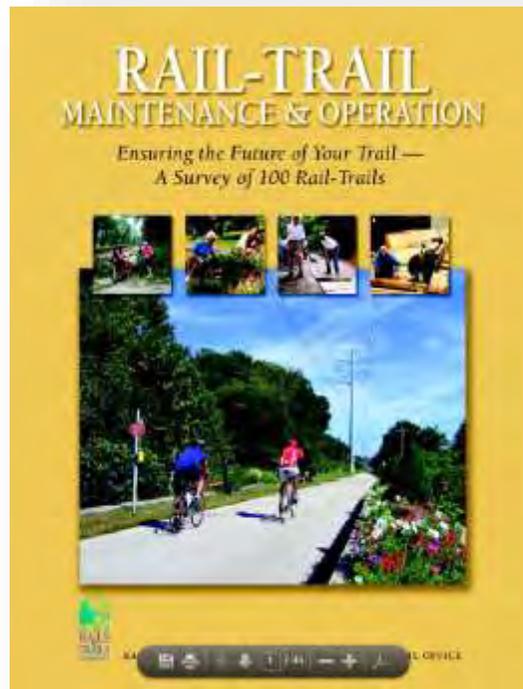


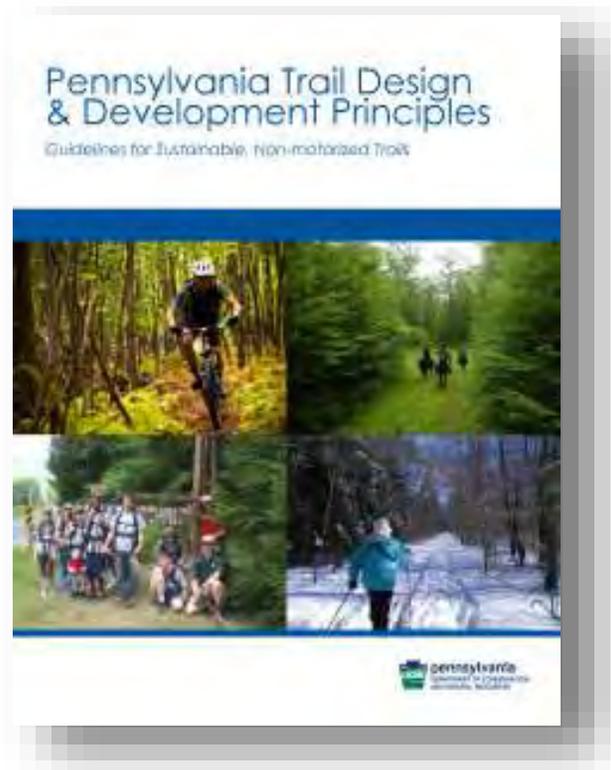
## **CHAPTER 6 FINANCIAL FEASIBILITY- what would the trail cost to build and maintain, and where would the money come from?**

Like trail usage, the cost to acquire, plan, design, build and maintain trails vary dramatically from one project to the next, and oftentimes from one segment to the next on trails acquired in stages. And while funding for trail design, construction and upkeep also varies from one trail to the next, DCNR and Federal Highway funds are the most common source of funds for most rail trail projects. DCNR C2P2 grants fund 50% of project costs, while Federal PA Recreational Trail Grants fund 100% allocated 80% Federal/20% State. The 9 mile long Buffalo Valley Rail Trail in Central PA's Union County used Federal highway funds for construction and state funds for planning and design. The project was designed to meet the *American Association of State Highway and Transportation Officials (AASHTO) Federal highway standards Guide for the Development of Bicycle Facilities*. The \$3.2 million multipurpose trail included paved segments through urban areas and paving and gates at road and farm lane crossings, which drove costs upward. Union County Planner Shawn McLaughlin believes the additional cost to pave heavily traveled sections was a good investment in terms of reducing future maintenance costs. McLaughlin says maintaining good drainage is also a key to avoiding ongoing maintenance costs. At \$355,555/mile, McLaughlin said Union County's construction cost was on par with Williamsport's fully paved 4 mile long Susquehanna River Walk, which came in at about \$400,000 mile. McLaughlin noted that the valley's Mennonite community frequently ride their bikes on the trail, but they were opposed to buggies on the trail due to concerns about conflicts between horses and cyclists. The Lewisburg Area Recreation Authority (LARA) purchased all 11 miles of the 60 foot wide right of way-- comprising about 72 acres of land-- for the trail from the West Shore Railroad Company for \$200,000, a discount of \$10,000 from its appraised value of \$210,000 (\$18,182/mile or \$80/SF). Although DCNR's Pine Creek Trail was built in stages, the Commonwealth purchased the entire right of way from CONRAIL in 1990 by quit claim for \$1, the same price most landowners sold their right of way to the Lewisburg, Centre & Spruce Creek Railroad Company for in the late 1880's. According to Malcolm Sias, Parks and Rec director for Westmoreland County, over \$70 million has been spent since 1986 to construct the 148 miles of the world class Great Allegheny Passage. That equates to about \$473,000 per mile. At the other end of the spectrum, Armstrong County's 36 mile long Armstrong Rail Trail has a very hands-on trail group that budgets as little as \$20,000/mile for new trails where it simply has to lay down gravel, as much as \$80,000/mile if it involves some clearing and grubbing and repairs to the railbed, and \$160,000/mile for what they call "problem areas."



Costs to maintain trails can vary considerably depending on how much work is done by volunteers vs. contracted services, but a study of 100 trails surveyed in 2007 by the Rails-to-Trails Conservancy (RTC) provides some guidance.

Trail maintenance costs can also vary considerably from one trail to the next depending on variables like trail design, and how much work is contracted out versus what is done in house or with volunteers. As a rule of thumb, most community based trails rely on volunteers, while larger regional connector and destination type trails like the Pine Creek Trail usually contract for services. Buffalo Valley's McLaughlin has no regrets about the added up front cost to pave trails through urban sections, but Sias, who relies heavily on volunteers for upkeep of the Regional Trail Corporation's network of trails in Allegheny, Westmoreland and Fayette County, prefers limestone trails over pavement because volunteers can easily make the repairs themselves. Sias recommends 10 miles as the upper limit that a volunteer trail group can handle by themselves. Although costs to maintain trails can vary considerably depending on how much work is done by volunteers vs. contracted services, a study of 100 trails surveyed in 2007 by the Rails-to-Trails Conservancy (RTC) (<http://www.railstotrails.org/resource-library/resources/rail-trail-maintenance-operation-ensuring-the-future-of-your-trail-a-survey-of-100-rail-trails/>) provides some guidance. According to the RTC study, 31 of the 39 trails that reported their income and expenses (at an average trail length of 23 miles) budgeted \$25,000 or less, with trails run by government agencies averaging \$2,000 per mile, and trails run by volunteers averaging \$700 per mile. The 16.5 mile Lower Trail in nearby Huntingdon County relies heavily on volunteers, and offers a good model budget for the Penns and Brush Valley trails, which more than likely would also rely heavily on in-kind services and volunteers to maintain the trail. The Lower Trail reported costs of \$22,000 in 2007, with an additional \$14,900 in donated services, including \$3,840 for mowing, \$2,880 for newsletters, \$4,500 for trail maintenance, \$2,880 for clerical work and \$800 for fundraising activities (all estimated at a volunteer rate of \$8/hour). Three items represented over half of Lower's out of pocket expenses, with 25% of its annual budget for insurance, at \$5,500/year, followed by Porta Johns, at \$4,500 (22%) and Trail Maintenance expenses at \$1,600 (about 7%). Most of the labor for the Lower Trail's maintenance was done by volunteers, which they estimated at \$4,500, based on an hourly rate of \$8/hour. Unlike many thinly funded organizations, Lower's 2007 budget included \$1,200 for capital improvements, and an additional \$1,000 for capital fund reserves. The organization also budgeted \$1,500 for postage, \$1,320 for utilities (phone and electric), \$800 for office supplies, \$200 for tax preparation, and the remainder for fundraising related activities. Liability is oftentimes the biggest expense item for many trail organizations, although many municipally operated trails report adding trail liability to their existing insurance policy with little noticeable difference in their premium. On the income side, the Lower Trail organization covers its \$22,000 of out of pocket expenses with a combination of dues (\$11,520), raffle ticket sales (\$5,500), proceeds of an annual memorial race (\$2,500), donations (\$2,000), trail events (\$200) and merchandise sales (\$300).



Cost estimates for constructing the Rhoneymeade and Spring Mills trails are generally in accordance with the *PENNSYLVANIA TRAIL DESIGN & DEVELOPMENT PRINCIPLES, Guidelines for Sustainable, Non-Motorized Trails*, published by DCNR in 2013.

We prepared cost estimates for constructing the Rhoneymeade and Spring Mills trails generally in accordance with the *PENNSYLVANIA TRAIL DESIGN & DEVELOPMENT PRINCIPLES, Guidelines for Sustainable, Non-Motorized Trails*, published by DCNR in 2013. Most multi-use rural trails in Pennsylvania are 8 foot wide with a gravel surface, while more heavily traveled mixed use urban trails oftentimes require a 10 foot wide treadway and are usually paved. We assumed an 8 foot wide gravel treadway for the Spring Mills trail, with 2 foot wide shoulders and 10 feet of overhead clearance. For Rhoneymeade, we assumed a 6 foot wide gravel treadway with 2 foot wide grass shoulders and an 8 foot 10 inch overhead clearance. All estimates are based on prevailing wage rates, which would be required for any state funded project. Prevailing wage projects typically tend to be 15 to 20% higher than privately funded projects. We did not include any costs for acquisition, assuming that all land will be donated. We also did not include any discounts for in-kind donations done by volunteers to reduce costs. Many people, including landowners, expressed interest in helping to build and maintain the trail. Any work donated by volunteers could be used as a match against grants secured for the project. For example, community volunteers could provide much of the initial work of clearing and grubbing the trail. We did not prepare cost estimates for the Poe Paddy Trail, since it generally follows existing forest roads. DCNR guidelines require any trail funded by the Commonwealth to be fully accessible, so much of the Poe Paddy segment would not qualify for State or Federal funds, since it follows steep grades along existing public and forest roads instead of the dry, level and direct route of the existing railbed. The primary costs for the Poe Paddy segment would be to designate and maintain a parking area for horse trailers and mountain bike enthusiasts at the existing Penn Township maintenance lot, which could be an in-kind donation by the Township. We recommend budgeting an additional \$2,500 to install signage describing trail conditions at both ends of the 10 mile trail, and \$1,000 for mile markers along the route for emergency responders. We also did not prepare estimates for the Lemont to Oak Hall segment, since we are not able to identify a viable route for that segment at this time. Our estimates are based on unit costs developed by RS Means Construction Cost Data for 2011, adjusted for regional differences, and inflated to reflect 2014 prices. RS Means costs are based on unit prices collected from builders, suppliers and manufacturers for labor, materials and equipment costs for the construction industry. We added 10% for general conditions, 15% for overhead and profit and 15% for design contingency. Actual costs may vary from the estimates depending on bidding conditions at the time contracts are actually let. Those factors could include labor and material availability, contractor's means and methods of construction, interest rate volatility, and other inflationary factors that are not able to be determined at this time.

# Spring Mills Trail estimate\*: \$601,000

Trail Construction		\$137,000
Drainage		\$6,500
Fencing		\$2,000
Bollards/Gates/Signage		\$10,700
Bridges and railings		\$300,000
Trailhead Parking at Ballfield		\$19,000
Bike rack, traffic control, signs		\$23,800
SubTOTAL		\$501,000
Design (20%)		\$100,000
TOTAL		\$601,000
Cost Per Mile	1.62 miles	\$371,000

\*Trail estimates based on prevailing wage rates, typically 15 to 20% higher than privately funded projects; assumes all ROW's donated for \$1.



Example of fiberglass footbridge

We estimate the cost to construct 8,570 feet (1.62 miles) of 8 foot wide gravel trail with 2 foot wide gravel shoulders between Wildflower Lane and Old Gregg School at \$601,527, or \$370,602/mile, including hard costs of \$501,272, and soft costs (engineering and inspection fees estimated at 20% of hard costs) of \$100,254. The largest element (at 58% of hard costs) includes \$290,950 for installing two 100 foot long prefabricated fiberglass bridges, one to replace the missing bridge across Sinking Creek Road on Myers Farm and one across Sinking Creek on Chris Kunes land across from the ballfields (the bridge estimates do not include footings or foundations, the engineering being beyond the scope of this feasibility study). We also included \$10,911 to install a new railing at the existing bridge over Sinking Creek on the Myers Farm. Estimates for trail construction total \$136,925, including \$28,335 for clearing and grubbing, \$9,445 for overstory trimming; \$13,184 for excavation and fill to repair the railbed eroded by washouts; \$12,779 for grading; \$6,234 for seeding grass areas; and \$66,949 for a 10 foot wide gravel surface. For fencing and drainage, we included 150 lineal feet of new 15" pipe for culverts at \$8,421, and 100 feet of split rail fencing at \$1,949. For traffic control, we included a line item of \$22,694 for 24 bollards, 8 traffic signs and 16 trail emergency ID signs at a total cost of \$4,921, \$148 for crosswalk striping and \$698 for paved crossing at drives. We included \$6,983 for 6 pervious and one impervious handicapped parking space, \$969 for a bicycle rack at Old Gregg School, an allowance of \$10,911 for landscaping at the ballfields, \$3,491 for 2 interpretive signs and \$1,309 for 2 commercial grade trash receptacles. Moving the trail off the existing railbed closer to the road on the Myer Farm would add approximately \$75,000 to the project.

# Gregg Station Trail Estimate\*:

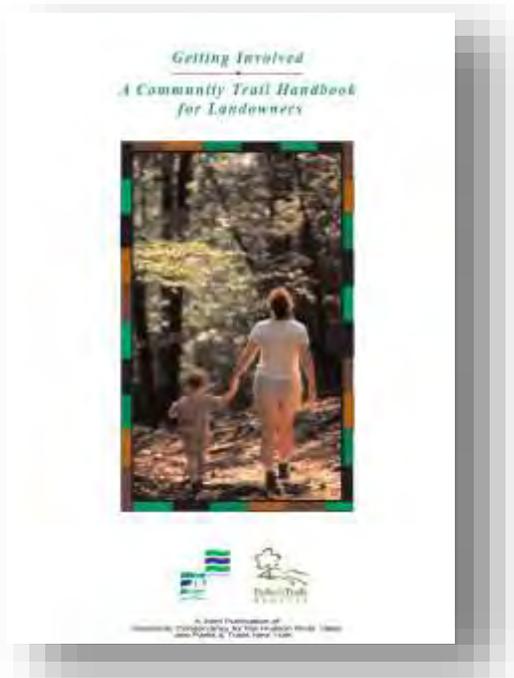
## \$214,066

Trail Construction		\$134,700
Drainage		\$4,200
Fencing		\$10,000
Bollards/Gates/Signage		\$9,600
Trailhead Parking		\$3,500
Screening		\$3,600
Interpretive signage, trash cans		\$4,800
<b>SubTOTAL</b>		<b>\$178,400</b>
Design	20%	\$35,678
<b>TOTAL</b>		<b>\$214,066</b>
<b>Cost Per Mile</b>	<b>1.72 miles</b>	<b>\$124,066</b>



\*Trail estimates based on prevailing wage rates, typically 15 to 20% higher than privately funded projects; assumes all ROW's are donated

We estimate the cost to construct 9,065 feet (1.72 mile) of 6 foot wide gravel trail with 2 foot wide grass shoulders between Smith Lane and Gregg Station to be \$214,066, or \$124,685/mile, including hard costs of \$178,388, and soft costs (engineering and inspection fees estimated at 20% of hard costs) of \$35,678. The largest element (76% of hard costs) includes \$134,725 for trail construction, including \$27,326 for clearing and grubbing the railbed, \$9,109 for overstory trimming; \$17,799 for excavation and fill to repair the railbed eroded by livestock; \$8,626 for grading; \$6,012 for seeding grass areas; \$43,257 for a 10 foot wide gravel base; and \$22,596 for a 10 foot wide gravel surface. For drainage and fencing, we included 75 feet of new 15" pipe for culverts at \$4,210; and 8,200 feet of high tensile wire fencing through Bergenblick Farm at a cost of \$17,893. For traffic control, we included 4 gates, including 1 at either end and 2 flanking the trail as it crosses Rimmey Road; 6 traffic signs and 17 trail emergency ID signs at a total cost of \$9,630. We also included \$3,491 for 2 pervious and one impervious handicapped parking space, an allowance of \$3,637 for installing privacy fencing along the north side of the trail west of Rimmey Road, \$3,491 for 2 interpretive signs and \$1,309 for 2 commercial grade trash receptacles.



We recommend that trail advocates for Gregg Station section use the privately owned Lower Trail as a model for their organization, and Google the Hudson River Valleys' booklet, *Getting Involved, A Community Trail Handbook for Landowners*.