of Keene and surrounding municipalities. Estimates generally draw on pricing from 2022 to reflect recent cost escalations. Quantity assessments were derived from the corridor schematic designs and initial preliminary design for most of the largest items. Estimates for smaller items were based on total corridor length or area. For more information on specific items, see Attachment 5, project cost estimate and Attachment 3, Project description.

Corridor preliminary design assumptions include:

- Costs for drainage were based on required inlet spacing and changes to inlet locations.
- Repaving of approximately 1.6 miles of roadway.
- Signal upgrades will be required at the Main Street at West Street/Roxbury Street intersection to support lane configuration changes, signal coordination, and improved pedestrian crossings.
- Mobility upgrades such as Bump Outs/Bulbs, raised tabled crosswalks, and a Rapid Rectangular Flashing Beacon (RRFB)
- Protected sidewalk-level bicycle lanes along Main Street and Central Square
- Full Reconstruction of Railroad Square and expansion of Central Square

Contingency, traffic control, and mobilization/demobilization were incorporated using the percentages listed below. Contingency is included to plan for anticipated inflation costs as well as any potential tweaks to the design. Given that preliminary design is underway, a reduced 13% contingency accounts for potential changes including anticipated inflation in costs.

- Contingency – 13%
- Traffic Control – 10%
- Mobilization/Demobilization – 10%

Revitalizing Downtown Keene Benefit-Cost Analysis

Table 5 – Project Costs

	Design Cost (RAISE)	Design Cost (Non-Par)	Construction Cost (RAISE)	Construction Cost (Non-Par)	Annual Totals (undiscounted 2022\$)	Annual Totals (discounted 3.1%)
2024	\$266,666.67	\$180,000.00			\$ 446,666.67	\$420,209.84
2025	\$533,333.33	\$360,000.00	\$543,312.00	\$271,828.00	\$ 1,708,473.33	\$1,558,950.08
2026			\$4,889,808.00	\$2,446,452.00	\$ 7,336,260.00	\$6,492,920.02
2027			\$3,848,000.00	\$1,982,000.00	\$ 5,830,000.00	\$5,004,667.49
2028			\$3,648,480.00	\$1,932,120.00	\$ 5,580,600.00	\$4,646,531.69
Total Project Costs	\$800,000.00	\$540,000.00	\$12,929,600.00	\$6,632,400.00	\$ 20,902,000.00	\$18,123,279.11

For the BCA ratio calculation, the costs (like the benefits) are discounted at 3.1% to calculate the present value. The undiscounted and discounted capital costs are both shown in Table 5 for each year of the preconstruction and construction periods.

3.2 OPERATIONS AND MAINTENANCE

Operations and Maintenance costs incorporated into the BCA represent the difference between maintenance that would be required under a No Build scenario and the maintenance required in the Build scenario. The estimated maintenance in the Build scenario, with the implementation of the Project, is less than the estimated maintenance in the No Build scenario, if the current aging infrastructure would need to be maintained for the next 20 years. Therefore, over the analysis period and design life of the project (20 years) the implementation of the project results in an Operations and Maintenance savings (or a net negative Operations and Maintenance cost) of (\$207,116) annually, undiscounted.

Table 6 – Operations and Maintenance Costs

Description of Cost Element	Annual No-Build Estimated O&M Cost	Annual Proposed Build Estimated O&M Cost	Basis of Estimate
Infiltration and Inflow (I&I) flow from leaking sewer mains	\$33,393.00	\$3,339.30	Current conditions volumes of I&I based on 2015 I&I Study. Subbasin #1 included all of the project area (plus additional areas surrounding the project). The Downtown footprint includes approximately 6.22% of Subbasin #1 pipes. Estimated Infiltration from leaking pipes within the project limits total 5,309 HCF. For the purposes of this analysis, it was assumed that all CIPP pipes in the system (including those within the project limits) have a 0% Infiltration rate. In the proposed condition, infiltration should be <10% of existing

Revitalizing Downtown Keene Benefit-Cost Analysis

Description of Cost Element	Annual No-Build Estimated O&M Cost	Annual Proposed Build Estimated O&M Cost	Basis of Estimate
			I&I, as all pipes and structures are pressure tested as part of construction QA/QC.
Lost Water cost	\$11,892.00	\$1,321.00	Based on 2022 "unaccounted water" of 121.34 million gallons system wide and approximately 1.37% of network pipe wall area being within the project footprint. Downtown estimated lost water from leakage equals approximately 2,223 HCF, at a rate of \$5.35 cost to produce. Proposed condition assumes loss rate will reduce from current 18% to 2% within the project footprint.
I&I flow from connected roof drains	\$83,900.00	\$12,585.00	Runoff from all Downtown building roofs enters the sanitary sewer system. Drainage stubs will be installed to connect roof drainage. Assume 85% of private property owners take advantage of project to re-plumb their buildings so that stormwater runoff enters the stormwater system. The City will no longer incur costs to treat this runoff as sewage at the treatment plant
Downtown electricity use, mostly for street lighting, some for decorative lights and power pedestals	\$13,126.00	\$3,000.00	Assume all Downtown power needs will be provided by a central solar power system following construction. Assume minimal annual maintenance costs for central power bank.
Streetlight pole replacement from damage	\$10,000.00	\$10,000.00	Likely no improvement for streetlight replacement from driver damage
Irrigation system Repairs	\$9,000.00	\$-	Highway Division records
Response to street flooding	\$500.00	\$-	Highway Division records
Drainage system emergency repairs	\$628.00	\$-	Extracted from Cartegraph; Stormwater Pipe and Inlet tasks of within an activity of repair, replace or rebuild, averaged over a 5-year period. No emergency repairs expected over 20-year design life.
Tree Trimming	\$2,500.00	\$1,000.00	Highway Division records
Tree Removal	\$5,000.00	\$-	Highway Division records

Revitalizing Downtown Keene Benefit-Cost Analysis

Description of Cost Element	Annual No-Build Estimated O&M Cost	Annual Proposed Build Estimated O&M Cost	Basis of Estimate
Tree pest control treatment	\$1,500.00	\$-	Highway Division records
Traffic Signal Repair services	\$3,000.00	\$1,500.00	Highway Division records
Electrical pedestal repair & maintenance	\$15,000.00	\$1,000.00	Highway Division records
Community event protocols	\$79,720.00	\$59,790.00	No Build budget based on 2023 actual costs to operate 9 annual community events in the Downtown. Proposed costs assume that engineered approaches to streamline and simplify the work required to barricade roads, provide security, waste collection, etc. will reduce the cost of hosting events by 25%.
Water Main Emergency Repairs	\$5,000.00	\$-	Extracted from Cartegraph. 2 Water main breaks on Main St./Lamson St. in 2023. Assume regular responses to breaks on Lamson St. and other Main St. properties in No Build scenario.
Sewer main / manhole emergency repairs	\$1,082.00	\$-	Extracted from Cartegraph. 5 Year average from 2018-2022. Respond to breaks on Lamson St. and Central Square.
Rim list routine maintenance	\$26,140.00	\$730.00	Labor & equipment estimates in January 2024. New sewer mains are cleaned and inspected on a 5-year cycle. Proposed condition cost assumes Vacon (vactor truck - a large vacuum for catch basins and pipes) with crew of 2 will spend 2 days to clean the mains within the project limits. Averaged over 5 years.
Total	\$301,381.00	\$94,265.30	

Elements with substantially identical costs in Build and No Build:

- Trash collection
- Sweeping
- Street Plowing
- Sidewalk Plowing
- Streetlight replacement due to driver damage

3.3 RESIDUAL VALUE

The project's design life is equivalent to the length of the analysis period (20 years), so the residual value is calculated to be zero dollars (\$0) at the end of the analysis period.

4 PROJECT BENEFITS

Six benefits categories were quantified for the Project. They are indicated in Table 7 below, along with the corresponding RAISE grant primary merit criteria:

Table 7 – Project Benefits Summary

Benefit #	Benefit Description	Merit Criteria	Monetized Benefits (Discounted at 3.1%)
1	Safety: Improved traffic safety and crash reduction	Safety Improved Mobility & Community Connectivity	\$3,343,285
2	Vehicle Travel Time Savings	Quality of Life Improved Mobility & Community Connectivity	\$181,845
3	Vehicle operating cost reduction	Economic Competitiveness Environmental Sustainability	\$212,760
4	Emissions reduction: (a) non-CO2 and (b) CO2	Environmental Sustainability	<u>Non-CO2:</u> \$4,910 <u>CO2:</u> \$51,791 (note that CO2 emissions are discounted at 2%)
5	Avoided Highway Externalities: (a) reduced congestion, (b) reduced noise pollution, (c) improved safety resulting from overall reduction in vehicle travel	Quality of Life State of Good Repair Safety Improved Mobility & Community Connectivity	\$64,196
6	Mobility amenity benefits: (a) Expand sidewalk, (b) Reduce traffic speed, (c) New dedicated cycling lane	Quality of Life Improved Mobility & Community Connectivity	\$12,682,942
7	Public health benefits (improved health): (a) related to walking and (b) related to cycling	Quality of Life	\$4,933,077
8	Pavement Damage Reduction	Economic Competitiveness Environmental Sustainability	\$20,458
9	Stormwater Avoided Infrastructure Costs	Economic Competitiveness Environmental Sustainability	\$508,698
	Operations and Maintenance Savings	NA	(\$2,542,047) <i>Negative number</i>
All Benefits			\$24,545,416*

Revitalizing Downtown Keene Benefit-Cost Analysis

Benefit #	Benefit Description	Merit Criteria	Monetized Benefits (Discounted at 3.1%)
<p><i>*Note that this number is not the same as the sum of the benefits because of order of operations. To calculate the total discounted benefits, benefits (including O&M) are aggregated by year, discounted by year, then summed together for all years of the analysis period.</i></p>			

4.1 BASELINE ASSUMPTIONS

Benefits 3, 4, 5, 6, and 7 of the BCA build on the following baseline assumptions: (1) growth in demand for walking/rolling and biking based on significant improvements to facilities for those modes, and/or (2) a corresponding reduction in vehicle miles traveled (VMT). This section walks through how the BCA estimates those two variables and how daily estimates are converted into annual estimates.

4.1.1 Baseline Existing & Growth in Demand by Mode

Baseline existing multimodal counts were taken in July 2022 as part of the Keene Improvements Downtown Existing Conditions (2022) analysis. Details on the types and locations of counts are summarized in Table 8.

Note that Keene State College is located immediately southwest of Downtown and the project area, and that counts were collected during the summer (July), while school was *not* in session. This means that the baseline estimates, particularly for people walking and biking, are likely lower than the true annual averages. Therefore, the multimodal trip and VMT shift estimates are conservative and likely underestimated.

Estimated percentage increases over baseline existing multimodal counts were applied to the baseline daily estimates to estimate the new/induced multimodal trips. The research-based information used to estimate a realistic increase in demand for each mode is summarized in Table 8.

Table 8 – Assumptions to Estimate Increase in Multimodal Trips, by Mode

Mode	Baseline Existing Daily Estimate	Baseline Existing Estimate Source	Estimated Increase (over Baseline)	Estimated Increase Source
People Walking/ Rolling	<ul style="list-style-type: none"> Main Street: 1,710 Railroad Avenue: 740 Gilbo Avenue: 490 	Peak-hour Turning Movement Counts (TMC); Keene Improvements Downtown Existing Conditions (2022) Midday peak hour counts scaled to daily estimates using a 10% peak-hour factor.	5.7%	WRCOG SB 743 Implementation Pathway Document Package ¹

¹ Fehr & Peers, *WRCOG SB 743 Implementation Pathway Document Package* (California: 2019), 94, accessed February 5, 2024, <https://www.fehrandpeers.com/wp-content/uploads/2019/12/WRCOG-SB743-Document-Package.pdf>

Revitalizing Downtown Keene Benefit-Cost Analysis

Mode	Baseline Existing Daily Estimate	Baseline Existing Estimate Source	Estimated Increase (over Baseline)	Estimated Increase Source
		<p>Representing selected crossing locations as follows:</p> <ul style="list-style-type: none"> • Main Street: Main Street & Commercial Street/Cypress Court west leg (25 pedestrians) and east leg (146 pedestrians) crosswalks • Railroad Avenue: Main Street & Gilbo Avenue/Railroad Street east leg crosswalk (74 pedestrians) (<i>closest approximation</i>) • Gilbo Avenue: Main Street & Gilbo Avenue/Railroad Street west leg crosswalk (49 pedestrians) (<i>closest approximation</i>) 		
People Biking	Main Street to Central Square Corridor: 40	<p>24-hour Multimodal Automatic Traffic Recorder (ATR) Counts Data</p> <p>Representing a single screenline location derived from an average of the following screenline locations:</p> <ul style="list-style-type: none"> • Main Street South of Dunbar Street (two days of data collection: 7/20 and 21/2022) • Court Street north of Central Square (two days of data collection: 7/20 and 21/2022) • Washington Street north of Central Square (three days of data collection: 7/19, 20 and 21/2022) 	80%	<p>Estimating the effect of protected bicycle lanes on bike-share ridership in Boston: A case study on Commonwealth Avenue. <i>Case Studies on Transport Policy</i>.²</p>

4.1.2 Annualization

To convert **daily** estimates of multimodal trips into **annual** estimates the following assumptions were applied to walking and biking trips: weekday and weekend are assumed to be the same; estimates multiplied by 365.25 (to account for leap years). This assumption seeks to balance the fact that more utility walking and biking trips are likely on weekdays while more recreational walking and biking trips are likely on the weekend days.

² Karpinski, E. (2021). Estimating the effect of protected bike lanes on bike-share ridership in Boston: A case study on Commonwealth Avenue. *Case Studies on Transport Policy*, 9(3), 1313-1323. Accessed February 15, 2024, <https://www.sciencedirect.com/science/article/abs/pii/S2213624X21001097?dgcid=author>

4.1.3 New/Induced Annual Person Trips

Based on the assumptions presented above, the estimated New/Induced Annual Person Trips are presented below. Different benefits calculations use different subsets of these values. The values below represent the new walking trips across the Main Street, Railroad Avenue, and Gilbo Avenue corridors, and new bike trips along the Main Street corridor.

New bicycling trips are computed only for Main Street, where a new bike lane will be installed. There is no change in bicycling trips calculated for the other project corridors, where there is already a parallel bicycle facility, the Cheshire Rail Trail.

Table 9 – Growth in trips, by Mode and Location

Mode	Location	Existing Annual Person Trips	New/Induced Annual Person Trips
Bike	Main Street	14,610	11,688
Pedestrian	Main Street	624,578	35,601
Pedestrian	Railroad Avenue	270,285	15,406
Pedestrian	Gilbo Avenue	178,973	10,201

4.1.4 VMT Reduction

To estimate a reduction in vehicle-miles travelled (VMT) based on the increases in multimodal trips, first, the share of new multimodal trips, presented in Table 9, diverted from driving was estimated. Table 10 enumerates the assumptions used to estimate new multimodal trips that will be diverted from driving.

Next, the BCA estimates VMT reduction by multiplying the new/induced daily person trips diverted from driving, by mode, by both a corresponding estimate of average trip length for the new mode of transportation, and then dividing by an average vehicle occupancy (AVO) variable to account for carpooling and to avoid over-estimating. Sources and assumptions for this calculation are shown in Table 10.

Note that the average trip lengths, shown below used in this BCA, and sourced from the US DOT BCA Methodology, are longer than the project corridors. Nonetheless these trip lengths were used to reflect individuals' full trips both on and off of the project corridors.

Table 10 – Assumptions to Estimate VMT Reduction, by Mode

Variable	Assumption	Source
Share of New Walking Trips Diverted from Driving	100%	WRCOG SB 743 Implementation Pathway Document Package ³

³ Fehr & Peers, *WRCOG SB 743 Implementation Pathway Document Package* (California: 2019), 94, accessed February 5, 2024, <https://www.fehrandpeers.com/wp-content/uploads/2019/12/WRCOG-SB743-Document-Package.pdf>

Revitalizing Downtown Keene Benefit-Cost Analysis

Variable	Assumption	Source
		<i>(This source presents a reduction in VMT due to pedestrian improvements. This reduction in VMT was used in Table 8 to estimate increase in pedestrian trips over the baseline; a conservative estimate of new pedestrian trips because not all new pedestrians on the corridors would be diverted from driving. Therefore 100% of the new pedestrian trips estimated using this factor can be assumed to be trips diverted from driving.)</i>
Share of New Biking Trips Diverted from Driving	10.9%	Quantifying Reductions in Vehicle Miles Traveled from New Bike Paths, Lanes, and Cycle Tracks ⁴
Average Walking Trip Length	0.86	US DOT BCA Methodology, Dec 2023
Average Biking Trip Length	2.38	US DOT BCA Methodology, Dec 2023
AVO	1.67	US DOT BCA Methodology, Dec 2023 Passenger Vehicles (All Travel)

Based on the assumptions presented above, the total annual reduction in VMT due to the projects improvements to facilities for walking and bicycling is estimated at 32,680 VMT per year.

4.1.5 No Build VMT

Most of the calculations used in this BCA monetize the **change** value, that is, **reduction** in VMT or **increase** in active mode trips, for example. However, for ease of use of the existing formula and structure in the BCA spreadsheet template, a No Build Annual VMT was estimated. These calculations are depicted below in Table 11. The baseline existing daily vehicle trips for this calculation reflect a screenline location on all three of the impacted corridors: Main Street, Gilbo Avenue, and Railroad Avenue. While the No Build VMT is provided, please note that this variable does not have an impact on the BCA results whatsoever. This variable is simply a placeholder from which the **change** values were subtracted, to ultimately report the **change** values for the BCA calculations.

Table 11 – No Build VMT

Metric	Value
Average Trip Length (mi) ⁵	10.53
Existing Daily Aggregate Vehicle Trips	22,539
Annualization Factor	365.25
Existing Annual Aggregate Vehicle Trips	8,232,370

⁴ Volker et al, *Quantifying Reductions in Vehicle Miles Traveled from New Bike Paths, Lanes, and Cycle Tracks* (California: 2019), 40, accessed February 21, 2024, https://ww2.arb.ca.gov/sites/default/files/auction-proceeds/bicycle_facilities_technical_041519.pdf

⁵ USDOT Federal Department of Transportation, *Summary of Travel Trends: 2017 National Household Travel Survey* (2017), accessed February 5, 2024, https://nhts.ornl.gov/assets/2017_nhts_summary_travel_trends.pdf (Table 3b)

Existing Annual VMT	86,686,853
---------------------	------------

4.2 BENEFIT CALCULATIONS

The sections below provide descriptions of each benefit included in the BCA. Benefits enumerated below are grouped by sheet (also referred to as “tab”) of the BCA spreadsheet. At least one sample calculation is provided below for each group of benefits. Sample calculations may not match exactly because of rounding.

4.2.1 Safety: Crash Reduction

The safety benefits incurred by this project include reductions in crash costs resulting directly from the Project. The City of Keene is concurrently working on a Safety Action Plan funded by the US DOT Safe Streets and Roads for All (SS4A) Grant Program. Crash data compiled and categorized by the City as part of that plan was used to inform the crash analysis for this BCA.

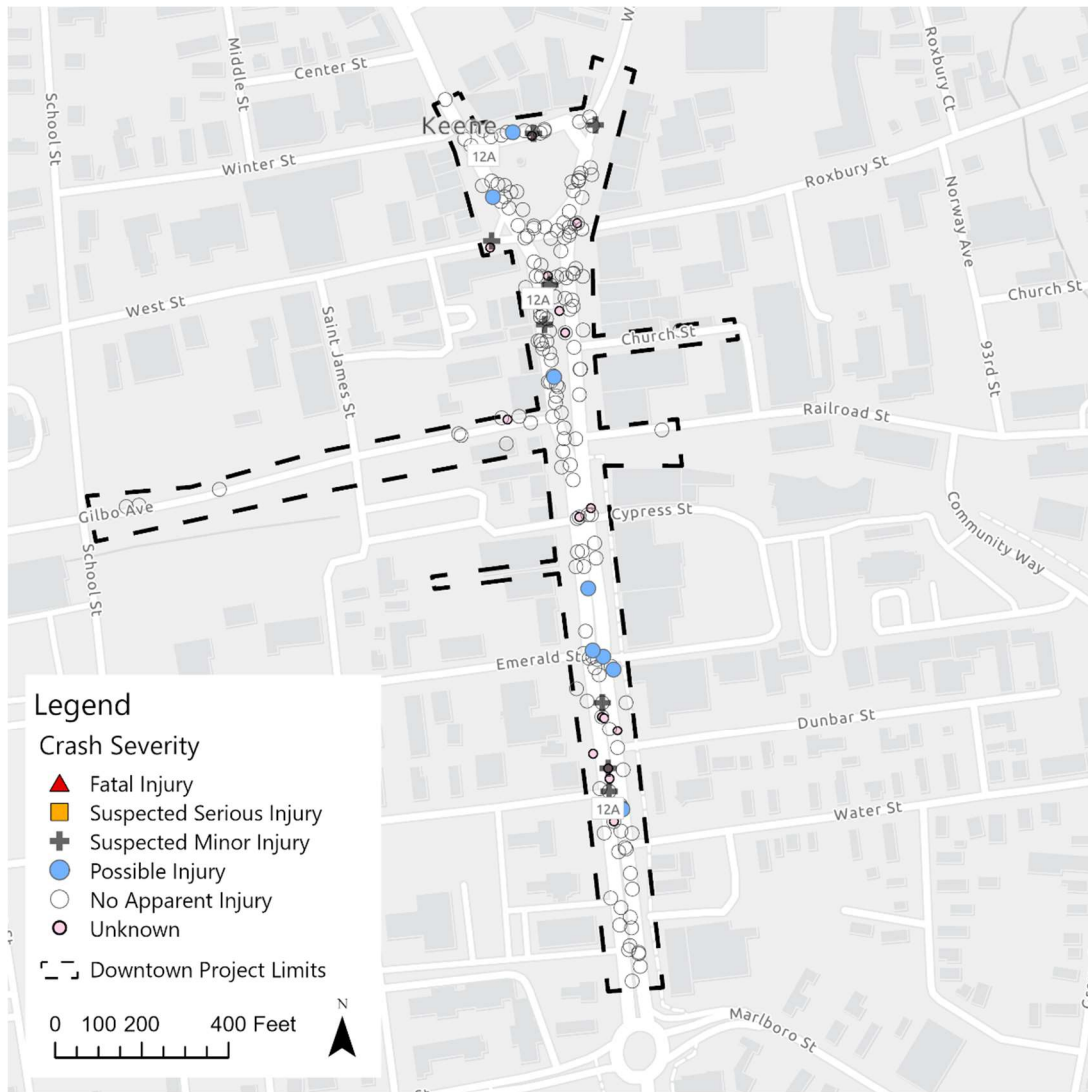
The conflicts between people walking/rolling, people on bikes, and people driving on the corridors and the high rates of incidents within the Project area indicate a lack of appropriate infrastructure to ensure the safety of roadway users. The crash data reflects a five-year period, 2018 to 2022, inclusive. Over the past five years for which data was available, there were 248 crashes in the study area. Crash data from the Safety Action Plan was loaded into ArcGIS (Figure 1), to match crashes to various components of the project.

The crash severity categories available from the Keene Safety Action Plan include severity classifications that do not exactly match the KABCO scale, for which the BCA guidance provides monetization values. Therefore, Table 12 summarizes how the severities in the Safety Action Plan crash data were matched with the severities and costs in the KABCO scale. Note that there were no fatal or suspected serious injury crashes within the study area in the last five years.

Table 12 – Crash Severity Categories

SEVERITY- from Keene	SEVERITY - BCA	Crashes (2018-2022)
No Apparent Injury	O - No Injury	220
Unknown	O - No Injury	18
Possible Injury	C - Possible Injury	2
Suspected Minor Injury	B - Non-incapacitating	8
TOTAL		248

Figure 1 – Corridor crash data visualized in ArcGIS



The crash reduction analysis uses crash modification factors (CMFs) from the USDOT’s CMF Clearinghouse database related to the project types to calculate their estimated reduction in incidents related to the project improvements. Table 13 enumerates the project types, their locations, the average annual crashes, by severity, each location, the applicable CMF, and the types of crashes to which the CMF is applied. Note that no crashes are double counted; each crash is assigned to only one of the project groups in Table 13. Note that annual crashes were computed by dividing the total crashes over the five-year period by five.

Revitalizing Downtown Keene Benefit-Cost Analysis

Table 13 – Crash Reduction Inputs

Location	CMF ID	Counter Measure	CMF	Combined CMF	Combined CRF	Applicable Crash Types	Annual No Injury (O) Crashes	Annual Possible Injury (C) Crashes	Annual Non-incapacitating (B) Crashes
Main Street	<u>CMF ID: 7825</u>	Reduce Lane Width	0.76	0.57	43%	All modes	24.20	0.00	0.80
	<u>CMF ID: 10743</u>	Install Bicycle Lane	0.649			All modes			
Main Street & Gilbo Avenue/ Railroad Street	<u>CMF ID: 4124</u>	Upgrade to High Visibility Crosswalk	0.81	0.58	42%	Angle, Head on, Left Turn, Rear End, Rear to Rear, Right Turn, Sideswipe	3.20	0.00	0.00
	<u>CMF ID: 135</u>	Install Raised Ped Crosswalks	0.64			All modes			
Gilbo Avenue	<u>CMF ID: 7825</u>	Reduce Lane Width	0.76	-	24%	All modes	2.40	0.00	0.00
Central Square	<u>CMF ID: 4124</u>	Upgrade to High Visibility Crosswalk	0.81	0.60	40%	Angle, Head on, Left Turn, Rear End, Rear to Rear, Right Turn, Sideswipe	13.80	0.00	0.60
	<u>CMF ID: 7825</u>	Reduce Lane Width	0.76			All modes			
	<u>CMF ID: 10743</u>	Install Bicycle Lane	0.649			All modes			
Main St Side Streets: ▪ USPS and Edward Jones parking lot entrance ▪ Water Street ▪ Davis Street ▪ Dunbar Street ▪ Church Street	<u>CMF ID: 4124</u>	Upgrade to High Visibility Crosswalk	0.81	0.58	42%	Angle, Head on, Left Turn, Rear End, Rear to Rear, Right Turn, Sideswipe	1.00	0.00	0.20
	<u>CMF ID: 135</u>	Install Raised Ped Crosswalks	0.64			All modes			
Main St Intersections (side streets plus unsignalized Main Street crossing): ▪ Eagle Court / Emerald Street ▪ Commercial Street / Cypress Street	<u>CMF ID: 4124</u>	Upgrade to High Visibility Crosswalk	0.81	0.58	42%	Angle, Head on, Left Turn, Rear End, Rear to Rear, Right Turn, Sideswipe	3.00	0.40	0.00
	<u>CMF ID: 135</u>	Install Raised Ped Crosswalks	0.64			All modes			

Revitalizing Downtown Keene Benefit-Cost Analysis

MAIN STREET

Along Main Street south of Central Square, a protected sidewalk-level bicycle lane will be installed, and the travel lanes will be reduced as detailed below.

- No Build average lane width: 13 feet
- Build average lane width: 11 feet
- Lane width reduction: 2.7 feet

The highest-quality and most applicable CMF noted in the CMF Clearinghouse database indicates a CMF of 0.76 (CMF ID: 7825) for a lane narrowing, with three stars, indicating moderate high confidence in the CMF value. This CMF represents *convert 12-foot lanes to 11-foot lanes*, although the Project corridor's starting width is wider at 13 feet on Main Street. There were no CMFs that reflected the 13-foot to 11-foot narrowing differential, meaning that this approach **likely results in an underestimate of the safety benefits of this lane narrowing**.

In addition, separated sidewalk-level bicycle lanes, provide an additional traffic safety treatment and associated CMF to the analysis. The CMF Clearinghouse database provides a CMF of 0.649 (CMF ID: 10743) for installation of bicycle lanes, with four stars. Note that this CMF represents a generalized installation of bicycle lanes, not sidewalk-level bicycle lanes in particular (a newer and less studied countermeasure in the US), meaning that this approach likely results in an underestimate of the safety benefits of this bicycle facility.

With both lane narrowing and bicycle lanes installed, the two CMFs were combined. To calculate the new CMF values, combining these two CMF treatments, [guidance](#) from the Clearinghouse⁶ was followed with the Systematic Reduction of Subsequent CMFs Method (Method 4.3) being selected as only two variables needed to be combined. Upon calculation, this method produced the following combined CMF:

$$CMF_{combined} = 0.649 \times \left(\frac{1 - 0.76}{2} + 0.76 \right) = 0.57$$

The corresponding reduction in both total crashes is therefore estimated to be 43%.

This corridor will incur **additional benefits not captured in this safety analysis**. As noted above, the lane narrowing is more significant than captured in the 12-foot to 11-foot lane narrowing countermeasure. In addition, by removing the angled parking in the median, a significant source of vehicle-to-vehicle conflict will be removed, plus there will be less demand for pedestrians to cross outside of crosswalks to access parked cars. Lack of research and precedent for this type of countermeasure in the CMF Clearinghouse means that these safety benefits cannot be reliably quantified.

⁶ CMF Clearinghouse, *Investigation of Existing and Alternative Methods for Combining Multiple CMFs* (June 30, 2011), accessed February 21, 2024, http://www.cmfclearinghouse.org/collateral/Combining_Multiple_CMFs_Final.pdf

Revitalizing Downtown Keene Benefit-Cost Analysis

MAIN STREET & GILBO AVENUE/RAILROAD STREET

Pedestrian improvements at Main Street & Gilbo Avenue/Railroad Street include upgrading to high visibility crosswalks and installing raised crosswalks. For high visibility crosswalks, a CMF of 0.81 (CMF ID: 4124) was selected, two-star rating, as this CMF applies more broadly to all crashes.

In addition, the CMF Clearinghouse database provides a CMF of 0.64 (CMF ID: 135) for implementation installing raised crosswalks. This CMF, three-star rating, was selected because it applies broadly to all crashes.

To combine these CMF treatments, the same [guidance](#) described above, from the CMF Clearinghouse, was followed and the method produced the following combined CMF:

$$CMF_{combined} = 0.64 \times \left(\frac{1 - 0.81}{2} + 0.81 \right) = 0.58$$

The corresponding reduction in both total pedestrian crashes is therefore estimated to be 42%.

This corridor will incur **additional benefits not captured in this safety analysis**. In addition to the countermeasures described above, this location also includes a Rectangular Rapid Flashing Beacon (RRFB). The CMF for this countermeasure was not included because it applies to pedestrian-only crashes while the other CMFs applied to this location apply to all crashes, so CMFs with different applicability were not mixed.

GILBO AVENUE

Along Gilbo Avenue west Main Street, a protected sidewalk-level bicycle lane will be installed, and the travel lanes will be reduced as detailed below.

- No Build average lane width: 21 feet
- Build average lane width: 11 feet
- Lane width reduction: 10 feet

The highest-quality and most applicable CMF noted in the CMF Clearinghouse database indicates a CMF of 0.76 (CMF ID: 7825) for a lane narrowing, with three stars, indicating moderate high confidence in the CMF value. This CMF represents *convert 12-foot lanes to 11-foot lanes*, although the Project corridor's starting width is wider at 21 feet on Gilbo Avenue. There were no CMFs that reflected the 21-foot to 11-foot narrowing differential, meaning that this approach **likely results in an underestimate of the safety benefits of this significant lane narrowing**.

The corresponding reduction in both total crashes is therefore estimated to be 24%.

Revitalizing Downtown Keene Benefit-Cost Analysis

CENTRAL SQUARE

Safety improvements at Central Square include upgrading to high visibility crosswalks, reducing lane widths, and installing bicycle lanes.

For high visibility crosswalks, a CMF of 0.81 (CMF ID: 4124) was selected, two-star rating, as this CMF applies more broadly to all crashes.

The highest-quality and most applicable CMF noted in the CMF Clearinghouse database indicates a CMF of 0.76 (CMF ID: 7825) for a lane narrowing, with three stars, indicating moderate high confidence in the CMF value. This CMF represents *convert 12-foot lanes to 11-foot lanes*.

In addition, separated sidewalk-level bicycle lanes, provide an additional traffic safety treatment and associated CMF to the analysis. The CMF Clearinghouse database provides a CMF of 0.649 (CMF ID: 10743) for installation of bicycle lanes. Note that this CMF represents a generalized installation of bicycle lanes, not sidewalk-level bicycle lanes in particular (a newer and less studied countermeasure in the US), meaning that this approach likely results in an underestimate of the safety benefits of this bicycle facility.

To combine these CMF treatments, [guidance](#) from the CMF Clearinghouse was followed with the Turner Method (Method 4.4) being selected as multiple values needed to be combined. Upon calculation, this method produced the following combined CMF:

$$CMF_{combined} = 1 - \left(\left(\frac{2}{3} \right) \times (1 - (0.681 \times 0.76 \times 0.649)) \right) = 0.60$$

The corresponding reduction in total crashes is therefore estimated to be 40%.

MAIN STREET SIDE STREETS

Pedestrian improvements at the five Main Street side streets listed below include upgrading to high visibility crosswalks and installing raised crosswalks.

1. USPS and Edward Jones parking lot entrance
2. Water Street
3. Davis Street
4. Dunbar Street
5. Church Street

For high visibility crosswalks, a CMF of 0.81 (CMF ID: 4124) was selected, two-star rating, as this CMF applies more broadly to all crashes.

In addition, the CMF Clearinghouse database provides a CMF of 0.64 (CMF ID: 135) for implementation installing raised crosswalks. This CMF, three-star rating, was selected because it applies broadly to all crashes.

Revitalizing Downtown Keene Benefit-Cost Analysis

To combine these CMF treatments, the same [guidance](#) from the CMF Clearinghouse was followed and the method produced the following combined CMF:

$$CMF_{combined} = 0.64 \times \left(\frac{1 - 0.81}{2} + 0.81 \right) = 0.58$$

The corresponding reduction in total crashes is therefore estimated to be 42%.

MAIN STREET SIDE STREETS (SIDE STREETS PLUS UNSIGNALIZED MAIN STREET CROSSING)

Pedestrian improvements at the two Main Street side streets listed below include upgrading to high visibility crosswalks and installing raised crosswalks on both the side streets and the unsignalized crossing across Main Street.

1. Eagle Court / Emerald Street
2. Commercial Street / Cypress Street

For high visibility crosswalks, a CMF of 0.81 (CMF ID: 4124) was selected, two-star rating, as this CMF applies more broadly to all crashes.

In addition, the CMF Clearinghouse database provides a CMF of 0.64 (CMF ID: 135) for implementation installing raised crosswalks. This CMF, three-star rating, was selected because it applies broadly to all crashes.

To combine these CMF treatments, the same [guidance](#) from the CMF Clearinghouse was followed and the method produced the following combined CMF:

$$CMF_{combined} = 0.64 \times \left(\frac{1 - 0.81}{2} + 0.81 \right) = 0.58$$

The corresponding reduction in total crashes is therefore estimated to be 42%.

SUMMARY

This analysis results in an annual reduction of 19.51 No Injury (O) crashes per year, 0.17 Possible Injury (C) crashes per year, and 0.67 Non-incapacitating (B) crashes per year.

The CMFs are applied to existing crash patterns and do not include an assumption that the project would induce more walking and biking trips therefore exposing more people walking and biking to potential risk. As a result, the crash reductions use a conservative estimate, as assuming walking and bicycle traffic growth would yield higher crash reductions.

Table 14 – Sample Calculations of Monetized Benefits of Crash Reduction (Annual, Undiscounted)

Measure	Equations	Value
Average Annual No Injury (O) Crashes on Gilbo Avenue (reduced lane width location), baseline	(a)	2.40

Revitalizing Downtown Keene Benefit-Cost Analysis

Crash Reduction Factor - Convert 12-foot lanes to 11-foot lanes	(b)	24%
Annual Reduction in No Injury (O) Crashes on Gilbo Avenue (reduced lane width location), baseline	(c) = (a) * (b)	0.58
Monetized value of one No Injury (O) crash	(d)	\$5,000
Monetized value of annual collision reductions on Gilbo Avenue (reduced lane width location), baseline	(e) = (c) * (d)	\$2,880.00

4.2.2 Vehicle Travel Time Savings

The project will result in marginal travel time savings for people driving through the signalized intersection on the southside of Central Square: Main Street at West Street/Roxbury Street due to shorter crossing distances (causing shorter cycle lengths) and more space for right turns. The vehicle travel time savings is based on a level-of-service intersection analysis conducted using the Synchro software. This peak hour intersection analysis was prepared as part of the Traffic Data and Operations Memorandum, for the Downtown Infrastructure Improvement and Reconstruction project (June 26, 2023).

To convert the intersection analysis into person-hours saved per year due to the Project, the BCA included the following steps:

1. **Delay per vehicle**, per approach (northbound, southbound, eastbound, and westbound) output from the Synchro analysis was summed to obtain the following total intersection peak delay estimates per vehicle:
 - a. AM Peak
 - i. No Build: 116.30 seconds per vehicle
 - ii. Build: 109.10 seconds per vehicle
 - b. PM Peak
 - i. No Build: 120.80 seconds per vehicle
 - ii. Build: 120.80 seconds per vehicle
 - iii. *This means that there was **no change in delay in the PM Peak**, therefore the PM peak was not part of this vehicle travel time savings analysis.*
2. **Total vehicle delay** was obtained by multiplying the peak intersection delay per person by the vehicle volumes, for each intersection approach. These vehicle volumes were the same volumes used to calculate the delays in Synchro, reported in step 1. The vehicle volumes were the same for both No Build and Build. This calculation results in the following total intersection peak vehicle delay estimates:
 - a. AM Peak: No Build: 49,516.70 seconds

Revitalizing Downtown Keene Benefit-Cost Analysis

- b. AM Peak: Build: 47,748.70 seconds
- 3. **Total person delay** was obtained by multiplying the peak intersection delay by an average vehicle occupancy (AVO). An AVO of 1.48 was used to reflect weekday **peak** vehicle occupancy for passenger vehicles, as provided in the BCA Guidance. This calculation results in the following total intersection peak person delay estimates:
 - a. AM Peak: No Build: 73,284.72 seconds
 - b. AM Peak: Build: 70,668.08 seconds
- 4. The total intersection peak person delay estimates were then converted to **annual person delay** estimates. First a daily factor of 4 was applied, assuming a similar level of delay that occurs during the AM peak hour would occur during the entire four-hour AM peak period. Then an annualization factor of 260 was applied; the number of weekdays in a year. This calculation results in the following total intersection annual person delay estimates:
 - a. AM Peak: No Build: 76,216,104.64 seconds or 21,171.14 hours
 - b. AM Peak: Build: 73,494,799.04 seconds or 20,415.22 hours

The result is an estimated 755.95 person-hours saved per year due to the Project, which was multiplied by the monetization value for general travel time savings (All Purpose).

Table 15 – Sample Calculations of Monetized Benefits of Vehicle Travel Time Savings (Annual, Undiscounted)

<u>Measure</u>	<u>Equations</u>	<u>Value</u>
Total annual travel time savings, hours, baseline	(a)	755.95
Value of time for general travel time (All Purpose) (\$/hr)	(b)	\$19.60
Monetized value of annual travel time savings, baseline	(c) = (a) * (b)	\$14,816.00

It is likely that the project will also provide **unquantified multimodal travel time benefits** by creating a completer and more connected bicycle network and removing the need to cross to median angled parking to access a parked car.

4.2.3 Vehicle Operating Cost Reduction

The project will prompt a mode shift by improving walking and biking conditions, which will lead to fewer vehicle operating costs, a lower cost burden on low-income people, and more money that can be invested elsewhere in the local economy. To estimate monetized benefits associated with these positive outcomes, the BCA multiplies the decrease in VMT on each corridor by mode as outlined in the Baseline Assumptions section by the monetization value for vehicle operation costs for Light Duty Vehicles per mile (0.52 \$2022/mile), provided in the RAISE BCA guidelines.

Revitalizing Downtown Keene Benefit-Cost Analysis

For this benefit and for other benefits calculated in a similar manner, the sample calculation in this memo illustrates the monetization value being applied to the **change** in VMT, whereas in the BCA spreadsheet, the monetization value is applied to the total No Build and total Build VMT values, then the difference is computed to yield the same monetized savings value included in this memo.

Table 16 – Sample Calculations of Monetized Benefits of Vehicle Operating Cost Reduction (Annual, Undiscounted)

<u>Measure</u>	<u>Equations</u>	<u>Value</u>
Reduction in annual car/motorcycle vehicle-miles (baseline)	(a)	33,336
Value of light-duty vehicle operating cost savings per vehicle-mile	(b)	\$0.52
Monetized value of vehicle operating cost savings, baseline	(c) = (a) * (b)	\$17,334.84

4.2.4 Change in Emissions

The project will prompt a mode shift by improving walking and biking conditions, which will lead to a reduction in vehicle emissions from a net decrease in use of auto travel. To estimate monetized benefits associated with these positive outcomes, the BCA multiplies the decrease in VMT on each corridor by mode as outlined in the Baseline Assumptions section, by the following emissions monetization values provided in the RAISE BCA guidelines:

1. Light Duty Vehicles – Urban: **CO2 Emission per mile** (0.107 \$2022/mile)
2. Light Duty Vehicles – All Locations: **Non-CO2 Emission per mile** (0.012 \$2022/mile)

Table 17 – Sample Calculations of Monetized Benefits of CO2 Emissions Reduction (Annual, Undiscounted)

<u>Measure</u>	<u>Equations</u>	<u>Value</u>
Reduction in annual car/motorcycle vehicle-miles, baseline	(a)	33,336
Value of light-duty vehicle-urban CO2 emissions per vehicle-mile	(b)	\$0.107
Monetized value of annual CO2 emissions reduction, baseline	(c) = (a) * (b)	\$3,566.98

This method of calculation does not require conversion from reduction in VMT to estimated emissions before monetization; rather the reduction in VMT is monetized directly, based on values provided in the RAISE BCA guidelines.

Non-CO2 emissions are calculated using the same method and are intended to represent local air pollutants generated by transportation activities, notably sulfur oxides (SOX), nitrogen oxides (NOX), and fine particulate matter (PM2.5).

Revitalizing Downtown Keene Benefit-Cost Analysis

4.2.5 Avoided Highway Externalities

The project will prompt a mode shift by improving walking and biking conditions, which will lead to a reduction in highway externalities from a net decrease in use of personal vehicles including:

1. Congestion
2. Noise pollution
3. Safety (Note that this benefit calculation related to safety is separate and apart from the safety benefits detailed in section 4.2.1 which covers safety improvements due to infrastructure safety countermeasures, whereas this benefit covers safety improvements due to a reduction in VMT.)

To estimate monetized benefits associated with these positive outcomes, the BCA multiplies the decrease in VMT on each corridor by mode as outlined in the Baseline Assumptions section, by the following highway externalities monetization values provided in the RAISE BCA guidelines:

1. Light Duty Vehicles – Urban: **Congestion Cost per mile** (0.138 \$2022/mile)
2. Light Duty Vehicles – Urban: **Noise Cost per mile** (0.0019 \$2022/mile)
3. Light Duty Vehicles – Urban: **Safety Cost per mile** (0.02 \$2022/mile)

Table 18 – Sample Calculations of Monetized Benefits of Congestion Related Avoided Highway Externalities (Annual, Undiscounted)

<u>Measure</u>	<u>Equations</u>	<u>Value</u>
Reduction in annual car/motorcycle vehicle-miles, baseline	(a)	33,336
Value of congestion per vehicle-mile	(b)	\$0.138
Monetized value of congestion reduction, baseline	(c) = (a) * (b)	\$4,600.40

4.2.6 Mobility Amenity Benefits

The Project will provide mobility amenity benefits throughout Downtown Keene because of the improved multimodal facilities and amenities, including upgraded sidewalks, slower vehicle speeds, upgraded crossings, protected sidewalk-level bicycle facilities. These projects will improve the quality and comfort of people walking and biking on the project corridors, therefore reducing their implicit costs to travel. To estimate monetized benefits associated with these positive outcomes, the BCA multiplies the number of trips or miles travelled on impacted corridors, by mode, by monetization values presented below.

ACTIVE TRANSPORTATION

The amenity benefits of (a) expanded sidewalks, (b) reduced speeds (due to reduced lane widths), and (c) new dedicated cycling lanes will benefit new and existing people walking and biking.

Revitalizing Downtown Keene Benefit-Cost Analysis

Although a new signal for a pedestrian crossing (Rectangular Rapid Flashing Beacon (RRFB)) will be installed at the Main Street & Gilbo Avenue/Railroad Street intersection, a separate amenity benefit associated with *Install Signal for Pedestrian Crossing on Roadway with Volumes ≥13,000 Vehicles per Day* was not included, because as noted in the RAISE BCA guidelines, "...to avoid double-counting, applicants should not include both estimates of pedestrian crash reduction benefits and the crosswalk and these intersection improvement values for the same project components."

The monetization values for active transportation were applied to the existing plus new trips induced by the project as both populations would incur these benefits, not just new/induced users.

The applied active transportation amenity benefit baseline monetization values provided in the RAISE BCA guidelines are summarized in Table 19.

Table 19 – Active Transportation Amenity Benefit Monetization, as Provided in RAISE BCA guidelines

Amenity	Monetization Value	Monetization Value Unit
Expand Sidewalk (per foot of added width)	0.11	2022\$/person-mile walked/foot of added width
Reducing Traffic Speed by 1 mph (for speeds ≤45 mph)	0.09	2022\$/person-mile walked/1 mph reduced
Dedicated Cycling Lane	1.86	2022\$/person-mile cycled

Walking: Expand Sidewalk

The project plans to expand the sidewalk widths on Main Street and Gilbo Avenue; this change will improve pedestrian comfort and experience. This sidewalk expansion will benefit pedestrians by creating a more pleasant, comfortable, and attractive environment for walking. An average sidewalk expansion amount was used for each corridor and results in the following calibrated monetization values:

- Main Street:
 - No Build average sidewalk width: 11.1 feet
 - Build average sidewalk width: 13.8 feet
 - Added width of sidewalk: 2.7 feet
 - **Calibrated Monetization Value:** 0.30 2022\$/person-mile walked (0.11 2022\$/person-mile walked x 2.7 feet = 0.30 2022\$/person-mile walked)
- Gilbo Avenue:
 - No Build average sidewalk width: 8 feet
 - Build average sidewalk width: 12 feet

Revitalizing Downtown Keene Benefit-Cost Analysis

- Added width of sidewalk: 4 feet
- **Calibrated Monetization Value:** 0.44 2022\$/person-mile walked (0.11 2022\$/person-mile walked x 4 feet = 0.44 2022\$/person-mile walked)

To quantify these benefits, the person-miles walked values associated with each of the Main Street and Gilbo Avenue corridors were multiplied by the calibrated monetization values. To calculate the person-miles walked, the annual existing + new walking trips (projected using the factors in the Baseline Assumptions section) were identified for a single average screenline location representing each corridor. Both existing and new pedestrians incur this comfort and trip quality benefit.

These annual new walking trips were then multiplied by the average walking trip length provided in the RAISE BCA Guidelines, 0.86 miles. This trip length factor is longer than each of the improved corridors, but it reflects the full length of trips taken by pedestrians who use the corridors for part of their trips.

The total existing plus new person-miles walked is multiplied by the respective monetization value to estimate the mobility benefit to people walking/rolling.

Walking: Reduce Traffic Speed

The project plans to reduce the speed of travel on Main Street and Gilbo Avenue by narrowing the roadway width; this change will improve pedestrian comfort and experience. This speed reduction will benefit pedestrians by creating a more pleasant, comfortable, and attractive environment for walking. The lane narrowing will result in an estimated average speed reduction of 4 miles per hour (mph) on Main Street and 9 mph on Gilbo Avenue.

The change in travel speed was calculated based on a speed reduction of 2 mph per foot of lane narrowing. This speed reduction comes from a National Association of City Transportation Officials (NACTO) literature review that states, *“There is no consensus in the literature on the relationship between lane width and speed. Some studies have shown speed reductions of as much as 3 mph for every foot of lane narrowing; other studies show a more slight speed reduction of about 1 mph per foot of lane narrowing or no significant effect at all.”* Based on this research the speed reduction of 2 mph was selected as a mid-point of the range provided in this literature review.⁷

For Gilbo Avenue this speed reduction calculation (lane width reduction (9 feet) x speed reductions per foot of lane narrowing (2)) would yield a 20-mph speed reduction, which is unrealistic on a low speed urban roadway. Therefore, the average speed reduction for Gilbo Avenue was capped at 5 mph.

This results in the following calibrated monetization values:

- Main Street:

⁷ National Association of City Transportation Officials (NACTO), *Relationship Between Lane Width and Speed: Review of Relevant Literature* (February 2003), accessed February 5, 2024, https://nacto.org/docs/usdg/review_lane_width_and_speed_parsons.pdf

Revitalizing Downtown Keene Benefit-Cost Analysis

- No Build average lane width: 13 feet
 - Build average lane width: 11 feet
 - Lane width reduction: 2.7 feet
 - Estimated average speed reduction: 4 mph
 - **Calibrated Monetization Value:** 0.36 2022\$/person-mile walked (0.09 2022\$/person-mile walked x 4 mph = 0.36 2022\$/person-mile walked)
- Gilbo Avenue:
 - No Build average lane width: 21 feet
 - Build average lane width: 11 feet
 - Lane width reduction: 10 feet
 - Estimated average speed reduction: 5 mph
 - **Calibrated Monetization Value:** 0.45 2022\$/person-mile walked (0.09 2022\$/person-mile walked x 5 mph = 0.45 2022\$/person-mile walked)

To quantify these benefits, the person-miles walked values associated with each of the Main Street and Gilbo Avenue corridors were multiplied by the calibrated monetization values. To calculate the person-miles walked, the annual existing + new walking trips (projected using the factors in the Baseline Assumptions section) were identified for a single screenline location representing each corridor. Both existing and new pedestrians incur this comfort and trip quality benefit.

These annual new walking trips were then multiplied by the average walking trip length provided in the RAISE BCA Guidelines, 0.86 miles. This trip length factor is longer than each of the improved corridors, but it reflects the full length of trips taken by pedestrians who use the corridors for part of their trips.

The total existing plus new person-miles walked is multiplied by the respective monetization value to estimate the mobility benefit to people walking/rolling.

Bicycling: Dedicated Cycling Lane

The project plans to add new separated sidewalk-level bicycle facilities along Main Street where there are no existing bicycling facilities. The new bicycle facility will benefit cyclists by creating a more pleasant, comfortable, and attractive environment for cycling. This bicycle connection will create a more complete cycling network in and around Keene by connecting to the Cheshire Rail Trail which intersects Main Street at Gilbo Avenue/Railroad Avenue.

Revitalizing Downtown Keene Benefit-Cost Analysis

To quantify these benefits, the person-miles cycled on Main Street were multiplied by the monetization value for a Dedicated Cycling Lane (1.86 \$2022/cycling mile). To calculate the person-miles cycled, the annual new cycling trips (projected using the factors in the Baseline Assumptions section) were identified at a single screenline location on Main Street. These annual new cycling trips were then multiplied by the average cycling trip length. The RAISE BCA Guidelines recommend an average cycling trip length of 2.38 miles. The total person-miles cycled for the corridor is multiplied by the monetization value to estimate the mobility benefit to people biking. This calculation is shown in Table 20

Table 20 – Sample Calculations of Monetized Benefits for Improved Bicycling Amenities (Annual, Undiscounted)

Measure	Equations	Value
Existing + New/Induced cycling trips (Main Street), baseline	(a)	26,298
Average trip length, in miles	(b)	2.38
Existing + New/Induced active transportation person-miles cycled (Main Street), baseline	(c) = (a) * (b)	62,589
Value of cycling-miles (dedicated cycling lane), baseline	(d)	\$1.86
Monetized value of cycling facility improvements (Main Street), baseline	(e) = (c) * (d)	\$116,415.99

4.2.7 Health Benefits

The project will prompt increased active transportation, which in turn will benefit individual health and public health and reduce the burden on the healthcare system. Improved bicycle and pedestrian amenities in the project area will promote this benefit. To estimate monetized benefits associated with these positive outcomes, the BCA first estimates the share of new/induced walking and biking trips induced from driving, outlined in the Baseline Assumptions section, made by people within the applicable age ranges. Applicable age ranges are defined as follows:

1. Walking: Ages 20-74: 75% (American Community Survey 5-year estimates, 2022)⁸
2. Cycling: Ages 20-64: 65% (American Community Survey 5-year estimates, 2022)⁹

The age ranges are based on age data for the study area Census Tracts for which detailed age data was available: Census Tract 9711; Cheshire County; New Hampshire and Census Tract 9713; Cheshire County; New Hampshire (age distribution data was not available for Census Tract 9714.01; Cheshire County; New Hampshire).

Once the new/induced walking and biking trips induced from driving, made by people within the applicable age ranges was calculated, these values were multiplied by the following health benefit monetization values provided in the RAISE BCA guidelines:

⁸ US Census, American Community Survey 5-Year Estimates Subject Tables, 2022, <https://data.census.gov/cedsci/>

⁹ US Census, American Community Survey 5-Year Estimates Subject Tables, 2022, <https://data.census.gov/cedsci/>

Revitalizing Downtown Keene Benefit-Cost Analysis

1. Walking (7.73 \$2022/induced trip)
2. Cycling (6.80 \$2022/induced trip)

Table 21 – Sample Calculations of Monetized Benefits of Walking Health Improvements (Annual, Undiscounted)

<u>Measure</u>	<u>Equations</u>	<u>Value</u>
New/Induced walking trips, baseline	(a)	61,209
Local applicable age range (walking: 20-74)	(b)	75%
New/Induced walking trips within applicable age range, baseline	(c) = (a) * (b)	45,906
Value of health benefits per walking trip	(b)	\$7.63
Monetized value of improved health benefits, baseline	(c) = (a) * (b)	\$350,266.18

4.2.8 Pavement Damage Reduction

The project will prompt a mode shift by improving walking and biking conditions, which will lead to a reduction in pavement damage from the wear and tear on roads caused by personal vehicles. To estimate monetized benefits associated with these positive outcomes, the BCA multiplies the decrease in VMT on each corridor by mode as outlined in the Baseline Assumptions section by the monetization value for pavement damage avoidance per mile (0.05 \$2022/mile), as recently reported by the Victoria Transport Policy Institute (2024)¹⁰ as the cost of pavement damage per vehicle-mile of urban driving.

Table 22 – Sample Calculations of Monetized Benefits of Pavement Damage Reduction (Annual, Undiscounted)

<u>Measure</u>	<u>Equations</u>	<u>Value</u>
Reduction in annual car/motorcycle vehicle-miles (baseline)	(a)	33,336
Value of pavement damage per vehicle-mile of urban driving	(b)	\$0.05
Monetized value of pavement damage avoidance, baseline	(c) = (a) * (b)	\$1,666.81

4.2.9 Stormwater Runoff Reduction

The project includes Green Infrastructure improvements such as Silva Cell tree pits which are intended to increase the cubic feet of stormwater managed along the Main Street corridor. Under existing conditions, other than existing street trees and planted medians which are not designed to specifically treat stormwater, there is no existing stormwater treatment infrastructure on the project corridors.

The project also includes sewer separation for roof runoff along the Main Street corridor from Emerald/Eagle Street to Central Square. Under existing conditions stormwater runoff is connected to the

¹⁰ Victoria Transport Policy Institute, *Evaluating Active Transport Benefits and Costs* (page 28), February 20, 2024, accessed February 25, 2024, <https://www.vtpi.org/nmt-tdm.pdf>

Revitalizing Downtown Keene Benefit-Cost Analysis

sewer main and will be separated to the drainage system. A sketch of the roof area is shown below in Figure 2 for reference. This roof area was factored at 85% to reflect a portion of the buildings which are already connected to the drainage system or buildings which may delay making the connection.



Figure 2 – Sewer Separation Extents

The stormwater benefit was calculated using the Triple Bottom Line (TBL) Green Stormwater Infrastructure (GSI) Tool developed by the Water Research Foundation as part of project 4852, Economic Framework and Tools for Quantifying and Monetizing the Triple Bottom Line Benefits of Green Stormwater Infrastructure (<https://www.waterrf.org/research/projects/economic-framework-and-tools-quantifying-and-monetizing-triple-bottom-line>). The tool analyzes stormwater benefits across a number of categories, customized based on location and other key factors such as climate zone and construction year. The input to the tool was an estimated amount of impervious areas managed for each green infrastructure practice associated with the Project. More detailed outputs from the tool can be found in Attachment A.

To be conservative, the estimate includes only some of the quantifiable benefits associated with the Project's proposed Green Infrastructure and Sewer Separation elements. Specifically, the estimates include benefits that the tool estimates as a result of Avoided Infrastructure Costs. Other excluded

Revitalizing Downtown Keene Benefit-Cost Analysis

categories of quantifiable benefits include Energy Savings, Water Supply, Property Values, in other sections of the Tool, although there will be benefits to the community in these categories. See Figure 3 for the key outputs used in the BCA calculation from the tool. The proposed sewer separation and biofiltration facilities were determined to have a benefit of \$655,725 (undiscounted) over the 20-year analysis period.

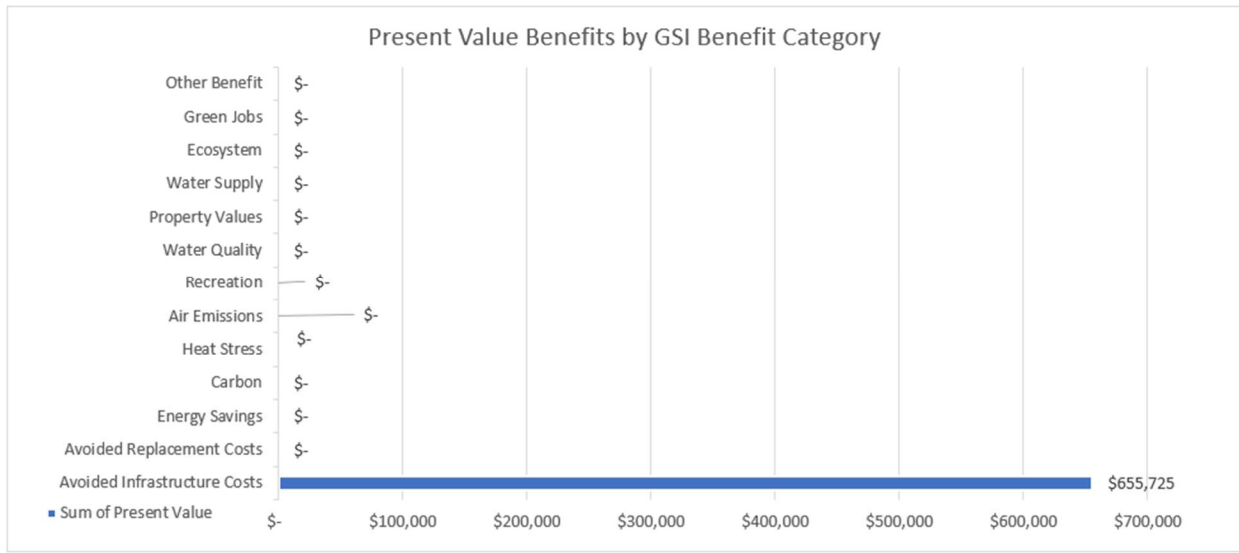


Figure 3 – TBL GSI Dashboard Sample Export

5 SUMMARY

The project results in a final BCA ratio of **1.35**, with the full breakdown of benefits and costs described below:

Table 23 – BCA Results

BCA Component	Monetized Benefits (Discounted at 3.1%)
Benefit 1: Safety: Improved traffic safety and crash reduction	\$3,343,285
Benefit 2: Vehicle Travel Time Savings	\$181,845
Benefit 3: Vehicle operating cost reduction	\$212,760
Benefit 4: Emissions reduction: (a) non-CO2 and (b) CO2	<u>Non-CO2</u> : \$4,910 <u>CO2</u> : \$51,791 (note that CO2 emissions are discounted at 2%)
Benefit 5: Avoided Highway Externalities: (a) reduced congestion, (b) reduced noise pollution, (c) improved safety resulting from overall reduction in vehicle travel	\$64,196
Benefit 6: Mobility amenity benefits: (a) Expand sidewalk, (b) Reduce traffic speed, (c) New dedicated cycling lane	\$12,682,942
Benefit 7: Public health benefits (improved health): (a) related to walking and (b) related to cycling	\$4,933,077
Benefit 8: Pavement Damage Reduction	\$20,458
Benefit 9: Stormwater Avoided Infrastructure Costs	\$508,698
Operations and Maintenance Costs	(\$2,542,047) <i>Negative number</i>
Total Benefits	\$24,545,416*
Capital Costs	\$18,123,279
Residual Value	\$0
Total Costs	\$15,581,232
Benefit/Cost (B/C) Ratio	1.35
Net Present Value (NPV)	\$6,422,136
*Note that this number is not the same as the sum of the benefits because of order of operations. To calculate the total discounted benefits, benefits (including O&M) are aggregated by year, discounted by year, then summed together for all years of the analysis period.	

Revitalizing Downtown Keene Benefit-Cost Analysis

The benefits of the project are many and are in excess of the costs, despite a conservative approach to estimating these benefits. The project shows a B/C ratio of **1.35** and is expected to result in significant benefits throughout the forecast period. Furthermore, there are additional unquantified benefits that would result from this project, including additional compounding crash reduction benefits and multimodal travel time benefits described above.

For further information on the calculations and assumptions, you are invited to review in detail the enclosed unlocked Excel workbook containing the full BCA Model (Attachment 10 of the grant submittal).

Attachment A

Key Inputs

- Stormwater management goal/hydrologic information
- Management area characteristics

Stormwater Management Goal

Annual rainfall that results in runoff
 inches

Design storm (percentile)
 th percentile

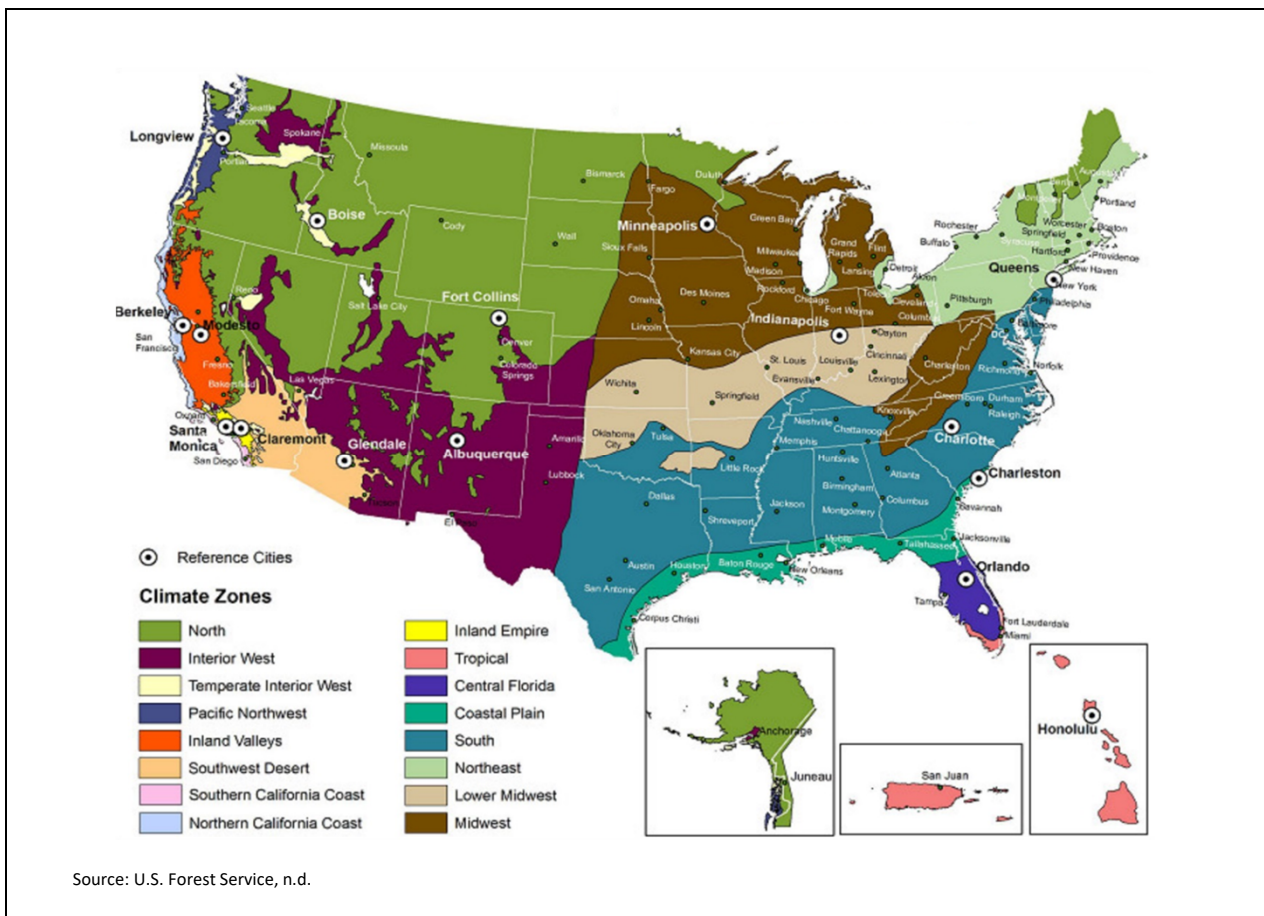
Design storm depth (rainfall)
 inches

Management Area Characteristics

Management area (acres)
 acres

Management area population

Climate Zone - see map below





Avoided Infrastructure Costs

- Avoided CSO reduction projects
- Other avoided conventional stormwater management projects (e.g. surface storage facilities, conveyance piping, underground storage vaults, and detention basins)
- Avoided stormwater pumping and treatment (CSO communities)

Benefit Value Summary

Annualized Value	\$ 32,786
Present Value	\$ 655,725
analysis period (years)	20

Option 2

Use Option 1 or Option 2?

Option 1 - Avoided Cost Manual Entry

	\$	Avoided capital costs
	\$	Avoided annual O&M costs

Option 2 - Avoided Cost Calculators

Large-scale CSO Reduction Projects

Deep Tunnels

No		Does this benefit apply?
		What percent of deep tunnel project will GSI scenario offset?
	million gallons	Size of storage facility
\$ -	\$	Avoided deep tunnel/underground storage capital costs (total project)
0.25%	percent	Annual O&M as a percent of capital costs (do not include avoided pumping and treatment costs calculated)
\$ -	\$	Avoided annual O&M for deep tunnels/underground storage

Sewer Separation Projects

Yes		Does this benefit apply?
85%		What percent of sewer separation project will GSI scenario offset?
7	acres	Acres of the study area that would be managed through sewer separation under the baseline scenario ()
100,000	\$ per drainage acre	Unit value of avoided capital costs per drainage acre (default value - \$100,000 per drainage acre)
\$ 585,399	\$	Avoided capital cost for sewer separation projects
0.25%	percent	Annual O&M as a percent of capital costs
\$ 1,244	\$	Avoided annual O&M cost for sewer separation projects

All Other Stormwater Management Projects

Yes		Does this benefit apply?
74,288	square feet	Impervious area managed through GSI scenario
20%	percent	Percent of impervious area managed in GSI scenario that would be managed through conventional stormwater management
3.00	\$ / square foot	Unit cost of impervious area managed through conventional stormwater infrastructure (default value -)
\$ 44,573	\$	Avoided capital cost of "other" gray infrastructure stormwater management projects
0.25%	percent	Annual O&M as a percent of capital cost
\$ 111	\$	Avoided annual O&M value of other gray infrastructure stormwater management projects

Avoided Stormwater Pumping and Treatment Costs

No		Does this benefit apply?
1,697	thousand gallons	Volume of stormwater retained annually through GSI practices
	percent	Percent of annual volume retained through GSI that will result in avoided pumping and treatment
\$ 1.27	\$ / thousand gallons	Unit value of avoided pumping and treatment costs (default value - \$1.27 per thousand gallons)
\$ -	\$	Total annual value of avoided pumping and treatment costs

GSI Benefit/Cost Results

Analysis Assumptions

Analysis Period: 20 Years
Discount Rate: 0.0%

Present Value - All Benefits and Costs

Total over study period Annualized values
Benefits: #DIV/0! #DIV/0!
Costs: #DIV/0! #DIV/0!
Benefit-Cost Ratio: #DIV/0!

Benefit Categories

Financial

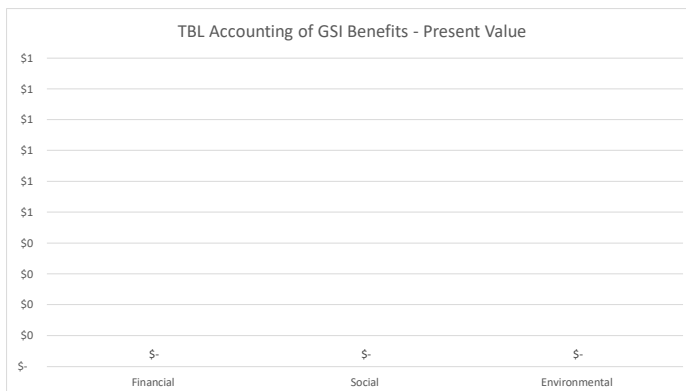
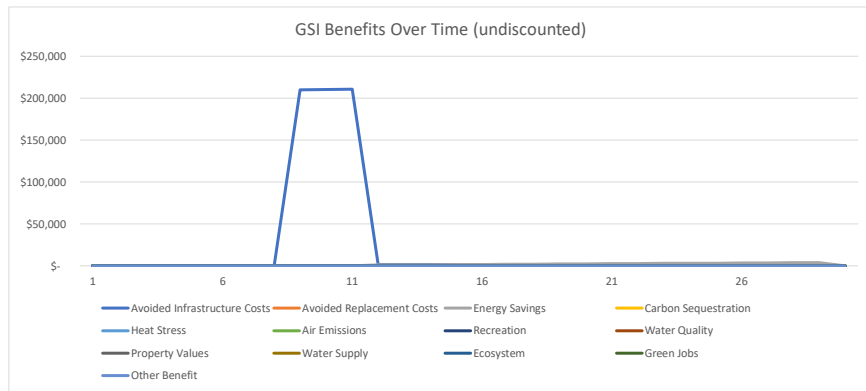
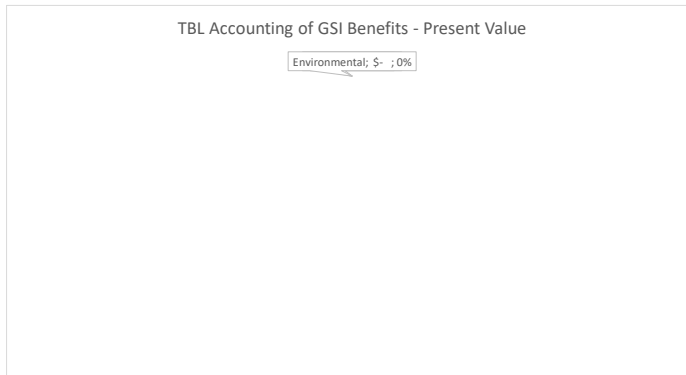
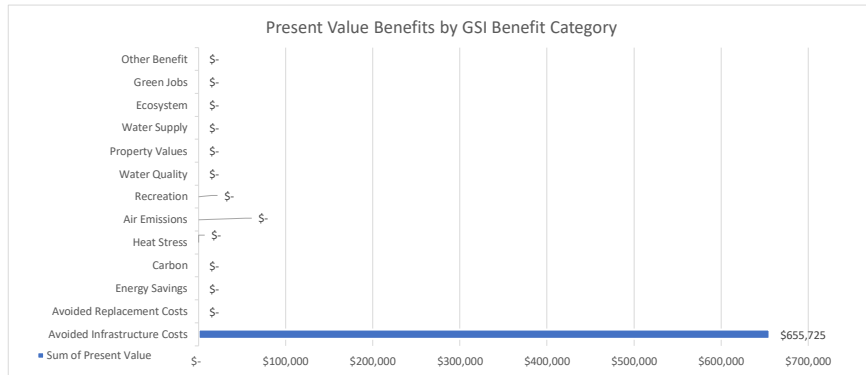
- Avoided infrastructure and treatment costs
- Avoided replacement costs
- Energy savings
- Environmental**
- Water quality improvements
- Carbon emissions reduction and sequestration
- Ecosystem benefits

Social

- Improved air quality
- Water supply benefits
- Improved aesthetics (property values)
- Reduced heat stress
- Increased recreation
- Green job creation
- Other**
- Other benefits (enter to the right)

Benefits Calculated Outside Tool

Average annual (non-discounted): []
TBL Benefit Type: Other



Physical Benefits from GSI to be Installed

Benefit Category	Physical Benefit	Annual Benefit Amount (at full implementation)	Units
Energy Savings	Electricity Savings	#VALUE!	kWh
	Natural Gas Savings	#VALUE!	Therms
	Sulfur Dioxide Reduction	#VALUE!	Metric Tons
Air Quality	Nitrogen Oxide Reduction	#VALUE!	Metric Tons
	Particulate Matter Reductions	#VALUE!	Metric Tons
	Ozone Reduction	#DIV/0!	Metric Tons
	Avoided GHGs from Energy Use	#VALUE!	Metric Tons
Carbon	Avg. CO2e Sequestered - Trees (Yr. 30)	8	Metric Tons
	Avg. CO2e Sequestered - Green Roofs	#DIV/0!	Metric Tons
	Avg. CO2e Sequestered - Bioret., Rain Gard	#DIV/0!	Metric Tons
	Avg. CO2e Sequestered - Wetlands	#DIV/0!	Metric Tons
Water Supply	Potable Water Supply Offsets	-	Acre-feet
	Groundwater Recharged	1.01	Acre-feet
Heat Stress	Avoided Fatalities (2050)	#DIV/0!	Deaths
	Avoided Hospitalizations (2050)	#DIV/0!	Hospitalizations
Property Values - Properties Affected	Avoided Emergency Room Visits (2050)	#DIV/0!	Visits
	Single Family Residential	760	Properties
	Multi Family Residential	228	Properties
Recreation - Additional Park Visits	Commercial	-	Properties
	Pocket Parks	-	Visits
	Stormwater Parks	-	Visits
	Neighborhood Greening	-	Visits

Discounted Present Value of Benefits

Benefit Category	Present Value	Annualized Value
Avoided Infrastructure Costs	\$ 655,725	\$ 32,786
Avoided Replacement Costs	#DIV/0!	#DIV/0!
Energy Savings	#VALUE!	#VALUE!
Carbon	#DIV/0!	#DIV/0!
Heat Stress	#DIV/0!	#DIV/0!
Air Emissions	#VALUE!	#VALUE!
Recreation	#DIV/0!	#DIV/0!
Water Quality	\$ -	\$ -
Property Values	#DIV/0!	#DIV/0!
Water Supply	\$ -	\$ -
Ecosystem	#DIV/0!	#DIV/0!
Green Jobs	#DIV/0!	#DIV/0!
Other Benefit	\$ -	\$ -

Non-discounted Benefits Over Time

Co-Benefit Categories	Analysis Period		20 Years																					
	Year	Sum (undiscounted)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Avoided Infrastructure Costs		655,725	-	-	-	-	-	-	-	-	209,991	210,443	210,894	1,355	1,355	1,355	1,355	1,355	1,355	1,355	1,355	1,355	1,355	1,355
Avd. Capital Cost for Deep Tunnels		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Avd. O&M Cost for Deep Tunnels		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Avd. Capital Cost for Sewer Separation		585,399	-	-	-	-	-	-	-	-	195,133	195,133	195,133	-	-	-	-	-	-	-	-	-	-	-
Avd. O&M Cost for Sewer Separation		23,636	-	-	-	-	-	-	-	-	-	415	829	1,244	1,244	1,244	1,244	1,244	1,244	1,244	1,244	1,244	1,244	
Avd. Capital Cost for Other Stormwater		44,573	-	-	-	-	-	-	-	-	14,858	14,858	14,858	-	-	-	-	-	-	-	-	-	-	-
Avd. O&M Cost for Other Stormwater		2,117	-	-	-	-	-	-	-	-	-	37	74	111	111	111	111	111	111	111	111	111	111	
Avd. Stormwater Pumping and Treatment C		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Avoided Replacement Costs	#DIV/0!	-	-	-	-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Avoided Annual Maintenance Cost of Conve	#DIV/0!	-	-	-	-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Avoided Replacement Cost of Conventional	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Avoided Annual Maintenance Cost of Replat	#DIV/0!	-	-	-	-	-	-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Energy Savings Total	#VALUE!	-	-	-	-	-	-	-	-	-	#VALUE!	#VALUE!	#VALUE!	944	1,078	1,279	1,473	1,660	1,841	2,022	2,203	2,379	2,551	2,719
Energy Savings Trees Electricity		11,088	-	-	-	-	-	-	-	-	-	73	145	234	268	318	366	412	457	502	547	591	633	675
Energy Savings Trees Natural Gas		33,571	-	-	-	-	-	-	-	-	-	220	440	710	811	961	1,107	1,248	1,384	1,520	1,656	1,788	1,918	2,044
Energy Savings Green Roofs Electricity	#VALUE!	-	-	-	-	-	-	-	-	-	#VALUE!	#VALUE!	#VALUE!	-	-	-	-	-	-	-	-	-	-	-
Energy Savings Green Roofs Natural Gas	#VALUE!	-	-	-	-	-	-	-	-	-	#VALUE!	#VALUE!	#VALUE!	-	-	-	-	-	-	-	-	-	-	-
Water Supply Total		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Harvesting Rain Barrels		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Harvesting Cisterns		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Check Box Result: **Financial**

- TRUE Avoided infrastructure and treatment costs
- TRUE Asset life extension
- TRUE Energy Savings
- Environmental**
- TRUE Water quality improvements
- TRUE Carbon emissions reduction and sequestration
- TRUE Ecosystem benefits

Social

- TRUE Improved air quality
- TRUE Water supply benefits
- TRUE Improved aesthetics (property values)
- TRUE Reduced heat stress
- TRUE Increased recreation
- TRUE Green job creation

Other

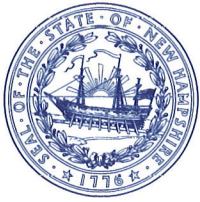
- TRUE Other benefit category

2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075
23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
1,355	1,355	1,355	1,355	1,355	1,355	1,355	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,244	1,244	1,244	1,244	1,244	1,244	1,244	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
111	111	111	111	111	111	111	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2,886	3,054	3,218	3,380	3,539	3,698	3,857	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
717	758	799	839	879	918	958	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2,170	2,295	2,419	2,541	2,660	2,780	2,899	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

The following attachment is not included in the view since it is not a read-only PDF file.

Upon submission, this file will be transmitted to the Grantor without any data loss.

BCA Calculations.xlsx



STATE OF NEW HAMPSHIRE
OFFICE OF THE GOVERNOR

CHRISTOPHER T. SUNUNU
Governor

February 5, 2024

The Honorable Pete Buttigieg, Secretary
United States Department of Transportation
1200 New Jersey Avenue, S.E. Washington, DC 20590

Re: Support for the Revitalizing Downtown Keene RAISE Grant Application

Dear Secretary Buttigieg:

Please accept this letter of support for the Revitalizing Downtown Keene project to the U.S. Department of Transportation's RAISE Program. Acknowledging the significance of downtown Keene, New Hampshire, as the region's economic heart with a commitment to maintaining its vibrancy, relevance, and functionality for all, this multi-modal project brings increased access, resilient design, and improved quality of life to long underinvested communities.

Keene's downtown serves as an economic, social, and cultural engine for both the city and surrounding Monadnock Region. This opportunity will transform the downtown streetscape into a dynamic corridor that accommodates expanding community uses, prioritizes multimodal and active transportation access, expands connections to downtown, and integrates climate adaptation and resiliency measures.

This project would replace core utility infrastructure, upgrade the walking and cycling environment, create new flexible community spaces, and incorporate elements that will reduce flooding, support better air quality, and reduce the impacts of heat island effect. Reduction in roadway widths, crosswalk and sidewalk improvements, as well as new sidewalk grade bike lanes will prioritize people over cars and support the wider use of multi-modal transit across a greater array of groups.

Furthermore, the project would also cement Keene's downtown as a hub within the regional trail network that runs through different neighborhoods and connects to communities with persistent poverty within Keene and the immediate area. This increased accessibility would allow alternative choices for people to connect to downtown and the wider region.

The proposed application represents a significant investment for New Hampshire's Monadnock Region that would maintain and enhance the quality of life for area residents and visitors as well as ensure the continued economic vitality of Keene and its surrounding towns. I am pleased to offer my support for this application and hope you will look upon it favorably.

If you have any questions, please do not hesitate to contact my office at (603) 271-2121.

Sincerely,

Christopher T. Sununu
Governor

107 North Main Street, State House - Rm 208, Concord, New Hampshire 03301
Telephone (603) 271-2121 • FAX (603) 271-7640
Website: <http://www.governor.nh.gov/> • Email: governorsununu@nh.gov
TDD Access: Relay NH 1-800-735-2964



Arts Alive 15 Eagle Court
Keene, New Hampshire 03431
monadnockartsalive.org
(603)283-0944

February 5, 2024

The Honorable Pete Buttigieg, Secretary
United States Department of Transportation
1200 New Jersey Avenue,
S.E. Washington, DC 20590

Re: Support for the **Revitalizing Downtown Keene** RAISE Grant Application

Dear Secretary Buttigieg:

Please accept this letter of support for the Revitalizing Downtown Keene project to the U.S. Department of Transportation's RAISE Program. Acknowledging the significance of Downtown Keene as the region's economic engine with a commitment to maintaining its vibrancy, relevance, and functionality for all, this multi-modal project brings equitable access, resilient design, and improved quality of life to long underinvested communities.

Keene's downtown serves as an economic, social, and cultural hub for the city and surrounding Monadnock Region. This opportunity will transform the downtown streetscape into a dynamic corridor that accommodates expanding community uses, prioritizes multimodal and active transportation access, expands connections to downtown, and integrates climate adaptation and resiliency measures.

The project would replace core utility infrastructure, upgrade the walking and cycling environment, create new flexible community spaces, and incorporate elements that will reduce flooding, support better air quality, and reduce the impacts of heat island effect. Reduction in roadway widths, crosswalk and sidewalk improvements, and new sidewalk grade bike lanes will prioritize people over cars and support the wider use of multi-modal transit across a greater diversity of groups.

Furthermore, the project will cement Keene's downtown as a hub within the regional trail network that threads through different neighborhoods and connects to communities with persistent poverty within and surrounding Keene. The

increased accessibility provides alternative choices for people to connect to downtown and the wider region.

Additionally, Arts Alive supports this application because it makes space for cultural events, activities, and installations. The arts are a driver of economic health in small communities across the region, like Keene. Arts event attendees often spend an average of over \$30 per person in businesses beyond the arts venue they are patronizing, according to our 2022 Arts and Economic Prosperity Survey conducted in partnership with Americans for the Arts. Beyond direct financial benefit, Arts events help build community. According to our Arts Access Study 90% of community members agree that community events are an effective way to connect people in our region and 97% agree that a connected community fosters the wellbeing of its members. These spaces are vital to creating accessible public events in downtown Keene.

For these reasons, I submit that the *Revitalizing Downtown Keene* project aligns with the grant program priorities and would be a useful investment in RAISE grant funding. Thank you for your consideration.

Please do not hesitate to reach out to us with any questions, please contact me at jessica@monadnockartsalive.org or 802-380-5090.

Sincerely,



Jessica Gelter, Arts Alive

United States Senate

February 10, 2024

The Honorable Peter Buttigieg
Secretary
U.S. Department of Transportation
1200 New Jersey Ave. SE
Washington, DC 20590

Dear Secretary Buttigieg:

I write today in strong support of the application from the City of Keene for funding through the U.S. Department of Transportation's 2024 Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant program for the Revitalizing Downtown Keene Project.

Keene's downtown is an economic, social, and cultural hub for both the city and the region. This multi-modal project would strengthen Downtown Keene as an economic engine for the entire Monadnock region by expanding equitable access, resilient design, and improved quality of life to long underinvested communities. This opportunity will transform the downtown streetscape into a dynamic corridor that accommodates expanding community uses, prioritizes multi-modal and active transportation access, integrates climate adaptation and resiliency measures, and makes Downtown Keene more accessible for everyone.

Downtown Keene serves a unique role in the region, situated near Keene State College, one of New Hampshire's largest universities, while also connected to communities with persistent poverty within and surrounding Keene. This project would replace core utility infrastructure, make downtown easier to access for cyclists and pedestrians, create new flexible community spaces, and support the wider use of multi-modal transit across a greater diversity of groups. The improvements enabled by this funding will cement Keene's downtown as a hub within the regional trail network that threads through different neighborhoods and will provide more choices for people to connect to downtown and the wider region.

This project represents a significant investment in Keene that would enhance quality of life and ensure the economic vitality of the greater Monadnock region. I encourage you to look favorably upon this strong application. Please do not hesitate to contact my office directly at 603-622-2204 if my staff or I can be of further assistance.

With every good wish,



Margaret Wood Hassan
United States Senator

COLONIAL

PERFORMING ARTS CENTER

February 12, 2024

The Honorable Pete Buttigieg, Secretary
United States Department of Transportation
1200 New Jersey Avenue, S.E. Washington, DC 20590

Re: Support for the *Revitalizing Downtown Keene* RAISE Grant Application

Dear Secretary Buttigieg:

Please accept this letter of support for the *Revitalizing Downtown Keene* project to the U.S. Department of Transportation's RAISE Program. Acknowledging the significance of Downtown Keene as the region's economic engine with a commitment to maintaining its vibrancy, relevance, and functionality for all, this multi-modal project brings equitable access, resilient design, and improved quality of life to long underinvested communities.

Keene's downtown serves as an economic, social, and cultural hub for the city and surrounding Monadnock Region. This opportunity will transform the downtown streetscape into a dynamic corridor that accommodates expanding community uses, prioritizes multimodal and active transportation access, expands connections to downtown, and integrates climate adaptation and resiliency measures.

The project would replace core utility infrastructure, upgrade the walking and cycling environment, create new flexible community spaces, and incorporate elements that will reduce flooding, support better air quality, and reduce the impacts of heat island effect. Reduction in roadway widths, crosswalk and sidewalk improvements, and new sidewalk grade bike lanes will prioritize people over cars and support the wider use of multi-modal transit across a greater diversity of groups.

Furthermore, the project will cement Keene's downtown as a hub within the regional trail network that threads through different neighborhoods and connects to communities with persistent poverty within and surrounding Keene. The increased accessibility provides alternative choices for people to connect to downtown and the wider region. For these reasons, I submit that the *Revitalizing Downtown Keene* project aligns with the grant program priorities and would be a useful investment in RAISE grant funding. Thank you for your consideration.

As a cultural cornerstone and recognized lead provider of performing arts for our tri-state region (New Hampshire, Vermont and Massachusetts), The Colonial Performing Arts Center (CPAC) fully understands the importance of an accessible, relevant and vibrant city core. Located dead center in Keene's downtown business corridor for the past 100 years, CPAC welcomes the multimodal transportation options and increased dynamism this project will bring to the arts community and our city.

Please do not hesitate to reach out to us with any questions, please contact me at (603) 357-1233 x 102.

Sincerely,



Alec Doyle
Executive Director

95 Main Street - PO Box 77 • Keene, NH 03431
Business Office: 603-357-1233 • Box Office: 603-352-2033 • TheColonial.org

February 12, 2024

The Honorable Pete Buttigieg, Secretary
United States Department of Transportation
1200 New Jersey Avenue, S.E.
Washington, DC 20590

Re: Support for the **Revitalizing Downtown Keene** RAISE Grant Application

Dear Secretary Buttigieg:

Please accept this letter of support for the Z°À|| o||]vP ~}Áv project to the U.S. Department of Transportation's RAISE Program. Acknowledging the significance of Downtown Keene as the region's economic engine with a commitment to maintaining its vibrancy, relevance, and functionality for all, this multi-modal project brings equitable access, resilient design, and improved quality of life to long underinvested communities.

Keene's downtown serves as an economic, social, and cultural hub for the city and surrounding Monadnock Region. This opportunity will transform the downtown streetscape into a dynamic corridor that accommodates expanding community uses, prioritizes multimodal and active transportation access, expands connections to downtown, and integrates climate adaptation and resiliency measures.

The project would replace core utility infrastructure, upgrade the walking and cycling environment, create new flexible community spaces, and incorporate elements that will reduce flooding, support better air quality, and reduce the impacts of heat island effect. Reduction in roadway widths, crosswalk and sidewalk improvements, and new sidewalk grade bike lanes will prioritize people over cars and support the wider use of multi-modal transit across a greater diversity of groups.

In January of 2021, the City of Keene adopted a comprehensive plan for how to carry out various energy and climate goals within the community with a focus on transportation and sustainable planning. The previously mentioned elements of the downtown revitalization are all key components to carry out these community objectives and further enable us to adapt to the changing climate and reduce any additional local impact to such.

Furthermore, the project will cement Keene's downtown as a hub within the regional trail network that threads through different neighborhoods and connects to communities with persistent poverty within and surrounding Keene. The increased accessibility provides alternative choices for people to connect to downtown and the wider region.

For these reasons, I submit that the Z°À|| o||]vP ~}Áv project aligns with the grant program priorities and would be a useful investment in RAISE grant funding. Thank you for your consideration.

Please do not hesitate to reach out to us with any questions, please contact Zach Luse at (603)399-6400 or zach@paragondigital.com X

Sincerely,



Zach Luse, Chair, City of Keene's Energy and Climate Change Committee



Wisdom to make a difference.

President's Office

229 Main Street, Keene, NH 03435

February 12, 2024

The Honorable Pete Buttigieg, Secretary
United States Department of Transportation
1200 New Jersey Avenue, S.E. Washington, DC 20590

Dear Secretary Buttigieg:

Please accept this letter of support for the Revitalizing Downtown Keene project to the U.S. Department of Transportation's RAISE Program. The campus of Keene State College, New Hampshire's public liberal arts college, is in the heart of downtown Keene and our mutual thriving is inextricably linked. The RAISE grant provides the City of Keene with an invaluable opportunity.

Keene's downtown is the economic, social, and cultural hub for the city and surrounding Monadnock Region. This grant will allow us to reimagine and transform downtown Keene into a dynamic corridor that accommodates ever-expanding community uses, prioritize multimodal transportation access, and integrate climate adaptation and resiliency measures.

The project will cement Keene's downtown as a hub within the regional trail network that threads through different neighborhoods and connects to communities with persistent poverty within and surrounding Keene. With this funding, Keene can replace core utility infrastructure, upgrade walking and cycling environments, create new flexible community gathering spaces, and incorporate elements to reduce flooding, support better air quality, and lessen impacts of heat island effect. Keene can reduce roadway widths, improve crosswalks and sidewalks, and use new sidewalk grade bike lanes to prioritize people over cars and support the wider use of multi-modal transit.

The increased accessibility provides alternative choices for people to connect to downtown and the wider region. All these efforts will increase the sense of belonging in Keene across a greater diversity of groups.

Thank you for your consideration.

A handwritten signature in black ink, appearing to read "Melinda D. Treadwell".

Melinda D. Treadwell, Ph.D.
President



The Senate of the State of New Hampshire

107 North Main Street, Concord, NH 03301-4951

February 13th, 2024

The Honorable Pete Buttigieg, Secretary
United States Department of Transportation
1200 New Jersey Avenue, S.E.
Washington, DC 20590

Re: Support for the *Revitalizing Downtown Keene* RAISE Grant Application

Dear Secretary Buttigieg:

Please accept this letter of support for the *Revitalizing Downtown Keene* project to the U.S. Department of Transportation's RAISE Program. Acknowledging the significance of Downtown Keene as the region's economic engine with a commitment to maintaining its vibrancy, relevance, and functionality for all, this multi-modal project brings equitable access, resilient design, and improved quality of life to long underinvested communities.

Keene's downtown serves as an economic, social, and cultural hub for the city and surrounding Monadnock Region. This opportunity will transform the downtown streetscape into a dynamic corridor that accommodates expanding community uses, prioritizes multimodal and active transportation access, expands connections to downtown, and integrates climate adaptation and resiliency measures.

The project would replace core utility infrastructure, upgrade the walking and cycling environment, create new flexible community spaces, and incorporate elements that will reduce flooding, support better air quality, and reduce the impacts of heat island effect. Reduction in roadway widths, crosswalk and sidewalk improvements, and new sidewalk grade bike lanes will prioritize people over cars and support the wider use of multi-modal transit across a greater diversity of groups.

Furthermore, the project will cement Keene's downtown as a hub within the regional trail network that threads through different neighborhoods and connects to communities with persistent poverty within and surrounding Keene. The increased accessibility provides alternative choices for people to connect to downtown and the wider region.

The project will provide needed improvements to downtown Keene that will address the economic, environmental, and infrastructural needs of the community. The project simultaneously addresses community health and climate change by encouraging alternative means of travel and supporting a healthy environment, in addition to addressing regional poverty concerns by removing barriers to opportunity and making downtown Keene more accessible for all.

For these reasons, I submit that the Revitalizing Downtown Keene project aligns with the grant program priorities and would be a useful investment in RAISE grant funding. Thank you for your consideration.

Please do not hesitate to reach out to us with any questions. Please contact Sophie Walsh at 603-271-3469.

Sincerely,

A handwritten signature in black ink, appearing to be 'Sophie Walsh', written over the word 'Sincerely,'.

Congress of the United States
Washington, DC 20515

February 15, 2024

The Honorable Pete Buttigieg, Secretary
United States Department of Transportation
1200 New Jersey Avenue, S.E.
Washington, DC 20590

RE: Keene RAISE Grant Application

Dear Secretary Buttigieg,

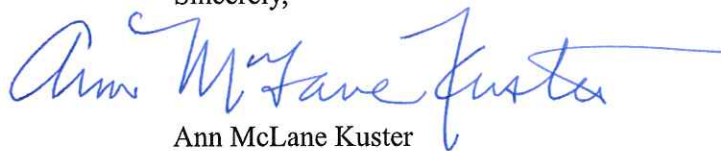
I proudly support the City of Keene's application for the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant program. The Revitalizing Downtown Keene project is committed to maintaining vibrancy, relevance, and functionality for all, while improving equitable access, resilient design, and quality of life for long-underinvested communities.

Keene's downtown is an important economic, social, and cultural hub for the Monadnock Region. With DOT's support, Keene's proposal will transform the downtown streetscape into a dynamic corridor that accommodates expanding community uses, prioritizes multimodal and active transportation access, expands connections to downtown, and integrates climate adaptation and resiliency measures.

The project would replace core utility infrastructure, upgrade the walking and cycling environment, create new flexible community spaces, and incorporate elements that will reduce flooding, support better air quality, and reduce the impacts of the heat island effect. Reduction in roadway widths, crosswalk and sidewalk improvements, and new sidewalk-grade bike lanes will prioritize people over cars and support the wider use of multi-modal transit. The project will also cement Keene's downtown as a hub within the regional trail network that threads through different neighborhoods and connects to communities with persistent poverty within and surrounding Keene. The increased accessibility provides alternative choices for people to connect to downtown Keene and the wider region—an important step in making a transportation system that works for more people.

I fully support the City of Keene's application, and I urge you to give it full and fair consideration. The proposed application represents a significant investment that would address regional transportation needs while enhancing the quality of life for area residents and supporting the continued efforts by the City of Keene to elevate underserved communities. Please keep my office informed as the award process moves forward by contacting Ryan Hyde on my staff at (603) 595-2006 or ryan.hyde@mail.house.gov.

Sincerely,



Ann McLane Kuster
Member of Congress



Southwest Region Planning Commission

37 Ashuelot Street, Keene, NH 03431

603-357-0557 Voice

603-357-7440 Fax

February 15, 2024

The Honorable Pete Buttigieg, Secretary
United States Department of Transportation
1200 New Jersey Avenue, S.E.
Washington, DC 20590

Re: Revitalizing Downtown Keene RAISE Grant Application

Dear Secretary Buttigieg:

On behalf of Southwest Region Planning Commission (SWRPC), please accept this correspondence in support of the Revitalizing Downtown Keene proposal under the U.S. Department of Transportation's (USDOT) RAISE Program. This multi-modal transportation project is very well aligned with the Program's strategic goals by addressing critical safety issues, improving access and mobility for our most vulnerable populations, addressing local climate and sustainability goals, and strengthening the local and regional economy. The proposal seeks to replace core utility infrastructure, upgrade the walking and cycling environment, create new flexible community spaces, and incorporate elements that will reduce flooding, improve air quality, and reduce the impacts of heat island effect. Reduction in roadway widths, crosswalk and sidewalk improvements, and new sidewalk grade bike lanes will prioritize people over cars and support current efforts to improve transit services in the area.

Downtown Keene is the center of the Region, drawing employees, customers, students, and others from Southwest NH, Vermont and Massachusetts to jobs, goods, services and cultural destinations. According to recent commuting data, the City's population (approximately 23,000) grows by 25% on a typical weekday from workers alone.¹ In addition to the influx of workers, several thousand additional visitors come to the City's downtown daily to access medical and professional services, retail stores, restaurants, banks, schools, museums, theaters, government offices, and courts, Keene State College, Antioch University, and many other destinations. In rural New Hampshire, the predominant mode of transportation is the personal vehicle placing significant traffic impacts on Keene's downtown. The Revitalizing Downtown Keene project is instrumental in addressing the near ubiquitous safety conflicts that motorists, pedestrians and bicyclists experience in the downtown today by incorporating complete streets that encourage visitors to park and then walk, bike or use the City's transit system during their stay.

In addition to hosting the daily influx of visitors, Keene's downtown has the largest and densest residential population in the Region. Many of the Region's most vulnerable populations live in the downtown area. The mixed-use area hosts hundreds of multifamily and senior housing apartments as well

¹ U.S. Census Bureau. LEHD Origin-Destination Employment Statistics (2002-2021) accessed on February 14, 2024 at <https://onthemap.ces.census.gov>.

TDD Access: Relay NH 1-800-735-2964

web site: www.swrpc.org

as homeless shelters interspersed among commercial, governmental, educational, and cultural destinations. According to the U.S. Census Bureau, approximately 12% of households in the downtown do not own a vehicle—a very high number for rural New Hampshire.² Keene and its downtown are currently experiencing record high rates of homelessness, median home values and monthly rental costs as well as record low owner occupied and rental housing unit vacancies. According to the *Southwest New Hampshire Regional Housing Needs Assessment* published by SWRPC in 2023, the City of Keene will require 755 new housing units by 2030 in order to address housing cost escalation and low vacancy trends.³ After housing, transportation expenses are among the highest costs for our rural population. Having a City core that supports carless households will have real impact on residents making the City and Region more affordable, resilient and sustainable.

The *Revitalizing Downtown Keene* project aligns with many of the Region's long range transportation goals and objectives:⁴

Goal 1: The transport system will be managed to support and enhance the regional economy.

- Objective 1A: It will be managed to foster a reliable business climate for existing and new businesses.
- Objective 1B: It will be managed to leverage, attract and stimulate new investment.
- Objective 1C: It will be managed to nurture and support regional economic diversity.
- Objective 1D: It will provide transportation efficiency solutions for households, businesses, and taxpayers and free up scarce resources for personal, business and community investments.

Goal 2: The transport system will be managed to help preserve and enhance natural, cultural and historic resources.

- Objective 2A: It will be managed to ensure high quality water, soil and air.
- Objective 2B: It will be managed to reduce greenhouse gases from transportation emissions.
- Objective 2D: It will be managed to preserve the sense of place of its villages, downtowns, parks and other unique cultural and historic destinations.
- Objective 2E: It will work to preserve elements of the Region's transportation history including its historic bridges, trestle bridges, railroad depots, rail rights of way and other resources.

Goal 3: The transport system will provide people of all ages and abilities timely access to goods, services, recreation, entertainment and companionship.

- Objective 3C: It will improve mode of transport choices as well as the quality of existing alternative choices inside the region and with outside destinations.
- Objective 3D: It will support and encourage local efforts to improve street, sidewalk, bicycle path and virtual connectivity as well as land use practices that reduce overreliance on building transportation capacity or requirements for long-distance transportation solutions.

Goal 4: The transport system will be designed and managed to eliminate fatalities and injuries as well as provide reassurance to the traveling public that they are safe.

- Objective 4A: It will be designed and managed to address unique safety challenges of special populations including but not limited to senior citizens, the disabled and the youth.

² U.S. Census Bureau. American Community Survey 5-Year Estimates for Census Tracts 9711, 9713 and 9714.03, Table B25044 accessed on February 14, 2024 at <https://data.census.gov>.

³ SWRPC. 2023. *Southwest New Hampshire Regional Needs Assessment* available at <https://www.swrpc.org/housing/>.

⁴ SWRPC. 2023. *Southwest Connects: Southwest Region Transportation Plan: 2023-2040* available at <https://www.swrpc.org/programs-services/transportation/long-range-transportation-plan/>.

- Objective 4C: It will address safety concerns of “incomplete streets” and its effect on the traveling public’s comfort walking, biking or using transit.
- Objective 4D: It will proactively mitigate potential dangers associated from severe storm events and other causes of potential hazards.

In summary, the Revitalizing Downtown Keene project serves as a shining example of the type of transportation investment that our Region has strived for, addressing not only real transportation needs, but also improving social and economic conditions for the Region and incorporating climate change resilience and adaptation measures that will preserve downtown Keene’s status as Southwest New Hampshire’s regional center of employment, services and culture.

Thank you for considering the City of Keene’s proposal and this correspondence. Please contact me if you have questions or would like to discuss this matter further.

Sincerely,



Tim Murphy
Executive Director

cc: Elizabeth Dragon, City Manager, Keene
Jesse Rounds, Community Development Director, Keene

February 17, 2024

The Honorable Pete Buttigieg, Secretary
United States Department of Transportation
1200 New Jersey Avenue, S.E.
Washington, DC 20590

Re: Support for the *Revitalizing Downtown Keene* RAISE Grant Application

Dear Secretary Buttigieg:

Please accept this letter of support for the *Revitalizing Downtown Keene* project to the U.S. Department of Transportation's RAISE Program. Downtown Keene is the region's economic engine reliant on its vibrance, relevance, and functionality for all. This multi-modal project brings equitable access, resilient design, and improved quality of life to long underfunded communities.

Downtown Keene serves as an economic, social, and cultural hub for the city and the surrounding Monadnock Region. This opportunity will transform the downtown streetscape into a beautiful, dynamic corridor that creates flexibility for community use, prioritizes multimodal and active transportation access, expands connections to downtown, and integrates climate mitigation and resiliency measures.

The project would restore core utility infrastructure, upgrade the walking and cycling environment, create new community spaces, and incorporate elements that will reduce flooding, support better air quality, and reduce the heat island effect. Crossing distance reduction, crosswalk and sidewalk optimization, and new sidewalk-grade bike lanes will support pedestrians, cyclists, and drivers alike, and induce demand for the wider use of multi-modal transit across a greater diversity of groups.

Furthermore, the project will cement Downtown Keene as a hub within the regional trail network that interweaves different neighborhoods and connects historically low-income regions. Increased accessibility provides alternative choices for people to connect to Downtown and the wider region. For these reasons, I submit that the *Revitalizing Downtown Keene* project aligns with the grant program priorities and would be a useful investment in RAISE grant funding. Thank you for your consideration.

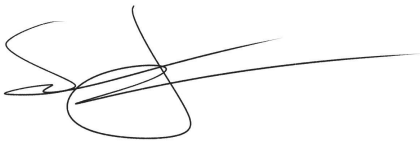
Bicycle and Pedestrian Pathways Advisory Committee supports this project that seeks to reimagine our downtown at human scale. It is clear how it increases safety for pedestrians and cyclists, but also protects drivers by correcting Main Street's highwayish design, thereby

discouraging speeding and reckless driving. It encourages recreational tourism resulting in economic growth by capitalizing on our extensive rail trail network with adjacent towns. Improving bicycling and pedestrian infrastructure is part of Keene's ongoing master plan.

We recently renewed our status as one of LAB's Silver Bicycle Friendly Communities, the highest of the state, and the improvements to our Main Street could support our upgrading to Gold. Infrastructure is the most difficult and costly component of the project, and as such, the grant can ensure these changes are not deprioritized as the project unfolds. Although there is a small increased cost up front to make these changes, sidewalks and bike paths are far less costly to maintain than their equivalent for vehicular traffic, returning the investment in the long term. Please help us seize this rare opportunity to improve our downtown for generations to come while the city is handling necessary infrastructure restoration.

Please do not hesitate to reach out with any questions to Sam Jackson at (603) 706-8151.

Sincerely,

A handwritten signature in black ink, appearing to be 'S. Jackson', with a long horizontal line extending to the right.

Sam Jackson, Acting Chair on behalf of all members of BPPAC

Philip M. Jones
40 A Stonehouse Lane
Keene, NH 03431
(603)-491-3967

February 20, 2024

The Honorable Pete Buttigieg, Secretary
United States Department of Transportation
1200 New Jersey Avenue, S.E.
Washington, DC 20590

Re: Support for the *Revitalizing Downtown Keene* RAISE Grant Application

Dear Secretary, Buttigieg:

Please accept this letter of support for the *Revitalizing Downtown Keene* project to the U.S. Department of Transportation's RAISE Program. Acknowledging the significance of Downtown Keene as the region's economic engine with a commitment to maintaining its vibrancy, relevance, and functionality for all, this multi-modal project brings equitable access, resilient design, and improved quality of life to long underinvested communities.

Keene's downtown serves as an economic, social, and cultural hub for the city and surrounding Monadnock Region. This opportunity will transform the downtown streetscape into a dynamic corridor that accommodates expanding community uses, prioritizes multimodal and active transportation access, expands connections to downtown, and integrates climate adaptation and resiliency measures.

The project would replace core utility infrastructure, upgrade the walking and cycling environment, create new flexible community spaces, and incorporate elements that will reduce flooding, support better air quality, and reduce the impacts of heat island effect. Reduction in roadway widths, crosswalk and sidewalk improvements, and new sidewalk grade bike lanes will prioritize people over cars and support the wider use of multi-modal transit across a greater diversity of groups.

Furthermore, the project will cement Keene's downtown as a hub within the regional trail network that threads through different neighborhoods and connects to communities with persistent poverty within and surrounding Keene. The increased accessibility provides alternative choices for people to connect to downtown and the wider region.

For these reasons, I submit that the *Revitalizing Downtown Keene* project aligns with the grant program priorities and would be a useful investment in RAISE grant funding.

Thank you for your consideration.

As a member of the House of Representatives – this project is an important infrastructure to support the economy of the Monadnock Region. As a City Council member – this grant is vital to help reduce the tax burden on our taxpayers.

Please do not hesitate to reach out to me with any questions, please contact (603-491-3967).

Sincerely,



Philip M. Jones,
New Hampshire State Representative
Keene City Council



THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION



William Cass, P.E.
Commissioner

David Rodrigue, P.E.
Assistant Commissioner

Andre Briere, Colonel, USAF (RET)
Deputy Commissioner

February 23, 2024

The Honorable Pete Buttigieg, Secretary
United States Department of Transportation
1200 New Jersey Avenue, S.E.
Washington, DC 20590

Re: Support for the **Revitalizing Downtown Keene** RAISE Grant Application

Dear Secretary Buttigieg:

Please accept this letter of support for the **Revitalizing Downtown Keene** project to the U.S. Department of Transportation's RAISE Program. Acknowledging the significance of Downtown Keene as the region's economic engine with a commitment to maintaining its vibrancy, relevance, and functionality for all, this multi-modal project brings equitable access, resilient design, and improved quality of life to long underinvested communities.

Keene's downtown serves as an economic, social, and cultural hub for the city and surrounding Monadnock Region. This opportunity will transform the downtown streetscape into a dynamic corridor that accommodates expanding community uses, prioritizes multimodal and active transportation access, expands connections to downtown, and integrates climate adaptation and resiliency measures.

The project would replace core utility infrastructure, upgrade the walking and cycling environment, create new flexible community spaces, and incorporate elements that will reduce flooding, support better air quality, and reduce the impacts of heat island effect. Reduction in roadway widths, crosswalk and sidewalk improvements, and new sidewalk grade bike lanes will prioritize people over cars and support the wider use of multi-modal transit across a greater diversity of groups.

Furthermore, the project will cement Keene's downtown as a hub within the regional trail network that threads through different neighborhoods and connects to communities with persistent poverty within and surrounding Keene. The increased accessibility provides alternative choices for people to connect to downtown and the wider region.

For these reasons, I submit that the *Revitalizing Downtown Keene* project aligns with the grant program priorities and would be a useful investment in RAISE grant funding. Thank you for your consideration.

New Hampshire Department of Transportation (NHDOT) works closely with City of Keene to address regional transportation needs and has invested in a number of transportation projects in and around the City of Keene and continues to do so. The Downtown Keene Revitalization project would compliment and build on those investments and is consistent with NHDOT goals advocating complete streets. NHDOT is happy to support the City's raise grant application and urges your favorable consideration.

Please do not hesitate to reach out to me with any questions.

Sincerely,

A handwritten signature in blue ink that reads "William Cass".

William Cass, PE
Commissioner

February 27, 2024

The Honorable Pete Buttigieg, Secretary
United States Department of Transportation
1200 New Jersey Avenue, S.E. Washington, DC 20590

Re: Support for the *Revitalizing Downtown Keene* RAISE Grant Application

Dear Secretary Buttigieg:

Please accept this letter of support for the *Revitalizing Downtown Keene* project to the U.S. Department of Transportation's RAISE Program. Acknowledging the significance of Downtown Keene as the region's economic engine with a commitment to maintaining its vibrancy, relevance, and functionality for all, this multi-modal project brings equitable access, resilient design, and improved quality of life to long underinvested communities.

Keene's downtown serves as an economic, social, and cultural hub for the city and surrounding Monadnock Region. This opportunity will transform the downtown streetscape into a dynamic corridor that accommodates expanding community uses, prioritizes multimodal and active transportation access, expands connections to downtown, and integrates climate adaptation and resiliency measures.

The project would replace core utility infrastructure, upgrade the walking and cycling environment, create new flexible community spaces, and incorporate elements that will reduce flooding, support better air quality, and reduce the impacts of heat island effect. Reduction in roadway widths, crosswalk and sidewalk improvements, and new sidewalk grade bike lanes will prioritize people over cars and support the wider use of multi-modal transit across a greater diversity of groups.

Furthermore, the project will cement Keene's downtown as a hub within the regional trail network that threads through different neighborhoods and connects to communities with persistent poverty within and surrounding Keene. The increased accessibility provides alternative choices for people to connect to downtown and the wider region.

For these reasons, I submit that the *Revitalizing Downtown Keene* project aligns with the grant program priorities and would be a useful investment in RAISE grant funding. Thank you for your consideration.



Please do not hesitate to reach out to us with any questions, please contact me at 603-354-5454, extension 2000.

Sincerely,

A handwritten signature in black ink, appearing to read "JPerras", with a long horizontal line extending to the right.

Joseph L. Perras, MD
President / CEO
Cheshire Medical Center



February 7, 2024

The Honorable Pete Buttigieg, Secretary
United States Department of Transportation
1200 New Jersey Avenue, S.E. Washington, DC 20590

Re: Support for the *Revitalizing Downtown Keene* RAISE Grant Application

Dear Secretary Buttigieg:

Please accept this letter of support for the *Revitalizing Downtown Keene* project to the U.S. Department of Transportation's RAISE Program. Acknowledging the significance of Downtown Keene as the region's economic engine with a commitment to maintaining its vibrancy, relevance, and functionality for all, this multi-modal project brings equitable access, resilient design, and improved quality of life to long underinvested communities.

Keene's downtown serves as an economic, social, and cultural hub for the city and surrounding Monadnock Region. This opportunity will transform the downtown streetscape into a dynamic corridor that accommodates expanding community uses, prioritizes multimodal and active transportation access, expands connections to downtown, and integrates climate adaptation and resiliency measures.

Furthermore, the project will cement Keene's downtown as a hub within the regional trail network that threads through different neighborhoods and connects to communities with persistent poverty within and surrounding Keene. The increased accessibility provides alternative choices for people to connect to downtown and the wider region.

For these reasons, I submit that the *Revitalizing Downtown Keene* project aligns with the grant program priorities and would be a useful investment in RAISE grant funding. Thank you for your consideration.

Overall, the benefit is one of COMMERCE AND GROWTH for the biggest city in the Monadnock Region. We believe that this project can help the next generation of business and business development in the heart of Keene and continue the path that the previous generations committed to as they maintained the sustainability of our historic Mainstreet. The time is now, and we are totally behind the City of Keene and its commitment to revitalize downtown Keene.

Please do not hesitate to reach out to us with any questions, please contact Luca Paris at 603-209-8885

Sincerely,

A handwritten signature in blue ink that reads "Luca Paris". The signature is fluid and cursive, with a large loop at the end.

President/CEO - Great Monadnock Collaborative
603-209-8885
Luca@greatermonadnock.com

February 20, 2024

The Honorable Pete Buttigieg, Secretary
United States Department of Transportation
1200 New Jersey Avenue, S.E.
Washington, DC 20590

Re: Support for the *Revitalizing Downtown Keene* RAISE Grant Application

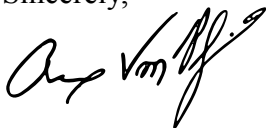
Dear Secretary Buttigieg:

As Keene's Conservation Commission, we take seriously our responsibility to protect and enhance our community's natural place within our surrounding environment. While it is true that Keene's downtown is the transportation, economic, and social hub of Southwestern New Hampshire, it is also our home. The commission sees the *Revitalizing Downtown Keene* project as an opportunity to ensure that our downtown melds even more deeply the built environment of Main Street & Central Square with the rolling hills and river valleys of the Monadnock Region.

The *Revitalizing Downtown Keene* project will allow us to enhance and expand our aging street tree environment; create comfortable, outdoor, human-scaled spaces and networks; and ensure Keene's ability to thrive in the coming decades in the face of unprecedented environmental, ecological, and climatic change. For all these reasons and more, we, the Keene Conservation Commission, wholeheartedly support the *Revitalizing Downtown Keene* project.

If we can be of any service in this project or if you have any further questions please feel free to contact us at (603) 352-5440.

Sincerely,



Sparky Von Plinsky
Chair, Keene Conservation Commission