

SECTION 4: PRELIMINARY COST PROJECTIONS

General

The cost of trail construction on an existing rail corridor will vary depending on the condition of the trail bed, condition of any infrastructure (bridges, culverts associated with the rail bed), any required land acquisition, extra-ordinary safety mitigation requirements, environmental constraints and other similar variables.

As noted in Section 3, it is being assumed that parking facilities are adequate based on existing and proposed facilities in the Gilbertville and Old Furnace sections of Hardwick.

The current “rule of thumb” cost for rail trail construction projects is \$65/l.f. This figure is based on a rail bed in good condition with few limiting variables or constraints. In the cases where new bridges are required, cost estimates were obtained for the purchase and installation of a pre-fabricated glued laminated timber bridge. All bridges must meet MHD/AASHTO standards. Preliminary cost projections are provided for the four options discussed. These estimates are based on the current standards as noted, with adjustments for specific constraints within each option. An engineering cost of 15% of construction is used and a 15% overall construction contingency. Please note that the preliminary cost projections for options #2-4 include the base cost identified in option #1 with specified additions or deletions in cost.

The cost projections do not include any costs associated with obtaining easements or site control of the actual rail bed from Massachusetts Electric or the Massachusetts Central Railroad. The purchase of easements, right-of-ways, or land in its entirety is a very specific and detailed task involving a formal appraisal by a licensed appraiser. Land values vary depending on type of site control (easement, purchase, etc.) zoning, environmental limitations, resource value (view, timber) and other considerations. Depending on the arrangement or agreement with the Massachusetts Electric Company and Mass Central Railroad as owners of the current inactive rail bed in discussion, cost could range up to an additional \$250,000 or more. For purposes of this section, allowances were provided for those areas where adjacent landowners may be asked to participate in a transfer of property to the town for the purpose of re-routing the rail trail. Actual costs will only be determined once exact locations and land requirements are determined and appraisals performed.

Preliminary Costs

Option #1

<u>Item</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Cost</u>
Bituminous concrete pavement/sitework	19,800 lf	\$65/lf	\$1,287,000
Fencing/amenities	-	\$50,000	\$50,000
Boardwalk structures	-	\$175,000	\$175,000
Drainage/culverts	-	\$15,000	\$15,000
Wetlands protection/mitigation	-	\$75,000	\$75,000
Retaining walls	-	\$20,000	\$20,000
Bridges (new)	1	\$20,000	\$20,000
Bridges (repair)	3	\$25,000 (avg.)	\$75,000
Subtotal			\$1,717,000
Engineering (15%)			\$257,550
Contingency (15%)			\$257,550
Total			\$2,232,100

Option #2

<u>Item</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Cost</u>
Base (Option #1 total)	-	-	\$1,717,000
Delete Fencing	-	-	(\$30,000)
Subtotal			\$1,687,000
Engineering (15%)			\$253,050
Contingency (15%)			\$253,050
Total			\$2,193,100

Option #3

<u>Item</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Cost</u>
Base (Option #1 total)	-	-	\$1,717,000
Delete Fencing	-	-	(\$30,000)
Delete Boardwalks	-	-	(\$175,000)
Delete Wetlands mitigation	-	-	(\$25,000)
Add acquisition	-	-	+ \$25,000
Subtotal			\$1,512,000
Engineering (15%)			\$226,800
Contingency (15%)			\$226,800
Total			\$1,965,600

Option #4

<u>Item</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Cost</u>
Base (Option #1 total)	-	-	\$1,717,000
Delete Fencing	-	-	(\$30,000)
Delete Boardwalks	-	-	(\$175,000)
Delete Wetlands mitigation	-	-	(\$25,000)
Add acquisition	-	-	+ \$50,000
<i>Subtotal</i>			\$1,537,000
<i>Engineering (15%)</i>			\$230,550
<i>Contingency (15%)</i>			<u>\$230,550</u>
Total			\$1,998,100

Trail Maintenance

The cost of trail maintenance is an annual expense involving both labor and materials. Documented maintenance costs for existing rail trails in Western Massachusetts is roughly \$4,000 per mile. Based on an approximate length of 3.8 miles, the estimated required annual maintenance budget is \$15,200.