Blue Hill Falls Bridge Renewal Project

MaineDOT WIN # 17712.00

Draft Alternatives Matrix

Last Revised: August 27, 2018

Evaluation Criteria (Listed Alphabetically)		Rehabilitation		Replacement		Alternate Alignment (Route 175 w/ New Rd.)	Temporary Bridge
		Without Sidewalk	With Sidewalk	Conventional Construction	Accelerated Bridge Construction		
Description	**Superstructure**	Concrete Tied Arch	Concrete Tied Arch	Girder/Tied Arch	Girder/Tied Arch	Girder Bridge	N/A
	Substructure	Existing Stacked Granite[3]	Existing Stacked Granite[3]	Existing Stacked Granite[3]	Existing Stacked Granite[3]	Reinforced Concrete	N/A
	Combined Roadway & Sidewalk Width	20'-4"	~25'-0"	~30'-0"	~30'-0"	~32'-0"	N/A
	Anticipated Service Life	~50 years[4]	~50 years[4]	~100 years	~100 years	~100 years	N/A
Aesthetics	**Tree Clearing at Falls Bridge**	90 Ft. / 23,000 SqFt.	90 Ft. / 24,000 SqFt.	90 Ft. / 24,000 SqFt.	90 Ft. / 24,000 SqFt.	N/A	Additional 35 Ft. / 6,000 Sq Ft. (125 Ft. / 30,000 Sq Ft. Total)
	Tree Clearing at Alternate Alignment	N/A	N/A	N/A	N/A	+/- 80 Ft. / 500,000 SqFt.	N/A
	View FROM the Falls Bridge	No Change	No Change	Changed	Changed	N/A	N/A
	View OF the Falls Bridge	No Change	Slight Change	Changed	Changed	No Change	N/A
	Aesthetics of the alternate alignment area	N/A	N/A	N/A	N/A	Changed	N/A
	Local Interest/Comment	Strong emotional attachment to existing Falls Bridge	Strong emotional attachment to existing Falls Bridge				Negative aesthetic impact associated with clearing
Community Impacts	**Additional Road Ownership**	N/A	N/A	N/A	N/A	1.2 miles	N/A
	Longterm Road Financial Obligation[7]	N/A	N/A	N/A	N/A	$12,000	
	Additional Structure Ownership	N/A	N/A	N/A	N/A	Falls Bridge and Causeway Cross Culvert	N/A
	Longterm Bridge Financial Obligation[8]	N/A	N/A	N/A	N/A	$4,000	N/A
	Detour Impact to Motorists	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Fire/Rescue	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Ambulance	Greatest Impact	Greatest Impact	Less Impact	Least Impact	Minor permanent impact in the future if Falls Bridge closed	Less
	Plowing/Road Maintenance	No Change	No Change	Less Effort	Less Effort	Significant Increase	N/A
	Tourism/Local Businesses						
	Local Interest/Comment						
Community Interest	**Water Recreational Access[5]**	No change	No change	No change	No change	No change	No change
	Bike/Ped Accommodations[5]	Least safe	Safer	Safest	Safest	Unknown Least safe at Falls Bridge with bridge open. Safest if Falls Bridge closed to traffic	N/A
	Pedestrian Access[5]	Least safe	Safer	Safest	Safest	Unknown Least safe at Falls Bridge with bridge open. Safest if Falls Bridge closed to traffic	N/A
	Parking[5]	No increase	No increase	No increase	No increase	No increase	No increase
	Local Interest/Comment		Meets community desire for improved pedestrian safety	Meets community desire for improved pedestrian safety	Meets community desire for improved pedestrian safety		
Cost	**User Costs (Construction)[10]**	$3,200,000	$3,200,000	$1,600,000	$330,000	$0	$150,000
	Initial Construction Cost	$8,100,000	$8,300,000	$4,600,000	$5,300,000	$14,400,000	Additional $800,000
	Service Life Cost [11] (100 Year Period)	$15,500,000	$15,700,000	$7,000,000	$6,900,000	$19,600,000 [9]	N/A
Environmental Impacts	**Natural Resources (Wetlands / Fish / Birds / Mammals)**	See Handout					
	Archeological Resources						
	Historical Resources						
Other	**Sea Level Rise[1]**	Better accommodation of sea level rise	Better accommodation of sea level rise	Best accommodation of sea level rise	Best accommodation of sea level rise	Does not accommodate sea level rise at Falls bridge	N/A
	Maintains Reversing Falls	Yes	Yes	Yes	Yes	Yes	Yes
	Utilities	Cannot be bridge mounted	Cannot be bridge mounted	Bridge mounting possible	Bridge mounting possible	Cannot be bridge mounted	N/A
Property Impacts	**Number of Affected Parcels [6]**	4	4	4	4	3	No additional Parcels
	Permanent Impacts	2,250 SqFt.	2,250 SqFt.	5,100 SqFt.	5,100 SqFt.	400,000 SqFt.	No additional permanent impacts
	Temporary Impacts	20,000 SqFt.	21,000 SqFt.	21,000 SqFt.	21,000 SqFt.	54,000 SqFt.	Additional 9,000 SqFt.
Safety (At Falls Bridge Site)	**Motorist Visibility**	Worst Visibility	Better Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A
	Pedestrian Visibility	Worst Visibility	Better Visibility	Best Visibility	Best Visibility	Unimproved at Falls Bridge	N/A
	Roadway Geometrics	Worst Geometrics	Worst Geometrics	Best Geometrics	Best Geometrics	Unimproved at Falls Bridge	N/A
Schedule	**Construction Duration**	18 to 24 months	18 to 24 months	18 to 24 months	12 to 24 months	18 to 24 months	Additional 6 months
	Duration of Traffic Impact	18 to 24 months	18 to 24 months	9 to 12 months	50-60 days	0 months	No additional impact
	Night Work	Minimal	Minimal	Minimal	Likely during traffic impact time period	Not anticipated	Minimal

Notes:

1. Costs and impacts provided for each Alternative include accommodations for sea level rise.
2. All costs shown are averages of a range +/- 5%.
3. Stacked stone abutments will receive concrete knee walls to accommodate sea level rise.
4. 50 year service life may include additional load postings within that time frame.
5. Pedestrian, bicycle, and water access will be prohibited during construction. Additionally, the proposed construction will not be increasing parking capacity.
6. This is an expected number of parcels, quantity may change after title search and verification is complete.
7. This value represents the cost borne by the Town of Blue Hill on an annual basis to maintain the portion of Route 175 that will become a Town road once turned over by the Department.

Color Code Legend: More Desirable — Less Desirable