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Warren County Rail Line in the First Wilderness Corridor

Study of Options

February 2019

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Prepared by the Warren County Safe & Quality Bicycling Organization

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EXECUTIVE SUMMARY

The purpose of this study is to examine several of the options available to Warren County for the use of its rail line located in the western portion of the county. The study examines the use of the rail line for freight transportation, conversion of the line to a multiuse trail, and the possibility of a rail line with a parallel trail (known as “rail with trail”). Other options, or combinations of options, are beyond the scope of this study.

This study is not intended to make a recommendation about a preferred usage of the Warren County’s rail line, but it aims to provide objective information on the benefits and impacts of each of the potential uses considered. The Warren County Supervisors can leverage this information to assist them in making an informed decision about the future of Warren County’s rail line.

As shown in the study, the public benefits of using the rail line for freight transportation are low (when considering the negative impacts of noise, disturbance, accidents), but the economic benefits could be high for the County, and for those businesses using the line. Additionally, there would be no construction costs to use the existing rail line for freight transportation. However, since the rail line has not been used for freight in any meaningful way in quite some time, the benefits of anticipated freight operations are fairly speculative at this time.

The use of the rail line for a rail with trail has relatively higher public benefits, along with economic benefits for those businesses continuing to use the line as a railroad and/or using the trail as source of customers. However, the costs for constructing a rail with trail may be prohibitively high for Warren County due to the terrain of the rail corridor.

Finally, a multiuse trail has many public benefits, and it has economic benefits to those businesses using the trail as an attraction or for a customer base. However, there would be no direct revenue to the County, only indirect economic benefits, such as increased properties assessments, sales tax revenue, and occupancy tax revenue. The costs for constructing a rail trail are not as high as constructing a rail with trail because the existing rail road bed can serve as the base of the trail. The construction costs could be offset by the salvage value of the track material, which is estimated to be \$2-3 million more than the cost of removing the track material.

Chapter 1. Background

Warren County owns 38.8 miles of track from Antone Mt Rd in Corinth to the North Creek Station in [North Creek?]. The average width of Warren County's railroad right-of-way is between 80 and 120 feet. The narrowest locations, which average 40-50', are along Warrensburg Road, north of Seth Mountain Road and north of Lottie Farm Road in Stony Creek, and along River Road, south of Glen Athol Road in Thurman. Typically, the land immediately adjacent to the track is flat for at least a few feet, but there are areas with significant slopes beyond the immediate sides of the track. Warren County's railroad line has 23 crossings over roads, rivers, and creeks.



Chapter 2. Freight Transportation

Availability of a rail line to move **freight can provide important economic benefits to businesses** along a short line rail corridor. If existing freight “were moved by rail rather than truck, **public benefits associated with reduced emissions, congestion reduction on roadways and pavement maintenance savings could be generated. Safety benefits could also be generated.** Other businesses may also utilize freight rail service, if it were made available, potentially generating additional public benefits.” Valley Railroad State Park Economic Impact Study, C-23.

However, businesses on or near the line may not be able to take advantage of the rail because they “are not in a position to generate the volume that would be necessary to utilize other transportation modes, such as rail, even if it was available. In addition, higher valued manufactured goods are produced and delivered in a just-in-time environment; this is not generally consistent with freight rail transportation.” Valley Railroad State Park Economic Impact Study, A-10.

Additionally, the public investments needed to maintain a rail line for freight could “dramatically increase the railroads’ cost to a level that **if substantial revenues were not generated by the freight rail service, that the long-term viability of the company could be questioned.**” Valley Railroad State Park Economic Impact Study, p. 10. Moreover, private infrastructure investments may be too cost prohibitive for businesses to make the change from truck to rail transportation.

Anticipated Freight Operations

Currently, there are two known businesses that may be interested in hauling freight: Mitchell Stone Products LLC (Tahawus mine) and Barton Mines. While a third party may be pursuing freight operations on the rail line (to move materials from the Tahawus mine), there are no clear or specific plans at this time. Warren County should take note of the caution “that **investing in the infrastructure required to support speculative use of freight rail for two businesses is risky.**” Valley Railroad State Park Economic Impact Study, C-23. The interest or potential for other businesses to use the rail line for freight are unknown at this time. The Warren County Planning Department does not have data regarding freight potential for the rail line. It appears that there has been no focus on recruiting or attracting business use of the rail line for freight.



Photo: Single train car of freight being hauled from Barton Mines on the Warren County railroad (2013)

Warren County's EDC website has almost no information about the availability of the rail line to provide freight transportation along this corridor. The transportation map shows the rail line from Albany to Montreal, but not this rail line. There's one small reference to the rail line: "A private rail carrier soon to be determined will provide passenger and freight rail service within Warren County, on existing tracks that extend between Saratoga Springs (Saratoga County) and North Creek (Warren County)." <http://www.edcwc.org/Strategic-Advantages/Transportation.aspx>

According to the 2018 Corridor Market Study, completed by the IBI Group for Warren County, a study of potential freight and tourism markets was conducted in 2002 for the rail line from Saratoga Springs to North Creek. **The 2002 study identified "local businesses that might use any potential freight service, including mining and manufacturing, and recommends additional follow-up to determine the size of the potential market, and to determine what company might be induced to operate freight service on the line"**. Quoting the 2018 Corridor Market Study, pp. 9-10. However, a review of the 2002 study reveals that it does not actually provide any in-depth review of potential freight service on the rail line from Saratoga Springs to North Creek.

Freight is Needed to Support Tourist Trains

Prior research on the Warren County rail line, and other similar short line rail lines, indicates that a viable freight transportation operation is necessary to support tourist train activities. According to the 2002 study, a "key component of the First Wilderness experience is the tourism railroad. **In order to fulfill its role in the corridor on a sustainable basis, railroad operations must generate sufficient revenue to cover the costs of operating the railroad and, most important, maintaining the rail bed.** This presents several key challenges. First, the existing tourism railroad is a seasonal operation. Even when fully developed as part of the First Wilderness experience, ridership will fluctuate with the peaks and valleys of visitation to the Adirondacks. This will make it difficult for the railroad to generate a

steady cash flow required to fully cover costs. Second, this particular tourism railroad is located in a rural market. In such a setting, one could expect the railroad to generate \$50,000 to \$75,000 as part of this integrated tourism experience. However, the Adirondack region features fairly stiff competition for ridership, including the Battenkill Rambler and the Adirondack Scenic Railroad. This competitive pressure, coupled with the inherent seasonality of tourism in the Adirondacks may make it difficult for tourism life to consistently cover operating costs. (Note that Table 8-1 calls for the creation of an integrated cross-promotional relationship among the region's tourism railroads, as a means of ensuring that each will be capable of generating sustainable levels of ridership). . .

. . . In order to overcome the obstacles described here, **it is imperative that the railroad develop strong connections into Saratoga County.** This will help the railroad's revenue picture in two ways. Most importantly, it increases the likelihood of expanding freight operations along the corridor. **For many tourism railroads, freight operations provide the steady revenue sources that cover the costs of rail bed maintenance. A longer corridor with access to more industrial sites will better position the railroad to develop this revenue source."** p. VI-4. NORTHERN HUDSON INTER-MUNICIPAL REDEVELOPMENT STRATEGY IMPLEMENTING THE FIRST WILDERNESS EXPERIENCE, 2002.

Attracting Freight Operations

Warren County would need to undertake a concerted effort to attract freight operations if greater use of the rail line for freight (or tourism) is to be pursued. See Appendix A (excerpt from Ulster County Study). Such efforts would include working with the Mitchell Stone Products LLC (Tahawus mine) and Barton Mines. In addition, Warren County should reach out to existing and potential Warren County businesses about use of the rail line, developing "strong connections into Saratoga County", and developing a "longer corridor with access to more industrial sites". Northern Hudson Inter-Municipal Redevelopment Strategy Implementing the First Wilderness Experience (2002), p. VI-4. If freight transportation by rail is sufficiently developed, maintaining the rail line for potential freight operations has both negative impacts and public benefits. See Valley Railroad State Park Economic Study (freight impacts/benefits information is summarized below, pp. 5-6).

Benefits and Impacts of Freight

The benefits of freight include improved safety due to freight being diverted from truck to rail, the associated public benefits of removing truck traffic from highways, some infrastructure redundancy for the region's transportation network, some job creation due to investment in upgrading and maintaining the line for freight, and the economic benefit for those businesses that can use the line.

The impacts include a decline in property values for those properties close to the rail line, high operating costs and regulatory oversight, potential environmental impacts if hazardous materials are transported (or stored) on the rail line, increased train frequency, which may increase safety risks (such as at crossings) and noise, and negative impacts on tourism train service and other use of the rail line (such as for rail biking and snowmobiling).

Summary of the Freight Operations Option

Given the lack of use of the rail line for freight, it is reasonable to assume that the rail line would only produce a small amount of freight traffic in the future, unless significant efforts were made to increase use of the line for freight. The public benefits from a limited amount of freight operations in the future could be categorized as low because, for instance, there would be relatively little truck traffic diverted from highways. However, the negative impacts, aside from the operating costs, of keeping the rail line open for limited freight operations could also be categorized as low. Therefore, the public benefits and impacts would be relatively low, unless usage of the line for freight were increased, in which case the benefits and impacts may both increase. There would also be private economic benefits to the businesses using the rail line.

Another consideration for the County is whether the **“railroad operations [can] generate sufficient revenue to cover the costs of operating the railroad and, most important, maintaining the rail bed.”** Northern Hudson Inter-Municipal Redevelopment Strategy Implementing the First Wilderness Experience, 2002, p. VI-4. More detailed information will be needed to ascertain whether the anticipated financial costs of maintaining and operating a rail line for freight (and possibly tourism) trains could be sufficiently offset by revenue from the anticipated freight operations, which at this time are fairly speculative because the rail line has not been used for freight in any meaningful way in quite some time.

The estimated annual cost to the County of maintaining and operating the rail line is approximately \$300,000.00. The revenue to the County from freight operations is unknown. The costs could potentially be eliminated by leasing the rail line to a freight operator that would assume the maintenance and operating costs. In that case, the revenue to the County, if any, could be determined through an agreement with the operator.

Chapter 3. Multiuse Trail

In contrast to freight transportation, the Warren County railroad corridor could be converted to a multiuse trail to transport people by foot, bike, and snowmobile. The Adirondack Rail Trail website contains a description of the benefits of that multiuse trail that could apply equally to a multiuse trail in Warren County:

“Ideal for many uses, such as bicycling, running, walking, and wheelchair use, rail-trails are increasingly popular as recreation and transportation corridors. In this case, the Adirondack Rail Trail also provides for greatly improved snowmobiling and the attendant economic benefits. Rail-trails create healthier places for healthier people. They serve as wildlife conservation and historical preservation corridors, stimulate local economies by increasing tourism and fostering local business, offer safe and accessible routes for work and school commuting, and promote active lifestyles for all ages and levels of physical ability.” www.adirondackrailtrail.org/about-us

The popularity of rail trails — more formally known as multiuse trails — stems from their flatness and the absence of traffic. An abandoned railbed provides a bed for a trail at virtually no cost (or revenue if there is net salvage value).

A successful example of a rail trail is the Warren County Bikeway, which was converted from an abandoned rail line.



Photo: Bicycling on a paved path like the Warren County Bikeway

Benefits and Impacts of a Multiuse Trail

The benefits of a multiuse trail include increased quality of life, and increased properties values for those close to the rail line. Increased opportunities to use the line for public recreation, including walking, biking and snowmobiling. “[T]hese activities reduce health care costs and vehicular traffic, can provide a healthy activity for families and children, and can provide an important component to the local economy in terms of tourism. In terms of the environment, biking and walking can be an effective way to reduce dependence on the automobile, and subsequently reduce carbon emissions.” AGFTC Regional Bicycle/Pedestrian Plan, p. 2.

A multiuse trail can generate sales tax revenue, and occupancy tax revenue, from businesses that serve the people using the trail, such as coffee shops, bike shops, and bed and breakfasts or hotels hosting visitors on bicycling tours. Operating costs and regulatory oversight costs are lower than if the line is used for freight operations. Potential environmental threats are also lower than if the line is used for freight operations.

The negative impacts include the loss of the rail road tracks, and the loss of direct revenue to the County from freight (or tourist) operations, if any. However, if the County is careful to follow the federal procedures for rail banking its rail road corridor, the line could be returned to active rail use if there was a reason to do so in the future. See www.railstotrails.org/build-trails/trail-building-toolbox/acquisition/railbanking/

Net Salvage Value

When reviewing the multiuse trail option, it is important to understand that there can be revenue generated from the sale of the track material. Only badly worn or damaged track material is scrapped. Most material is reused to replace track and to create sidings, branch lines and yards. The materials in Warren County's corridor have been kept in good condition and has met FRA inspection requirements for Class 2 service. A conservative assessment is that **removal of all railroad materials will net the county between \$2 and \$3 million in revenue**. The median value of various estimates — including rough figures sourced from two salvage companies — is \$2.82 million. See Appendix B.

A precise figure can be obtained by seeking formal quotes from companies that specialize in railroad salvage. It is strongly recommended that the county seek such quotes to remove uncertainty in this value, which is critical to a good decision about the corridor's future.

There may be estimates of net salvage proceeds that are sharply different from this assessment. The county should be cautious about statements regarding salvage operations that are plainly incorrect, notably about removal of ties. Salvage companies do remove ties, and good ones are valuable.



Photo:

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Chapter 4. Rail with Trail

Rail with trail (RWT) is an option when an active rail corridor provides a useful right of way for all or a portion of a trail.

In rare circumstances, a choice is available between a rail trail and a RWT. The RWT option is attractive since the rails may be kept in place, whereas a conventional rail trail means removing the track. Potentially, this is the case for the Warren County corridor. Hence, this section of the study will discuss the RWT option.

A RWT is always more costly than a trail placed on a railbed since an additional bed must be constructed, together with bridges and culverts. In favorable terrain, the added cost may be modest, but in difficult circumstances it can become prohibitive.

It happens that a similar choice between a rail trail and RWT has been evaluated for the nearby Remsen-Lake Placid Corridor. Below is a discussion of the decision made by New York State in that case, which is relevant to the Warren County corridor since the terrain and other considerations are similar.

Rational consideration depends on the cost of RWT and if this price is worth paying. At some point, a RWT is just too costly to build for the expected volume of users. It can also be too high a price to pay to save a rail corridor with little commercial value.

The assessment for Warren County is similar to the State's conclusion for Remsen - Lake Placid: the cost of adding a trail alongside active rail is so high that the costs cannot be justified, especially when considering the value of continued rail operations.

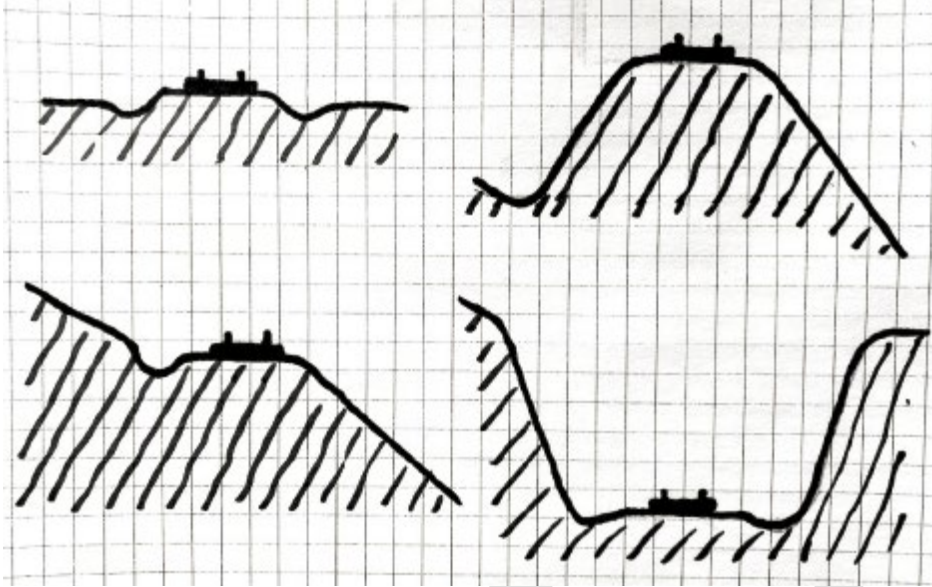
Short sections of trail might be feasible in certain areas, that can serve a local interest or special purpose. Providing connections necessary for a snowmobile trail network is a prominent example. Horse trails in the vicinity of Stony Creek Ranch is another example. Short trails into particularly scenic areas along the Hudson would be a benefit to the community. In fact, the Warren County Planning Department is currently funding a study of the potential for walking trails in the corridor.

There may be potential for rail and trail, such as that ultimately proposed by the State for the Remsen - Lake Placid corridor. According to that plan, rail operations will continue as far as Tupper Lake, and the remaining 34 miles to Lake Placid will become a trail. In our case, rail operations could be maintained to Stony Creek, Thurman or some other point, then become a trail to the north. The reasonableness of this approach depends on the expected rail traffic.

Detailed assessments of the subject area from four perspectives are discussed below.

1. The nature of the Warren County corridor

Since a decision about RWT revolves around engineering considerations and the costs thereof, a physical picture of roadway construction details is needed. An attempt has been made here to provide a basic picture, but it is suggested that a reader walk along any road built alongside a river or stream, and make note of the usually unnoticed construction details.



Depiction: Railbed cross sections, clockwise: flat ground, sloped ground, deep cut, high hill

Above are depictions of railbed cross sections, including over flat ground, over sloped ground, a high fill and a deep cut. Only a flat section can easily accommodate a new trail bed alongside. Hills require building up one side. The sloped section requires either routing the trail to the top of the high side, digging out the high side, or filling the lower side. A cut might involve easy excavation, but might require blasting.

Given that the Warren County corridor generally follows the Hudson River, its elevation is set to cope with flooding. A trail bed may not have to be quite so high, but it must survive flooding. The trail might be located on the river side of the track in some areas, but where there is little to no room, it will have to be on the slope side. Crossings will be undesirable, so the trail will probably have to be located on the slope side for most of its distance.

All roadways need to allow water to pass underneath at frequent locations, especially those in a river valley. Water flowing down a slope is captured in ditches, flows along the railbed, and passes through culverts or bridges to the other side. The same drainage system must be adopted by the new trail bed. Since a trail will only add resistance to the flow of water, it will increase the risk of railbed washouts.

Only a full survey of the entire length of the corridor will reveal the areas featuring each of the sections depicted above. That was beyond the scope of this study, but a few short sections in Thurman were surveyed to obtain an understanding of the “on the ground” situation.

For instance, at the road crossing just north of the Thurman Station, looking south, the railbed slopes sharply down to the floodplain on the river side, but is flat on the west side. It appears that adding a trail on the west side would be relatively easy and would join with the station driveways.

Looking north from the same spot, however, the railbed rests on an 8-foot fill. In this particular location, diverting to the nearby road would eliminate the need to extend the bed, but this situation may exist in many other locations where a nearby road is not available.

At the next crossing north, there was a shallow cut. The digging might be easy here, or a crew might hit ledge. A trail might be able to climb to the top at this location or continue a diversion on the road, but again, this feature will be found elsewhere where diversion may likely be difficult.



Photos: clockwise

At one more crossing to the north, there was a causeway between the river and a connected pool. This feature certainly requires a diversion, and in this location, there is a convenient road. Satellite views of the corridor show no other causeways.

A formal RWT design would likely call for a diversion along this entire one-mile stretch to avoid the expense of adding a trail bed.

At the Stony Creek - Thurman line, the railroad is at the base of a steep incline. In the one spot, as viewed from above, it appeared that there was a reasonable amount of flat space between the track and the slope. Without this space, adding a trail bed would be extremely difficult.

Bridges are an obvious source of difficulty. There are 23 bridges in Warren County's corridor. The Hadley Bridge is 516 feet long, but there is a desirable diversion across the Bow Bridge. The Stony Creek bridge is 132-feet long. There are seven more bridges 49 to 77 feet long.

The 132-foot Stony Creek Bridge may present the greatest challenge.



Photo:

In addition to its length, the approaches are built on a high fill. The required diversion is about three miles west to the closest road bridge, and the same back to the Hudson. Diversions onto parallel roads are undesirable but tolerable; diversions that add significant distance as well as traffic are especially undesirable. It is important to consider multiple points of view to understand the effect of diversions: pedestrians, bicyclists and snowmobilers.

2. The nature of RWT's elsewhere

A review of "America's Rails-with-Trails", published by Rails to Trails Conservancy, shows survey results from 88 of the approximately 160 Rails With Trails in the United States. As a document intended to advocate such trails, it was uniformly positive about them; the key issues of cost and feasibility were

not discussed. All photos depicted favorable terrain, with the exception of a trail situated on one side of a former double-track corridor.

Nearly all trails were only partially comprised of parallel construction to active rail, averaging 40% of their total length. The total length of parallel construction was 555 miles, 2.6% of the length of all rail trails. The median length of parallel construction was 1.85 miles; the longest was 22 miles. Were a RWT constructed in the Warren County corridor, it would become the longest in existence.

Of the two nearest listed RWTs, one is the Island Line Rail Trail in Vermont. Of its 12.5 mile length, 1.5 miles sits alongside active track on the lakefront of Burlington. Given the urban setting, the cost of this section is clearly justified. From this point the trail extends north, and way out into Lake Champlain on a causeway. A bicycle ferry service allows users to proceed further north.

The other nearby RWT is the Saranac Lake Recreational Path. This is a half-mile walking trail along the Remsen-Lake Placid corridor in Saranac Lake. There is a similar trail, not listed in the RTC report, recently constructed in North Creek. **We believe all trails are wonderful, but these do not have the characteristics of a rail trail.**



Photo:



3. Remsen - Lake Placid Corridor Experience with RWT

The Adirondack North Country Association (ANCA) was the first to pursue RWT on the Remsen - Lake Placid Corridor, between Ray Brook and Lake Placid. ANCA secured a grant around 2009 to begin work, but quickly found that the funding was inadequate. After securing another grant, ANCA found that the added funding would still not cover the costs; the attempt was abandoned. This is a local and relevant example of where an engineering view of roadbed construction is required to judge the realism of RWT proposals.

Around this time, an effort arose to create a conventional rail trail on the railbed of the Remsen – Lake Placid corridor. That is, a rail trail that would require removing the rails. This led to contention with the operator of excursion trains on the corridor, as well as general supporters of railroads. NYS DEC and DOT studied the proposal seriously. The option of RWT was put forward by those objecting to removing the rails and by others hoping for an amicable solution to the contention, including ANCA.

It must be noted that RWT was proposed both by well-meaning citizens, but also by those who recognized that it could sway public opinion against the trail advocates. It was difficult for trail advocates to prove to those without an engineering background that RWT was not feasible. They were accused of being anti-rail and for being selfish.

Rail advocates went so far as to create a group to promote RWT, the Trails With Rails Action Committee. The website belies the advocates' true motive: the home page shows two photos. One is of a train alongside an empty trail; genuine trail advocates never fail to show happy people enjoying a trail. The other photo is of a group of protestors carrying placards saying "Save the Rails". Nowhere in the website is the fundamental question of feasibility discussed or even mentioned.

There were two attempts by rail advocates to show that RWT would be feasible. One involved an impressive design effort to solve the many challenges. To most engineers, however, the design was clearly overly elaborate, expensive to construct, and expensive to maintain. Moreover, the design failed to observe required separation distance to Class 2 (30 mph) rail operations so it was not realistic or adequate.

The second attempt involved devising a route that diverted the trail away from difficult sections. Some of the diversions were lengthy and on roads — tolerable on bicycles — but some simply headed off into rough terrain with no possibility of providing the characteristics of a rail trail. This plan stemmed either from ignorance of the nature of a rail trail, or was simply disingenuous.

Ultimately, the State made a judgment that RWT would not be feasible:

The NYS Department of Transportation (DOT), the NYS Department of Environmental Conservation (DEC), and the Adirondack Park Agency (APA) have concluded that engineering and constructing a parallel trail is not feasible. Such an endeavor would require costly trail construction through wetlands or on adjacent Forest Preserve lands, which would be non-conforming in Wild Forest. Summary of NYS DEC's "Remsen-Lake Placid Travel Corridor Fact Sheet"

One of the authors of this study happened to speak to a former DEC official some years ago on another matter, and the subject of this corridor came up. He had led the DEC team to prepare the original unit management plan. He said they had filmed the entire corridor from a hi-rail vehicle. Why? "So we could show very clearly that putting a trail alongside the tracks would not be possible."

Given the similar terrain of the Warren County corridor, the State would likely reach the same conclusion here. Accordingly, it is likely not feasible for Warren County to construct a RWT on the Warren County corridor.

4. Approximate construction cost

To the extent possible, within the scope of the review for this study, Warren County's corridor was analyzed to determine the nature and extent of construction required to add a trailbed alongside the railbed; i.e., the cost of providing what the railbed would provide at no cost to a conventional rail trail project.

The costs of the major elements of construction were estimated as detailed below. It was well beyond the scope of this effort to do so in a proper manner, of course. To give it some degree of credibility, the cost of each element was very deliberately under-estimated so as not to overestimate the cost. Many details were left out of this estimate.

This effort assumed that the construction of a trail bed was physically and legally possible; the authors make no determination that it is. The objective was to put a number to something that otherwise be characterized merely as "high cost".

The spreadsheet used for calculations is shown below.

Width of extension	16					
	Miles/N	Depth	Volume, cubic yards	unit cost	Total	
Gravel						
no fill	15	1	46,033	25	1,173,333	
low fill	10	2	62,578	25	1,564,444	
med fill	10	4	125,156	25	3,128,889	
high fill	4	6	75,093	25	1,877,333	
Total			308,760		\$7,744,000	Just for material
Cuts						
		feet per day	Crew-days			
shallow cuts	2	600	17.6	\$2,000	\$35,200	Assuming easy digging
med cuts	2	300	35.2	\$2,000	\$70,400	Assuming easy digging
difficult cuts	1	100	52.8	\$2,000	\$105,600	Ledge
Total					\$211,200	
Culverts						
	194		82	\$3,000	\$246,000	Crew can place two per day; includes material
Bridges						
		Pre-lab bridge	Abutments, labor	Concrete, etc.		Assuming 10 of the 23 bridges can be avoided.
12-foot	6	\$80,000	\$20,000	\$10,000	\$90,000	
15-foot	3	\$150,000	\$24,000	\$14,000	\$594,000	
24-foot	3	\$250,000	\$32,000	\$24,000	\$918,000	
60-foot	2	\$800,000	\$100,000	\$80,000	\$1,980,000	
Total	14				\$4,132,000	
Contingencies						
					\$4,000,000	
Total		\$16,303,200				
per mile		\$420,186				

Fill required: This is a rough estimate of the amount of fill required to form a bed extending outwards 16 feet from the railbed. It was assumed that there would be 15 miles where one foot of gravel would be needed (the minimum), 10 miles of two feet depth, 10 miles of four feet depth, and 4 miles of 6 feet depth.

This adds up to 310,000 cubic yards. At \$25/yard, including material and placement costs, this is \$7.8 million.

Cuts: This is where the railbed lies below grade. It was assumed that 2 miles of low cuts, 2 miles of medium cuts, and 1 mile of “difficult” cuts would be needed. The costs were computed based on a \$2000 daily cost of a four-person crew with heavy equipment. The cost calculation was based on progress of 600, 300 and 100 feet per day. This came to \$211,000. These estimates may be seriously understated, especially if blasting is required.

Bridges: There are 23 bridges in Warren County’s rail corridor. The longest is 519 feet, certainly too long (and high) to double. In that case, a diversion over the “bow bridge” at Hadley is both necessary and desirable anyway (diversions at business centers is good economics). Six bridges are 50 - 65 feet long. Short road diversions are possible for some but not all.

There are numerous shorter bridges, many of which will need to be doubled for a trail to avoid long diversions. Bridges are never inexpensive; each needs two concrete abutments that can survive flash floods and beaver dam breaches.

Using some very rough (but understated) costs for 14 variously sized bridges, the estimate cost is \$4.1 million.

Culverts: Not often noticed is the need for culverts. The typical section of corridor has a hill on one side and a river on the other. Water must be given a way across. It was assumed that there would be five culverts per mile at a cost of \$3000 each, or \$246,000 in all. In fact, the culverts will be difficult

where they must attach to the railbed culverts. Properly done, the diameter of an extended culvert should be increased to obtain the same flow.

It is virtually certain that sections will be encountered that present a special challenge. For example, access or land ownership problems may be challenging in some areas where a bridge must be constructed. An addition \$4 million was added for these contingencies.

As shown in the spreadsheet above, the estimate from this exercise is \$16,300,000, or \$420,000 per mile. Notably, this is the cost to reach the starting point provided by an existing railbed. From the point of view of a trail advocate, a cost of this magnitude will seem like an insurmountable barrier compared to a rail trail. They will ask if this expenditure is sensible to save a seldom-used railroad corridor.

Summary of the RWT Option:

This section of the study has provided a look at some of the details of a railbed and the engineering required to extend or widen it to include a trail. While potentially easy in flat terrain, challenges exist in many others that will lead to diversions and extra cost.

This section of the study described a similar situation for the Remsen - Lake Placid corridor, where two attempts to construct a section of RWT failed due underestimated costs. The State ultimately concluded that Rail With Trail presented insurmountable difficulties. It instead proposed dividing the corridor into a portion that would remain a rail corridor, and a portion that would be converted to a conventional rail trail.

This section of the study reviewed an extensive report produced by the Rails to Trails Conservancy. While not addressing the central issues of cost and feasibility, the report provided insights about the nature of existing trails having some parallel construction within an active railroad's right of way. It was apparent that a 38.8 mile RWT would be unprecedented; the median length of parallel rail with trail is 1.85 miles.

Finally, this section of the study attempted to estimate the minimum cost of constructing a RWT on the Warren County corridor based on a basic understanding of some of the construction details: adding fill, widening cuts, extending culverts, and doubling some of the 23 bridges along the corridor. This "rough minimum cost estimate" came to about \$16,000,000.

In view of these findings, it is doubtful that a full-length Rail With Trail would be judged a worthy project by any funding agency. Short sections may be feasible for local or special purposes. Consideration might also be given to split use in which rail operations remain on a southern segment while a northern segment is converted to a conventional rail trail, such as was done on the Remsen – Lake Placid corridor.

Chapter 5. Summary

This study examined several of the options available to Warren County for the use of its rail corridor. The study examined the use of the rail line for freight transportation, conversion of the line to a multiuse trail, and a possible rail with trail option.

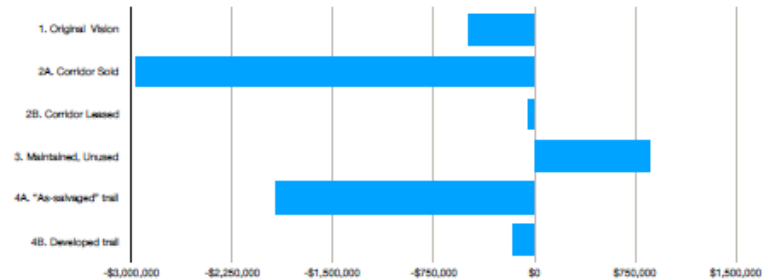
Each option has potential benefits and negative impacts that will have to be weighed by the Board of Supervisors. A table and a graphic showing the financial impacts of each of the options over a 10 year period is below. The information supporting the table and graphic is included in Appendix C of this study.

Summary

Scenario		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
1. Original Vision	Cost (Revenue)	\$ (9,612)	\$ (48,062)	\$ (48,062)	\$ (48,062)	\$ (48,062)	\$ (48,062)	\$ (48,062)	\$ (48,062)	\$ (48,062)	\$ (48,062)	\$ (48,062)
	Cumulative cost	\$ (9,612)	\$ (57,675)	\$ (105,737)	\$ (153,799)	\$ (201,861)	\$ (249,924)	\$ (297,986)	\$ (346,048)	\$ (394,110)	\$ (442,173)	\$ (490,235)
2. Freight Business												
2A. Corridor Sold	Cost (Revenue)	\$ 10,000	\$ (2,833,230)	\$ (14,774)	\$ (15,143)	\$ (15,522)	\$ (15,910)	\$ (16,308)	\$ (16,716)	\$ (17,133)	\$ (17,562)	\$ (18,001)
	Cumulative cost	\$ 10,000	\$ (2,823,230)	\$ (2,838,004)	\$ (2,853,147)	\$ (2,868,669)	\$ (2,884,579)	\$ (2,900,887)	\$ (2,917,603)	\$ (2,934,736)	\$ (2,952,298)	\$ (2,970,299)
2B. Corridor Leased	Cost (Revenue)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)
	Cumulative cost	\$ (3,405)	\$ (6,810)	\$ (10,214)	\$ (13,619)	\$ (17,024)	\$ (20,429)	\$ (23,834)	\$ (27,239)	\$ (30,643)	\$ (34,048)	\$ (37,453)
3. Maintained, Unused												
	Cost (Revenue)	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000
	Cumulative cost	\$ 78,000	\$ 156,000	\$ 234,000	\$ 312,000	\$ 390,000	\$ 468,000	\$ 546,000	\$ 624,000	\$ 702,000	\$ 780,000	\$ 858,000
4. Tracks removed; trail established												
4A. "As-salvaged" trail	Cost (Revenue)	\$ 50,000	\$ 8,000	\$ (2,665,216)	\$ 85,600	\$ 85,600	\$ 85,600	\$ 85,600	\$ 85,600	\$ 85,600	\$ 85,600	\$ 85,600
	Cumulative cost	\$ 50,000	\$ 58,000	\$ (2,607,216)	\$ (2,521,616)	\$ (2,436,016)	\$ (2,350,416)	\$ (2,264,816)	\$ (2,179,216)	\$ (2,093,616)	\$ (2,008,016)	\$ (1,922,416)
4B. Developed trail	Cost (Revenue)	\$ 50,000	\$ 8,000	\$ (2,491,029)	\$ 284,787	\$ 284,787	\$ 284,787	\$ 284,787	\$ 284,787	\$ 284,787	\$ 284,787	\$ 284,787
	Cumulative cost	\$ 50,000	\$ 58,000	\$ (2,433,029)	\$ (2,148,242)	\$ (1,863,454)	\$ (1,578,667)	\$ (1,293,880)	\$ (1,009,093)	\$ (724,305)	\$ (439,518)	\$ (154,731)

Table 1

Scenario	10-year cost (revenue)
1. Original Vision	\$ (490,235)
2A. Corridor Sold	\$ (2,970,299)
2B. Corridor Leased	\$ (37,453)
3. Maintained, Unused	\$ 858,000
4A. "As-salvaged" trail	\$ (1,922,416)
4B. Developed trail	\$ (154,731)



Appendices

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Appendix A

Appendix to Chapter 2. Freight Transportation

Connecticut River Valley Rail Line

The Valley Railroad State Park Economic Impact Study (In the Connecticut River Valley), conducted in 2015, examined the impacts of potential future uses of the rail line to determine the future best use of the corridor to maximize economic development and transportation function. While the rail line (21.7-miles, alongside or near the Connecticut River) was used for a scenic tourist railroad on 13 miles of track, other potential uses were considered including a multi-use trail, freight, passenger service, and continued scenic rail service. There was no freight service on the line, and no specific proposal for freight service so the “the study team developed a set of assumptions regarding the type and frequency of service. These assumptions were based on typical demands for non-urban branch lines in New England. For infrastructure estimating purposes, it was assumed that the required upgrades to the track and bridge infrastructure would be sufficient to support a 286,000-pound freight car, which is an industry standard in the movement of railroad freight. Furthermore, it was assumed that the maximum service on the line would include two freight movements per weekday operating with a maximum speed of 25 mph.” p. 6. “Only one current business was identified that would consider using freight rail service. Private infrastructure investment would be required to provide access to the freight rail service. Any other local market for freight rail would need to be generated from new businesses that start up within, or relocate to, the region.” p. 8.

“[P]rior to the initiating operation of freight service, the Valley Railroad Company would be required to obtain common carrier status from the U.S. Department of Transportation’s Surface Transportation Board (STB). Obtaining common carrier status for the Valley Railroad would result in some substantial operational changes to the railroad. This would include their annual and seasonal maintenance requirements, reporting requirements, possible capital improvements (including the potential need for a Positive Train Control system), and potential changes to their labor structure and ability to utilize volunteer labor. It is HDR’s estimation that establishing the railroad as a common carrier would dramatically increase the railroads’ cost to a level that if substantial revenues were not generated by the freight rail service, that the long-term viability of the company could be questioned.” p. 10. “It is estimated that the additional FRA regulatory requirements and management structure changes needed to oversee the freight operations would increase costs to the railroad by about \$400,000 per year.” A-22.

“In addition to direct environmental impacts, the environmental risk related to the potential future uses varies. As noted in Section 2.3 of Appendix B, there is environmental risk related to accidents and derailments along the railroad, especially as it runs alongside the river. In general environmental risk increases with the increased use of the section of track immediately adjacent to the river and increases even more with the introduction of hazardous cargo being transported along that section. Once the line is established as part of the general railroad network and freight rail service is introduced, it is not possible for local entities to establish hazardous material restrictions along the line.” p. 12.

“Although most freight railroads are good corporate citizens, there are cases when local concerns conflict with the regional, state, or international needs of the railroad’s ability to move freight and therefore the railroad’s operational needs are allowed to come first. Recent local-level community concerns regarding railroad operations known to HDR have included: inability to limit movement of hazardous material, railroad pre-emption of preconstruction permitting, demolition permitting, and environmental permitting, inability to control operations (i.e. time and duration of operations), inability to control nuisance issues (i.e. unsightly railcars on corridor, storage of railroad material).” A-23.

“Over the past 20 years, the freight transportation industry in the United States has undergone significant change. Consolidation and restructuring of freight transportation modes has occurred, in part due to shifts toward “just-in-time” delivery, “containerization,” the changing regulation of many freight transportation industries, and the global economy. When possible, shippers may trend toward intermodalism using more cost-effective rail, air, or water transport for the long-haul portions of freight transportation and relying on trucks for the ends of rather than the entire trip.” A-1.

“Data specific to the VRR Line is not readily available, though the study team collected some information through an interview process with abutters of the VRR Line. Based on the interviews, shippers rely almost exclusively on trucks for their freight transportation needs. Many of the businesses located along the corridor are smaller manufacturers who are not in a position to generate the volume that would be necessary to utilize other transportation modes, such as rail, even if it was available. In addition, higher valued manufactured goods are produced and delivered in a just-in-time environment; this is not generally consistent with freight rail transportation. A complete discussion of the potential freight rail market is provided later in this report, but the overall finding is that most businesses along the VRR Line are currently relying on truck transportation for their freight needs.” A-10.

“The movement of stone using freight rail services in the state, as well as the fact that Tilcon [stone quarry business] is located in the VRR area, suggests that freight rail service at Tilcon’s Old Saybrook plant may be an option. There are a number of factors to consider, however. First, Tilcon is able to meet its existing customers’ needs using a combination of freight rail and trucking. It is not necessarily the case that freight rail service accessing Tilcon’s Old Saybrook facility would guarantee a switch from truck to freight rail. Market forces and the comparative cost of truck and rail would determine whether Tilcon would utilize freight rail service on the VRR infrastructure. An increase in the demand for stone and other Tilcon products could also impact the company’s decision to ship by rail or truck. Whether they would reroute to utilize the VRR right of way would again depend on the relative cost of truck and rail.” A-13.

“[One] business is located less than a block away from the railroad, but they would need to construct a rail access siding and loading facility, and reconfigure their on-site operations in order to utilize freight rail. This could be developed either on their existing property, which based on topography and land ownership would be an expensive undertaking, or along side the existing railroad, which may

significantly impact their daily operations. The owner of the business anticipates that they could save on operations costs if rail were available. For example, insurance costs associated with transporting the freight would potentially be less if it was moved by rail rather than truck.” A-14.

“While there is no guarantee that businesses abutting the VRR would use freight rail service if it were available, there are some businesses for whom rail may be an option. Their decision would depend on market forces, as well as the relative cost of truck versus rail transport.” A-14.

“If the commodities transported by Calamari and Tilcon were moved by rail rather than truck, **public benefits associated with reduced emissions, congestion reduction on roadways and pavement maintenance savings could be generated. Safety benefits could also be generated.*** Other businesses may also utilize freight rail service, if it were made available, potentially generating additional public benefits. It should be noted, however, that **investing in the infrastructure required to support speculative use of freight rail for two businesses is risky.**.. The analysis conducted for this study is intended to inform the public on the types of benefits that may be generated by an investment in freight rail if a business suited to the use of freight rail opts to use the new service.” C-23.

*“Total Annual Benefits = \$216,318”. C-26.

“Based on the experiences of other communities, freight rail service initiation would potentially decrease property values by 4-8 percent, resulting in a loss of \$128,000 to \$256,000 per year. Because significant commercial and industrial development associated with freight rail service is not anticipated, no property tax revenue estimates were generated for potential commercial development. Looking from the other side of the issue, studies have also shown the value of decommissioning seldom-used or nonoperational existing freight tracks for recreational purposes. This research indicates that significant consumer surplus (over \$7 million annually) can be reaped by converting these freight railways into public greenways. However, it is C-26 | Valley Railroad State Park Economic Impacts Study important to keep in mind that this effect is highly dependent on local needs and attitudes, and particularly, how vital this freight service is to the region. For regions where freight rail had a significant public benefit – typically areas with limited connections to other regions for freight – the value of converting the rails to recreational use decreased.” C-26-27.

SUMMARY OF IMPACTS/BENEFITS (p. 7)

Decision element	Freight Rail Service
Market within the region	Limited
Market outside the region	Limited
Capital Cost	\$30 million plus
Joint use with tourist train	Limited
Impact to RR Company	Potential impacts to business model
Local highway traffic impact	Potential for slight decrease

State-wide transportation improvements	Provide optional routing (redundancy) for freight
Tourist Economy impacts	No benefits/possible negative impacts
Commercial Development	Unlikely
Job creation	Construction jobs low
Environmental impacts	High risk
Land Use Impacts	Limited impact
Impact to abutting land values	Negative (studies have suggested a 4-8% decrease in values for properties close by an active freight railroad)
Safety impacts	Increases number of trains at crossings (low risk)
Aesthetic impacts	High potential from operations
federal Land and Water Conservation Funds (LWCF) grant used in support of the property acquisition for scenic rail purposes	Likely (has high potential to impact scenic rail service)

Freight Rail Impacts

- Based on limited studies, properties close to freight rail lines saw a decline in property value of approximately 4-8 percent as freight service was re-routed throughout the region. Based on existing mill rates and average assessed values for RiverCOG communities, this could mean a decrease in property tax revenue in the region of \$128,000-\$256,000 annually.
- May impact Valley Railroad business model because of additional operating costs and regulatory oversight required for expanded service.
- Potential environmental impacts if hazardous materials are transported on the freight railroad.
- Increased train frequency, which may increase the potential for accidents and noise.
- Potential to impact scenic rail service, which has LWCF implications.

Freight Rail Public Benefits

- A \$30 million investment to upgrade to freight rail is estimated to generate 390 job-years.
- This same investment is estimated to yield \$216,318 in regional public benefits, assuming the infrastructure is in place for a “typical” freight rail user to access the new rail service.
- Based on USDOT guidance and benefits estimation methodologies, most of the public benefits generated by the freight rail investment are due to improved safety when freight is diverted from truck to rail.
- Could provide railroad infrastructure redundancy.

https://www.essexct.gov/sites/essexct/files/file/file/valleyrr_hdr_finalrpt073015.pdf

Ulster & Delaware Railroad Corridor

“New freight rail track can cost in excess of \$700,000 per mile to more than a million dollars per mile, plus the cost of rail cars, operations, and maintenance. For a complete upgrade of the 40 miles of rail service between Kingston and Belleayre, the capital cost could be in the range of \$28 million to \$40 million.” p. 46. https://ulstercountyny.gov/sites/default/files/documents/rtrail_final_report.pdf

<https://ulstercountyny.gov/news/executive-press-releases/county-executive-hein-highlights-recent-progress-update-ulster-and>

The largest economic benefit that a short railroad can possibly offer a region is leveraging ‘retail’ freight services that a Class-1 railroad chooses to ignore. The ability to deliver bulk materials inbound and outbound is the essential tool, even if direct dockside service is not always possible. This is highly service oriented, which is why most larger railroads have failed at it and why smaller, more nimble, customer-oriented shortlines can thrive. Most transload locations also require on-site car switching services – which Class-1 railroads consider infeasible, and shortlines can provide on demand. Shortlines also may enter into the final truck delivery services and warehousing as an integrated product, such as Carload Express in Pittsburgh PA23. From a highway access standpoint, the 209/28/I-87 area is actually ideally located. A transload is more critically linked to highway access, and keeping new truck traffic out of high-traffic downtown industrial areas into high-volume connections. Similarly, transloads work best for railroads when they are away from congested rail terminals, yet at least have consistent daily local connecting rail services. The closest advertised location that is similar to this concept and operating a niche market is Steelways Inc in Newburgh. They specialize in waste transfer truck to barge, but also have rail transloading services to rail, primarily aimed at the waste and steel scrap business.²⁴ They promote these services on the same basis that Kingston could – geographic location and transportation availability.²⁵ It is important to recognize that most successful shortline transloads pick only one or two regional commodities to work in and develop their business around that base, using specialized service and location. Other sample locations and services can be viewed at the Bulktransporter.com listings for New York State. **Numerous tourist, museum, or excursion railroads have found that reopening their freight services were by far the most sustainable and lucrative opportunities open to them to provide solid baseline business, and may provide the highest economic benefits for a wide area between regional business support and some direct employment in transportation and logistics services. In addition, integrating even a limited amount of freight operations opens the corridor to grant opportunities that are unavailable as an excursion-only railroad, particularly in New York State.**

The preservation of freight services and a rail corridor is typically part of a strategic, county-led plan to preserve or develop industrial employment in the area by the preservation of rail freight service. Even in areas such as Chenango County (which has had no rail through the county since 2006), the impetus for preservation of rail freight service has been to lower the price of delivered agricultural commodities (feed and fertilizer) by transloading at a more competitive price than direct trucking.

California State Railroad Museum/Sacramento Southern Railroad, Sacramento, CA CSRM has one on-track freight customer, Setzer Forest Products, approximately two miles south of the museum. They organized a for-profit subsidiary, the Sacramento Southern Railroad, to serve this customer. While this **siding is used only occasionally**, the freight services have qualified the museum railroad for additional state grants, as well as federal status for preserving their right-of-way. **CSRM's trackage is also host to a parallel rail trail (American River Bike Trail) over most of its length.**

<https://ulstercountyny.gov/sites/default/files/Ulster%20combined%20report%202012-1.pdf>

Mohawk Adirondack & Northern (MA&N)

A short line that extends north and west from its yard/facilities in Utica. MA&N uses trackage rights on CSX between Utica and Rome and then operates on its own rails to access the Griffiss Technology Park. **This available short-line rail is an asset for industries looking to locate within the region and utilize rail.** Historically, MA&N has connected outlier industries with main line rail and still services industries in Boonville and Lewis County that connect to CSX in Utica.

http://www.ocgov.net/oneida/sites/default/files/hoctsmo/lrtp/LRTP2035/LRTP2035_ch8_Rail.pdf

See: <http://www.gvtrail.com/mohawk-adirondack--northern.html>

Appendix B

Appendix to Chapter 3. Multiuse Trail

Rail Material Value Assessment

First, some background on rail track material. Rails come in a variety of weights, a measure of their durability and load capacity. Spot inspection reveals that Warren County rails are mostly 130-132 lbs/yard, a common weight for main lines, perhaps heavier than usual for branch lines. As is common in older track, they are laid in 39-foot sections with 4- or 6-bolt joint ties, and rest on tie plates spiked to ties.

Rails gradually wear, especially in curves, and can suffer from metal fatigue that results in spalling and other damage. Spot inspections performed of the Warren County rail found little wear and no evidence of fatigue. This is to be expected for track that has been in service recently, but only lightly used.

It is estimated that nearly all the rail would be classified as “relay” rail - rails that can be immediately re-laid elsewhere. A lower classification is “re-roll” rail, which requires processing before re-use. It is estimated that very few rails would be classified in the third category, scrap.

Tie plates, joint plates, bolts and spikes are often lumped together as “OTM” - other track material. As is common for all steel products, both rails and OTM are bought and sold by the ton.

Switchgear is another category of material with value. Crossing equipment is yet another. The value of those materials was not assessed for this study.

Ties follow a similar pattern as rail. Some may be classified as “relay” and can be immediately used to repair or build new track. In some regions, ties in poor condition can be re-purposed as landscape timbers. The worst are chipped for fuel or put in landfills.

It should be noted that ties have a limited life in railroad service and are constantly being removed and replaced. The notion that there is a difficult removal problem with creosote-containing ties is overblown. Note also that salvage companies do remove them. See Salvage Companies, below.

Approaches to Obtaining Net Salvage Value

The estimation of net salvage value was obtained by use of several approaches. An alternative cost estimate that has been advanced publicly is also discussed.

1. Salvage value information came from discussions that Curtiss Austin had with Gordon Medema in 2010, who had been in charge of the Tahawus mine property since 1982, including its dismantlement. One of his tasks was to dispose of the 30-mile rail corridor to North Creek, for which he had obtained salvage company quotes. He did not share those quotes, but hinted that they were about \$1 million. This is corroborated by the sales price of this corridor - about \$1 million both in 1989 when NL purchased it from the Federal Government, and in 2012 when Iowa Pacific purchased it from NL.

Buying a corridor with low business potential is similar to buying a dilapidated warehouse containing valuable material inside. You pay for the material.

The Sanford Lake Branch is 29.71 miles long, with about five miles of siding. The track is heavily worn, and is made up mostly of 90-pound rail. Few ties are in good condition; most are badly rotted. Nevertheless, its net salvage value is about \$1 million.

From this “comparable”, we can estimate the net salvage value of Warren County’s 38.8 miles of track in much better condition as roughly \$2-3 million.

2. We found information about quotes for salvage for a 7.7-mile double-track corridor in Pennsylvania (meaning 15.4 miles of track). The quotes were furnished in 2008, a time when steel prices were high. Steel prices are currently at the same level, however. Extrapolating from 15.4 miles to WC’s 40 miles (38.8 plus sidings) gives high and low values from those quotes of \$7,904,487 and \$6,094,203. This information may not have been presented accurately; as net values, these seem unrealistically high.

3. Rail trails are sometimes funded by the proceeds from salvage. The revenue is greater than a railroad might normally receive during abandonment: bridges and culverts don’t have to be removed, and extensive restoration effort is avoided.

Rails to Trails Conservancy provides a guide to the acquisition of corridors. In a section on funding a purchase, it suggests a “line buy” in which the funding comes from selling “... the salvage rights to all track-related materials within the corridor including tracks, ties, and ballast (first make sure you don't need the ballast as a trail surface or subsurface) to a salvage operator. Since you would not require the salvage operator to dismantle structures like bridges, he may be willing to purchase the salvage rights for more money than you have agreed to pay the railroad.” The 321-mile Cowboy Line is given as an example - the salvage value funded the acquisition of the corridor, plus several hundred thousand dollars and an endowment for future maintenance.

<https://www.railstotrails.org/resourcehandler.ashx?name=acquiring-rail-corridors-a-how-to-manual&id=2942&fileName=acquiringrailcorridors.pdf>

In its discussions with NL Industries in 2010, the Upper Hudson Rail Trail group proposed to acquire the Sanford Lake branch in a similar manner. The proposal was being seriously considered by NL before Iowa Pacific offered to purchase the line. The concept was that NL would retain title to the track materials as it transferred title to the right of way to the trail group or municipality.

The point here is that net salvage value is normally positive — revenue to the corridor owner.

4. We found sufficient information to estimate salvage value as might a salvage company — not perfectly, but reasonably. This was implemented as a spreadsheet ([see the overall financial impact spreadsheet](#)). Plausible entries in the spreadsheet all led to revenue. The value of used steel items is related to scrap steel prices, which fluctuate. The spreadsheet incorporated this value, and we varied it and other key values to produce a range of estimates. We tested this approach against the known salvage value of the Sanford Lake Branch. We were able to calculate its approximately \$1M value using reasonable input values for this corridor.

5. Curtiss Austin made an attempt to get estimates - short of quotes - from salvage companies by providing the best information we have about the types and conditions of the rails and ties.

Mr. Austin spoke with Miles Lynch, owner of Recycling Consultants. He said they would pay about \$350/ton for relay rail, after all costs. He said removal costs were about \$90/ton, which agreed

closely with the \$4/foot of corridor found elsewhere, and which was used as the baseline for the calculations described in the previous section. If all rail is deemed relay quality, this works out to about \$3.2 million (figured on short tons, but if metric tons, reduce by 10%). About ties, he said the industry had moved to concrete ties, so they were not of much value.

Mr. Austin also spoke with Nick Mood of National Salvage. If the rails were all in the “relay” category, they would pay \$2.6 million. If “reroll”, \$1.6 million, and if scrap \$0.9 million. Figuring 80%, 15% and 5% respectively, this would come to \$2.365 million. Relay ties would be worth \$1.2 million, but if they were all in the scrap category, would incur a fee of \$0.85 million to remove. Figuring half of each yields revenue of \$0.175 million. With these assumptions, revenue would be \$2.54 million.

6. Finally, we wish to discuss a salvage cost — not revenue — of about \$2M that has been advanced publicly in the past. In view of the above, we are certain it is incorrect.

This estimate was sourced from a DEC budget for creating the 34-mile rail trail between Tupper Lake and Lake Placid. The budget shows a cost of this magnitude to remove the track materials. This has been disputed by the advocates of the trail there. We believe it is a remnant of an earlier plan that would have stored the track materials for the day that they might be needed again. It may also reflect a desire by the State to shift the revenue to a different budget. In any event, we do not believe it proper to use this source.

Summary of net salvage value assessment

The chart presented below includes the estimates discussed in 1-5 above. The median value of \$2.82 million is used in the analysis of financial impact.

Salvage companies

Note: As part of this study, a document describing the Warren County rail corridor has been prepared that can be sent to salvage companies.

A&K Railroad Materials

<http://www.akrailroad.com/track-removal>

“With dozens of crews located across the country, our specialists can be on your job in 48 hours or less when needed. We have an extensive fleet of track removal equipment, our own crews and the bonding and insurance capabilities that allow A&K the flexibility to tailor your projects and our strengths to fit your specific requirements. If you need us to handle a particular phase or to take full responsibility from top to bottom, we can satisfy your needs. So, whether you have a few hundred yards or a few hundred miles of jointed track or continuous welded rail, A&K can help remove that rail according to the needs of our customers.”

National Salvage & Service Corporation

<https://www.nssccorp.com/remove/railroad-track-removal/>

Nick Mood, nick.mood@nsscorp.com

“National Salvage & Service Corporation is a trusted industry leader in the dismantling of railroad tracks, the removal of railroad ties from right-of-ways and the demolition of bridges. Railroad track removal and demolition is National’s core business – we have been removing tracks since National was founded in 1980.”

Recycling Consultants

<http://www.recycling-consultants.us/services/>

Miles Lynch, 618 791 0049

“With us at your job site, you’ll have one less thing to worry about, not to mention a nice big smile once you see the profit selling your scrap rail and rail OTM with us brings in.”

Vossloh

<https://www.vossloh.com/en/>

“Vossloh is a leading global rail technology company. Rail infrastructure is the core business of the Group. We offer our customers throughout the world integrated solutions from a single source.”

UniTRAX

<https://www.wabtec.com/business-units/unitrac-railroad-materials>

Iron Horse Preservation

<http://www.ironhorsepreservation.org/TrackRemoval.html>

Iron Horse - excellent description of process - a not for profit based on transferring track materials from trail projects to historic rail outfits.

Appendix C
Appendix to Summary

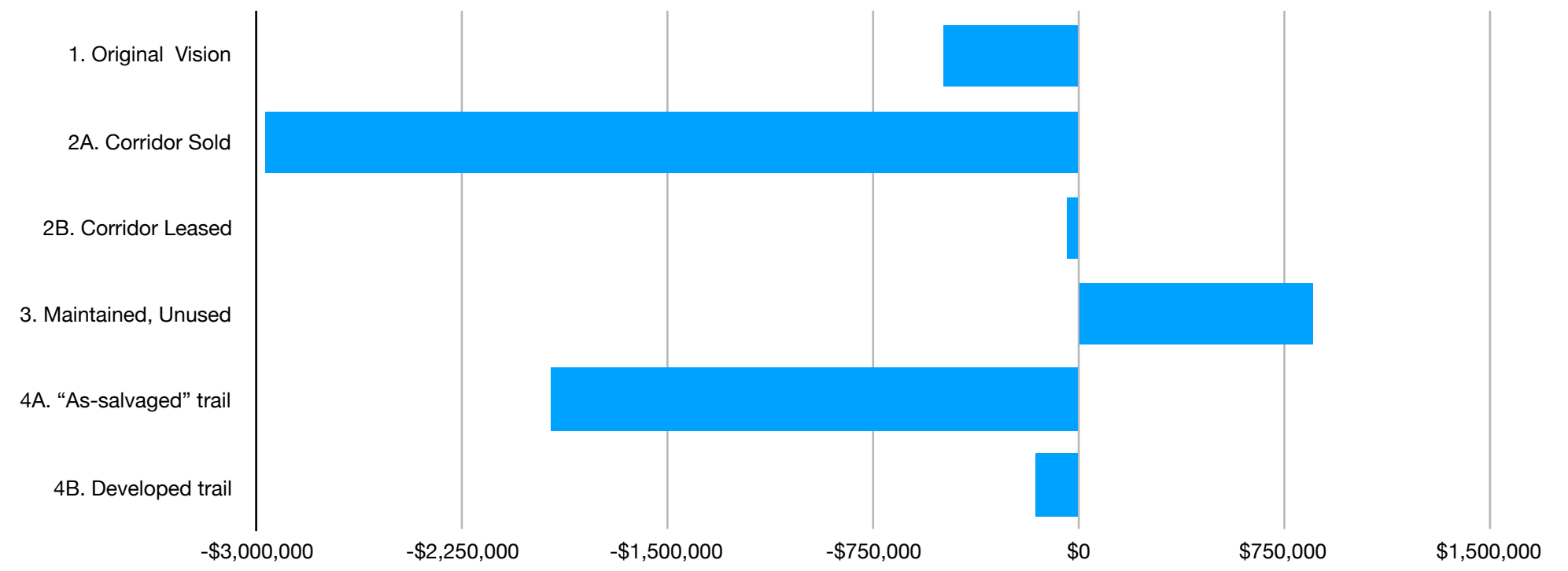
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Summary

Scenario		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
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	Cumulative cost	\$ (9,612)	\$ (57,675)	\$ (105,737)	\$ (153,799)	\$ (201,861)	\$ (249,924)	\$ (297,986)	\$ (346,048)	\$ (394,110)	\$ (442,173)	\$ (490,235)
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	Cumulative cost	\$ 10,000	\$(2,823,230)	\$(2,838,004)	\$(2,853,147)	\$(2,868,669)	\$(2,884,579)	\$(2,900,887)	\$(2,917,603)	\$(2,934,736)	\$(2,952,298)	\$(2,970,299)
2B. Corridor Leased	Cost (Revenue)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)
	Cumulative cost	\$ (3,405)	\$ (6,810)	\$ (10,214)	\$ (13,619)	\$ (17,024)	\$ (20,429)	\$ (23,834)	\$ (27,239)	\$ (30,643)	\$ (34,048)	\$ (37,453)
3. Maintained, Unused	Cost (Revenue)	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000
	Cumulative cost	\$ 78,000	\$ 156,000	\$ 234,000	\$ 312,000	\$ 390,000	\$ 468,000	\$ 546,000	\$ 624,000	\$ 702,000	\$ 780,000	\$ 858,000
4. Tracks removed; trail established												
4A. "As-salvaged" trail	Cost (Revenue)	\$ 50,000	\$ 8,000	\$(2,665,216)	\$ 85,600	\$ 85,600	\$ 85,600	\$ 85,600	\$ 85,600	\$ 85,600	\$ 85,600	\$ 85,600
	Cumulative cost	\$ 50,000	\$ 58,000	\$(2,607,216)	\$(2,521,616)	\$(2,436,016)	\$(2,350,416)	\$(2,264,816)	\$(2,179,216)	\$(2,093,616)	\$(2,008,016)	\$(1,922,416)
4B. Developed trail	Cost (Revenue)	\$ 50,000	\$ 8,000	\$(2,491,029)	\$ 284,787	\$ 284,787	\$ 284,787	\$ 284,787	\$ 284,787	\$ 284,787	\$ 284,787	\$ 284,787
	Cumulative cost	\$ 50,000	\$ 58,000	\$(2,433,029)	\$(2,148,242)	\$(1,863,454)	\$(1,578,667)	\$(1,293,880)	\$(1,009,093)	\$ (724,305)	\$ (439,518)	\$ (154,731)

Table 1

Scenario	10-year cost (revenue)
1. Original Vision	\$ (490,235)
2A. Corridor Sold	\$ (2,970,299)
2B. Corridor Leased	\$ (37,453)
3. Maintained, Unused	\$ 858,000
4A. "As-salvaged" trail	\$ (1,922,416)
4B. Developed trail	\$ (154,731)



Parameters

If the same value is used in several places, it is set here, and should only be changed here.				
Item	Value, full length	Value, per mile	Miles	Source
Property tax related:				
tax rate	6.2			
Property tax	\$17,477			Guess
WC portion	\$14,414			Does franchisee pay this?
Saratoga portion	\$3,063			Owed to Saratoga County
Insurance	8000			
Railroad related:				
Net salvage proceeds	\$2,818,816	\$72,650	38.8	Median of estimates, see salvage calculation sheet
Lease payment to WC	\$57,674.69			Iowa Pacific Contract minimum annual payment, WC share (by miles? $39.07/55.52 = 70.37\%$)
Railroad maintenance cost	\$70,000	\$1,804	38.8	WC budget for 2019
Saratoga County property tax	\$3,063			
IPH agreed fee on gross revenue	6%	not used		
IPH minimum	\$81,958			
Typical rail transport cost	\$0.051			per ton-mile. Hopper cars carry 100-120 tons
For a 20-car train	\$3958	not used		This is about what OmniTRAX might charge Mitchell per train load of stone.
Transit fee per car		not used		
Number of cars/year		not used		
Fee per passenger		not used		
Number of passengers/year		not used		
Trail related:				
Bikeway maintenance cost	\$61,000	\$6,489	9.4	WC DPW, approximately the median of other trails for which data exists
Primitive trail maintenance cost	\$77,600	\$2,000	38.8	our assessment - higher than minimum needed for railings, brush management, etc.
Developed trail maintenance cost	\$251,787	\$6,489	38.8	Same as Bikeway
Need clarification:				
Did SNCR pay property tax on WC corridor?				No, per Mike Swan
What is annual Saratoga property tax on WC corridor?				
How to square maintenance cost estimates: \$300,000 (DPW) while SNCR contract implied \$50,000?				300,000 was an early figure bandied about, but WC has budgeted 70,000 for 2019. But who knows. Is \$1800/mile reasonable when a bike trail is \$6,489, and we're estimating \$2000/mile for a dirt path (unimproved trail)? Is maintenance really required when there is no traffic?
How was SNCR's \$81,000 payments split between the county and Corinth?				$39.07/55.52 = 70.37\%$ to WC?

Scenario 2 :: Freight Business

2. Freight Business												
Item	Description	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
2A. Corridor Sold												
	Cost by year (Revenue)	\$ 10,000	\$ (2,833,230)	\$ (14,774)	\$ (15,143)	\$ (15,522)	\$ (15,910)	\$ (16,308)	\$ (16,716)	\$ (17,133)	\$ (17,562)	\$ (18,001)
	Cost (Revenue) cumulative	\$ 10,000	\$ (2,823,230)	\$ (2,838,004)	\$ (2,853,147)	\$ (2,868,669)	\$ (2,884,579)	\$ (2,900,887)	\$ (2,917,603)	\$ (2,934,736)	\$ (2,952,298)	\$ (2,970,299)
	Legal fees	\$10,000										
	Sale payment		\$ (2,818,816)									
	Property tax		\$ (14,414)	\$ (14,774)	\$ (15,143)	\$ (15,522)	\$ (15,910)	\$ (16,308)	\$ (16,716)	\$ (17,133)	\$ (17,562)	\$ (18,001)
2B. Corridor Leased												
	Cost by year (Revenue)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)	\$ (3,405)
	Cost (Revenue) cumulative	\$ (3,405)	\$ (6,810)	\$ (10,214)	\$ (13,619)	\$ (17,024)	\$ (20,429)	\$ (23,834)	\$ (27,239)	\$ (30,643)	\$ (34,048)	\$ (37,453)
	Lease payments, at a percentage of SNCR rate, contract covers same percentage of maintenance.	60%	\$ (34,605)	\$ (34,605)	\$ (34,605)	\$ (34,605)	\$ (34,605)	\$ (34,605)	\$ (34,605)	\$ (34,605)	\$ (34,605)	\$ (34,605)
	Maintenance, remainder done by county.	40%	\$ 28,000	\$ 28,000	\$ 28,000	\$ 28,000	\$ 28,000	\$ 28,000	\$ 28,000	\$ 28,000	\$ 28,000	\$ 28,000
	Insurance	\$ 3,200	\$ 3,200	\$ 3,200	\$ 3,200	\$ 3,200	\$ 3,200	\$ 3,200	\$ 3,200	\$ 3,200	\$ 3,200	\$ 3,200

Scenario 3 :: Corridor is Maintained but not used

3. Maintained, Unused												
Item	Description	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	Cost by year (Revenue)	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000	\$ 78,000
	Cost (Revenue), cumulative	\$ 78,000	\$ 156,000	\$ 234,000	\$ 312,000	\$ 390,000	\$ 468,000	\$ 546,000	\$ 624,000	\$ 702,000	\$ 780,000	\$ 858,000
Maintenance		\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000	\$ 70,000
Insurance		\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000

Scenario 4 :: Trail is developed

4. Tracks removed; trail established												
Item	Description	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
4A. "As-salvaged" trail												
	Cost by year (Revenue)	\$ 50,000	\$ 8,000	\$ (2,665,216)	\$ 85,600	\$ 85,600	\$ 85,600	\$ 85,600	\$ 85,600	\$ 85,600	\$ 85,600	\$ 85,600
	Cost (Revenue), cumulative	\$ 50,000	\$ 58,000	\$ (2,607,216)	\$ (2,521,616)	\$ (2,436,016)	\$ (2,350,416)	\$ (2,264,816)	\$ (2,179,216)	\$ (2,093,616)	\$ (2,008,016)	\$ (1,922,416)
Legal	Legal services, abandonment procedures	\$ 50,000										
Salvage				\$ (2,818,816)								
Insurance			\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000
Railings	Railings for bridges, basic			\$ 30,000								
Signs	Signs, basic			\$ 8,000								
Barriers	Vehicle barriers, basic			\$ 30,000								
Maintenance				\$ 77,600	\$ 77,600	\$ 77,600	\$ 77,600	\$ 77,600	\$ 77,600	\$ 77,600	\$ 77,600	\$ 77,600
4B. Developed trail												
	Cost by year (Revenue)	\$ 50,000	\$ 8,000	\$ (2,491,029)	\$ 284,787	\$ 284,787	\$ 284,787	\$ 284,787	\$ 284,787	\$ 284,787	\$ 284,787	\$ 284,787
	Cost (Revenue), cumulative	\$ 50,000	\$ 58,000	\$ (2,433,029)	\$ (2,148,242)	\$ (1,863,454)	\$ (1,578,667)	\$ (1,293,880)	\$ (1,009,093)	\$ (724,305)	\$ (439,518)	\$ (154,731)
Legal	Legal services, abandonment procedures	\$ 50,000										
Salvage	Salvage proceeds			\$ (2,818,816)								
Railings	Railings for bridges, basic			\$ 30,000								
Signs	Signs, basic			\$ 8,000								
Barriers	Vehicle barriers, basic			\$ 30,000								
Maintenance				\$ 251,787	\$ 251,787	\$ 251,787	\$ 251,787	\$ 251,787	\$ 251,787	\$ 251,787	\$ 251,787	\$ 251,787
Insurance			\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000
Improvements	Average cost of improvements				\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000
Grants	Average grant reimbursements				\$ (225,000)	\$ (225,000)	\$ (225,000)	\$ (225,000)	\$ (225,000)	\$ (225,000)	\$ (225,000)	\$ (225,000)

Salvage Value Estimates

Calculation of salvage value from basic information								
Item	Quantity	Units					Value, retail	
Miles	38.8	miles						
Sidings	1.2							
Total rail length	40	miles						
Scrap steel price	300	\$/metric ton	272	\$/ton				
					Factor over scrap value			
130 lb relay rail	85	percentage	7779.2	tons	2	600	\$/ton \$4,667,520	
130 lb reroll rail	5	percentage	457.6	tons	1.3	390	\$/ton \$178,464	
112 lb relay rail	3	percentage	274.56	tons	2	600	\$/ton \$164,736	
112 lb reroll rail	2	percentage	183.04	tons	1.3	390	\$/ton \$71,386	
Scrap	5	percentage	228.8	tons	1	300	\$/ton \$68,640	
							\$5,150,746	
Number of ties (21" OC)	120,686							
"Relay" ties	33	percentage	39,826	number		16	\$ each \$637,221	
"Landscaping" ties	33	percentage	39,826	number		6	\$ each \$238,958	
Scrap ties	34	percentage	41,033	number		0	\$ each \$0	
							\$876,178	
OTM (Other Track Material)								
Joints	10,831	number	612	tons	1.5	450	\$/ton \$275,372	
Spikes	482,743	number	483	tons	1.2	360	\$/ton \$173,787	
Tie plates	241,371	number	1,207	tons	1.5	450	\$/ton \$543,086	
							\$992,245	
TOTAL at retail:							\$7,019,169	
Markup on cost	80	percentage	(Salvage company perspective)					
Salvage offer	\$3,899,539							
Removal and transport cost	\$844,800		4	\$/foot				
Net Salvage Revenue	\$3,054,739							
Indications from salvage companies:								
Recycling Consultants	\$2,818,816	Simply \$350 per ton of relay rails						
National (placeholder)	\$2,818,816							
Assessed value	\$2.82	\$million - Median of table below						
Estimates	Value, \$M	Scrap price	Markup	Relay	Ties	Removal cost		
Recycling Consultants	\$2.82							
National Salvage	\$2.54							
SL Branch extrapolation	\$2.50							
PA Quotes extrapolation	\$7.00							
Calculation 1	\$3.18	330	100	2.1	20	4		
Calculation 2	\$2.17	250	100	1.9	16	5		
Calculation 3	\$3.15	340	100	1.8	8	6		
Calculation 4	\$3.21	310	80	2.1	12	4		
Calculation 5	\$2.42	260	85	2	8	4		
SouthEastern Pennsylvania Railroad Authority								
	15.4 miles	130 AREA rails						
Actual quotes, 2008	(Note: scrap steel was high in 2008, but it's currently about the same, \$350/ton - source USGS)							
	15.4 miles	Extrapolation						
Vossloh	\$3,137,348	\$7,904,487						
UniTrac Railroad	\$2,715,281	\$6,841,098						
A&K	\$2,418,833	\$6,094,203						
Scrap value of a 39' piece of 130-lb rail		\$230						

National Salvage			%						
Relay rails	\$2,600,000	including OTM	80						
Reroll	\$1,600,000		15						
Scrap	\$900,000		5						
Total:	\$2,365,000								
Relay ties	\$1,200,000		50						
Scrap ties	-\$850,000		50						
Total	\$175,000								
Grand Total	\$2,540,000								

