STRAFFORD
Regional Planning Commission

Strafford Metropolitan Planning Organization
Technical Advisory Committee Meeting
Friday October 4, 2024 from 9:00am - 10:30am
Location: Conference Rm 1A, SRPC Office (Remote access via Zoom)

In accordance with RSA 91:A, the Commission requires a minimum of an in-person quorum. To organize this, the Commission staff will confirm the necessary in-person attendance. It is the preference of the Commission that others participate via Zoom, however, guests may attend the meeting at the SRPC Office. All participants, both in-person and virtual, can communicate contemporaneously. View the remote access information below.

MEETING LINK:
https://us02web.zoom.us/j/83483049101?pwd=RW9oK2xQRzJDbkdoYTVzVzZGNDNhZz09
MEETING ID: 834 8304 9101
TELEPHONE-ONLY ACCESS: +1 646 558 8656
These instructions have also been provided at www.strafford.org. If anybody is unable to access the meeting, please email mtaylorfetter@strafford.org or call 603-994-3500 (x115).

Agenda Item	Time	Pre-Meeting Task/Notes
1. Introductions	5 mins	
2. Community Updates	5 mins	Round table discussion
3. Action Items **a.** Minutes from June 7, 2024 **b.** Nominations for TAC officers **c.** Ten Year Plan Initial submission	40 mins	See meeting packet.
4. Other Business	5 mins	
5. Adjourn		

Reasonable accommodation for people with disabilities is available upon request. Include a detailed description of the accommodation you will need along with your contact info. Please make your request as early as possible; allowing at least 5 days' advance notice. Last-minute requests will be accepted but may be impossible to fill. Please call (603) 994-3500 or email srpc@strafford.org.

RULES OF PROCEDURE

Strafford Regional Planning Commission Meeting Etiquette

Be present at the scheduled start of the meeting.

Be respectful of and open to the views of others.

Ensure that only one person talks at a time. Raising your hand to be recognized by the chair or facilitator is good practice.

Do not interrupt others or start talking before someone finishes.

Do not engage in cross talk.

Avoid individual discussions in small groups during the meeting. When one person speaks, others should listen.

Active participation is encouraged from all members.

When speaking, participants should adhere to topics of discussion directly related to agenda items.

When speaking, individuals should be brief and concise when speaking.

The Strafford Regional Planning Commission & Metropolitan Planning Organization holds both public meetings and public hearings.

For public meetings, guests are welcome to observe, but should follow proper meeting etiquette allowing the meeting to proceed uninterrupted. Members of the public who wish to be involved and heard should use venues such as Citizen Forum, Public Hearings, Public Comment Periods, outreach events, seminars, workshops, listening sessions, etc.

Memo – Meeting agenda item preview
Technical Advisory Committee
October 2024

Officer Nominations

Michelle Mears and Michael Williams have volunteered to continue in their roles as Chair and Vice Chair (respectively). They have not been formally nominated at a TAC meeting. The TAC will need to discuss how to proceed on nominations and voting at the meeting.

Initial Ten Year Plan Submission

SRPC will need to present an initial list of candidate projects to NHDOT by early November. SRPC's allocation of funding for adding new projects to the Ten Year Plan is $5,846,797. This initial submission must fit within that allocation, plus up to two contingency projects. Four projects are eligible for the Ten Year Plan and have received engineering review from BETA. Some projects include alternatives with different cost estimates. Using the most expensive alternative the four eligible projects total $4,241,600.

This initial submission is part of the early development of a draft Ten Year Plan, to be signed into law in Summer of 2026. Around February 2025, SRPC committee members will need to vote on a final list of projects that is constrained to the $5.8 million regional allocation.

Upcoming Meetings:

- **November 1, 2024**
- **December 6, 2024**

STRAFFORD
Regional Planning Commission

Strafford Metropolitan Planning Organization
Technical Advisory Committee Meeting
Friday June 7, 2024 from 9:00am - 10:30am
Location: Conference Rm 1A, SRPC Office (Remote access via Zoom)

1. Introductions

M. Mears called the meeting to order and asked for introductions.

Members present: John Mullen, Middleton; Michelle Mears, Somersworth; Wayne Lehman, Lee; Gretchen Young, Rochester; Marshall Goldberg, Brookfield; Vanessa Price, Barrington; Lucy St. John, NHDOT; Jill Semprini, Dover

Members attending on Zoom: Donna Benton, Dover; Jack Wade, NHDES; Leigh Levine, FHA;

Staff Present: Stephen Geis, Colin Lentz

Staff attending on Zoom: Lisa Murphy, Rachel Dewey, Megan Taylor-Fetter

2. Community Updates

There were no community updates.

3. Action Item: Minutes from February 2, 2024

W. Lehman motioned to approve the minutes of February 2, 2024 as written seconded by V. Price. All members voted in favor. Motion passed with a unanimous vote in favor.

4. Discussion Items: Demonstration of TomTom traffic data for local level traffic analysis.

Stephen Geis presented a demonstration of TomTom and the analyses we can conduct for communities. SRPC has recently received access to TomTom's Origin/Destination Data. This data is generated by combining survey vehicle data, GPS traces, community input, governmental sources, and vehicle sensor data. The data collected has been verified by NHDOT to be highly accurate due to its high sample size. A great use SRPC has found for TomTom is for "road-based behavioral data" using origin/destination information. We see this type of analysis having great planning applications from resiliency to economic development. This tool allows us to select any segment of roadway or intersection and see where road segments trips are originating from and ending upon passing through a segment of road or intersection.
The TomTom data has also given us greater insight into vehicle speeds in the region. This has been particularly important as we have only been able to collect speed data for one week a year with our tube or radar counters, so this allows us to analyze the year-round traffic trends. This data could help assist local planning, engineer or DPW departments to adjust roadway designs to constrain speeding.

5. Project Updates

a. Metro Plan project development

C. Lentz stated we have received a phase one report from BETA Engineer for the 7 projects. We will send the report to the communities for review and future discussion for the next step for the project development. The goal is to continue to work with an engineer to develop projects for the long-range plan. Will have additional funding for engineering projects.

b. Safe Streets and Roads for All

C. Lentz stated that the 4 MPO's received grants to create safety plans for each of the 4 regions. VHB is hired as consultant to make the plans eligible for Safe Street For All funding.

6. Other Business

C. Lentz reminded everyone about the upcoming Annual Luncheon.
M. Mears stated she heard the sad news about Tom Crosby.

7. Citizen's Forum

There were no citizens comments

8. Adjourn

Following a motion and a second and a unanimous vote in favor, the meeting adjourned at at 10:00AM.

SRPC TRANSPORTATION PROJECT PROPOSAL FORM

CONTACT INFORMATION - REQUIRED

Full Name	Ken Dickie	**Municipality**	Farmington
Email	townadmin@farmington.nh.us	**Affiliation**	Town Staff
Phone Number	603-755-2208	**Title Position**	Town Administrator

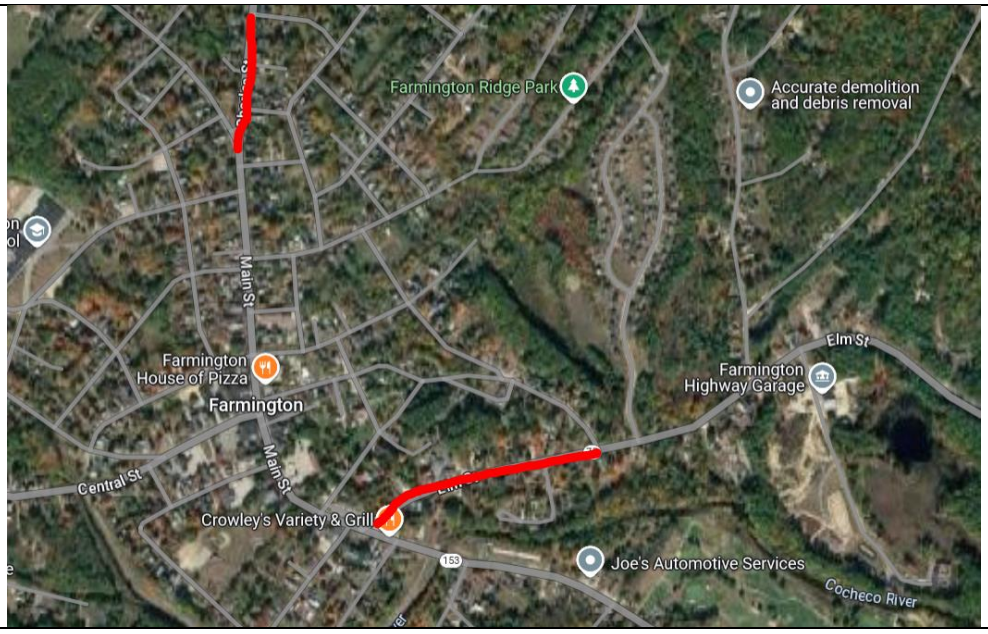
TRANSPORTATION PROJECT INFORMATION - REQUIRED

Name/Title of Project Downtown sidewalk expansion

Please select the project type(s):

- ☐ **Highway Improvements** (operational improvements, access management, intelligent transportation systems, widening, technology operation improvements)
- ☐ **Asset Management** (bridge rehabilitation, bridge replacement, pavement repair/replacement)
- ☒ **Bicycle and Pedestrian Improvements** (sidewalks, bike trails, multi-use paths, traffic calming improvements)
- ☐ **Planning Studies** (road diets, corridor studies, network studies, pedestrian/cyclist safety studies)
- ☐ **Infrastructure-related Travel Demand Management** (park & ride lots, transit or HOV lanes, priority signalization, bus shelters, intermodal transportation centers)

Please provide a reference photo of the project location. (e.g. Google Maps/Earth)



Where is this project located? *(road names, nearby facilities/landmarks)*

City/Town	Farmington
Road	segments of Main St and Elm St
From	Main St from Lincoln st to Webster St
To	Elm St from Main St to Lone Star Ave

What is the size of this project? *(please provide approximate measurements in 10th of a mile; you can use Google Maps measuring tool to estimate distances)*

To be determined - approximately 2,5000 ft

Where can support for this project be found? *(Plan titles/names and the applicable section(s), who would provide letters of support, people involved in this project, etc.)*

Sidewalk expansion to improve pedestrian connections to the downtown is a top priority for Farmington and is supported by the town master plan.

Please provide any additional information about this project. *(local knowledge/insight, relevant studies/data, infrastructure needs, etc.)*

Downtown sidewalk expansion benefits local economic development and improves walkability for students within the bus-free zone.

PURPOSE, NEED, AND SCOPE - REQUIRED

Please provide the Purpose Statement for this project. What problem(s) is the proposal addressing?
ex: "The purpose of this project is to support increased non-motorized activity by addressing safety issues resulting from unsafe vehicle speeds and inadequate protections for pedestrians on Main Street between 1st and 2nd Street."

Sidewalk expansion for local network and connection to Farmington Rail Trail.

Please provide the Need Statement for this project.
ex: "The section of Main St between 1st Street and 2nd Street is unsafe for pedestrians. This section is in the center of the city's commercial district concentrated with jobs and small businesses. In the past 5 years there have 15 crashes in this section of Main St: two resulted in serious injuries to pedestrians and one resulted in a pedestrian fatality. Continued local economic development depends on increased walkability and safety for pedestrians." _

Walkability is a key part of town's revitalization efforts. Dense downtown requires local students inside bus zone to walk to school.

Please outline the project scope.
ex: "Install pedestrian crossings on Main Street at 1st and 2nd street intersections and at mid-block, including pedestrian refuge medians, other streetscaping and traffic calming infrastructure."

Expand or upgrade sidewalks along Main St from Canal St to NH153 intersection; link to Farmington Rec Trail.

SUBMISSION - REQUIRED

Please return this form to Colin Lentz at Strafford Regional Planning Commission, clentz@strafford.org. Please attach relevant EXCERPTS of any supporting documents, maps, cost estimates, and data along with this form.

Please check what supporting documents that you have attached:

- ☐ Local Plans/Master Plans
- ☒ Cost Estimate
- ☐ Local Police Crash Data
- ☐ Corridor Study
- ☐ Special Studies (Road Safety Audit, Warrant Analysis, Safe Routes to School Plan, etc.)
- ☐ Maps
- ☐ Transit Operator Data
- ☐ Development Studies
- ☐ Regional Planning Study
- ☐ Turning Movement or Traffic Volume Data
- ☐ Bike/Pedestrian Surveys
- ☒ Project Scope
- ☐ Conceptual Designs

SUPPLEMENTARY INFORMATION - OPTIONAL

Please note that these questions are not required to make an initial submission to Strafford Regional Planning Commission (SRPC). Please try to answer these questions now as they will still need to be answered as part of the final proposal submission. However, if you are unable to answer them on your own at this time, staff at SRPC will assist you.

What alternative options or methods have been considered to address this problem and what makes this project proposal the best option?

Multiple sidewalk segments will be considered to find the best route and maximize connectivity.

How involved has the public been in this project proposal so far?

Please describe the extent of public outreach and involvement efforts to date.

Town staff developed sidewalk alternatives and select board members reviewed potential alternatives.

What is the anticipated level of further public involvement over the life of this project?

Please describe anticipated public outreach and involvement efforts to be conducted in the future for this project.

Town staff and officials will participate in alternatives development and selection.

How much of a priority is this in the local plan, regional plan, or recent corridor study?

Is the proposal identified as a priority in a local or regional plan (e.g. local master plan, local bicycle/pedestrian plan, corridor study, etc.). If yes, provide a link to the pertinent section of the plan(s).

This project is a priority for the town and is directly supported by the master plan/

Will the project be managed locally?

To be determined

Please provide evidence supporting this project.

Please provide any evidence of the project need. For example crash history, turning movement counts, signal warrant analysis, etc. *(review list of documents, data sources, plans, guidance, maps, etc. that will serve as a prompt for possible sources of information to bolster the application; please note what and where you are referencing from)*

Cost Estimate

Please provide any cost estimates that you have at this time for the project. SRPC can assist with developing a cost estimate if one doesn't exist or the town does not have an existing basis from which to prepare an estimate.

Engineering	$235,200
Right-of-Way	$23,520
Construction	$784,000
Structures	
Capital	
Operating	
Total	$1,042,720.00

What is the source of the above cost estimate?

BETA engineers - 2024 dollars (Cost estimate above is for two combined sidewalk segments).
Will the town be providing any matching funds? *(NHDOT will expect matching funds for certain types of projects; is the town prepared to provide those funds?)*
To be determined

PROJECT IMPACTS – TO BE COMPLETED BY SRPC

Please review the following list of potential impacts a project might have. Indicate whether the project might present an adverse impact or potential benefit to each resource.

Impact	Benefit	NA	Community Facilities and Resources
☐	☒	☐	Parks and recreation areas
☐	☐	☒	Scenic, historic, and cultural resources
☐	☒	☐	Municipal services and schools
☐	☒	☐	Employment Centers

Impact	Benefit	NA	Transportation Infrastructure
☐	☐	☒	Transit or public transportation routes or stops
☐	☐	☒	Park and Ride facilities
☐	☐	☒	Culverts or bridges
☐	☐	☒	Signalized intersections
☐	☐	☒	Active railroads
☐	☐	☒	Freight Corridors
☐	☐	☒	Other active or planned transportation improvements

Impact	Benefit	NA	Environmental Characteristics
☐	☐	☒	Aquifers/groundwater resources
☐	☐	☒	Wetlands
☐	☐	☒	Surface water bodies
☐	☐	☒	Flood zones
☐	☐	☒	Prime farmland
☐	☐	☒	Wildlife habitats
☐	☐	☒	Species of special concern
☐	☐	☒	Riparian habitats
☐	☐	☒	Air quality
☐	☐	☒	Noise

Impact	Benefit	NA	Title VI and Underserved Population Centers
☐	☐	☒	Low-income
☐	☐	☒	Minority population
☐	☐	☒	Senior (65+) population
☐	☐	☒	Less than a high school diploma
☐	☒	☐	Children under 18
☐	☐	☒	Children under 5
☐	☐	☒	Language isolation
☐	☒	☐	Households without access to a vehicle
☐	☐	☒	Disability status
☐	☐	☒	Single parent households

Attach a detailed map showing the proposal location and surroundings. Include any pertinent data for identified impacts or benefits.

IMPROVING COMMUNITIES TOGETHER

MEMORANDUM

Date:	06/05/2024	Job No.:	11301.01
To:	Jennifer Czysz, Executive Director – Strafford Regional Planning Commission		
Cc:	Colin Lentz, Senior Transportation Planner – Strafford Regional Planning Commission		
From:	BETA Group, Inc		
Subject:	10-Year Plan Projects – Task 3 – Farmington – Main Street and Elm Street Sidewalks		

Project Description

This project is to evaluate transportation project proposals submitted to the Strafford Regional Planning Commission (SPRC) for inclusion in their Metropolitan Transportation Plan, and future submission to the NHDOT 2027 – 2036 Ten Year Plan. For some projects, the work included herein is to be considered Phase 1 of 2 with Phase 2 evaluation to be performed later and is not included in this proposal. A total of 7 projects (tasks) are being evaluated, with 5 of the 7 tasks to be discussed for Phase 1 work.

Task 3 – Farmington – Main Street and Elm Street Sidewalks

Existing Condition, Project Scope and Goals

The intent of this project is to improve three corridors along Main Street and Elm Street with upgrades including but not limited to new sidewalks to better and more safely facilitate pedestrian traffic connecting neighborhoods to the Town Center, NH Route 11, and the Farmington Recreational Rail Trail entrance. The three corridors identified by the Town for proposed improvement are as follows:

1. Main Street from Canal Street to the Farmington Recreational Rail Trail entrance at NH Route 11.
2. Main Street from Lincoln Street to Webster Street.
3. Elm Street from Main Street to Lone Star Avenue.

The existing areas of all three corridors are largely residential. Main Street from Canal Street to the Farmington Recreational Rail Trail is the longest corridor, approximately 8,500 feet of two-lane roadway serving as the main corridor from Town Center to Route 11. The roadway services many residential neighborhoods and businesses, crosses Pokamoonshine Brook and Route 11, with the Farmington Recreational Rail Trail entrance approximately 280 feet south of Route 11. This corridor has many long distances of unconnected sidewalk access, making it difficult to walk safely from the Town Center to the Rail Trail Entrance. Existing sidewalk widths were spot-checked to be approximately 5 feet wide throughout. Typically, 11-foot-wide lanes with 1 foot to 4.5-foot-wide shoulders were observed along Main Street. The narrowest part of the corridor was observed to be at the culvert crossing for Pokamoonshine Brook.

Main Street from Lincoln Street to Webster Street lies north of the Town Center. Approximately 1000 feet long, this corridor lies only in a residential neighborhood serving as an entrance to the Town Center from the north for traffic using Route 153. High speed traffic is cited as a problem for this corridor. The 2-lane corridor has no sidewalk on the southbound side of the roadway but has a large, paved parking and sidewalk area along the northbound side of the roadway. This miscellaneous paved area is mostly

damaged and has a width approximately 15 feet, it was observed to serve as both sidewalk and on-street parking. This paved area also contains several existing drainage catch basins.

Elm Street from Main Street to Lone Star Avenue lies to the east of the Town Center. Approximately 1,500 feet long, this corridor lies in a mostly residential neighborhood serving a handful of businesses. This corridor connects to Route 75 to the east. The 2-lane corridor has no sidewalk on either side of the roadway, with existing sidewalk observed at the Lone Star Avenue intersection. Some significant drainage concerns were observed along this corridor, with washout of shoulder and underperforming sump conditions at the Car Wash.

Engineering Review

BETA attended a site meeting/walk to observe site conditions, note constraints, and discuss with SRPC and the Town of Farmington the preferred design parameters and feasibility of design options. Included with this memo, are order of magnitude estimates to depict the project goals and likely costs.

BETA's review of this project focused on an understanding of the Town's need for sidewalk improvements to better connect different areas of the Town for the use of pedestrians.

Main Street from Canal to the Recreation Trail: For the Main Street Corridor from Canal Street to the Farmington Recreational Rail Trail BETA recommends a 5-foot-wide asphalt sidewalk from Paulson Road to Sarah Greenfield Way on the southbound side of the road connecting established sidewalks, which are in good condition, north and south of this area. This approximately 4,700-foot stretch of the corridor has varying degrees of existing sidewalk/walkway condition but mostly no sidewalk at all. Due to shoulder conditions and available frontage width along the roadway, the sidewalk will vary in locations along the corridor. The two sections used for this option are:

- 3-foot buffer from edge of pavement with detached 5-foot asphalt sidewalk. This section will utilize the existing wider conditions along the corridor. No curbing will be needed for these areas.
- 1-foot shoulder from lane line with granite curb and 5-foot asphalt sidewalk. This section will be used in constricted areas where conditions beyond the edge of pavement are narrow.

In general, the two sections above maintain the existing shoulder widths which are as narrow as one to two feet in many areas. There could be other options where shoulder width is improved to facilitate bicycle traffic but the sections above were used to avoid extensive curbing which may require drainage structures and increase impacts due to the extra width needed. Evaluation of further alternatives could be performed in Phase 2 if desired.

A continuous sidewalk will serve to connect the Town Center and Route 11, but a few areas of constriction along the corridor, most notably the culvert crossing at Pokamoonshine Brook, will be an issue. The existing cross-section at the culvert crossing is measured to be 11-foot lanes with 1-foot shoulders and 2 to 4 feet of gravel area extending to wooden guard posts before dropping off steeply into the brook. Widening at the culvert to construct a sidewalk will require upgrades that may include constructing a headwall for the culvert, installing guardrail, installing handrail, and reestablishing any disturbed wetlands. Further investigation will be required to fully understand the possible impacts and solutions to widening in this area, as any possible solution would disturb the existing culvert and surrounding wetland areas during construction and would eventually require environmental study and permitting.

The existing sidewalk between Sarah Greenfield Way and Route 11 appears adequate. At the end of the corridor south of Route 11, BETA recommends reconstructing the approximately 280 feet of existing

sidewalk from Route 11 to the Farmington Recreational Rail Trail entrance, including a new ramp and restriping of the crosswalk crossing Route 11. The crossing for the Rail Trail is recommended to be restriped with an installed Rectangular Rapid Flashing Beacon (RRFB). We also recommend that all rail trail signage will be replaced at this area. Overall, the recommended sidewalk may also require relocations of utility poles, mailboxes, fences, low rock walls and any other obstructions. Grading, clearing and the removal of trees will be required. The sidewalk should be fully within Town ROW but the impact from grading will affect multiple properties.

Main Street from Lincoln to Webster: For the Main Street Corridor from Lincoln Street to Webster Street, several possible options were discussed with the Town and RPC for use of the large paved area described above. These include:

- A sidewalk with curb, a grassed median and parking
- A sidewalk with curb, a large, landscaped median, and no parking
- A shared use path and no parking

Evaluating and developing costs for all these options is outside of the current scope of this work. Therefore, we evaluated and estimated a reconstruction of the 15-foot-wide pavement frontage along the corridor to include a 5-foot cement concrete sidewalk, granite curb, a minimum of 2 feet of grass strip, reconstructed frontage pavement, and two curbed roadway bump-outs at both the Lincoln Street and Webster Street project limits. We estimated this option because the layout is optimal for curb gutter alignment with existing drainage structures which minimizes the need for costly drainage relocation. This section also provides a buffered sidewalk and maintains some of the paved frontage currently used as on-street parking, as well as snow storage during the winter months. The curbed bump-outs would help to reduce speeds through the corridor, with the option to add additional bump-outs if desired. It is noted that some adjustments to roadway drainage structures would be needed to accommodate any roadway bump-outs. Restriping of the roadway centerline and northbound lane line would be included, as well as adjustments to new roadway signage. Minimal ROW impacts are anticipated to allow for driveway and walkway adjustments to meet new sidewalk. Minimal impacts are also anticipated for existing utilities, beyond the existing drainage adjustments.

Elm Street from Main to Lone Star: For the Elm Street corridor from Main Street to Lone Star Avenue BETA recommends a 5-foot-wide sidewalk with granite curb and widened shoulder construction to accommodate 2 feet of shoulder between lane pavement marking line and granite curb on the westbound side of the corridor. The proposed sidewalk is meeting established sidewalk facilities at each end of the corridor. At the Main Street end, a reconstructed sidewalk ramp would be needed with the restriping of both existing crosswalks at this corner. The proposed sidewalk with curb would alleviate the existing drainage issues but would require additional drainage structures to be added along the curb gutter line. The proposed sidewalk would also require clearing/trimming of trees and possibly the relocation of fences and low block/rock walls. Additional grading will be required on some properties along the corridor to meet the back of sidewalk grade, which may result in the need for short retaining walls on some properties. The ROW impacts will vary along the corridor as the back of sidewalk grade will need to meet existing grade for driveways and walkways. Utility poles may need to be relocated, as well as fire hydrants.

BETA completed three separate conceptual estimates for each corridor using the most recent NHDOT weighed average bid prices from the DOT website, IPDWeb Database and recent bids received by BETA with similar items and construction elements. The IPDWeb Database allows for the most recent bid items from DOT funded projects to be sorted and averaged based on specific timeframes. On average, unit

prices on major items have increased significantly over the last several years. Unit prices were based on project size, quantity of the item and project location; for example, items with low quantities on a smaller project tend to have higher unit prices and vice versa. Total project cost for each corridor is as follows:

	2024 Project Cost	2036 Project Cost
Main St. – Canal St. to Trail Entrance	$1,110,000	$1,540,000
Main St. – Lincoln St. to Webster St.	$390,000	$550,000
Elm St. – Main St. to Lone Star Ave.	$660,000	$910,000

All preliminary project costs include contingencies for engineering, survey, permitting, right of way and construction engineering. Project Costs for 2036 dollars is based on 2.8% inflation per year.

Summary

The three areas of sidewalk improvement are all much needed upgrades to better serve the community. The smaller corridors of Main Street (Lincoln to Webster) and Elm Street (Main to Lone Star) have a lower project cost and could have a shorter construction time, while immediately impacting pedestrian use and connecting neighborhoods in the Town Center area. These are smaller projects that may not serve as many as the longest corridor of Main Street (Canal to the Trail Entrance) which also has its merits. As a pedestrian corridor connecting the Town Center to Route 11 and the Farmington Recreational Rail Trail, it may serve a wider audience by connecting communities beyond Farmington. This corridor may be long but could also be divided into smaller segments to achieve the same eventual goal of connectivity over time.

Main Street (Lincoln to Webster) – Large paved area outside travel way

Elm Street (Main to Lone Star) – North side looking west

Main Street (Canal to Rec. Trail) – Existing sidewalk west of Paulson Road

Main Street (Canal to Rec. Trail) – Crossing at Pokamoonshine Brook

Main Street (Canal to Rec. Trail) – Existing sidewalk from Rte. 11 to Rec. Trail

MAIN STREET & ELM STREET SIDEWALKS
TOWN OF FARMINGTON
SPRC 10 YEAR PLAN PROJECTS - TASK 3 - PHASE 1 - MAIN STREET FROM CANAL ST TO REC. TRAIL
CONCEPTUAL COST ESTIMATE (PROJECT FILE NO. 11313.01)

Item No.	Qty.	Unit	Item Description	Unit Price	Amount
SECTION A - MAJOR ITEMS					
203.1	1,345	CY	COMMON EXCAVATION	$ 30.00	$ 40,350.00
304.3	1,105	CY	CRUSHED GRAVEL (F)	$ 40.00	$ 44,200.00
304.401	140	CY	CRUSHED STONE (FINE GRADATION)	$ 45.00	$ 6,300.00
403.11	130	TON	HOT BITUMINOUS PAVEMENT, MACHINE METHOD	$ 120.00	$ 15,600.00
403.12	210	TON	HOT BITUMINOUS PAVEMENT, HAND METHOD	$ 210.00	$ 44,100.00
608.12	2,510	SY	2" BITUMINOUS SIDEWALK (F)	$ 35.00	$ 87,850.00
609.01	2,780	LF	STRAIGHT GRANITE CURB	$ 55.00	$ 152,900.00
20% of Above Total			MISCELLANEOUS ROADWAY	$ 78,260.00	$ 78,260.00
				SUBTOTAL A	$ 469,560.00
SECTION B - MISCELLANEOUS ITEMS					
615.067	200	SF	TRAFFIC SIGNS	$ 100.00	$ 20,000.00
632.0104	4,700	LF	RETROREFLECTIVE PAINT PAVE. MARKING, 4" LINE	$ 0.25	$ 1,175.00
632.0106	200	LF	RETROREFLECTIVE PAINT PAVE. MARKING, 6" LINE	$ 0.35	$ 70.00
646.41	685	SY	TURF ESTABLISHMENT WITH MULCH, TACKIFIERS AND HUMUS	$ 13.00	$ 8,905.00
				SUBTOTAL B	$ 499,710.00
SECTION C - DRAINAGE ITEMS					
10% of Subtotal B			PIPES, UNDERDRAIN, CB'S, MH'S, ETC.		$ 49,971.00
				SUBTOTAL C	$ 549,681.00
SECTION D - EROSION AND SEDIMENT CONTROL					
10% of Subtotal C			EROSION, SEDIMENT, AND POLLUTION CONTROL (HAY BALES, SILT FENCE, SWPPP, TEMP WATER POLL. CONTROL, ETC.)		$ 4,997.10
				SUBTOTAL D	$ 554,678.10
SECTION E - TRAFFIC CONTROL					
10% of Subtotal D			MISCELLANEOUS TRAFFIC CONTROL	$ 55,467.81	$ 55,467.81
				SUBTOTAL E	$ 610,145.91
SECTION F - ADDITIONAL ITEMS					
			BOX CULVERT EXTENSION/MODIFCATION	$ 50,000.00	$ 50,000.00
				SUBTOTAL F	$ 660,145.91
SECTION G - CONTINGENCIES					
20% of Subtotal F			CONTINGENCIES	$ 132,029.18	$ 132,029.18
				SUBTOTAL G	$ 792,175.09
SECTION H - MOBILIZATION AND CBI ITEMS					
7% of Subtotal G			ROADWAY MOBILIZATIONS	$ 55,452.26	$ 55,452.26
				SUBTOTAL H	$ 847,627.35
				ROUNDED CONSTRUCTION TOTAL	**$848,000.00**
				DESIGN ENGINEERING (15%)	**$127,200.00**
				CONSTRUCTION ENGINEERING (15%)	**$127,200.00**
				ROW ACQUISITION (0%)	**$0.00**
				TOTAL 2024 ESTIMATED COST	**$1,102,400.00**
				SAY	**$1,110,000.00**

2036 INFLATION RATE	**2.8%**
PROJECTED 2036 TOTAL ESTIMATED COST	**$1,535,523.90**
SAY	**$1,540,000.00**

MAIN STREET & ELM STREET SIDEWALKS
TOWN OF FARMINGTON
SPRC 10 YEAR PLAN PROJECTS - TASK 3 - PHASE 1 - MAIN STREET FROM LINCOLN ST TO WEBSTER ST
CONCEPTUAL COST ESTIMATE (PROJECT FILE NO. 11313.01)

Item No.	Qty.	Unit	Item Description	Unit Price	Amount
SECTION A - MAJOR ITEMS					
203.1	475	CY	COMMON EXCAVATION	$ 30.00	$ 14,250.00
304.3	330	CY	CRUSHED GRAVEL (F)	$ 40.00	$ 13,200.00
304.401	150	CY	CRUSHED STONE (FINE GRADATION)	$ 45.00	$ 6,750.00
403.11	140	TON	HOT BITUMINOUS PAVEMENT, MACHINE METHOD	$ 120.00	$ 16,800.00
403.12	35	TON	HOT BITUMINOUS PAVEMENT, HAND METHOD	$ 210.00	$ 7,350.00
608.24	550	SY	4" CONCRETE SIDEWALK (F)	$ 50.00	$ 27,500.00
609.01	900	LF	STRAIGHT GRANITE CURB	$ 55.00	$ 49,500.00
20% of Above Total			MISCELLANEOUS ROADWAY	$ 27,070.00	$ 27,070.00
				SUBTOTAL A	$ 162,420.00
SECTION B - MISCELLANEOUS ITEMS					
615.067	100	SF	TRAFFIC SIGNS	$ 100.00	$ 10,000.00
632.0104	2,700	LF	RETROREFLECTIVE PAINT PAVE. MARKING, 4" LINE	$ 0.25	$ 675.00
632.0106	210	LF	RETROREFLECTIVE PAINT PAVE. MARKING, 6" LINE	$ 0.35	$ 73.50
646.41	360	SY	TURF ESTABLISHMENT WITH MULCH, TACKIFIERS AND HUMUS	$ 13.00	$ 4,680.00
				SUBTOTAL B	$ 177,848.50
SECTION C - DRAINAGE ITEMS					
15% of Subtotal B			PIPES, UNDERDRAIN, CB'S, MH'S, ETC.		$ 26,677.28
				SUBTOTAL C	$ 204,525.78
SECTION D - EROSION AND SEDIMENT CONTROL					
10% of Subtotal C			EROSION, SEDIMENT, AND POLLUTION CONTROL (HAY BALES, SILT FENCE, SWPPP, TEMP WATER POLL. CONTROL, ETC.)		$ 2,667.73
				SUBTOTAL D	$ 207,193.50
SECTION E - TRAFFIC CONTROL					
10% of Subtotal D			MISCELLANEOUS TRAFFIC CONTROL	$ 20,719.35	$ 20,719.35
				SUBTOTAL E	$ 227,912.85
SECTION F - ADDITIONAL ITEMS					
			NONE	$ -	$ -
				SUBTOTAL F	$ 227,912.85
SECTION G - CONTINGENCIES					
20% of Subtotal F			ROADWAY CONTINGENCIES	$ 45,582.57	$ 45,582.57
				SUBTOTAL G	$ 273,495.42
SECTION H - MOBILIZATION					
7% of Subtotal G			ROADWAY MOBILIZATIONS	$ 19,144.68	$ 19,144.68
				SUBTOTAL H	$ 292,640.10
				ROUNDED CONSTRUCTION TOTAL	**$293,000.00**
				DESIGN ENGINEERING (15%)	**$43,950.00**
				CONSTRUCTION ENGINEERING (15%)	**$43,950.00**
				ROW ACQUISITION (3%)	**$8,790.00**
				TOTAL 2024 ESTIMATED COST	**$389,690.00**
				SAY	**$390,000.00**

2036 INFLATION RATE	**2.8%**
PROJECTED 2036 TOTAL ESTIMATED COST	**$542,796.00**
SAY	**$550,000.00**

MAIN STREET & ELM STREET SIDEWALKS
TOWN OF FARMINGTON
SPRC 10 YEAR PLAN PROJECTS - TASK 3 - PHASE 1 - ELM STREET FROM MAIN ST TO LONE STAR AVE
CONCEPTUAL COST ESTIMATE (PROJECT FILE NO. 11313.01)

Item No.	Qty.	Unit	Item Description	Unit Price	Amount
SECTION A - MAJOR ITEMS					
201.1	0.2	A	CLEARING AND GRUBBING (F)	$ 75,000.00	$ 15,000.00
203.1	545	CY	COMMON EXCAVATION	$ 30.00	$ 16,350.00
304.3	470	CY	CRUSHED GRAVEL (F)	$ 40.00	$ 18,800.00
304.401	145	CY	CRUSHED STONE (FINE GRADATION)	$ 45.00	$ 6,525.00
403.11	130	TON	HOT BITUMINOUS PAVEMENT, MACHINE METHOD	$ 120.00	$ 15,600.00
403.12	60	TON	HOT BITUMINOUS PAVEMENT, HAND METHOD	$ 210.00	$ 12,600.00
608.12	920	SY	2" BITUMINOUS SIDEWALK (F)	$ 35.00	$ 32,200.00
609.01	1,500	LF	STRAIGHT GRANITE CURB	$ 55.00	$ 82,500.00
25% of Above Total			MISCELLANEOUS ROADWAY	$ 49,893.75	$ 49,893.75
				SUBTOTAL A	$ 234,468.75
SECTION B - MISCELLANEOUS ITEMS					
615.067	100	SF	TRAFFIC SIGNS	$ 100.00	$ 10,000.00
632.0104	4,500	LF	RETROREFLECTIVE PAINT PAVE. MARKING, 4" LINE	$ 0.25	$ 1,125.00
632.0106	610	LF	RETROREFLECTIVE PAINT PAVE. MARKING, 6" LINE	$ 0.35	$ 213.50
646.41	335	SY	TURF ESTABLISHMENT WITH MULCH, TACKIFIERS AND HUMUS	$ 13.00	$ 4,355.00
				SUBTOTAL B	$ 250,162.25
SECTION C - DRAINAGE ITEMS					
15% of Subtotal B			PIPES, UNDERDRAIN, CB'S, MH'S, ETC.		$ 37,524.34
				SUBTOTAL C	$ 287,686.59
SECTION D - EROSION AND SEDIMENT CONTROL					
5% of Subtotal C			EROSION, SEDIMENT, AND POLLUTION CONTROL (HAY BALES, SILT FENCE, SWPPP, TEMP WATER POLL. CONTROL, ETC.)		$ 14,384.33
				SUBTOTAL D	$ 302,070.92
SECTION E - TRAFFIC CONTROL					
10% of Subtotal D			MISCELLANEOUS TRAFFIC CONTROL	$ 30,207.09	$ 30,207.09
				SUBTOTAL E	$ 332,278.01
SECTION F - ADDITIONAL ITEMS					
572.5	200	SF	CONCRETE RETAINING WALL	$ 250.00	$ 50,000.00
				SUBTOTAL F	$ 382,278.01
SECTION G - CONTINGENCIES					
20% of Subtotal F			CONTINGENCIES	$ 76,455.60	$ 76,455.60
				SUBTOTAL G	$ 458,733.61
SECTION H - MOBILIZATION					
7% of Subtotal G			ROADWAY MOBILIZATIONS	$ 32,111.35	$ 32,111.35
				SUBTOTAL H	$ 490,844.96
				ROUNDED CONSTRUCTION TOTAL	**$491,000.00**
				DESIGN ENGINEERING (15%)	**$73,650.00**
				CONSTRUCTION ENGINEERING (15%)	**$73,650.00**
				ROW ACQUISITION (3%)	**$14,730.00**
				TOTAL 2024 ESTIMATED COST	**$653,030.00**
				SAY	**$660,000.00**

2036 INFLATION RATE	**2.8%**
PROJECTED 2036 TOTAL ESTIMATED COST	**$909,600.12**
SAY	**$910,000.00**

SRPC TRANSPORTATION PROJECT PROPOSAL FORM

CONTACT INFORMATION - REQUIRED

Full Name	Eric Fiegenbaum	**Municipality**	Madbury
Email	adminmadbury@comcast.net	**Affiliation**	Town staff
Phone Number	(603) 742-5131 x1	**Title Position**	Town Administrator

TRANSPORTATION PROJECT INFORMATION - REQUIRED

Name/Title of Project NH155/Madbury Rd/Town Hall Rd

Please select the project type(s):

- ☒ **Highway Improvements** (operational improvements, access management, intelligent transportation systems, widening, technology operation improvements)
- ☐ **Asset Management** (bridge rehabilitation, bridge replacement, pavement repair/replacement)
- ☐ **Bicycle and Pedestrian Improvements** (sidewalks, bike trails, multi-use paths, traffic calming improvements)
- ☐ **Planning Studies** (road diets, corridor studies, network studies, pedestrian/cyclist safety studies)
- ☐ **Infrastructure-related Travel Demand Management** (park & ride lots, transit or HOV lanes, priority signalization, bus shelters, intermodal transportation centers)

Please provide a reference photo of the project location. (e.g. Google Maps/Earth)

Paste photo here

Where is this project located? *(road names, nearby facilities/landmarks)*

City/Town	Madbury
Road	NH155 and Madbury Rd
From	Intersection
To	Intersection

What is the size of this project? *(please provide approximate measurements in 10th of a mile; you can use Google Maps measuring tool to estimate distances)*

650 feet

Where can support for this project be found? *(Plan titles/names and the applicable section(s), who would provide letters of support, people involved in this project, etc.)*

SRPC's Metropolitan Transportation Plan. Verbal support from Madbury Select board. Letters of support from UNH Durham because of importance as commuter and bus route for UNH students and staff.

Please provide any additional information about this project. *(local knowledge/insight, relevant studies/data, infrastructure needs, etc.)*

See additional details in engineering reports.

PURPOSE, NEED, AND SCOPE - REQUIRED

Please provide the Purpose Statement for this project. What problem(s) is the proposal addressing?
ex: "The purpose of this project is to support increased non-motorized activity by addressing safety issues resulting from unsafe vehicle speeds and inadequate protections for pedestrians on Main Street between 1st and 2nd Street."

The purpose of this project is to improve safety at a high-volume local intersection.

Please provide the Need Statement for this project.
ex: "The section of Main St between 1st Street and 2nd Street is unsafe for pedestrians. This section is in the center of the city's commercial district concentrated with jobs and small businesses. In the past 5 years there have 15 crashes in this section of Main St: two resulted in serious injuries to pedestrians and one resulted in a pedestrian fatality. Continued local economic development depends on increased walkability and safety for pedestrians." _

Intersection is at the top of a rise, and in the middle of a wide curve. Intersection is along a heavily traveled local commuter corridor, including UNH students, faculty, staff, and Wildcat Transit. Local traffic includes elementary school, town hall and library. Recreational route for cycling. Traffic calming, visibility improvements and bicycle/pedestrian considerations are all needed.

Please outline the project scope.
ex: "Install pedestrian crossings on Main Street at 1st and 2nd street intersections and at mid-block, including pedestrian refuge medians, other streetscaping and traffic calming infrastructure."

Safety improvements and possible realignment.

SUBMISSION - REQUIRED

Please return this form to Colin Lentz at Strafford Regional Planning Commission, clentz@strafford.org. Please attach relevant EXCERPTS of any supporting documents, maps, cost estimates, and data along with this form.

Please check what supporting documents that you have attached:

- ☐ Local Plans/Master Plans
- ☒ Cost Estimate
- ☐ Local Police Crash Data
- ☐ Corridor Study
- ☐ Special Studies (Road Safety Audit, Warrant Analysis, Safe Routes to School Plan, etc.)
- ☒ Maps
- ☐ Transit Operator Data
- ☐ Development Studies
- ☐ Regional Planning Study
- ☐ Turning Movement or Traffic Volume Data
- ☐ Bike/Pedestrian Surveys
- ☒ Project Scope
- ☐ Conceptual Designs

SUPPLEMENTARY INFORMATION - OPTIONAL

Please note that these questions are not required to make an initial submission to Strafford Regional Planning Commission (SRPC). Please try to answer these questions now as they will still need to be answered as part of the final proposal submission. However, if you are unable to answer them on your own at this time, staff at SRPC will assist you.

What alternative options or methods have been considered to address this problem and what makes this project proposal the best option?

Engineering review includes several alternatives. NHDOT process will consider these and other alternatives during planning and preliminary engineering.

How involved has the public been in this project proposal so far?
Please describe the extent of public outreach and involvement efforts to date.

Select board and municipal staff have been involved in project prioritization and participated in the site walk with engineers from BETA.

What is the anticipated level of further public involvement over the life of this project?
Please describe anticipated public outreach and involvement efforts to be conducted in the future for this project.

Standard level of public involvement with NHDOT to consider alternatives.

How much of a priority is this in the local plan, regional plan, or recent corridor study?
Is the proposal identified as a priority in a local or regional plan (e.g. local master plan, local bicycle/pedestrian plan, corridor study, etc.). If yes, provide a link to the pertinent section of the plan(s).

This is a top priority for Madbury - prioritized by select board. Additional letter of support from Durham/UNH.

Will the project be managed locally?

To be determined

Please provide evidence supporting this project.

Please provide any evidence of the project need. For example crash history, turning movement counts, signal warrant analysis, etc. *(review list of documents, data sources, plans, guidance, maps, etc. that will serve as a prompt for possible sources of information to bolster the application; please note what and where you are referencing from)*

Traffic volumes, crash data, and local land use data have all been used.

Cost Estimate

Please provide any cost estimates that you have at this time for the project. SRPC can assist with developing a cost estimate if one doesn't exist or the town does not have an existing basis from which to prepare an estimate.

Engineering	537,000
Right-of-Way	89,500
Construction	1,790,000
Structures	
Capital	
Operating	
Total	2416500.00

What is the source of the above cost estimate?

Estimates are from BETA in 2024 costs. Cost estimates may be updated from refined engineering. Cost estimate above is from alternative with the highest estimated cost.

Will the town be providing any matching funds? *(NHDOT will expect matching funds for certain types of projects; is the town prepared to provide those funds?)*

To be determined

PROJECT IMPACTS – TO BE COMPLETED BY SRPC

Please review the following list of potential impacts a project might have. Indicate whether the project might present an adverse impact or potential benefit to each resource.

Impact	Benefit	NA	Community Facilities and Resources
☒	☐	☐	Parks and recreation areas
☒	☐	☐	Scenic, historic, and cultural resources
☒	☐	☐	Municipal services and schools

☐	☐	☒	Employment Centers

Impact	Benefit	NA	**Transportation Infrastructure**
☐	☒	☐	Transit or public transportation routes or stops
☐	☐	☒	Park and Ride facilities
☐	☐	☒	Culverts or bridges
☐	☐	☒	Signalized intersections
☐	☐	☒	Active railroads
☐	☐	☒	Freight Corridors
☐	☐	☒	Other active or planned transportation improvements

Impact	Benefit	NA	**Environmental Characteristics**
☐	☐	☒	Aquifers/groundwater resources
☒	☐	☐	Wetlands
☐	☐	☒	Surface water bodies
☐	☐	☒	Flood zones
☐	☐	☒	Prime farmland
☐	☐	☒	Wildlife habitats
☐	☐	☒	Species of special concern
☐	☐	☒	Riparian habitats
☐	☐	☒	Air quality
☐	☐	☒	Noise

Impact	Benefit	NA	**Title VI and Underserved Population Centers**
☐	☐	☒	Low-income
☐	☐	☒	Minority population
☐	☐	☒	Senior (65+) population
☐	☐	☒	Less than a high school diploma
☐	☐	☒	Children under 18
☐	☐	☒	Children under 5
☐	☐	☒	Language isolation
☐	☐	☒	Households without access to a vehicle
☐	☐	☒	Disability status
☐	☐	☒	Single parent households

Attach a detailed map showing the proposal location and surroundings. Include any pertinent data for identified impacts or benefits. **Included in engineering report**

MEMORANDUM

Date:	06/05/2024	Job No.:	11301.01
To:	Jennifer Czysz, Executive Director – Strafford Regional Planning Commission		
Cc:	Colin Lentz, Senior Transportation Planner – Strafford Regional Planning Commission		
From:	BETA Group, Inc		
Subject:	10-Year Plan Projects – Task 5 – Madbury – NH Route 155 / Madbury Road		

Project Description

This project is to evaluate transportation project proposals submitted to the Strafford Regional Planning Commission (SPRC) for inclusion in their Metropolitan Transportation Plan, and future submission to the NHDOT 2027 – 2036 Ten Year Plan. For some projects, the work included herein is to be considered Phase 1 of 2 with Phase 2 evaluation to be performed later and is not included in this proposal. A total of 7 projects (tasks) are being evaluated, with 5 of the 7 tasks to be discussed for Phase 1 work.

Task 5 – Madbury – NH Route 155 / Madbury Road

Existing Condition, Project Scope and Goals

The intent of this project is to improve the intersection of NH Route 155 and Madbury Road, in conjunction with the intersection of NH Route 155 and Town Hall Road. Site distance issues coupled with high traffic speed through the corresponding intersections have created unsafe conditions for turning movements onto NH Route 155. The following options were be evaluated to improve the intersection:

1. Improving sight distance by horizontal realignment of the roadway and/or roadway profile reduction
2. Providing a roundabout at the intersection of Route 155 and Madbury Road
3. Reducing side slope and clearing wooded areas on the northside of Route 155 between Town Hall Road and Madbury Road
4. Realignment of Town Hall Road to improve sight distance turning onto Route 155
5. Flashing Beacons and signage along Route 155

The existing area is rural/residential and the T-intersection at Madbury Road connects Madbury to Lee, Dover, and Durham. The T-intersection with Town Hall Road is located approximately 350 feet to the west of the Madbury Road intersection. Both intersections lie near the apex of a vertical curve on Route 155, creating a sight distance issue approaching the Madbury Road intersection. Route 155 runs west to east and functions as a main corridor through Madbury, with connections to Lee and Dover, posted speed limit approaching the intersection is 35 MPH. Madbury Road is a rural/residential corridor connecting to US Route 4 and Durham to the South, with a posted speed limit of 30 MPH approaching the intersection. Town Hall Road is a largely residential corridor with the Town Hall, Public Library, Moharimet Elementary School and Demerritt Park within close proximity to the intersection; with the park lying along the frontage of Route 155 and Town Hall Road. The posted speed limit approaching the intersection is 30 MPH with the school zone speed limit of 25 MPH ending a few hundred feet from the intersection. Please refer to the photos below.

Engineering Review

BETA attended a site meeting/walk to observe site conditions, note constraints, and discuss with SRPC and the Town of Madbury the preferred design parameters and feasibility of design options. Included with this memo, are an order of magnitude estimate to depict the project goals and likely costs.

BETA took an approach of investigating each option as individual improvements to alleviate the existing conditions for sight distance inadequacies and traffic speeds through Route 155 although some improvements can be combined such as relocating Town Hall Road and shifting Route 155.

Option 1 - Re-Alignment of Route 155: This option would relocate Route 155 slightly to the north and reduce the profile in order to improve site distance for vehicles entering from Town Hall Road. The option would result in extensive full depth reconstruction of the roadway that would also result in additional realignments of Madbury Road and Town Hall Road, triggering extensive regrading, removal of trees, and the relocation of existing utilities. The re-alignment will impact the very large slope at the north side of Route 155. We assumed the need for a retaining wall along the northside of Route 155 as at this conceptual level, there is not enough survey information to determine the amount of slope removal or ROW impact if a slope cut alone is implemented. Even with a retaining wall, ROW impacts would be extensive particularly for temporary impacts required to construct the wall. Impacts to traffic during construction would also be severe, requiring phased construction and reduced capacity for full construction seasons.

Option 2 - Roundabout at Route 155/Madbury Road Intersection: Construction of a roundabout at this location would alleviate speeding that creates safety issues when trying to enter Route 155 from either Madbury Road or Town Hall Road. However, this option would result in extensive full depth reconstruction of the intersection, triggering many of the same impacts as re-alignment, including the need for a retaining wall or an extensive slope cut. A roundabout would need additional vertical realignment and regrading to address sight distance issues along Route 155 and may not alleviate issues for turning from Town Hall Road. In addition, this option could create further traffic issues such as long queuing and slow down during peak corridor usage times. Maintenance of traffic, similar to Option 1, would also have major impacts to the traveling public. Additional traffic operations analysis is required before advancing this option.

Option 3 - Reduce side slope on Route 155: The third option would reduce and clear the side slope on the north side of Route 155 between Town Hall Road and Madbury Road to improve site distance for vehicles turning on to Route 155 from Town Hall Road. The intent of this option is to not impact the side slope as much as Options 1 and 2, but just enough to improve site distance from Town Hall Road. However, the reduction of the side slope would still require an estimated 250-foot concrete retaining wall with significant regrading and tree removal. ROW impacts would also be extensive for this property. Relocation of utility poles may also be needed.

Option 4 - Re-alignment of Town Hall Road: The option to realign Town Hall Road by constructing approximately 300 feet of new roadway through Demerritt Park and shifting the intersection with Route 155 approximately 200 feet to the west would provide additional sight distance to allow for safer turning onto Route 155 from Town Hall Road. The Town owns the land where this relocated roadway would be placed, so there are no right of way issues, but a fully reconstructed roadway and intersection will still require extensive regrading, full depth asphalt construction, removal of mature trees, removal of existing roadway and will reduce the land dedicated to Demerritt Park.

Option 5 - Flashing Beacons and Signage along Route 155: The placement of a flashing beacon at the intersections, restriping the pavement markings for increased visibility and upgrading all signage to increase visibility of the intersection is the most cost-effective option, the easiest to implement, and should be included with all the preceding options. However, this option alone would not be as effective in improving the intersection as the other options.

In addition, BETA reviewed an additional component of potential improvement at Madbury Road, the removal of the existing dedicated right turn slip lane onto Route 155 eastbound and reconstructing a turn lane that aligns with Madbury Road's left turn lane, allowing for the right turn lane to meet the intersection with Route 155 at a perpendicular angle. The dedicated right turn lane was cited as an area of high crash rate by representatives of the Madbury Police Department. The cost of this reconstruction is included in the upgrades to Beacons/Markings/Signage.

BETA completed five separate conceptual estimates for each option using the most recent NHDOT weighed average bid prices from the DOT website, IPDWeb Database and recent bids received by BETA with similar items and construction elements. The IPDWeb Database allows for the most recent bid items from DOT funded projects to be sorted and averaged based on specific timeframes. On average, unit prices on major items have increased significantly over the last several years. Unit prices were based on project size, quantity of the item and project location; for example, items with low quantities on a smaller project tend to have higher unit prices and vice versa. Total project cost for each corridor is as follows:

	2024 Project Cost	2036 Project Cost
Option 1 – Re-alignment of Rt. 155	$2,420,000	$3,370,000
Option 2 – Roundabout	$1,820,000	$2,540,000
Option 3 – Reduce Side Slope	$1,344,000	$1,872,000
Option 4 – Realignment of Town Hall Rd.	$491,000	$683,000
Option 5 – Beacons/Signage and Rt. Turn Ln.	$300,000	$410,000

All preliminary project costs include contingencies for engineering, survey, permitting, right of way and construction engineering.

Summary

The five options presented are all upgrades to the current condition of the intersection. The implementation of Option 5 alone would be the most cost-effective improvement. A flashing beacon for the intersections combined with a realigned right turn lane at Madbury Road should alleviate speeds through the intersection by slowing down traffic at Madbury Road and increasing the visibility of the intersection. A combination of options may be needed to address sight distance and speed and will further expand the overall safety of the intersections. Combining the realignment of Town Hall Road, and some slope clearing, and restriping and re-signing will help to increase sight distance and increase the visibility of the two intersections. Total reconstruction of Route 155, whether it's through horizontal realignment, vertical realignment, roundabout or a combination of all three is the ultimate upgrade for solving the issues with sight distance and speed but comes at a higher cost. Overall, each option should serve the community and the area well by improving safety.

We recommend that Option 5 be implemented in the near term as it is a cost-effective way to make some improvements. More evaluation is needed for Options 1 to 3 to fully determine impacts and costs but these options along with Option 4 should be considered as long-term solutions.

Vehicle entering Route 155 from Town Hall Road

Intersection of Madbury Road and Route 155

Large slope on the north side of Route 155 between the intersections

ROUTE 155 / MADBURY ROAD
TOWN OF MADBURY
SPRC 10 YEAR PLAN PROJECTS - TASK 5 - PHASE 1 - OPTION 1
CONCEPTUAL COST ESTIMATE (PROJECT FILE NO. 11313.01)

Item No.	Qty.	Unit	Item Description	Unit Price	Amount
SECTION A - MAJOR ITEMS					
201.1	0.2	A	CLEARING AND GRUBBING (F)	$ 75,000.00	$ 15,000.00
201.21	10	EA	REMOVING SMALL TREES	$ 1,700.00	$ 17,000.00
201.22	10	EA	REMOVING LARGE TREES	$ 2,200.00	$ 22,000.00
203.1	3,315	CY	COMMON EXCAVATION	$ 30.00	$ 99,450.00
203.6	80	CY	EMBANKMENT-IN-PLACE (F)	$ 11.75	$ 940.00
304.3	2,135	CY	CRUSHED GRAVEL (F)	$ 40.00	$ 85,400.00
304.401	1,315	CY	CRUSHED STONE (FINE GRADATION)	$ 45.00	$ 59,175.00
403.11	1,190	TON	HOT BITUMINOUS PAVEMENT, MACHINE METHOD	$ 120.00	$ 142,800.00
403.12	25	TON	HOT BITUMINOUS PAVEMENT, HAND METHOD	$ 210.00	$ 5,250.00
25% of Above Total			MISCELLANEOUS ROADWAY	$ 111,753.75	$ 111,753.75
				SUBTOTAL A	$ 558,768.75
SECTION B - MISCELLANEOUS ITEMS					
615.067	100	SF	TRAFFIC SIGNS	$ 100.00	$ 10,000.00
632.02	50	SF	RETROREFLECTIVE PAINT PAVEMENT MARKING, SYMBOL OR WORD	$ 3.00	$ 150.00
632.0104	4,500	LF	RETROREFLECTIVE PAINT PAVE. MARKING, 4" LINE	$ 0.25	$ 1,125.00
632.0106	20	LF	RETROREFLECTIVE PAINT PAVE. MARKING, 6" LINE	$ 0.35	$ 7.00
646.41	280	SY	TURF ESTABLISHMENT WITH MULCH, TACKIFIERS AND HUMUS	$ 10.00	$ 2,800.00
				SUBTOTAL B	$ 572,850.75
SECTION C - DRAINAGE ITEMS					
10% of Subtotal B			PIPES, UNDERDRAIN, CB'S, MH'S, ETC.		$ 57,285.08
				SUBTOTAL C	$ 630,135.83
SECTION D - EROSION AND SEDIMENT CONTROL					
5% of Subtotal C			EROSION, SEDIMENT, AND POLLUTION CONTROL (HAY BALES, SILT FENCE, SWPPP, TEMP WATER POLL. CONTROL, ETC.)		$ 31,506.79
				SUBTOTAL D	$ 661,642.62
SECTION E - TRAFFIC CONTROL					
20% of Subtotal D			MISCELLANEOUS TRAFFIC CONTROL	$ 132,328.52	$ 132,328.52
				SUBTOTAL E	$ 793,971.14
SECTION F - ADDITIONAL ITEMS					
572.5	2,400	SF	CONCRETE RETAINING WALL	$ 250.00	$ 600,000.00
				SUBTOTAL F	$ 1,393,971.14
SECTION G - CONTINGENCIES					
20% of Subtotal F			CONTINGENCIES	$ 278,794.23	$ 278,794.23
				SUBTOTAL G	$ 1,672,765.37
SECTION H - MOBILIZATION					
7% of Subtotal G			ROADWAY MOBILIZATIONS	$ 117,093.58	$ 117,093.58
				SUBTOTAL H	$ 1,789,858.94
				ROUNDED CONSTRUCTION TOTAL	**$1,790,000.00**
				DESIGN ENGINEERING (15%)	**$268,500.00**
				CONSTRUCTION ENGINEERING (15%)	**$268,500.00**
				ROW ACQUISITION (5%)	**$89,500.00**
				TOTAL 2024 ESTIMATED COST	**$2,416,500.00**
				SAY	**$2,420,000**

2036 INFLATION RATE	**2.8%**
PROJECTED 2036 TOTAL ESTIMATED COST	**$3,365,922.99**
SAY	**$3,370,000**

ROUTE 155 / MADBURY ROAD
TOWN OF MADBURY
SPRC 10 YEAR PLAN PROJECTS - TASK 5 - PHASE 1 - OPTION 2
CONCEPTUAL COST ESTIMATE (PROJECT FILE NO. 11313.01)

Item No.	Qty.	Unit	Item Description	Unit Price	Amount
SECTION A - MAJOR ITEMS					
201.1	0.3	A	CLEARING AND GRUBBING (F)	$ 75,000.00	$ 22,500.00
201.22	1	EA	REMOVING LARGE TREES	$ 2,200.00	$ 2,200.00
203.1	2,450	CY	COMMON EXCAVATION	$ 30.00	$ 73,500.00
304.3	1,460	CY	CRUSHED GRAVEL (F)	$ 40.00	$ 58,400.00
304.401	905	CY	CRUSHED STONE (FINE GRADATION)	$ 45.00	$ 40,725.00
403.11	825	TON	HOT BITUMINOUS PAVEMENT, MACHINE METHOD	$ 120.00	$ 99,000.00
403.12	65	TON	HOT BITUMINOUS PAVEMENT, HAND METHOD	$ 210.00	$ 13,650.00
608.26	90	SY	6" CONCRETE SIDEWALK (F)	$ 50.00	$ 4,500.00
609.01	900	LF	STRAIGHT GRANITE CURB	$ 55.00	$ 49,500.00
609.02	500	LF	CURVED GRANITE CURB	$ 75.00	$ 37,500.00
25% of Above Total			MISCELLANEOUS ROADWAY	$ 100,368.75	$ 100,368.75
				SUBTOTAL A	$ 501,843.75
SECTION B - MISCELLANEOUS ITEMS					
615.067	175	SF	TRAFFIC SIGNS	$ 100.00	$ 17,500.00
632.02	50	SF	RETROREFLECTIVE PAINT PAVEMENT MARKING, SYMBOL OR WORD	$ 3.00	$ 150.00
632.0104	2,600	LF	RETROREFLECTIVE PAINT PAVE. MARKING, 4" LINE	$ 0.25	$ 650.00
632.0106	60	LF	RETROREFLECTIVE PAINT PAVE. MARKING, 6" LINE	$ 0.35	$ 21.00
646.41	565	SY	TURF ESTABLISHMENT WITH MULCH, TACKIFIERS AND HUMUS	$ 13.00	$ 7,345.00
				SUBTOTAL B	$ 527,509.75
SECTION C - DRAINAGE ITEMS					
15% of Subtotal B			PIPES, UNDERDRAIN, CB'S, MH'S, ETC.		$ 79,126.46
				SUBTOTAL C	$ 606,636.21
SECTION D - EROSION AND SEDIMENT CONTROL					
10% of Subtotal C			EROSION, SEDIMENT, AND POLLUTION CONTROL (HAY BALES, SILT FENCE, SWPPP, TEMP WATER POLL. CONTROL, ETC.)		$ 60,663.62
				SUBTOTAL D	$ 667,299.83
SECTION E - TRAFFIC CONTROL					
20% of Subtotal D			MISCELLANEOUS TRAFFIC CONTROL	$ 121,327.24	$ 121,327.24
				SUBTOTAL E	$ 788,627.08
SECTION F - ADDITIONAL ITEMS					
572.5	1,000	SF	CONCRETE RETAINING WALL	$ 250.00	$ 250,000.00
650.21	1	U	LANDSCAPING (AT ROUNDABOUT)	$ 10,000.00	$ 10,000.00
				SUBTOTAL F	$ 1,048,627.08
SECTION G - CONTINGENCIES					
20% of Subtotal F			CONTINGENCIES	$ 209,725.42	$ 209,725.42
				SUBTOTAL G	$ 1,258,352.49
SECTION H - MOBILIZATION					
7% of Subtotal G			ROADWAY MOBILIZATIONS	$ 88,084.67	$ 88,084.67
				SUBTOTAL H	$ 1,346,437.17
				ROUNDED CONSTRUCTION TOTAL	**$1,346,000.00**
				DESIGN ENGINEERING (15%)	**$201,900.00**
				CONSTRUCTION ENGINEERING (15%)	**$201,900.00**
				ROW ACQUISITION (5%)	**$67,300.00**
				TOTAL 2024 ESTIMATED COST	**$1,817,100.00**
				SAY	**$1,820,000**

INFLATION RATE	**2.8%**
PROJECTED 2036 TOTAL ESTIMATED COST	**$2,531,023.66**
SAY	**$2,540,000**

ROUTE 155 / MADBURY ROAD
TOWN OF MADBURY
SPRC 10 YEAR PLAN PROJECTS - TASK 5 - PHASE 1 - OPTION 3
CONCEPTUAL COST ESTIMATE (PROJECT FILE NO. 11313.01)

Item No.	Qty.	Unit	Item Description	Unit Price	Amount
SECTION A - MAJOR ITEMS					
201.1	0.3	A	CLEARING AND GRUBBING (F)	$ 75,000.00	$ 22,500.00
201.21	10	EA	REMOVING SMALL TREES	$ 1,700.00	$ 17,000.00
201.22	5	EA	REMOVING LARGE TREES	$ 2,200.00	$ 11,000.00
203.1	1,155	CY	COMMON EXCAVATION	$ 30.00	$ 34,650.00
304.3	35	CY	CRUSHED GRAVEL (F)	$ 40.00	$ 1,400.00
20% of Above Total			MISCELLANEOUS ROADWAY	$ 17,310.00	$ 17,310.00
				SUBTOTAL A	$ 103,860.00
SECTION B - MISCELLANEOUS ITEMS					
615.067	30	SF	TRAFFIC SIGNS	$ 100.00	$ 3,000.00
632.0104	1,300	LF	RETROREFLECTIVE PAINT PAVE. MARKING, 4" LINE	$ 0.25	$ 325.00
632.0106	20	LF	RETROREFLECTIVE PAINT PAVE. MARKING, 6" LINE	$ 0.35	$ 7.00
646.41	1,135	SY	TURF ESTABLISHMENT WITH MULCH, TACKIFIERS AND HUMUS	$ 13.00	$ 14,755.00
				SUBTOTAL B	$ 121,947.00
SECTION C - DRAINAGE ITEMS					
15% of Subtotal B			PIPES, UNDERDRAIN, CB'S, MH'S, ETC.		$ 18,292.05
				SUBTOTAL C	$ 140,239.05
SECTION D - EROSION AND SEDIMENT CONTROL					
5% of Subtotal C			EROSION, SEDIMENT, AND POLLUTION CONTROL (HAY BALES, SILT FENCE, SWPPP, TEMP WATER POLL. CONTROL, ETC.)		$ 7,011.95
				SUBTOTAL D	$ 147,251.00
SECTION E - TRAFFIC CONTROL					
10% of Subtotal D			MISCELLANEOUS TRAFFIC CONTROL	$ 14,725.10	$ 14,725.10
				SUBTOTAL E	$ 161,976.10
SECTION F - ADDITIONAL ITEMS					
572.5	2,500	SF	CONCRETE RETAINING WALL	$ 250.00	$ 625,000.00
				SUBTOTAL F	$ 786,976.10
SECTION G - CONTINGENCIES					
20% of Subtotal F			CONTINGENCIES	$ 157,395.22	$ 157,395.22
				SUBTOTAL G	$ 944,371.32
SECTION H - MOBILIZATION					
7% of Subtotal G			ROADWAY MOBILIZATIONS	$ 66,105.99	$ 66,105.99
				SUBTOTAL H	$ 1,010,477.32
				ROUNDED CONSTRUCTION TOTAL	**$1,010,000.00**
				DESIGN ENGINEERING (15%)	**$151,500.00**
				CONSTRUCTION ENGINEERING (15%)	**$151,500.00**
				ROW ACQUISITION (3%)	**$30,300.00**
				TOTAL 2024 ESTIMATED COST	**$1,343,300.00**
				SAY	**$1,344,000.00**

INFLATION RATE	**2.8%**
PROJECTED 2036 TOTAL ESTIMATED COST	**$1,871,071.53**
SAY	**$1,872,000.00**

ROUTE 155 / MADBURY ROAD
TOWN OF MADBURY
SPRC 10 YEAR PLAN PROJECTS - TASK 5 - PHASE 1 - OPTION 4
CONCEPTUAL COST ESTIMATE (PROJECT FILE NO. 11313.01)

Item No.	Qty.	Unit	Item Description	Unit Price	Amount
SECTION A - MAJOR ITEMS					
201.1	0.2	A	CLEARING AND GRUBBING (F)	$ 75,000.00	$ 15,000.00
201.21	10	EA	REMOVING SMALL TREES	$ 1,700.00	$ 17,000.00
201.22	10	EA	REMOVING LARGE TREES	$ 2,200.00	$ 22,000.00
203.1	795	CY	COMMON EXCAVATION	$ 30.00	$ 23,850.00
203.6	395	CY	EMBANKMENT-IN-PLACE (F)	$ 11.75	$ 4,641.25
304.3	125	CY	CRUSHED GRAVEL (F)	$ 40.00	$ 5,000.00
304.401	85	CY	CRUSHED STONE (FINE GRADATION)	$ 45.00	$ 3,825.00
403.11	80	TON	HOT BITUMINOUS PAVEMENT, MACHINE METHOD	$ 120.00	$ 9,600.00
403.12	10	TON	HOT BITUMINOUS PAVEMENT, HAND METHOD	$ 210.00	$ 2,100.00
25% of Above Total			MISCELLANEOUS ROADWAY	$ 25,754.06	$ 25,754.06
				SUBTOTAL A	$ 128,770.31
SECTION B - MISCELLANEOUS ITEMS					
615.067	25	SF	TRAFFIC SIGNS	$ 100.00	$ 2,500.00
632.0104	1,300	LF	RETROREFLECTIVE PAINT PAVE. MARKING, 4" LINE	$ 0.25	$ 325.00
632.0106	30	LF	RETROREFLECTIVE PAINT PAVE. MARKING, 6" LINE	$ 0.35	$ 10.50
646.41	1,415	SY	TURF ESTABLISHMENT WITH MULCH, TACKIFIERS AND HUMUS	$ 13.00	$ 18,395.00
				SUBTOTAL B	$ 150,000.81
SECTION C - DRAINAGE ITEMS					
10% of Subtotal B			PIPES, UNDERDRAIN, CB'S, MH'S, ETC.		$ 15,000.08
				SUBTOTAL C	$ 165,000.89
SECTION D - EROSION AND SEDIMENT CONTROL					
10% of Subtotal C			EROSION, SEDIMENT, AND POLLUTION CONTROL (HAY BALES, SILT FENCE, SWPPP, TEMP WATER POLL. CONTROL, ETC.)		$ 16,500.09
				SUBTOTAL D	$ 181,500.98
SECTION E - TRAFFIC CONTROL					
15% of Subtotal D			MISCELLANEOUS TRAFFIC CONTROL	$ 27,225.15	$ 27,225.15
				SUBTOTAL E	$ 208,726.13
SECTION F - ADDITIONAL ITEMS					
30% of Subtotal E			LANDSCAPE CONTINGENCIES	$ 62,617.84	$ 62,617.84
				SUBTOTAL F	$ 271,343.97
SECTION G - CONTINGENCIES					
30% of Subtotal F			CONTINGENCIES	$ 81,403.19	$ 81,403.19
				SUBTOTAL G	$ 352,747.16
SECTION H - MOBILIZATION					
7% of Subtotal G			ROADWAY MOBILIZATIONS	$ 24,692.30	$ 24,692.30
				SUBTOTAL H	$ 377,439.46
				ROUNDED CONSTRUCTION TOTAL	**$377,000.00**
				DESIGN ENGINEERING (15%)	**$56,550.00**
				CONSTRUCTION ENGINEERING (15%)	**$56,550.00**
				ROW ACQUISITION (0%)	**$0.00**
				TOTAL 2024 ESTIMATED COST	**$490,100.00**
				SAY	**$491,000.00**

2036 INFLATION RATE	**2.8%**
PROJECTED 2036 TOTAL ESTIMATED COST	**$682,656.26**
SAY	**$683,000.00**

ROUTE 155 / MADBURY ROAD
TOWN OF MADBURY
SPRC 10 YEAR PLAN PROJECTS - TASK 5 - PHASE 1 - OPTION 5
CONCEPTUAL COST ESTIMATE (PROJECT FILE NO. 11313.01)

Item No.	Qty.	Unit	Item Description	Unit Price	Amount
SECTION A - MAJOR ITEMS					
201.1	0.1	A	CLEARING AND GRUBBING (F)	$ 75,000.00	$ 7,500.00
203.1	490	CY	COMMON EXCAVATION	$ 30.00	$ 14,700.00
304.3	215	CY	CRUSHED GRAVEL (F)	$ 40.00	$ 8,600.00
304.401	130	CY	CRUSHED STONE (FINE GRADATION)	$ 45.00	$ 5,850.00
403.11	115	TON	HOT BITUMINOUS PAVEMENT, MACHINE METHOD	$ 120.00	$ 13,800.00
25% of Above Total			MISCELLANEOUS ROADWAY	$ 12,612.50	$ 12,612.50
				SUBTOTAL A	$ 55,562.50
SECTION B - MISCELLANEOUS ITEMS					
615.067	100	SF	TRAFFIC SIGNS	$ 100.00	$ 10,000.00
616.2	1	U	FLASHING BEACONS	$ 50,000.00	$ 50,000.00
632.02	50	SF	RETROREFLECTIVE PAINT PAVEMENT MARKING, SYMBOL OR WORD	$ 3.00	$ 150.00
632.0104	900	LF	RETROREFLECTIVE PAINT PAVE. MARKING, 4" LINE	$ 0.25	$ 225.00
632.0106	20	LF	RETROREFLECTIVE PAINT PAVE. MARKING, 6" LINE	$ 0.35	$ 7.00
646.41	270	SY	TURF ESTABLISHMENT WITH MULCH, TACKIFIERS AND HUMUS	$ 13.00	$ 3,510.00
				SUBTOTAL B	$ 119,454.50
SECTION C - DRAINAGE ITEMS					
15% of Subtotal B			NONE		$ -
				SUBTOTAL C	$ 119,454.50
SECTION D - EROSION AND SEDIMENT CONTROL					
5% of Subtotal C			EROSION, SEDIMENT, AND POLLUTION CONTROL (HAY BALES, SILT FENCE, SWPPP, TEMP WATER POLL. CONTROL, ETC.)		$ 5,972.73
				SUBTOTAL D	$ 125,427.23
SECTION E - TRAFFIC CONTROL					
20% of Subtotal D			MISCELLANEOUS TRAFFIC CONTROL	$ 25,085.45	$ 25,085.45
				SUBTOTAL E	$ 150,512.67
SECTION F - ADDITIONAL ITEMS					
			NONE	$ -	$ -
				SUBTOTAL F	$ 150,512.67
SECTION G - CONTINGENCIES					
30% of Subtotal F			CONTINGENCIES	$ 45,153.80	$ 45,153.80
				SUBTOTAL G	$ 195,666.47
SECTION H - MOBILIZATION					
7% of Subtotal G			ROADWAY MOBILIZATIONS	$ 13,696.65	$ 13,696.65
				SUBTOTAL H	$ 209,363.12
				ROUNDED CONSTRUCTION TOTAL	**$209,000.00**
				DESIGN ENGINEERING (20%)	**$41,800.00**
				CONSTRUCTION ENGINEERING (15%)	**$31,350.00**
				ROW ACQUISITION (5%)	**$10,450.00**
				TOTAL 2024 ESTIMATED COST	**$293,000.00**
				SAY	**$300,000.00**

INFLATION RATE	**2.8%**
PROJECTED 2036 TOTAL ESTIMATED COST	**$408,117.29**
SAY	**$410,000.00**

SRPC TRANSPORTATION PROJECT PROPOSAL FORM

CONTACT INFORMATION - REQUIRED

Full Name	Eric Figenbaum	**Municipality**	Madbury
Email	adminmadbury@comcast.net	**Affiliation**	Town staff
Phone Number	(603) 742-5131 x1	**Title Position**	Town Administrator

TRANSPORTATION PROJECT INFORMATION - REQUIRED

Name/Title of Project NH9 and French Cross Rd

Please select the project type(s):

- ☒ **Highway Improvements** (operational improvements, access management, intelligent transportation systems, widening, technology operation improvements)
- ☐ **Asset Management** (bridge rehabilitation, bridge replacement, pavement repair/replacement)
- ☐ **Bicycle and Pedestrian Improvements** (sidewalks, bike trails, multi-use paths, traffic calming improvements)
- ☐ **Planning Studies** (road diets, corridor studies, network studies, pedestrian/cyclist safety studies)
- ☐ **Infrastructure-related Travel Demand Management** (park & ride lots, transit or HOV lanes, priority signalization, bus shelters, intermodal transportation centers)

Please provide a reference photo of the project location. (e.g. Google Maps/Earth)

Paste photo here

Where is this project located? *(road names, nearby facilities/landmarks)*

City/Town	Madbury
Road	NH9 (Littleworth Rd) and French Cross Rd
From	Intersection
To	Intersection

What is the size of this project? *(please provide approximate measurements in 10th of a mile; you can use Google Maps measuring tool to estimate distances)*

400ft (including sloping approach from the west)

Where can support for this project be found? *(Plan titles/names and the applicable section(s), who would provide letters of support, people involved in this project, etc.)*

Project prioritized by select board. Project included in the SRPC Metro Plan.

Please provide any additional information about this project. *(local knowledge/insight, relevant studies/data, infrastructure needs, etc.)*

PURPOSE, NEED, AND SCOPE - REQUIRED

Please provide the Purpose Statement for this project. What problem(s) is the proposal addressing?
ex: "The purpose of this project is to support increased non-motorized activity by addressing safety issues resulting from unsafe vehicle speeds and inadequate protections for pedestrians on Main Street between 1st and 2nd Street."

The purpose of this project is to increase traffic safety.

Please provide the Need Statement for this project.
ex: "The section of Main St between 1st Street and 2nd Street is unsafe for pedestrians. This section is in the center of the city's commercial district concentrated with jobs and small businesses. In the past 5 years there have 15 crashes in this section of Main St: two resulted in serious injuries to pedestrians and one resulted in a pedestrian fatality. Continued local economic development depends on increased walkability and safety for pedestrians." _

The heavily skewed intersection configuration is a safety hazard for transitioning from a high-speed road to a low-speed local road. Route for local traffic and residents.

Please outline the project scope.
ex: "Install pedestrian crossings on Main Street at 1st and 2nd street intersections and at mid-block, including pedestrian refuge medians, other streetscaping and traffic calming infrastructure."

Remove additional pavement and entry to Old Stage Rd. Replace with right-turn deceleration lane for NH9 EB traffic onto Old Stage Rd.

SUBMISSION - REQUIRED

Please return this form to Colin Lentz at Strafford Regional Planning Commission, clentz@strafford.org. Please attach relevant EXCERPTS of any supporting documents, maps, cost estimates, and data along with this form.

Please check what supporting documents that you have attached:

- ☐ Local Plans/Master Plans
- ☒ Cost Estimate
- ☐ Local Police Crash Data
- ☐ Corridor Study
- ☐ Special Studies (Road Safety Audit, Warrant Analysis, Safe Routes to School Plan, etc.)
- ☒ Maps
- ☐ Transit Operator Data
- ☒ Development Studies
- ☐ Regional Planning Study
- ☐ Turning Movement or Traffic Volume Data
- ☐ Bike/Pedestrian Surveys
- ☒ Project Scope
- ☐ Conceptual Designs

SUPPLEMENTARY INFORMATION - OPTIONAL

Please note that these questions are not required to make an initial submission to Strafford Regional Planning Commission (SRPC). Please try to answer these questions now as they will still need to be answered as part of the final proposal submission. However, if you are unable to answer them on your own at this time, staff at SRPC will assist you.

What alternative options or methods have been considered to address this problem and what makes this project proposal the best option?

Alternatives will be considered as part of future project development

How involved has the public been in this project proposal so far?

Please describe the extent of public outreach and involvement efforts to date.

Project has been reviewed and prioritized by select board members. Town officials and staff attended a field review with project engineers.

What is the anticipated level of further public involvement over the life of this project?

Please describe anticipated public outreach and involvement efforts to be conducted in the future for this project.

Town staff and officials will continue participating in project development.

How much of a priority is this in the local plan, regional plan, or recent corridor study?

Is the proposal identified as a priority in a local or regional plan (e.g. local master plan, local bicycle/pedestrian plan, corridor study, etc.). If yes, provide a link to the pertinent section of the plan(s).

This project is a top priority for Madbury

Will the project be managed locally?

To be determined

Please provide evidence supporting this project.

Please provide any evidence of the project need. For example crash history, turning movement counts, signal warrant analysis, etc. *(review list of documents, data sources, plans, guidance, maps, etc. that will serve as a prompt for possible sources of information to bolster the application; please note what and where you are referencing from)*

Cost Estimate

Please provide any cost estimates that you have at this time for the project. SRPC can assist with developing a cost estimate if one doesn't exist or the town does not have an existing basis from which to prepare an estimate.

Engineering	$49,700
Right-of-Way	$7,100
Construction	$142,000
Structures	
Capital	
Operating	
Total	$198,800.00

What is the source of the above cost estimate?

BETA engineers – 2024 dollars
Will the town be providing any matching funds? *(NHDOT will expect matching funds for certain types of projects; is the town prepared to provide those funds?)*
To be determined

PROJECT IMPACTS – TO BE COMPLETED BY SRPC

Please review the following list of potential impacts a project might have. Indicate whether the project might present an adverse impact or potential benefit to each resource.

Impact	Benefit	NA	Community Facilities and Resources
☐	☐	☒	Parks and recreation areas
☐	☐	☒	Scenic, historic, and cultural resources
☐	☐	☒	Municipal services and schools
☐	☐	☒	Employment Centers

Impact	Benefit	NA	Transportation Infrastructure

☐	☐	☒	Transit or public transportation routes or stops
☐	☐	☒	Park and Ride facilities
☐	☐	☒	Culverts or bridges
☐	☐	☒	Signalized intersections
☐	☐	☒	Active railroads
☐	☐	☒	Freight Corridors
☐	☐	☒	Other active or planned transportation improvements

Impact	Benefit	NA	**Environmental Characteristics**
☐	☐	☒	Aquifers/groundwater resources
☐	☐	☒	Wetlands
☐	☐	☒	Surface water bodies
☐	☐	☒	Flood zones
☐	☐	☒	Prime farmland
☐	☐	☒	Wildlife habitats
☐	☐	☒	Species of special concern
☐	☐	☒	Riparian habitats
☐	☐	☒	Air quality
☐	☐	☒	Noise

Impact	Benefit	NA	**Title VI and Underserved Population Centers**
☐	☐	☒	Low-income
☐	☐	☒	Minority population
☐	☐	☒	Senior (65+) population
☐	☐	☒	Less than a high school diploma
☐	☐	☒	Children under 18
☐	☐	☒	Children under 5
☐	☐	☒	Language isolation
☐	☐	☒	Households without access to a vehicle
☐	☐	☒	Disability status
☐	☐	☒	Single parent households

Attach a detailed map showing the proposal location and surroundings. Include any pertinent data for identified impacts or benefits.

MEMORANDUM

Date:	06/05/2024	Job No.:	11301.01
To:	Jennifer Czysz, Executive Director – Strafford Regional Planning Commission		
Cc:	Colin Lentz, Senior Transportation Planner – Strafford Regional Planning Commission		
From:	BETA Group, Inc		
Subject:	10-Year Plan Projects – Task 6 – Madbury – Route 9 and French Cross Road / Old Stage Road		

Project Description

This project is to evaluate transportation project proposals submitted to the Strafford Regional Planning Commission (SPRC) for inclusion in their Metropolitan Transportation Plan, and future submission to the NHDOT 2027 – 2036 Ten Year Plan. For some projects, the work included herein is to be considered Phase 1 of 2 with Phase 2 evaluation to be performed later and is not included in this proposal. A total of 7 projects (tasks) are being evaluated, with 5 of the 7 tasks to be discussed for Phase 1 work.

Task 6 – Madbury – Route 9 and French Cross Road / Old Stage Road

Existing Condition, Project Scope and Goals

The intent of this project is to improve the intersection of NH Route 9 and French Cross Road/Old Stage Road. Old Stage Road intersects NH Route 9 at a heavy skew alignment, its roadway geometry creates an awkward departure from Route 9 onto Old Stage Road, as well as an offset intersection with French Cross Road.

The existing area is rural/residential. Route 9 runs west to east and functions as a main corridor through Madbury, connecting to Barrington and Dover. The posted speed limit approaching the intersection on Route 9 is 40 MPH. Heavy truck traffic was observed on Route 9, in addition to bicyclists. General traffic trends to travel at higher speeds than the posted speed limit. The intersection lies along a vertical roadway curve creating some sight distance issues for traffic turning onto Route 9. French Cross Road serves as the northern roadway corridor of the intersection, the corridor is mostly residential, connecting to Tolend Road to the north with a posted speed limit of 30 MPH approaching the intersection. A "No Thru Trucking" sign was observed. Old Stage Road serves as the southern roadway corridor of the intersection connecting multiple residential neighborhoods, with a posted speed limit approaching the intersection of 30 MPH. Old Stage Road meets the intersection at a heavily skewed angle, creating a large opening for turning onto Route 9 and travel for through traffic to French Cross Road. An unpaved median island with a stop sign separates the traditional two-way traffic crossing and there is a right turn departure lane for traffic exiting from Route 9 Eastbound. The unpaved median island is confusing for motorists entering Old Stage Road and is cited as an area for crash concern. Please refer to the photographs below.

Engineering Review

BETA attended a site meeting/walk to observe site conditions, note constraints, and discuss with SRPC and the Town of Madbury the preferred design parameters and feasibility of design options. Included with this memo, are order of magnitude estimates to depict the project goals and likely costs.

BETA's review focused on identifying safer conditions to enter and exit Old Stage Road, for all turns and through traffic. A multi-pronged approach was taken to eliminate the wide eastbound to southbound

departure lane from Route 9 to Old Stage Road, including the unpaved median island, and using that physical space of the elimination to re-align Old Stage Road to better fit a traditional through crossing to French Cross Road. In addition, we propose new signage and restriped pavement markings at the intersection. The realignment of Old Stage Road would include full-depth pavement reconstruction of approximately 100 feet of roadway approaching the intersection, including pavement markings and new signage. This approach would help to alleviate the confusion for motorists entering Old Stage Road and allow for safer turns onto Route 9, while alerting Route 9 traffic of the intersection crossing. With this alteration to the intersection, potential right of way issues may be present for abutting properties at Old Stage Road, and we have built this into our estimation. French Cross Road was not considered for realignment as BETA assessed the roadway met Route 9 at a near perpendicular angle with no pronounced skew.

BETA completed a conceptual estimate using the most recent NHDOT weighed average bid prices from the DOT website, IPDWeb Database and recent bids received by BETA with similar items and construction elements. The IPDWeb Database allows for the most recent bid items from DOT funded projects to be sorted and averaged based on specific timeframes. On average, unit prices on major items have increased significantly over the last several years. Unit prices were based on project size, quantity of the item and project location; for example, items with low quantities on a smaller project tend to have higher unit prices and vice versa. Total estimated project cost (including contingencies for engineering, survey, permitting, right of way and construction engineering) is approximately $199,000 in 2024 dollars and $277,000 in 2036 dollars using 2.8% inflation per year.

Summary

The geometric realignment of Old Stage Road, including the modification of the wide eastbound to southbound departure lane and median island, combined with upgrades to signage and restriping at the intersection will greatly improve the intersection's safety. The removal of confusing obstructions from the turning lanes of Old Stage Road will greatly improve the driver's ability to make safe turns on and off Route 9. Restriping and upgrading signage will improve the intersection's visibility along Route 9. Short of a fully signalized reconstructed and realigned intersection, this option should serve the community and the corridor users well by improving safety.

Intersection looking from Old Stage Road

Departure lane from Route 9 to Old Stage Road

ROUTE 9 AND FRENCH CROSS ROAD / OLD STAGE ROAD
TOWN OF MADBURY
SRPC 10 YEAR PLAN PROJECTS - TASK 6 - PHASE 1
CONCEPTUAL COST ESTIMATE (PROJECT FILE NO. 11313.01)

Item No.	Qty.	Unit	Item Description	Unit Price	Amount
SECTION A - MAJOR ITEMS					
203.1	385	CY	COMMON EXCAVATION	$ 30.00	$ 11,550.00
304.3	230	CY	CRUSHED GRAVEL (F)	$ 40.00	$ 9,200.00
304.401	140	CY	CRUSHED STONE (FINE GRADATION)	$ 45.00	$ 6,300.00
403.11	125	TON	HOT BITUMINOUS PAVEMENT, MACHINE METHOD	$ 120.00	$ 15,000.00
40% of Above Total			MISCELLANEOUS ROADWAY	$ 16,820.00	$ 16,820.00
				SUBTOTAL A	$ 58,870.00
SECTION B - MISCELLANEOUS ITEMS					
615.067	75	SF	TRAFFIC SIGNS	$ 100.00	$ 7,500.00
632.2104	800	LF	PREFORMED RETROREFLECTIVE TAPE, TYPE II (NON-REMOVABLE) 4" LINE	$ 1.50	$ 1,200.00
632.0104	1,200	LF	RETROREFLECTIVE PAINT PAVE. MARKING, 4" LINE	$ 0.25	$ 300.00
632.0106	100	LF	RETROREFLECTIVE PAINT PAVE. MARKING, 6" LINE	$ 0.35	$ 35.00
646.41	45	SY	TURF ESTABLISHMENT WITH MULCH, TACKIFIERS AND HUMUS	$ 13.00	$ 585.00
				SUBTOTAL B	$ 68,490.00
SECTION C - DRAINAGE ITEMS					
			NONE		$ -
				SUBTOTAL C	$ 68,490.00
SECTION D - EROSION AND SEDIMENT CONTROL					
10% of Subtotal C			EROSION, SEDIMENT, AND POLLUTION CONTROL (HAY BALES, SILT FENCE, SWPPP, TEMP WATER POLL. CONTROL, ETC.)		$ 6,849.00
				SUBTOTAL D	$ 75,339.00
SECTION E - TRAFFIC CONTROL					
25% of Subtotal D			MISCELLANEOUS TRAFFIC CONTROL	$ 18,834.75	$ 18,834.75
				SUBTOTAL E	$ 94,173.75
SECTION F - ADDITIONAL ITEMS					
			NONE	$ -	$ -
				SUBTOTAL F	$ 94,173.75
SECTION G - CONTINGENCIES					
40% of Subtotal F			CONTINGENCIES	$ 37,669.50	$ 37,669.50
				SUBTOTAL G	$ 131,843.25
SECTION H - MOBILIZATION AND CBI ITEMS					
8% of Subtotal G			ROADWAY MOBILIZATIONS	$ 10,547.46	$ 10,547.46
				SUBTOTAL H	$ 142,390.71
				ROUNDED CONSTRUCTION TOTAL	**$142,000.00**
				DESIGN ENGINEERING (20%)	**$28,400.00**
				CONSTRUCTION ENGINEERING (15%)	**$21,300.00**
				ROW ACQUISITION (5%)	**$7,100.00**
				TOTAL 2024 ESTIMATED COST	**$198,800.00**
				SAY	**$199,000.00**

INFLATION RATE	**2.8%**
PROJECTED 2036 TOTAL ESTIMATED COST	**$276,906.89**
SAY	**$277,000.00**

SRPC TRANSPORTATION PROJECT PROPOSAL FORM

CONTACT INFORMATION - REQUIRED

Full Name	John Mullen	**Municipality**	Middleton
Email	moon1044@gmail.com	**Affiliation**	Town official
Phone Number		**Title Position**	Planning Board member

TRANSPORTATION PROJECT INFORMATION - REQUIRED

Name/Title of Project Wakefield Road / Kings Highway & Route 153 Improvements

Please select the project type(s):

- ☒ **Highway Improvements** (operational improvements, access management, intelligent transportation systems, widening, technology operation improvements)
- ☐ **Asset Management** (bridge rehabilitation, bridge replacement, pavement repair/replacement)
- ☐ **Bicycle and Pedestrian Improvements** (sidewalks, bike trails, multi-use paths, traffic calming improvements)
- ☐ **Planning Studies** (road diets, corridor studies, network studies, pedestrian/cyclist safety studies)
- ☐ **Infrastructure-related Travel Demand Management** (park & ride lots, transit or HOV lanes, priority signalization, bus shelters, intermodal transportation centers)

Please provide a reference photo of the project location. (e.g. Google Maps/Earth)

Where is this project located? *(road names, nearby facilities/landmarks)*

City/Town	Middleton
Road	Wakefield Rd
From	Intersection
To	Intersection

What is the size of this project? *(please provide approximate measurements in 10th of a mile; you can use Google Maps measuring tool to estimate distances)*

Intersection – to be determined

Where can support for this project be found? *(Plan titles/names and the applicable section(s), who would provide letters of support, people involved in this project, etc.)*

This project is a local priority

Please provide any additional information about this project. *(local knowledge/insight, relevant studies/data, infrastructure needs, etc.)*

PURPOSE, NEED, AND SCOPE - REQUIRED

Please provide the Purpose Statement for this project. What problem(s) is the proposal addressing?
ex: "The purpose of this project is to support increased non-motorized activity by addressing safety issues resulting from unsafe vehicle speeds and inadequate protections for pedestrians on Main Street between 1st and 2nd Street."

Improve safety and truck access

Please provide the Need Statement for this project.
ex: "The section of Main St between 1st Street and 2nd Street is unsafe for pedestrians. This section is in the center of the city's commercial district concentrated with jobs and small businesses. In the past 5 years there have 15 crashes in this section of Main St: two resulted in serious injuries to pedestrians and one resulted in a pedestrian fatality. Continued local economic development depends on increased walkability and safety for pedestrians." _

Adjacent lumber yard and retail are a source of heavy truck traffic; local traffic node.

Please outline the project scope.
ex: "Install pedestrian crossings on Main Street at 1st and 2nd street intersections and at mid-block, including pedestrian refuge medians, other streetscaping and traffic calming infrastructure."

Safety and freight access improvements

SUBMISSION - REQUIRED

Please return this form to Colin Lentz at Strafford Regional Planning Commission, clentz@strafford.org. Please attach relevant EXCERPTS of any supporting documents, maps, cost estimates, and data along with this form.

Please check what supporting documents that you have attached:

- ☐ Local Plans/Master Plans
- ☒ Cost Estimate
- ☐ Local Police Crash Data
- ☐ Corridor Study
- ☐ Special Studies (Road Safety Audit, Warrant Analysis, Safe Routes to School Plan, etc.)
- ☐ Maps
- ☐ Transit Operator Data
- ☐ Development Studies
- ☐ Regional Planning Study
- ☐ Turning Movement or Traffic Volume Data
- ☐ Bike/Pedestrian Surveys
- ☒ Project Scope
- ☐ Conceptual Designs

SUPPLEMENTARY INFORMATION - OPTIONAL

Please note that these questions are not required to make an initial submission to Strafford Regional Planning Commission (SRPC). Please try to answer these questions now as they will still need to be answered as part of the final proposal submission. However, if you are unable to answer them on your own at this time, staff at SRPC will assist you.

What alternative options or methods have been considered to address this problem and what makes this project proposal the best option?

No alternatives have been considered

How involved has the public been in this project proposal so far?

Please describe the extent of public outreach and involvement efforts to date.

Town officials and board members have been involved in the development of this project.

What is the anticipated level of further public involvement over the life of this project?

Please describe anticipated public outreach and involvement efforts to be conducted in the future for this project.

To be determined

How much of a priority is this in the local plan, regional plan, or recent corridor study?

Is the proposal identified as a priority in a local or regional plan (e.g. local master plan, local bicycle/pedestrian plan, corridor study, etc.). If yes, provide a link to the pertinent section of the plan(s).

This project is included in the Metro Plan and is prioritized by the municipality.

Will the project be managed locally?

To be determined

Please provide evidence supporting this project.

Please provide any evidence of the project need. For example crash history, turning movement counts, signal warrant analysis, etc. *(review list of documents, data sources, plans, guidance, maps, etc. that will serve as a prompt for possible sources of information to bolster the application; please note what and where you are referencing from)*

Cost Estimate

Please provide any cost estimates that you have at this time for the project. SRPC can assist with developing a cost estimate if one doesn't exist or the town does not have an existing basis from which to prepare an estimate.

Engineering	$46,500
Right-of-Way	$0.00
Construction	$93,000
Structures	
Capital	
Operating	
Total	$139,500.00

What is the source of the above cost estimate?

BETA engineering - 2024 dollars
Will the town be providing any matching funds? *(NHDOT will expect matching funds for certain types of projects; is the town prepared to provide those funds?)*
To be determined

PROJECT IMPACTS – TO BE COMPLETED BY SRPC

Please review the following list of potential impacts a project might have. Indicate whether the project might present an adverse impact or potential benefit to each resource.

Impact	Benefit	NA	Community Facilities and Resources
☐	☐	☒	Parks and recreation areas
☐	☐	☒	Scenic, historic, and cultural resources
☐	☐	☒	Municipal services and schools
☐	☒	☐	Employment Centers

Impact	Benefit	NA	Transportation Infrastructure
☐	☐	☒	Transit or public transportation routes or stops

☐	☐	☒	Park and Ride facilities
☐	☐	☒	Culverts or bridges
☐	☐	☒	Signalized intersections
☐	☐	☒	Active railroads
☐	☐	☒	Freight Corridors
☐	☐	☒	Other active or planned transportation improvements

Impact	Benefit	NA	**Environmental Characteristics**
☐	☐	☒	Aquifers/groundwater resources
☐	☐	☒	Wetlands
☐	☐	☒	Surface water bodies
☐	☐	☒	Flood zones
☐	☐	☒	Prime farmland
☐	☐	☒	Wildlife habitats
☐	☐	☒	Species of special concern
☐	☐	☒	Riparian habitats
☐	☐	☒	Air quality
☐	☐	☒	Noise

Impact	Benefit	NA	**Title VI and Underserved Population Centers**
☐	☐	☒	Low-income
☐	☐	☒	Minority population
☐	☐	☒	Senior (65+) population
☐	☐	☒	Less than a high school diploma
☐	☐	☒	Children under 18
☐	☐	☒	Children under 5
☐	☐	☒	Language isolation
☐	☐	☒	Households without access to a vehicle
☐	☐	☒	Disability status
☐	☐	☒	Single parent households

Attach a detailed map showing the proposal location and surroundings. Include any pertinent data for identified impacts or benefits.

IMPROVING COMMUNITIES TOGETHER

MEMORANDUM

Date:	06/05/2024	Job No.:	11301.01
To:	Jennifer Czysz, Executive Director – Strafford Regional Planning Commission		
Cc:	Colin Lentz, Senior Transportation Planner – Strafford Regional Planning Commission		
From:	BETA Group, Inc		
Subject:	10-Year Plan Projects – Task 7 – Middleton – Wakefield Road / Kings Highway & Route 153		

Project Description

This project is to evaluate transportation project proposals submitted to the Strafford Regional Planning Commission (SPRC) for inclusion in their Metropolitan Transportation Plan, and future submission to the NHDOT 2027 – 2036 Ten Year Plan. For some projects, the work included herein is to be considered Phase 1 of 2 with Phase 2 evaluation to be performed later and is not included in this proposal. A total of 7 projects (tasks) are being evaluated, with 5 of the 7 tasks to be discussed for Phase 1 work.

Task 7 – Middleton – Wakefield Road / Kings Highway & Route 153

Existing Condition, Project Scope and Goals

The intent of this project is to improve the intersection of Wakefield Road/Kings Highway and NH Route 153. The initial understanding of this project was an issue of access management for local businesses located at this T-Intersection. But upon further investigation, it appears the underlying issue is clear designation for Route 153 through traffic, as the highway makes a turn at this T-intersection with Wakefield Road/Kings Highway. In addition to confusing signage for roadway designations, speed is the second issue.

The existing area is the major commercial/industrial intersection in the Town of Middleton, comprising of LaValley Building Supply, Middleton Building Supply, Diprizio Pine Sales, Diprizio GMC Trucks, and Fleetrite International. The intersection is a hub for log milling with large truck traffic deliveries and equipment and materials movements. Route 153 is designated as the southern and eastern legs of the T-intersection, with Wakefield Road/Kings Highway designated as the northern leg. To the south of the intersection, Route 153 is a largely rural/residential corridor connecting to Farmington, with a posted speed limit of 30 MPH approaching the intersection. To the east of the intersection, Route 153 is a largely rural/residential corridor that connects with the White Mountain Highway - NH Route 16. To the north of the intersection lies the Town Center of Middleton, including the Town Hall, Police Department, Elementary School, and Park. The posted school zone speed limit of 20 MPH ends approximately 2,500 feet north of the intersection, with no additional speed limit signage approaching the intersection. The Kings Highway beyond the Town Center to the north connects to Wolfeboro and serves a high number of bicyclists. Please refer to the photos of the intersection below.

Engineering Review

BETA attended a site meeting/walk to observe site conditions, note constraints, and discuss with SRPC, the Town of Middleton and the local business owner of Middleton Building Supply the preferred design parameters and feasibility of design options. Included with this memo, are an order of magnitude estimate to depict the project goals and likely costs.

As stated before, BETA went into the review understanding the project would focus on access management at this area, but after discussion with a representative of the lumber yard and a representative of the Town we understand the main issues are intersection visibility, safety, and signage, combined with managing traffic speed through the intersection. BETA recommends the following improvements:

- New Route 153 direction signs for Kings Highway approach
- New speed limit sign for southbound approach of the Kings Highway, South of the School Zone
- New T-Intersection Ahead signage on Route 153
- Speed feedback radar sign for the northbound approach of Route 153
- Overhead flashing beacon at the intersection (flashing red for westbound approach and flashing yellow for northbound and southbound approaches)
- Restriping the Kings Highway approach with centerline and line lanes
- Restriping and narrowing the left turn radius for Route 153 traffic movement

BETA completed a conceptual estimate using the most recent NHDOT weighed average bid prices from the DOT website, IPDWeb Database and recent bids received by BETA with similar items and construction elements. The IPDWeb Database allows for the most recent bid items from DOT funded projects to be sorted and averaged based on specific timeframes. On average, unit prices on major items have increased significantly over the last 2 years. Unit prices were based on project size, quantity of the item and project location; for example, items with low quantities on a smaller project tend to have higher unit prices and vice versa. Total estimated project cost (including contingencies for engineering, survey, permitting, right of way and construction) is approximately $140,000 in 2024 dollars and $195,000 in 2036 dollars using 2.8% inflation per year.

Summary

The upgrades to signage and restriping, with added flashing beacon and speed feedback radar sign, will greatly improve the intersection's safety, allowing traffic to flow through Route 153 and should help to deter speeding through the intersection. Short of a fully signalized reconstruction of this intersection, this option is a reasonable solution and should serve the community and the business owners of this area greatly.

Intersection of Route 153 and King's Highway looking south

Route 153 looking north towards the intersection

WAKEFIELD ROAD / KINGS HIGHWAY & ROUTE 153
TOWN OF MIDDLETON
SRPC 10 YEAR PLAN PROJECTS - TASK 7 - PHASE 1
CONCEPTUAL COST ESTIMATE (PROJECT FILE NO. 11313.01)

Item No.	Qty.	Unit	Item Description	Unit Price	Amount
SECTION A - MAJOR ITEMS					
			NONE	$ -	$ -
				SUBTOTAL A	$ -
SECTION B - MISCELLANEOUS ITEMS					
615.067	50	SF	TRAFFIC SIGNS	$ 100.00	$ 5,000.00
616.2	1	U	FLASHING BEACONS	$ 50,000.00	$ 50,000.00
616.97	1	U	SPEED FEEDBACK RADAR SIGN	$ 10,000.00	$ 10,000.00
632.0104	2,000	LF	RETROREFLECTIVE PAINT PAVE. MARKING, 4" LINE	$ 0.25	$ 500.00
632.0106	100	LF	RETROREFLECTIVE PAINT PAVE. MARKING, 6" LINE	$ 0.35	$ 35.00
				SUBTOTAL B	$ 65,535.00
SECTION C - DRAINAGE ITEMS					
			NONE		$ -
				SUBTOTAL C	$ 65,535.00
SECTION D - EROSION AND SEDIMENT CONTROL					
10% of Subtotal C			NONE		$ -
				SUBTOTAL D	$ 65,535.00
SECTION E - TRAFFIC CONTROL					
10% of Subtotal D			MISCELLANEOUS TRAFFIC CONTROL	$ 6,553.50	$ 6,553.50
				SUBTOTAL E	$ 72,088.50
SECTION F - ADDITIONAL ITEMS					
			NONE	$ -	$ -
				SUBTOTAL F	$ 72,088.50
SECTION G - CONTINGENCIES					
20% of Subtotal F			CONTINGENCIES	$ 14,417.70	$ 14,417.70
				SUBTOTAL G	$ 86,506.20
SECTION H - MOBILIZATION					
7% of Subtotal G			ROADWAY MOBILIZATIONS	$ 6,055.43	$ 6,055.43
				SUBTOTAL H	$ 92,561.63

ROUNDED CONSTRUCTION TOTAL	**$93,000.00**
DESIGN ENGINEERING (25%)	**$23,250.00**
CONSTRUCTION ENGINEERING (25%)	**$23,250.00**
ROW ACQUISITION (0%)	**$0.00**
TOTAL 2024 ESTIMATED COST	**$139,500.00**
SAY	**$140,000.00**

2036 INFLATION RATE	**2.8%**
PROJECTED 2036 TOTAL ESTIMATED COST	**$194,308.40**
SAY	**$195,000.00**