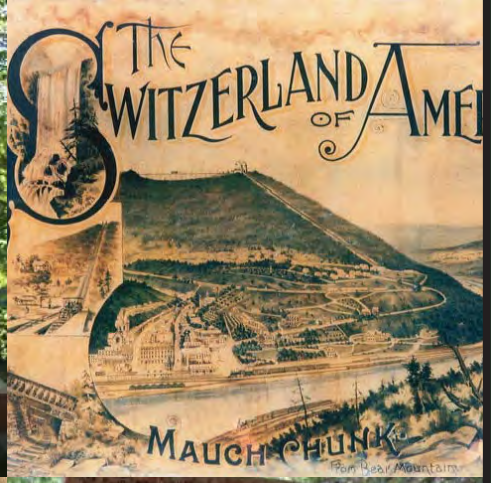

The Switchback Gravity Railroad Historic Landscape

Jim Thope, Pennsylvania

Studio - Fall 2007

Graduate Program in Historic Preservation
University of Pennsylvania

School of Design

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executive summary

This report identifies the most appropriate set of actions with regards to maintaining the Switchback Gravity Railroad's significant historic landscape and is the result of the efforts of a semester long studio project for the graduate program in Historic Preservation at the University of Pennsylvania. Called upon by the National Parks Service and the Delaware and Lehigh National Heritage Corridor, the team investigated the site's history and background, identifying the current assets and limitations, and determined an appropriate set of actions toward ensuring both the preservation of the historic and natural landscape, as well as the continued/enhanced use of the recreational site. As part of the experience the team reviewed the feasibility of a proposal made by the Switchback Gravity Railroad Foundation for the creation of a funicular railway on part of the site.

Based on the information provided in this report, it has been determined that the most appropriate course of action for the Switchback Gravity Railroad is the preservation of the existing resources and the improvement of vital infrastructure. These recommendations include the stabilization of historic ruins, environmental protection, improved maintenance, additional non-invasive interpretation, continuation of the trail's multi-use function, and the implementation of a more cohesive management structure. Construction or development on the site that would damage its existing historic and natural resources and/or the surrounding community cannot be supported. Since the Switchback Gravity Railroad Foundation's proposal to build a funicular on the Pisgah Plane has the potential to interfere with any/all of these, this report can not advocate for such action. The team, however, has identified a range of acceptable actions for the site with the hope that they will be utilized by the managing entities in their future endeavors with the Switchback Gravity Railroad and the town of Jim Thorpe.

introduction

The Switchback Gravity Railroad is located in Northeastern Pennsylvania approximately 80 miles north of the City of Philadelphia and resides in Carbon County within the Pocono Mountain Region. The remains of the railroad lie within the Mauch Chunk Ridge Barrens, a forested region bordered by the Lehigh River to the east, Jim Thorpe to the south, Summit Hill to the west and Nesquehoning to the north. Of particular importance to the scope of this project, the town of Jim Thorpe is situated southeast of the base of the Mt. Pisgah Plane, the easternmost part of the entire 18-mile Switchback Gravity Railroad Trail.

introduction

Increased interest in heritage tourism has lead entities such as the National Park Service and the Delaware & Lehigh National Corridor to focus their preservation and planning efforts towards sites such as the Switchback Gravity Railroad. This site is of particular interest because of the multiple stakeholders invested in the outcome of this study as well as the dynamic economic, social and political trends among tourists and residents.

The goal of this studio is to chart a long term vision for the Switchback Gravity Railroad by understanding the values ascribed to the site and its landscape. The recommendations are based on the understanding of the evolving and complex layers of the site while retaining the essence of the existing community. The program set forth identifies both short term and long term goals for the site, and respecting the historic remains while adapting to the shifting needs and interests of the public. Recognizing the complex and multilayered history of the site is a necessary step toward determining the most appropriate response.

All photographs included in this report are courtesy of the UPenn Switchback Gravity Railroad studio team, unless otherwise noted.

Switchback Gravity Railroad
Statement of Significance

The first railroad in Pennsylvania and the second railroad in the country, the Switchback Gravity Railroad is a significant piece of American industrial history.[1] The Switchback, was an integral part of the anthracite economy of northeast Pennsylvania, and helped to fuel the Industrial Revolution in the northeast by providing coal to the cities of Philadelphia and New York. The railroad evolved to include groundbreaking technology including a backtrack and a machine that broke, slated and screened coal. The introduction of industry to the area led to the founding of Mauch Chunk, today known as Jim Thorpe.

The Switchback Gravity Railroad was also seminal to the creation of the rollercoaster as a part of American leisure culture. Not only used to haul coal, the railroad operated as a "pleasure carriage", becoming the first passenger carrier in the country. Attracting more than 100,000 visitors in a season, the railroad became a tourist mecca up until 1937 when the railroad was sold as scrap during the depression.

Today, the Switchback is included on the National Register of Historic Places, the Pennsylvania Inventory of Historic Places and located within the Delaware and Lehigh National Heritage Corridor. Generations of residents and visitors have used the 18-mile loop for recreational activities such as hiking, biking, and cross-country skiing. Its scenic viewsheds and location within the Pocono Mountains continues to make the area a popular tourist location bringing in visitors year round.

While all that remains of its past is the right-of-way, and various ruins, its significance lies in its relict landscape and national contribution to industrial heritage and national leisure culture.

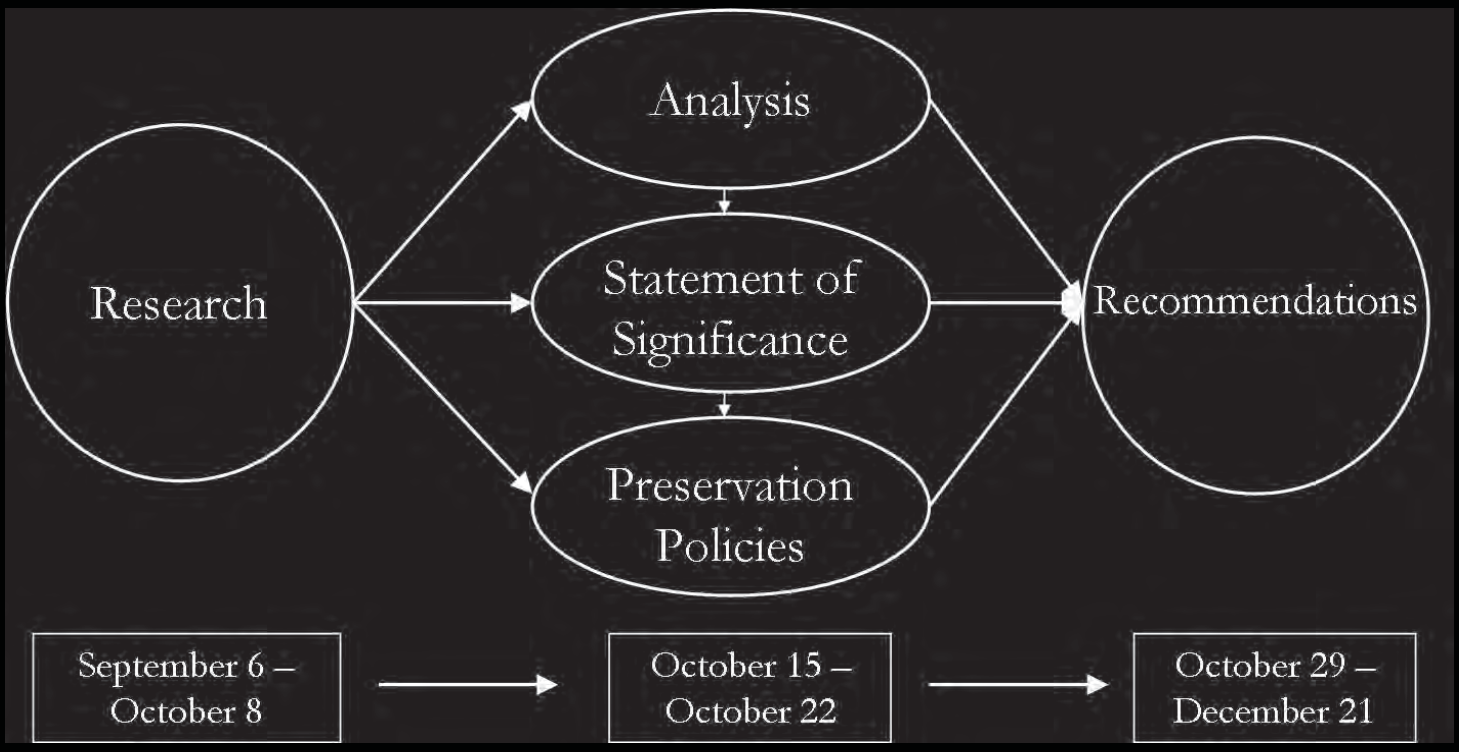
1 Josiah White, History Given by Himself. Philadelphia: J.B. Lippincott & Co., 1873, p. 32

statement of significance

methodology

METHODOLOGY

Values Centered Preservation Planning is a disciplined, thorough, and transparent way of collecting and analyzing information to inform the decision making process. Further, this allows the preservationist to handle both simple and complex problems, and plan for both long range and near term use. Using this tool requires that the preservationist not only limit his correspondence to experts within the field, but the involvement of all individuals who have a vested interest of "stake" in the site. The Switchback Studio Railroad Group attempted to emulate these methods when crafting its methodology for the study of the Switchback Gravity Railroad.



RESEARCH

For the initial stage of this values centered preservation planning process, the studio conducted a comprehensive study of Jim Thorpe, the Switchback Gravity Railroad site, and Carbon County. The group divided into five teams to research various aspects related to the project.

- **Historical Research and Evolutionary Diagrams**
  Historic research on the Switchback Gravity Railroad's development, growth and use, as well as the history of the area was conducted in order to inform the team about the significance of this site. The History team consulted a number of sources, both primary and authored texts and compiled a timeline and narrative summarizing the key dates and events, which defined the railroad's existence. Members of the team also visited the Mauch Chunk Museum, Dimmick Memorial Library, and Carbon County Archives. Particular attention was paid to the growth and evolution of both the railroad and the adjacent community that grew around it.

- **Mapping and Site Survey**
  In order to comprehend the full extent of the site, the team conducted a site survey and utilizing hand-held GPS units collected data to create a map of the Switchback Trail. Working with GIS software, the mapping team created a base map of the site, which was further utilized to map other aspects of the site, including: sites of significance, ruins and their conditions, ownership along the trail, and zoning data, all of which would form important segments of both the midterm and final report, as well as inform individual projects.

- **Present Context**

  Other research focused on the present context in which the Switchback site exists. This included consulting census data, tourism and socio-economic information, ownership parcels, zoning data, and historic designations. This information allowed to the studio group to chart the overall growth and decline of Jim Thorpe and Carbon County over the previous decades and allowed for a greater under standing of the social demographics.

- **Comparables**

  The comparables research identified sites with similar history, conditions, and issues as the Switchback Gravity Railroad. These sites included other non-functioning railroads, rails-to-trails sites, industrial heritage sites, funiculars, similarly sized towns with an industrial background, and outdoor recreation trails. From this information, the comparables team was able to make educated

- **Ethnography (Community Surveys)**

  The team developed questionnaires to gather data regarding public perceptions and opinions about the site. Teams conducted surveys in the downtown Jim Thorpe area, as well as the Heights Neighborhood.

- **Stakeholder meetings**

  These meetings were held in Jim Thorpe to gather opinions and feedback from individuals and groups affected any possible to change with the site, and those who responsible for the site's maintenance. These meetings were held primarily to address to proposal by the Switchback Gravity Railroad Foundation to design and construct a Funicular Rail System on top of the Pisgah Plane. Teams of students met with these stakeholders along with John Drury from the Switchback Gravity Railroad Foundation and Dale Freudenberger from the Delaware and Lehigh National Heritage Corridor in order to voice their concerns over any possible development to the site. In addition, representatives from the team attended a public meeting in Jim Thorpe conducted by the Delaware and Lehigh National Heritage Corridor. This Town Hall Meeting allowed residents who had not previously been interviewed by students to voice their concern or approval over work conducted during the course of the semester.

SYNTHESIS

The second stage of values centered preservation planning methodology was analyzing the information collected about "how the site is valued" to guide the decision-making process. This was done in order to determine how to balance the differing values the group heard in regards to the Switchback's historical and recreational assets.

After the initial research phase was completed the team reconvened to begin the process of synthesizing the large amount of information amassed on the history, conditions, character defining elements, issues and contexts of the Switchback. This task was aided by the application of three analytical techniques to our research:

- The use of a SWOT[1] exercise which assisted the team in clarifying the values that had surfaced in our research. A statement of significance for the Switchback was written from information gleaned using this method;

- The creation of policies or guiding principles for the Switchback. These are goals declared in broad terms about what the Switchback Gravity Railroad Studio Railroad believe are the most important policies that should be implemented vis a vis the 18 mile loop of the Switchback Gravity Railroad. The policies are written to speak to all stakeholders. Along with creating six policies for the Switchback, the team identified specific strategies for how each policy could be implemented and at the third step specific tasks or actions that could be taken for each policy were outlined.

- A scenario building exercise which looked at four hypotheses of alternative environments for the town of Jim Thorpe. This exercise was conducted with the goal of attempting to capture a range of future scenarios both good and bad that might unfold for the Switchback site depending on if certain economic and political conditions were present in the future. (See Appendix G for full scenarios)

[1] Acronym for Strengths, Weaknesses, Opportunities and Threats

ANALYSIS

Following the drafting of our policies, the team moved into the third stage of the planning process. This was the analysis phase in which possible strategies, actions, minimums and maximums for each policy were discussed. Team members worked on individual projects that fell within the minimum and maximum range. The final product was a set of recommendations that encompassed all of the team's research and analysis.

- **Scope of Strategies and Actions**
  For each policy the team created a list of appropriate strategies and examples of actions that would be used to carry them out. The team then arranged our lists of appropriate actions in order from minimum to maximum. Our minimums address the top priority actions which should be carried out on the site. Our maximums address the furthest extent of allowable intervention on the site.

- **Individual Projects**
  The creation of minimum and maximum ranges provided opportunities for group members to explore in greater detail the implementation of a specific policy through individual projects. Each project addresses one or more specific policies, and clearly explains how implementation of the policy can be carried out practically

- **Final Recommendations**
  Final recommendations for treatment of the Switchback Gravity Railroad arose from the minimum and maximum ranges and generally fall among the moderate actions within each range. It should be noted that these policies and recommendations were drafted prior to addressing the Switchback Gravity Railroad Foundation's plan for constructing a funicular on the Mt. Pisgah Plane. Our policies and recommendations should not be interpreted as a response to the Foundation's proposal.

historical research

The Switchback Gravity Railroad site is a multilayered landscape incorporating both the natural environment and industrial heritage. The following is a comprehensive narrative of the key events that shaped its evolution. Included are a historical narrative, technical description of how the railroad functioned and a timeline which highlights significant events in the railroad's history (see Appendix A).

SWITCHBACK GRAVITY RAILROAD HISTORICAL NARRATIVE

The original inhabitants of what is now called Jim Thorpe, the Lenape Native Americans were a hunter-gatherer tribe living in the lower Hudson River, Delaware River, and western Long Island Sound. [1] However, the Lenape were forced to leave the area between 1783-1868, migrating to Ohio, Oklahoma, New York and Canada.[2]

European settlement in the area began in the 1700s shortly before the Lenape migration and introduced industry to the area. In 1791, Philip Ginder discovered anthracite coal on the summit of Sharp Mountain, between the Lehigh and Little Schuylkill Rivers.[3] He informed his friend and neighbor Colonel Jacob Weiss, a businessman with strong connections in Philadelphia; the two formed a partnership on February 21, 1792, that resulted in the formation of a joint-stock company called the Lehigh Coal Mine Company (LCMC).[4] Mining of anthracite coal boomed in the Mauch Chunk region, but the transportation of the coal proved to be difficult and the LCMC had no means of transporting their product to potential clients. Difficulties persisted and in 1798 the company began leasing their lands to anyone willing to attempt transportation.

LC&N share, (Mauch Chunk Museum)

This offer caught the attention of Josiah White, a mechanical expert and entrepreneur who had an established interest in anthracite coal. In January of 1818, White and his partners, George F.A. Hauto and Erskine Hazard leased the coalfields from LCMC for twenty years at a yearly rental of one ear of corn, during which they were required to deliver at least 40,000 bushels of coal to Philadelphia.[5] The following years saw tremendous growth

1 Michael, Knies, *Coal on the Lehigh: Beginnings and Growth of the Anthracite Industry in Carbon County*, Pennsylvania, Canal History and Technology Press, Easton, PA: 2001.

2 Herbert C. Kraft, *The Lenape: archaeology, history and ethnography*, New Jersey Historical Society. Newark, NJ: 1986. 1.

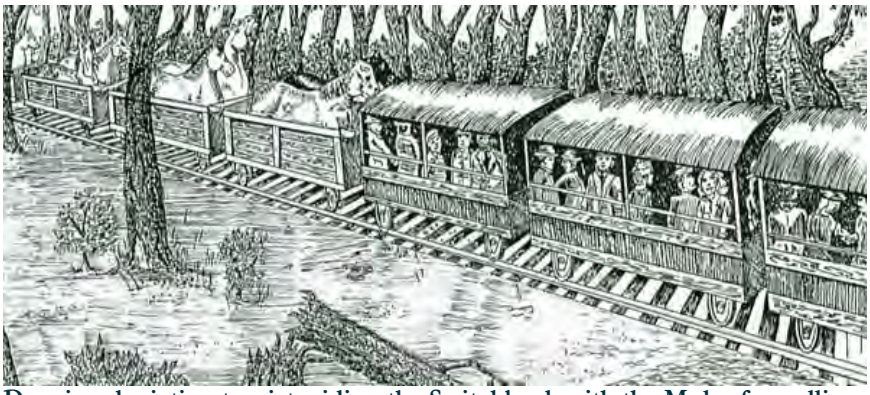
3 Vincent Hydro, Jr. *The Mauch Chunk Switchback: America's Pioneering Railroad*. (Canal History and Engineering Press. Easton, PA: 2002. 1.

4 Hydro. 2.

5 Ibid. 7.

and innovation under White's direction. White formed two companies to manage the business of mining and transportation -The Lehigh Coal Mine and The Lehigh Navigation Company[6].

Interestingly, stockholders chose to invest in the Lehigh Navigation Company over the Coal Mine due to financial incentives. Increased funds in the Lehigh Navigation Company allowed for great improvements in transportation. By 1819, White had constructed a continuous road with no undulation to haul coal wagons over Summit Hill. Flooding briefly derailed this progress. The ensuing financial difficulties led White to dissolve his two companies into the singular Lehigh Navigation and Coal Company.[7] Problems continued and in 1822 the company was incorporated into the Lehigh Coal and Navigation Company (LC&N). Once the financial crisis subsided, White turned his attention towards constructing a gravity railroad to enhance the transportation system. His plan was submitted to the board in 1826 and the railroad was completed by 1827.[8] The Miner's Journal referred to the completed railroad as the "Lion" of the day, which "attracted an uncommon number of visitors from all parts of the country."[9] In addition to these foreign visitors, wealthy investors of the LC&N frequently visited the area and were counted among the first tourists. Beginning in 1829, travelers experience the Switchback in a "Pleasure Carriage."



Drawing depicting tourists riding the Switchback with the Mules for pulling the cars in back (Mauch Chunk Museum)

The LC&N leased rights to private individuals to operate these carriages, taking half of the proceeds. The first operator was Joseph Lippencott. Passengers began their voyage in the upper part of Mauch Chunk, just before the railroad ended at the chutes.[10] Innovation continued, and in 1829 the LC&N formally announced the extensive discoveries of coal and their planned entry into Panther Valley.[11]

As the 1830s drew to a close, coal production had increased enough that the Lehigh Coal and Navigation Company had to cancel passenger service on the railroad because it was interfering with coal traffic.[12] This situation was to take a dramatic turn of events only six years later. Over-expanded production and transportation facilities created

6 Knies, 39.

7 Hydro, 11.

8 Ibid., 16-24.

9 *Miner's Journal*, June 2, 1827, *quoted in* Hydro, *The Mauch Chunk Switchback*, 25.

10 Hydro, *The Mauch Chunk Switchback, 112-114*

11 LC&N Annual Report, January 12, 1829 as cited in Hydro, *The Mauch Chunk Switchback*, 84.

12 Hydro, 53.

intense competition within the anthracite coal industry and many companies struggled to remain profitable. The death knell for the industry sounded in the twentieth century.[13] An over-supply of coal now glutted the market. Early questionable financial practices to raise capital for new construction projects had placed the LC&N in a vulnerable position. On June 10, 1844 the board was informed that the company had to drastically increase coal production or face financial ruin as it labored under heavy debt.[14] Josiah White submitted plans for the construction of a Backtrack that would use steam power instead of water in order to increase coal production.

Mount Jefferson plane constructed for backtrack (Mauch Chunk Museum)

Two days later the board unanimously resolved:

> "that a Return Track from the landing at Mauch Chunk to the great and Summit Mines, be constructed with all convenient dispatch; the said track to operate by gravity: the empty cars at the landing, and upon the road, and the loaded cars near to the mines, to be raised to the necessary elevation by means of stationary engines…"[15]

In September of 1844 the LC&N placed an order with John Fatzinger of the company foundry for a single steam engine to be built on Mount Pisgah. In 1846 the Backtrack was placed into service using the same "kickback" switches installed in earlier sections of the railroad. With passenger service resuming, the term "switchback" caught the fancy of tourists. Eventually the whole of the LC&N gravity railroad from Mauch Chunk to Summit Hill and the Company's mines came to be known by that name.[16]

To fully use the newly constructed Backtrack, the company would have to find new sources of coal. In preparation for the coal production expansion, the LC&N constructed the company's first mechanized coal breaker at Summit

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13 Ibid., 55.

14 Ibid., 59

15 LC&N Managers Minutes, June 12, 1844 *quoted in* Hydro, *The Mauch Chunk Switchback*, 63.

16 Hydro, 82.

Hill, which later came to be known as "Old Crackers."[17] Renovations began on the railroad in 1848 including rebuilding four miles of the original system. In April of 1850 a second return Backtrack, known as the "new" switchback, was completed.[18]

The mid to late 1850's saw increased tourist travel to Mauch Chunk due to the completion of the Lehigh Valley Railroad that extended from Easton to Mauch Chunk. Although the completion between the railroad and Lehigh Navigation resulted in reduced tolls on the canal, the LC&N had foresight enough to realize that the new railroad would bring increased business and travelers to the town of Mauch Chunk.[19]

Engraving depicting tourists riding the Switchback (Mauch Chunk Museum)

The 18060s was a decade of technological advancements. In Springville the Lehigh Coal and Navigation Company eliminated the need for switches, replaced the old propellers and water turbines with steam engines, and for the first time ever completed a railway that expanded the entire length of the Panther Valley, dramatically increasing the amount of visitors to the area.[20] New advancements continued in 1862 when the upper section of the Lehigh Navigation system was abandoned and replaced by railroad transportation as a result of extensive damage incurred from the great flood of that year. The LC&N also contracted the excavation of tunnel number 10, which linked the coal mines to the greater regional coal deposit of the Mammoth Vein in 1863. As the implementation of new technology continued, John Leisenring Jr., then the superintendent of the LC&N, proposed to abandon the archaic inclined planes in favor of replacing gravity with locomotive power. By 1865 locomotive power was in use.[21]

In the 1870s the coal crisis hit Carbon County. In Carbon County the demand for anthracite coal was at an all time low and the LC&N was forced to shut down the chutes and close the gravity railroad. Unable to avert financial ruin, the LC&N sold the Switchback and all materials related to the railroad to the New Jersey Central Railroad for

17 Ibid., 85.

18 Ibid., 99

19 Ibid., 122.

20 Ibid., 100.

21 Hydro, 109.

$75,242.12 in 1874.[22] Two years following the sale, the final coal car passed over the Mauch Chunk Railroad, and economic hardship brought labor strikes to the area. Uncertainty in the mining industry served as a catalyst for the Molly Maguires' reign of terror, which resulted in the murder of mine superintendents Frank Langdon and John P. Jones.[23]

Despite economic uncertainty during the coal depression, the Switchback boomed as a tourist attraction. Visitors enjoyed moonlit rides and the addition of two new attractions, the burning mine and the ice cave. The only major dip in tourist numbers between the 1870s and 1880s occurred during the Molly Maguires' trial.[24] However, once the trial ended in 1877, visitors began to return to the area, and the Switchback was reborn as a tourist mecca, under the management of the Mumford Brothers.[25] In 1883 the

Among the items in the collection are letters from the "Molly Maguires" threatening company officials, in 1884. (Coxe Family Mining Papers from the Pennsylvania Historical Society)

Envelope depicting sites from the Switchback Gravity Railroad (Mauch Chunk Museum)

Philadelphia and Reading Railroad leased the New Jersey Railroad, and as a result the Switchback fell under the control of the Philadelphia and Reading Railroad.[26] Throughout the 1880's the Switchback enjoyed record high attendance, with 1885 recording 100,000 visitors for the season.[27]

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22 Peter Roberts, *The Anthracite Coal Industry: A Study of the Economic Conditions and Relations of the Cooperative Forces in the Development of the Anthracite Coal Industry of Pennsylvania.* (The New Era Printing Company: Lancaster, PA: 1901. 71.

23 The Molly Maguires were a secret society of disgruntled Irish coal miners. Once their trial was completed in 1877, the Maguires were sentenced to death. Hydro, *The Mauch Chunk Switchback,* 191.

24 Hydro, 191.

25 Ibid., 193.

26 Elaine Anderson, *The Central Railroad New Jersey's First 100 Years: A Historical Survey.* Center for Canal History and Technology: Easton, PA: 1984, 45.

27 Hydro, *The Mauch Chunk Switchback,* 196.

On July 4, 1885, a horrific accident occurred on the Switchback Railroad, resulting in numerous injuries, even though there were no deaths. Six lawsuits were brought against the Mumford brothers, the first of which was decided in favor of the plaintiffs for $800.00. The other five were dismissed; however, in January 1887, the Mumfords' lease was sold at sheriff's sale and the brothers were kept on as employees of the unnamed owner. Two years later the brothers regained their lease and maintained control until their deaths in 1894 and in 1898.[28] In 1899 another set of brothers, Alonzo and Asa Blakslee (the sons of the half brother of Asa Packer's wife), took over the lease to the Switchback Railroad.[29]

Under the Blakslee brothers' control the Switchback Gravity Railroad continued to prosper, although it faced stiff competition from the attraction of nearby Flagstaff Park in Lehighton. Alonzo Blakslee died in 1911, leaving his brother Asa sole lessee. On April 30, 1912, the governor and deputy secretary of Pennsylvania signed an act incorporating the Mauch Chunk Switchback Railway Company. The corporation remained in private hands, with only family members and close friends of the Blakslees as stockholders. Asa Blakslee passed away a few years later, in 1914, and the Switchback corporation named Harry Butler, a Mauch Chunk man and husband of a cousin of the Blakslee brothers, as its president and general manager.

Newspaper clipping showing tourists boarding the Switchback (Mauch Chunk Museum)

Harry Butler ushered a number of cost-saving measures into effect, while keeping the fare for a ride on the Switchback at its original price of 75 cents. Yet the railroad was slowly deteriorating, with a number of major breakdowns closing the system from time to time.[30] The 1920s saw a decline in railroad traffic throughout the United States, largely due to the increasing popularity of the automobile.[31] By 1925, the Switchback reached a point of strong decline that would continue, with only a few brief upswings, until its eventual demise in 1933. In 1929,

28 Ibid., 199.

29 Ibid.

30 Ibid., 208-214.

31 Ibid., 214.


SALE

Of Property and Franchises of Mauch Chunk Switch-Back Railway Company

THURS., SEPT. 2, 1937

at 11 o'clock A. M., Eastern Standard Time, in the Arbitration Room of the Court House, at Mauch Chunk, Pa., the following property to wit:

TERMS OF SALE—25% cash on the day of sale and the balance on confirmation of said sale.

Mauch Chunk National Bank,
Mauch Chunk, Pa.
TRUSTEE.

Auction poster publisizing the sale of the Switchback Gravity Railroad and all its parts (Mauch Chunk Museum)

Butler announced that the Central Railroad of New Jersey decided to sell the railroad for $9,000 to a scrap dealer. In reaction, company officers voted to purchase the railroad with money from the sale of stocks and bonds.[32] The railroad continued to run for three more years, but the company incurred more and more debt with continual closures due to breakdown. On September 28, 1933 Harry Butler died. One month later, on October 29, the last Switchback car made the trip from Summit Hill to Mauch Chunk.[33] Despite the efforts of the company and other locals, the railroad's demise was inevitable, and on September 2, 1937 it was sold at auction for $18,100 to Isaac Weiner, who dismantled it for scrap metal.[34]

For further information regarding the history of the Switchback Gravity Railroad, please see Appendix A. Included in this Appendix is a visual timeline with historical images.

32 Ibid., 222.

33 Ibid., 236.

34 Ibid., 242.

SWITCHBACK GRAVITY RAILROAD TECHNICAL NARRATIVE

The Switchback rail system was a leader not only in furthering the Industrial Revolution but in its use of novice engineering and advancing industrial technology. Its use of a gravity system suitable for the existing terrain was unprecedented in the region and led to the development of several later systems in the area. Understanding how the Switchback actually transported coal from the mines atop Mount Pisgah down the mountain ridge is crucial to understanding its importance within America's engineering and industrial history.

The following outlines the step by step process of transporting coal using the Backtrack:

- Full coal cars would discharge loads into waiting canal boats or into coal storage pockets at the chutes.
- Empty cars were given a "push" and drifted under the action of gravity to the foot of Mount Pisgah's inclined plane – a short distance from chutes.
- Once positioned over the "barney" pit, a conductor, riding along with the empty coal cars, would tug a cable connected to a cowbell in the Mt. Pisgah engine house.
- This signaled the Mt. Pisgah engineer to reverse the 90 horsepower steam engine, in turn pulling a waiting "barney" car out of the "barney" pit until it bumped into empty coal cars.
- As a "barney" car came out of the pit, its collapsible axles would expand, allowing the "barney" to shift from an inner track to an outer one.
- As the large driving wheels in the Mt. Pisgah engine house started to turn they would cause the two 6.5 to 7 inch iron bands (one end of which was connected by gears to the engines wheels and the other end was connected to the front of the "barney" car) to pull the "barney" cars up the plane. The "barney" car in turn, pushed the empty coal cars up at a rate of 370 feet per minute.

  Please Note:
  This action simultaneously led a second "barney" car, located on top of the plane and on the other track, down the Mt. Pisgah plane where upon reaching the lower "barney" pit, its axels would contract, allowing the car to descend into the pit and await the next set of empty coal cars. The cycle was then repeated.

- Once the "barney" car arrived at the top of the Mt. Pisgah plane, it would stop at the crest of the incline.

Mout Pisgah Plane, 1844 (Mauch Chunk Museum)

Backtrack, 1859 (Mauch Chunk Museum)

After clearing the engine house and being "pushed" away from the "barney" car, the coal cars would roll by themselves across a wooden trestle bridge.

Please Note:
The trestle spanned a ravine on the top of the mountain and provided a view that later would attract tourists.

- Once past the trestle, the cars would coast for six miles on an average grade of fifty feet per mile to the foot of the Mount Jefferson plane.

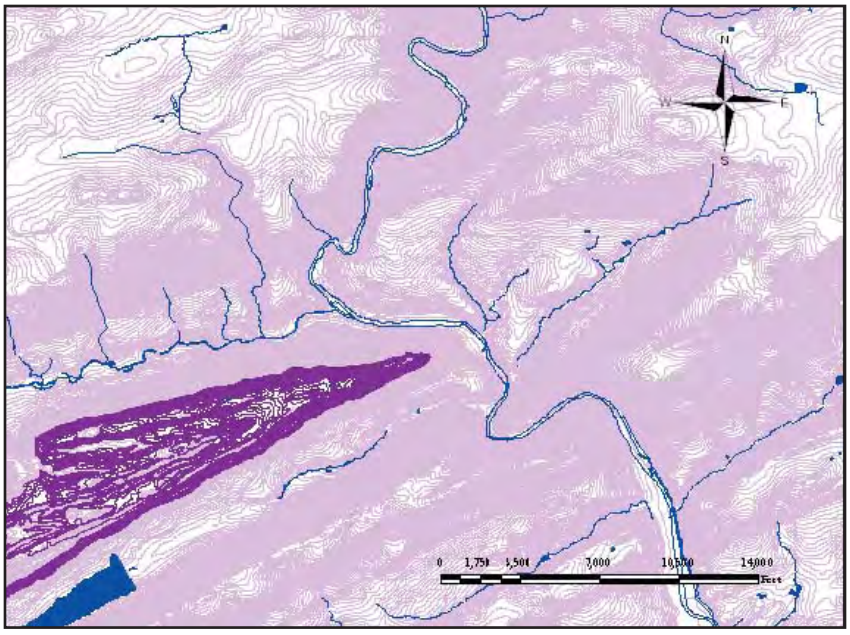
Please Note:
Between the crest of Mount Pisgah and the foot of Mount Jefferson the Backtrack crossed over the "loaded" track at a place called the "Five Mile Tree" crossover where, using switches, empty and full cars could be moved to down or up tracks, depending on necessity.

- Upon reaching the foot of the Mount Jefferson plane, the empty coal cars were again pushed up the plane by a "barney" car to the summit of Mount Jefferson at approximately 740 feet per minute.
- After clearing the Jefferson engine house, cars coasted across another trestle bridge, this one much shorter than the Pisgah trestle, to the area of Summit Hill, where the car could be switched as necessary to the proper mine opening.

evolutionary diagrams

The Evolution of Jim Thorpe

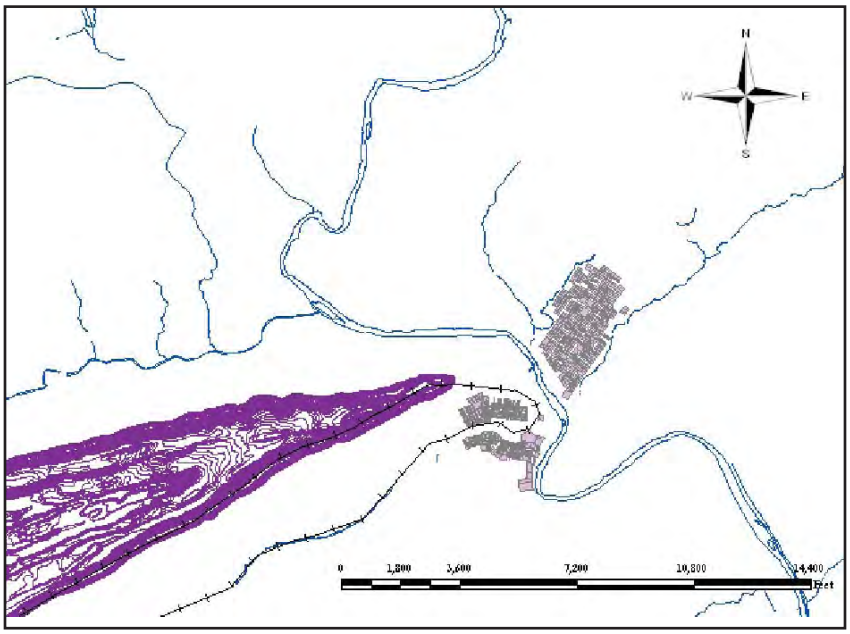
The Switchback Gravity Railroad was the chief catalyst in the development of the town of Jim Thorpe. Little information could be ascertained in terms of historical maps of the surrounding area and of the railroad; however, the few maps collected have been used to connect certain historical events with the changing surrounding environment. The pertinent data in each source was extracted and developed into GIS (Geographic Information Systems) files. The following evolutionary maps illustrate the railroad's importance in the emergence of the surrounding Jim Thorpe area both as an industrial and a subsequent tourist site.



1792

In the eighteenth century, the Lenape people were the only inhabitants of the land now known as Jim Thorpe. It was only after 1792 with the discovery of anthracite coal on Mount Pisgah that others took interest in the site. This map shows the land right after the discovery of anthracite but prior to both major economic development and to the founding of Coalville (later Mauch Chunk). No development began until the coal mining industry and the Switchback Railroad were formed.

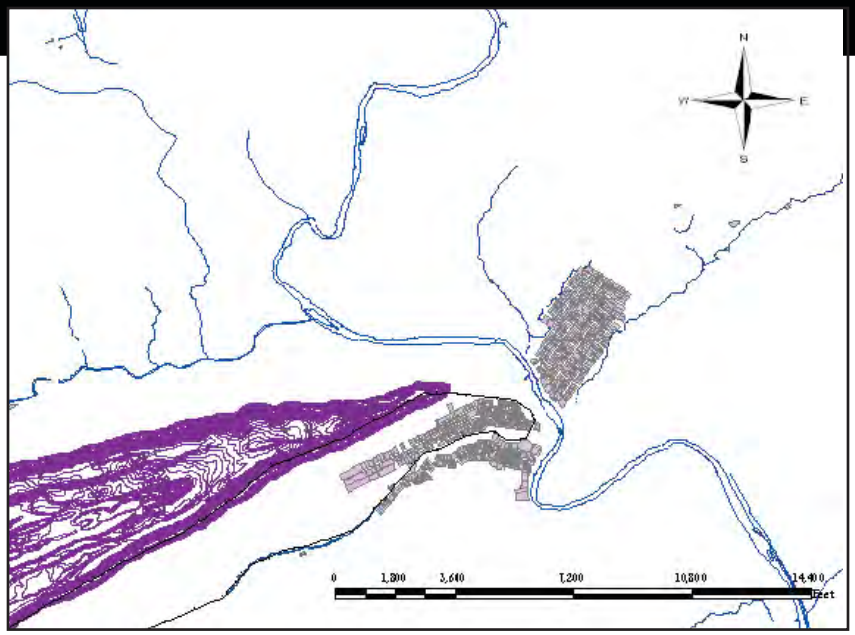
Source: Reading Howell "A Map of the State of Pennsylvania (1792)," *Pennsylvania Archives.*



1875

By 1875 the Lehigh Navigation and Coal Company has built the railroad, which transports the coal from the mines to the nearby Lehigh River. As a result, anthracite miners have relocated to the surrounding area and the town of Mauch Chunk forms between the river and the mines. By 1875, the locomotive, owned by the Central Railroad of New Jersey, was integrated into the Panther and Nesquehoning Valleys. This year marks the highest tourist volume of the area, which stimulates great economic development in the town.

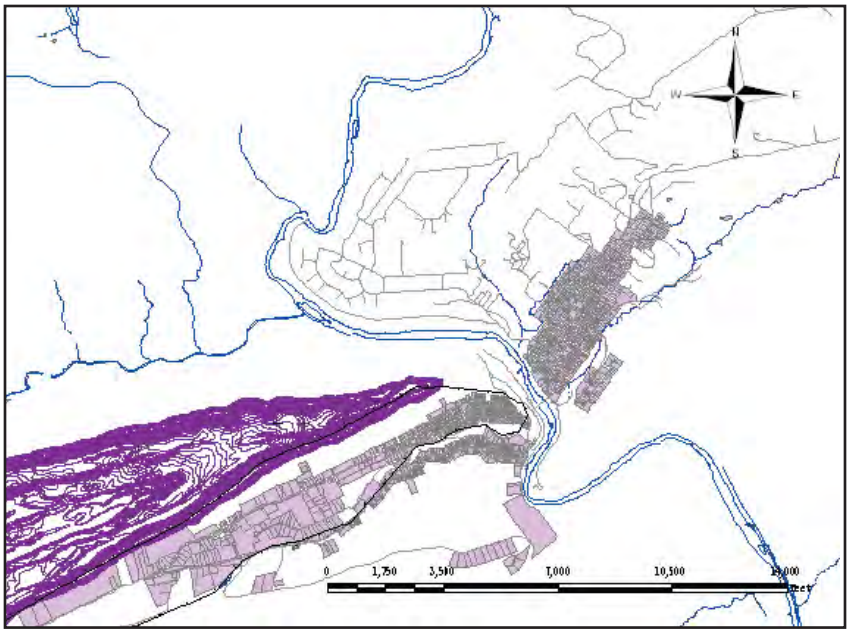
Source: F.W. Beers Carbon County Atlas (1875)



1911

By 1911, a trolley connects west and east Mauch Chunk, stimulating more growth across the river. The Switchback, now owned by Philadelphia - Reading Railroad line, unloads over 5,000 people a day.

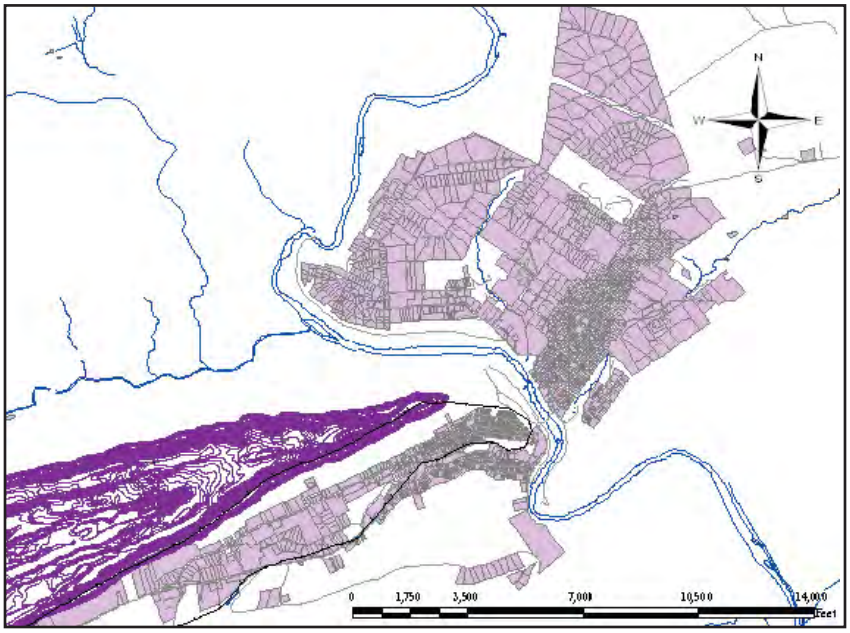
Source: Carbon County Map (1911) *Carbon County Archives.*



1980

By the 1980s, huge changes have occurred in the area. The railroad became a favorite past-time for Mauch Chunk residents in the 1940s and tourism in the area grew. In 1954, the town developed into Jim Thorpe and tourism increased even further. The wide-spread recognition of Jim Thorpe led to its nomination to the Pennsylvania Register in 1973 and to the National Register of Historic Places in 1976.

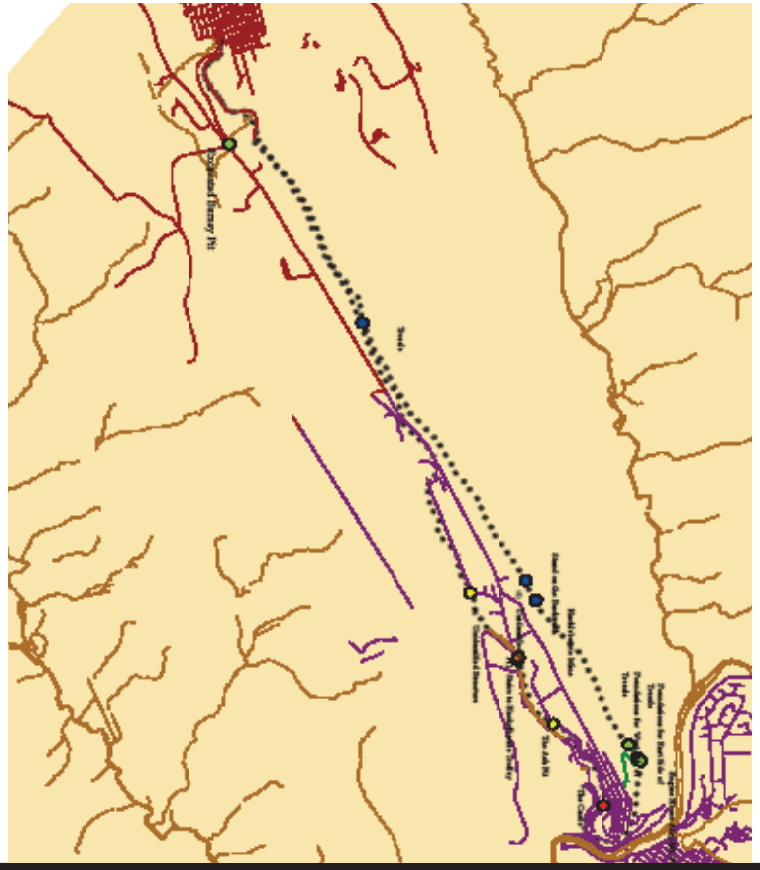
Source: Venturi, Scott and Brown Main Street Program (1979)



2007

Today, Jim Thorpe is an integral part of the Carbon County community. East Jim Thorpe has expanded to connect to the nearby Nesquehoning areas. West Jim Thorpe spans westward toward Summit Hill and south toward Flagstaff and Lehighton.

Source: Carbon County GIS Data (2007)



mapping & site survey

Historic Fabric

Ruinous structures and the original right-of-way are character defining features of the Switchback Gravity Railroad which remain today as treasured pieces of the site's history and contribute to making it a cohesive cultural landscape.

The Switchback Trail begins at the top of Hill Road in the town of Jim Thorpe, directed west towards Summit Hill. Located less than 100 yards from the trail head is an area known to locals as both the Ash Pits and the Catfish Pond. This site once held water used to move the waterwheel at the Mauch Chunk Iron Foundry. According to locals, the site was filled with ash in the 1930's when the Foundry was abandoned following a fire. Structurally, there is not much substance at this site but it has the potential to be archaeologically valuable. The northern segment of the pit is constructed of large coursed rubble stones. A tunnel leads under an older road to the north and another tunnel to the south runs under a partially collapsed section of the Switchback Trail. Within the ash-pits are anthracite coal fragments, pieces of antique and vintage pottery, china, glass bottles and other refuse.

As the trail continues west away from Jim Thorpe toward Summit Hill, it traverses a bridge and merges onto the Lentz Trail Highway. To the north once stood the Hacklebernie Trolley Stop, where riders on the railroad would have disembarked for the pool across the road or continued on to the Hacklebernie Mine Entrance. From here the trolley climbed Flagstaff Mountain to the south while the Switchback cars continued on to the Mauch Chunk Depot. The Trolley Stop remains today as a concrete stairway five treads high, which abruptly terminates—its platform is no longer extant. Behind the stairs to the west are four concrete piers surrounded by vegetation, which once supported the trolley stop's platform. The remnants of the site are significant as a reminder of the trail's existence as a pleasure ride serving vacationers and sightseers.

A stream runs parallel to the trail a few feet to the north of the Hacklebernie Trolley Stop, across which is a large rectangular pool 20 feet long, 50 feet wide and approximately 2-3 feet deep. According to locals, this concrete and stone pool is the old reservoir for the town of Mauch Chunk, which once received all of its drinking water from springs such as these. The pool is currently hidden from plain sight by the overgrowth, and it is unknown what its relationship was, if any, with the Switchback Gravity Railroad.

Continuing on the trail to the southwest and crossing the Lentz Trail Highway, the Switchback Trail follows a meandering creek to Lake Mauch Chunk. Approximately a half mile to the south is what appears to be a raised track resting on pylons of stone. Wooden ties and railroad spikes remain embedded in these three stone piers, which lack any sign or marker. The piers are surrounded by vegetation.

Following the Switchback Trail from Lake Mauch Chunk towards the top of Summit Hill is the Five Mile Tree Overpass, approximately a half mile northwest of the Lake Mauch Chunk Visitor's Center. This site is commemorated in scores of early postcards and photographs touting the Switchback Gravity Railroad as a premier tourist attraction. The Overpass currently consists of two coursed rubble masonry walls with the Trail running between. The walls are fashioned of large stones and stand approximately 20 feet high. The walls are overgrown with vegetation, such as vines. The Five Mile Tree Overpass was where coal cars passed in the thousands from the Jefferson plane and down the backtrack to the flat land on the way to Mauch Chunk.

Between the Five Mile Tree Overpass and Summit Hill, little remains of any distinguishable historic fabric. This portion of the trail joins the backtrack returning east to Mount Pisgah and Jim Thorpe with several ruins along the way. Approximately 1.75 miles from Mount Pisgah, the southern face of the trail is supported by a large, long stone wall that terminates at a plateau and juts out on a rectangular

parapet. This is the Stand on the Backtrack. From this point the empty cars raced down the track to the Hacklebernie Mine. The wall is obscured by trees, vines, and shrubs. The dense overgrowth exacerbates its presently obscured condition.

Continuing eastward and roughly 1.6 miles from Mount Pisgah, a harsh, inhospitable rock face interrupts the path. This mass of jagged rock is what remains of the Hacklebernie Mine. Hacklebernie is an old Scottish word for hell, aptly named by the Scotch and Irish mining communities. The mine was closed in 1827, early in the Switchback Gravity Railroad's life, as it failed to produce marketable coal, but eventually re-opened. At the base of the rock face the mine entrance is still open, but is partially flooded, impeding entrance. The mine's history is deeply intertwined with that of the Switchback Gravity Railroad. The site is significant as a long lasting testament to the mining of anthracite coal in the region.

At the peak of trail lay the ruins of the western end of the trestle, which connects to the summit of Mount Pisgah approximately a half mile away. The Pavilion Station once stood in this place, where passengers would disembark for lunch and scenic views of Mauch Chunk and the Lehigh River gorge. The small rustic log pavilion offered an overlook, shelter, and seating. Many riders took full advantage of this natural setting, opening their picnic baskets and eating a casual lunch, while admiring the wonderful view, and eventually continuing along on a later car. There is little of material significance remaining on this site. A multitude of photographs and historic images document the no longer extant bridge. Its present state is clearly ruinous, as it is simply an array of concrete footings in two neat rows. Beyond the trestle remains, nestled into the shoulder of Mount Pisgah, are the remnants of the concrete water reservoir that fed into the boilers of the engine house. At present the site is full of debris and refuse as well as overgrown with trees and other vegetation.

Continuing to the summit where passenger and coal cars rolled over

the apex, lay the ruins of the Mount Pisgah Engine House. Perhaps the most celebrated of the ruins through literature and postcards; it currently exists as three crumbling stone walls. Partially filled in and overgrown with vegetation, the walls vary from 3 feet to 17 feet in height and are of varying thicknesses.

Existing Conditions of the Switchback Trail

The original right-of-way which has remained in the wake of the Switchback Gravity Railroad is celebrated through a multitude of uses. The map, presented in Appendix B is the result of surveying in small groups, scouting certain segments of the trail and recording observations. This mapping serves to document the existing conditions, noting observations such as traffic flow, litter, use and signage, and allows for assessments to be made on the current conditions of the Switchback trail.

Many of the problems associated with the scenic trail exist on its east end by the town of Jim Thorpe. Surveyors found the greatest amounts of litter and noise closest to the Pisgah Plane. Noise was characterized as human-generated sounds (for example lawnmowers and car stereos); and experienced primarily on the downtrack. Noise and litter were also found atop the Pisgah Plane, which is the most frequently accessed and most recognized feature of the Switchback Trail. Nuisances related to noise in the natural environment indicates that the Switchback Trail is in close proximity to human traffic and activity.

The downtrack is readily accessible from the west end of the Heights neighborhood atop Hill Road. It can also be accessed from the west, and at spots along Lake Mauch Chunk. Between Lake Mauch Chunk and the Hill Road trailhead, there is a campsite for recreational vehicles. Much of the foot traffic may originate here. Access to the trail from the campground is by a small footbridge.

The segment of the Switchback that runs westward from Mount Pisgah is in excellent condition. Surveyors noted few visitors, litter, or noise. This section is also the least frequently accessed with the distance between the two closest trailheads being roughly five miles. The route is popular with mountain bikers and the occasional hiker. It is a natural habitat for bears and other wildlife.

Sites of Significance

During initial physical surveys of the Switchback Gravity Railroad Trail, team members utilized a hand-held Global Positioning System (GPS) unit to plot the accurate position of each possible site of significance. Concurrently other team members canvassed the trail and conducted conditions assessments on sites with possible historic value (typically the sites consisted of structures, artifacts, and ruins). Both these sets of data were entered into ESRI ArcMap Geographic Information System (GIS) software so they could be georeferenced and included as points in the basemap.

After compiling the data generated in our physical surveys of the trail, sites of significance were identified and matched with their corresponding GPS points. Sites were then labeled using a number system corresponding to the order in which they were initially recorded with the GPS handheld device. The most significant sites were selected and ranked based on their historical integrity and material conditions.

These most significant sites are rated in terms of historical integrity based upon the degree to which their relationship to the Switchback's history has been substantiated. They are ranked on a numbered system from 1 to 5, with 1 indicating the highest ranking and signifying seminal importance to the history of the Switchback Gravity Railroad. Sites with rankings in the 4 to 5 range are those where the site or structure in question has little documented affiliation with the Switchback itself.

These sites also are rated in terms of their material condition, (with consideration of the fact that all are in ruinous state). Rankings on a scale of 1 to 5 were assigned to each site. Those in the best condition are ranked 1 or 2, indicating that there is substantial historic fabric of relatively high material integrity. Rankings in the lower range (approaching 5), signify that little historic fabric remains and/or the fabric that does is highly deteriorated.

The sites of most significance are described below, ordered by their total score, which is a composite of the historic integrity and material condition rankings.

- **Five Mile Tree Overpass**

(Total Score: 2; Historic Integrity: 1; Material Condition: 1)

Site number 23 is what remains of the Five Mile Tree Overpass. It is located at the juncture of the backtrack and downtrack, north of the approximate center point of Lake Mauch Chunk. The remains of the trestle's foundation (tall random ashlar stone walls that line the path) are a landmark along the Switchback trail. The overpass is well documented in historic photos and postcards from the railroad's heyday. The stone walls are in good condition. It has a ranking of 1 for historic integrity and 1 for condition.

- **Stand on the Backtrack**

(Total Score: 2; Historic Integrity: 1; Material Condition: 1)

The Stand on the Backtrack is where empty coal cars were pushed off the Backtrack and sent down to the breaker at the Hacklebernie tunnel. It is located along the backtrack trail about a mile and a half southwest of the summit of Mount Pisgah. The mammoth stone wall is extant. It is ranked one for historic integrity and one for condition.

- **Hacklebernie Mine**

(Total Score: 2; Historic Integrity: 1; Material Condition: 1)

The abandoned Hacklebernie Mine is the only significant structure remaining that attests to the mining history of the site. The mine entrance is fully intact, however the mine itself has been flooded for years. It has a ranking of 1 for historic integrity and 1 for material conditions.

- **Trestle Foundations on Mount Pisgah**

(Total Score: 3; Historic Integrity: 1; Material Condition: 2)

The west and east ends of the Mount Pisgah Trestle are of the same construction, condition and historic integrity. The trestle foundations are just southwest of the summit of Mout Pisgah. Similarly to the trestle at the Five Mile Overpass, this trestle is well documented in historic images and written texts. The concrete trestle foundations are all that remain, but can be a point of interpretation. For historic integrity, the trestle foundations are ranked 1, and for conditions they are 2.

- **Mount Pisgah Engine House**

(Total Score: 3; Historic Integrity: 1; Material Condition: 2)

The ruins of the Mount Pisgah Engine House are an extremely important artifact related to the Switchback Gravity Railroad. These ruins are located at the summit of Mount Pisgah. During the process of salvaging the railroad materials for scrap, a fire destroyed most of the structure. All that remains are some stone walls, which require stabilization, but which offer the opportunity for interpretation. This site is ranked 1 for historical integrity and 2 for condition.

- **The Barney Car Pit**

(Total Score: 3; Historic Integrity: 1; Material Condition: 2)

The Barney Car Pit is the site of an archaeological excavation related to the Switchback Gravity Railroad. The Barney Car Pit is not located on the main loop of the Switchback trail. It is located about a thousand feet south of the trail near its westernmost point, near the community of Summit Hill. This professionally excavated site is presently in good condition, and holds the potential for future excavations. It is ranked 1 for historical integrity and 2 for condition.

- **Unidentified Structure**

(Total Score: 4; Historic Integrity: 2; Material Condition: 2)

This unidentified structure is on the downtrack of the trail, about a mile from the trailhead in Jim Thorpe. The structure consists of a raised track resting on three stone pylons; it still has wooden ties and railroad spikes embedded the piers. There are no signs or markers explaining the site. This structure was possibly a portion of a railroad platform or support. Its connection to the Switchback is unknown. The stone and concrete are in decent condition. It is ranked 2 for historical integrity and 2 for condition.

- **Stairs to the Hacklebernie Trolley Stop**

(Total Score: 4; Historic Integrity: 2; Material Condition: 2)

The stairs to the Hacklebernie Trolley Stop (as well as its platform supports) are located along the downtrack, approximately midway between the ash pits and the above mentioned unidentified structure. These steps were one spot where passengers would disembark from the Switchback Gravity Railroad. The stairs have historic significance in relation to the railroad. They are concrete and in excellent condition, although they are no longer connected to any larger structure. This site is ranked 2 for historic integrity and 2 for condition.

- **The Ash Pit**

(Total Score: 5; Historic Integrity: 3; Material Condition: 2)

Less than 100 yards from the Hill Road trailhead in Jim Thorpe is the site of the Ash Pit. The Ash Pit exists in its present state as a midden/debris heap, a collection of trash and debris from the early 20th century, including refuse from the Mauch Chunk Iron Foundry. It is potentially a site of archaeological significance. Locals also refer to this location as "the Catfish Pond." It is ranked 3 for historic integrity and 2 for condition.

- **Pool near Hacklebernie Trolley Stop (Total Score: 6; Historic Integrity: 5; Material Condition: 1)**
  A few feet north of the Hacklebernie Trolley Stop is a stream that runs parallel to the Switchback trail. Across this stream is a large rectangular pool, approximately 20 feet long, 50 feet wide and 2 to 3 feet deep. According to local sources, it was once a water reservoir for the town of Mauch Chunk. The pool is hidden from sight by dense overgrowth, but still holds water. It is unknown what the pool's relationship is to the Switchback Gravity Railroad. It is ranked 5 for historic integrity and 1 for condition.

- **"The Castle" (Total Score: 7; Historic Integrity: 5, Material Condition: 2)**
  The Castle, as the locals refer to this site, bears no relationship to the railroad, but is a visually striking stone ruin nonetheless. It is located along the downtrack immediately south of Jim Thorpe. It is ranked 5 for historic integrity and 2 for condition.

EXISTING TRAIL CONDITIONS & THREATS

Abandoned Mines

In 2003, the Lehigh Wildlands Conservancy in cooperation with the Pennsylvania Department of Conservation and Natural Resources (DCNR) and the William Penn Foundation, issued the comprehensive Lehigh River Watershed Conservation Management Plan. The plan indicates that abandoned mine drainage (AMD) originating from abandoned coalmines exposes the Lehigh Watershed and its aquatic life to elevated levels of acidic pollutants created from the interplay among moisture, oxygen, sulfur, aluminum, iron, manganese and zinc (105-106; 115-122; 130; 402-403). Given that there are numerous abandoned coalmines along the Switchback Gravity Rail Road, it is possible that some areas of the trail could contain harmful concentrations of metallic and AMD contaminants.

Trail Erosion

The Switchback Trail undergoes occasional surface erosion that requires expensive maintenance. For example, as noted by County Park Rangers at Mauch Chunk Lake Park who are responsible for patrolling and maintaining the Switchback Trail, it recently cost the county $25,000 to repair and stabilize the steep slope leading to the top of Mount Pisgah with plastic mesh after a severe storm denuded the poorly anchored soil, creating a minor landslide. However, the repairs were short-term solutions given that there is not enough funding to finance comprehensive interventions. Walking up the slope today, one can still point out areas of exposed plastic mesh that failed to provide a high density, sheer resistant soil layer that is capable of supporting incipient grass growth.[1]

Illegal Use

County Park Rangers that patrol the Switchback Trail mention that it is difficult to enforce regulations prohibiting "All Terrain Vehicles" (ATVs), snowmobiles, motorbikes, horseback riding, and littering due to the lack of man power and available funding. In particular, illegal use became so rampant that Lehigh Coal and Navigation, which owns property near the trail, even tried to create its own private police force to prosecute trespassers; though, local counties eventually denied the firm's requests.[2]

Hunting

Hunting is a permitted recreational activity that occurs around the Switchback Trail. Although hunting does not pose a direct threat to the trail and its historic resources, trail users must be aware that hunting accidents can occur. Thus, County Park Rangers recommend orange vests for those who frequent the trail during hunting seasons.[3]

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1 Mauch Chunk Lake Park Chief Ranger Jerry Healy and staff., interview by Mark Donofrio, 23 September 2007.

2 Ibid.

3 Ibid.

present context

DESIGNATIONS

The Borough of Jim Thorpe has several historic resources, many of which have been designated as such on the National level (see Appendix D for Register nomination form). They include individual buildings as well as district areas and structures, and are listed on the National Register of Historic Places, the nation's official list of cultural resources worthy of preservation.

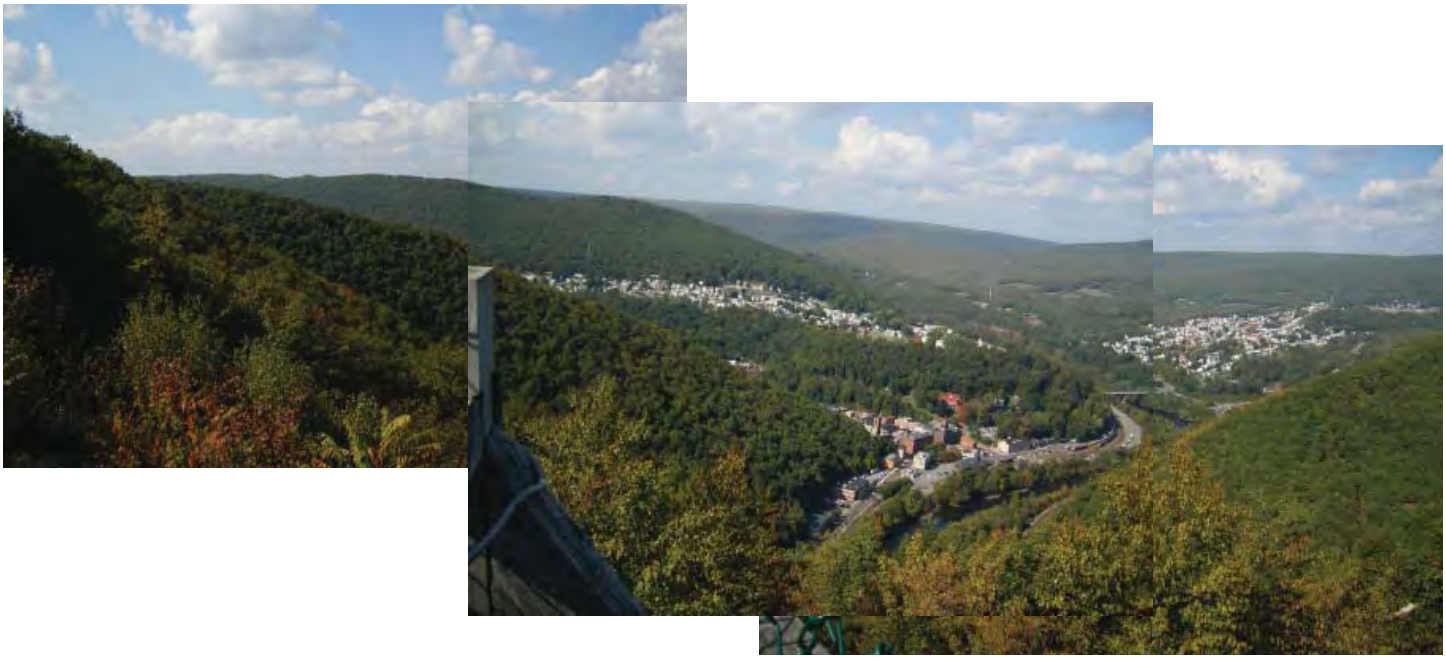
As per the National Park Service, the register is authorized under the National Historic Preservation Act of 1966 to act as part of a larger program committed to coordinating and supporting all public and private efforts to identify, evaluate, and protect historic resources. Register listings have all been documented and evaluated for their contributions to both the history and heritage of the United States.

A listing on the National Register, though an honor for the property and a recognition of its importance, does little to legally protect or endanger it. If a private property is listed, the owner is free to maintain, manage, or even dispose of the property according to federal law. There is no obligation for an owner to have their property open to the public, nor are they required to restore or maintain them.

It is important to point out that there are no federal designations, including within the National Register, that place restrictions on private property owners. However, such a listing does result in some additional benefits. Owners of listed properties may be eligible for a 20% investment tax credit for rehabilitation of income-producing certified historic structures, whether they be commercial, industrial, or rental residential. Federal tax deductions can also be available for contributions to conservation initiatives for historically important areas and structures. Properties may also qualify for federal grants for historic preservation activities. Additionally, Section 106 of the Historic Preservation Act of 1966 requires consideration of historic properties either listed or determined eligible for listing when planning for federal, federally licensed, and federally assisted projects.

Two properties in Jim Thorpe listed on the National Register, the Asa Packer Mansion and St. Mark's Episcopal Church, are also listed as National Historic Landmarks. These are identified as places that possess a value or quality that has meaning for all Americans, and are illustrative of certain heritage themes established by the National Park Service. Only 3% of all properties listed on the National Register have the additional designation of National Historic Landmark. As the highest level of recognition, such a listing adds to an historic property because it is the primary federal means of assessing the national significance of historic properties.

The entire Borough of Jim Thorpe is also part of the Delaware & Lehigh National Heritage Corridor, which works to conserve cultural and natural resources in the five-county region of Pennsylvania that traverses the historic Delaware and Lehigh Canals. Their initiatives include the restoration of historic places, the conservation of green space for public use, and the interpretation of heritage. According to their Management Action Plan, the D&LNHC is currently working to create a cooperative regional conservation and development initiative supported by partnerships among the private sector and governments at all levels.



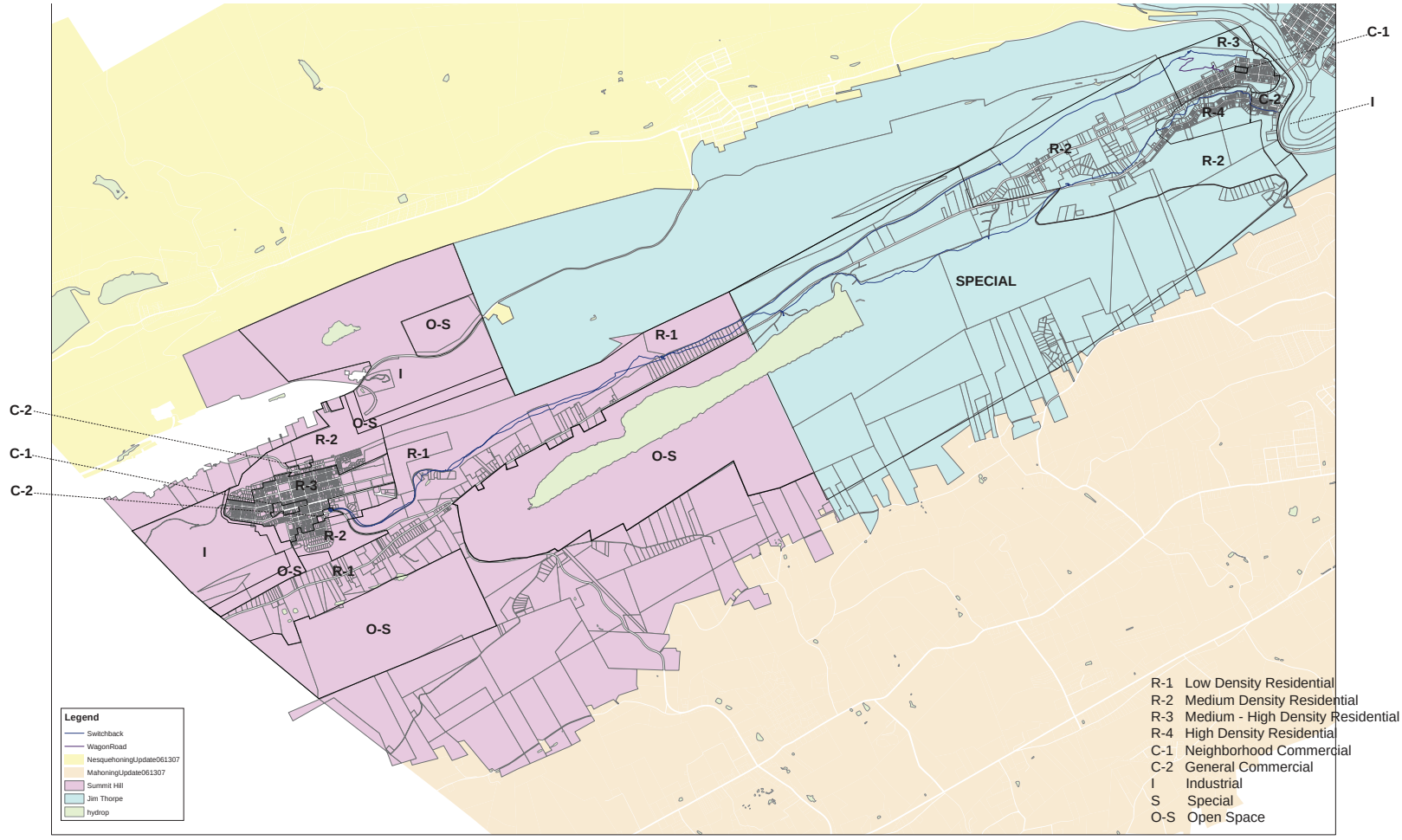
ZONING

Since the 18-mile loop of the Switchback Gravity Railroad runs through both the Borough of Jim Thorpe and the Borough of Summit Hill, there are two separate zoning ordinances that affect the entirety of the site. By combining the zoning maps of the two towns and then overlaying the Switchback track, it is possible to identify which zoning designations affect the trail, and in turn limit future use or development. These zoning limitations should be consulted when any future interventions or development is considered.

According to the Carbon County Comprehensive Plan from 1998, land uses in the area are primarily residential and forest, with some commercial, open space, and water (Mauch Chunk Lake).[1] Each zoning district has different permitted uses and limitations, and relevant zone details are as follows:[2]

Zoning Districts

Jim Thorpe and Summit Hill Boroughs

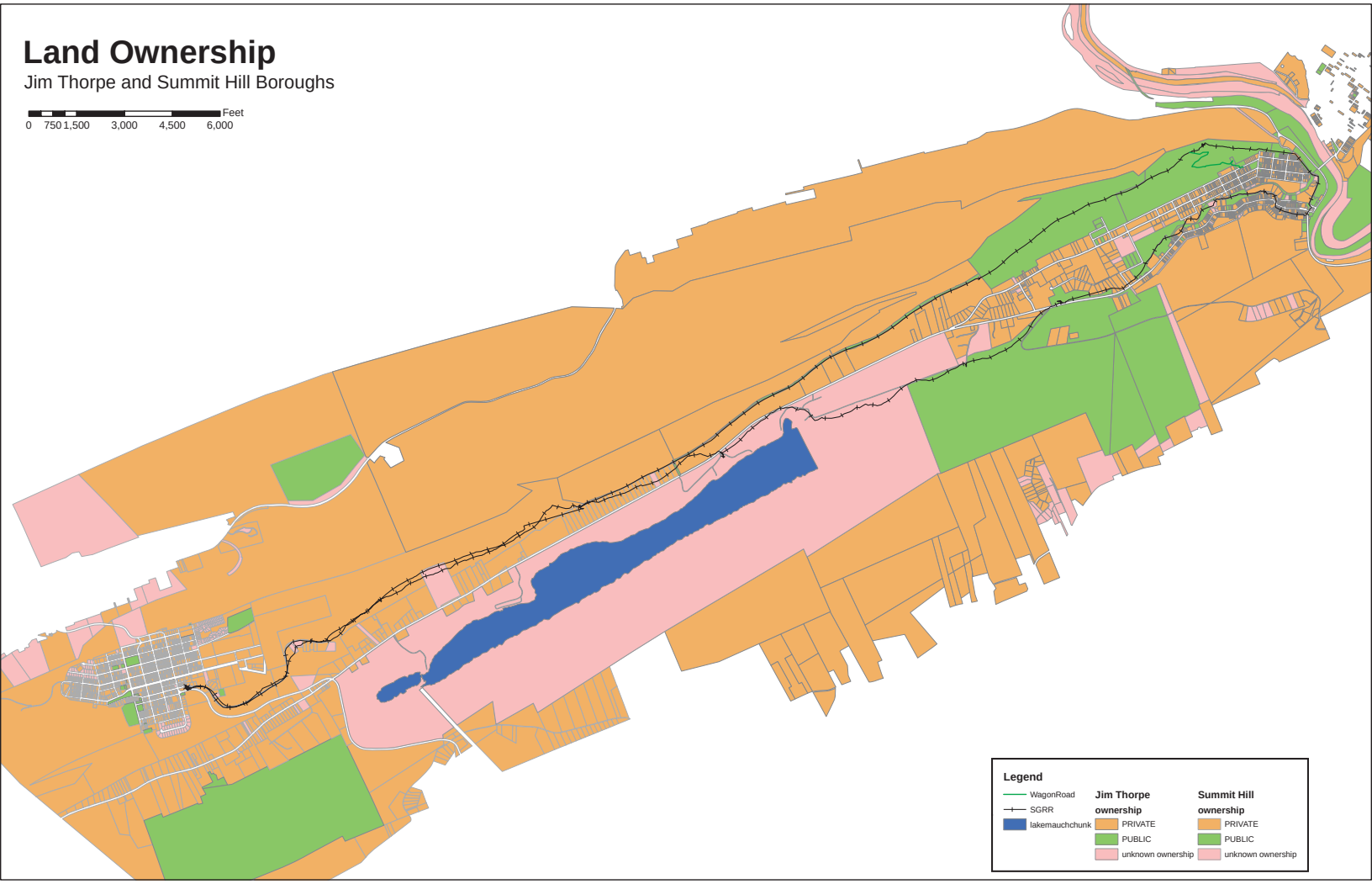


(see Appendix C for explanation and details of classifications)

1 Varaly Associates, *Carbon County Comprehensive Plan,* 1998.

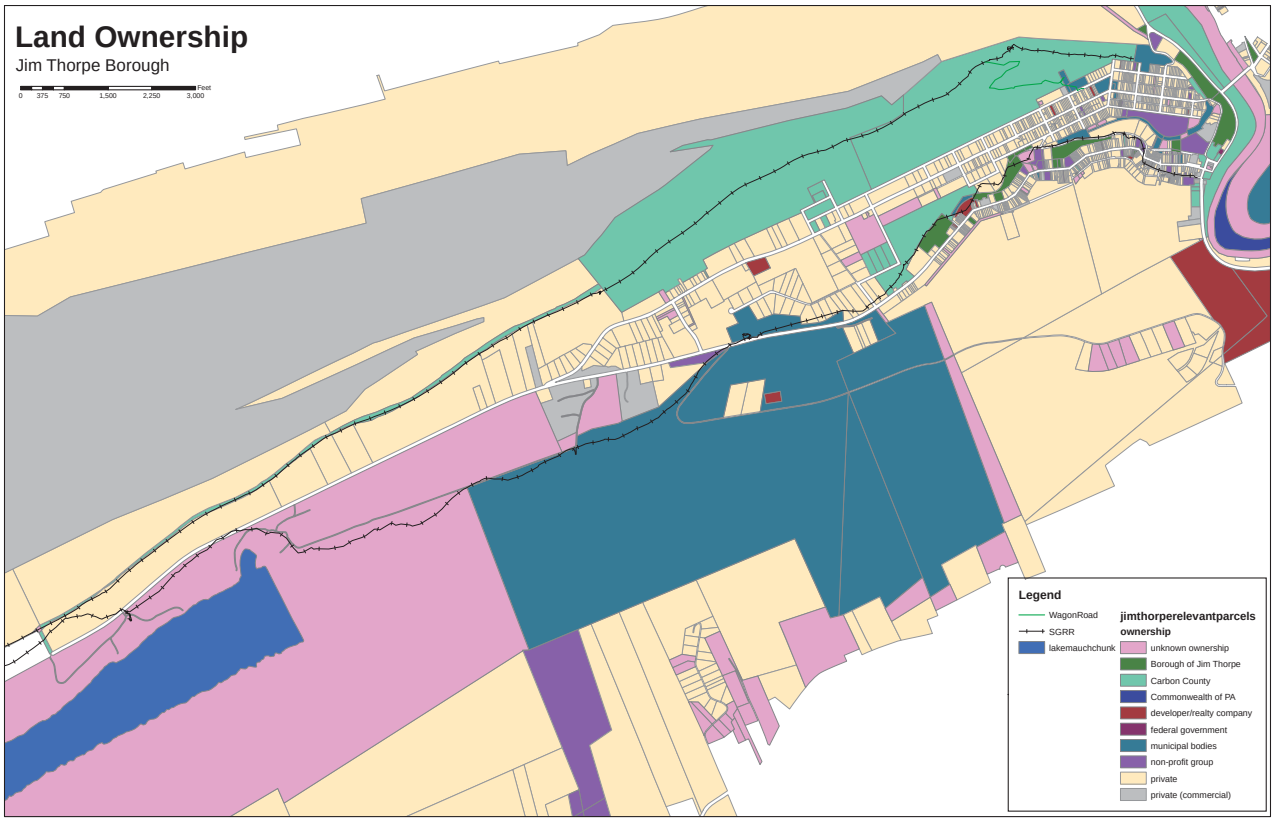
2 Carbon County, *Zoning Ordinance of Borough of Jim Thorpe*, Ordinance 19-12, 1997.

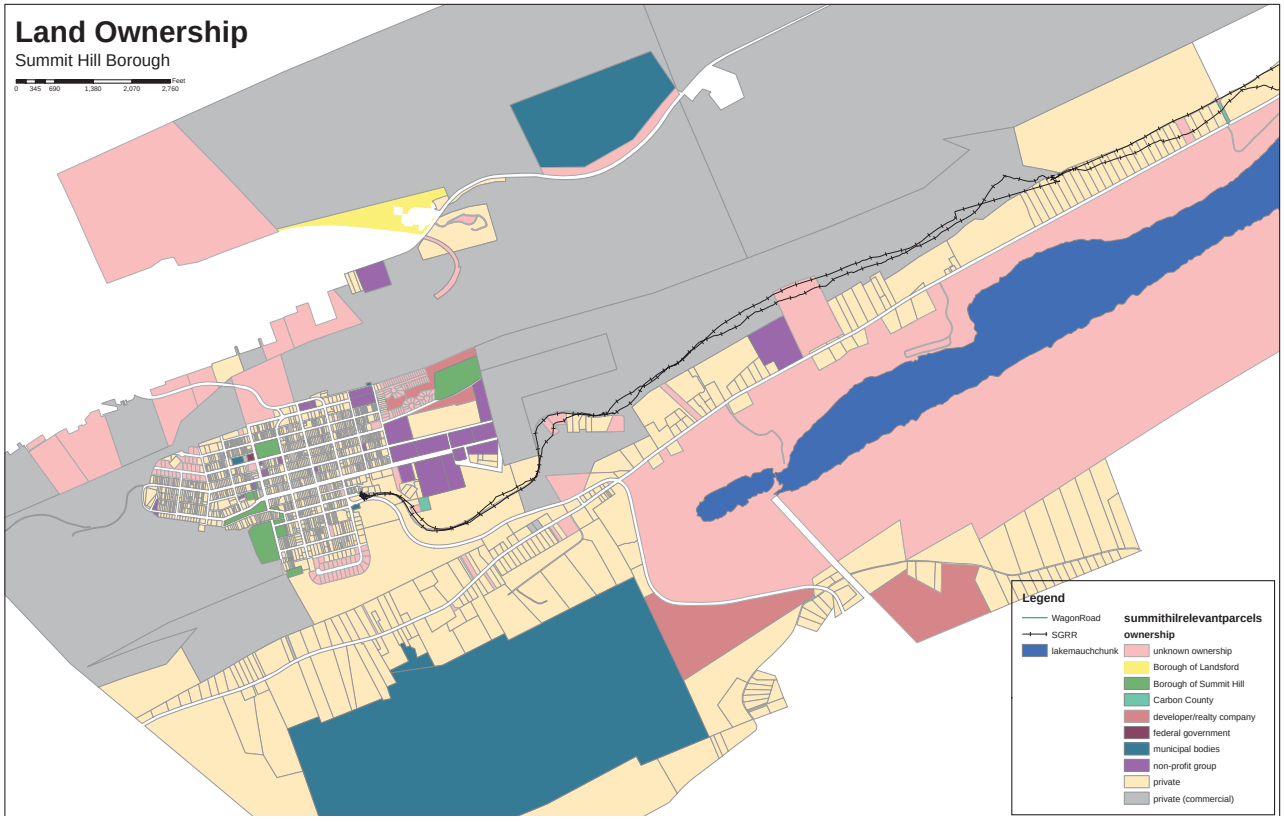
OWNERSHIP



The Switchback trail crosses over multiple property lines in its 18-mile entirety. Since any all-encompassing work would require the cooperation of all parties affected, it is important to understand the various ownership types involved. Using 2000 Census data,[3] each parcel within the general area of the Switchback trail was identified and classified according to ten categories: unknown ownership, Borough of Jim Thorpe or Summit Hill, Carbon County, Commonwealth of PA, developer/realty company, federal government, municipal bodies, non-profit groups, private residential, and private commercial.

[3] U.S. Bureau of the Census, *Carbon County Census*, 2000.


Land Ownership
Jim Thorpe Borough
0 375 750 1,500 2,250 3,000 Feet
Legend
WagonRoad
SGRR
lakemauchchunk
jimthorperelevantparcels
ownership
unknown ownership
Borough of Jim Thorpe
Carbon County
Commonwealth of PA
developer/realty company
federal government
municipal bodies
non-profit group
private
private (commercial)


Land Ownership
Summit Hill Borough
0 345 690 1,380 2,070 2,760 Feet
Legend
WagonRoad
SGRR
lakemauchchunk
summithilrelevantparcels
ownership
unknown ownership
Borough of Landsford
Borough of Summit Hill
Carbon County
developer/realty company
federal government
municipal bodies
non-profit group
private
private (commercial)

THE CURRENT STATE OF TOURISM IN JIM THORPE AND SURROUNDING AREAS

Statistical information pertaining to Jim Thorpe's tourism economy does not exist nor have there been further studies of the town's tourism economy since McLaughlin and Co's 1990 study regarding the tourism potential of reconstructing the 18-mile Switchback Train (this study will be explained later). The town is encompassed by larger geographic regions that have the infrastructure and financial ability to collect and maintain this kind of information, particularly the Pocono Mountain Visitor's Bureau, and the Delaware and Lehigh National Heritage Corridor (part of the National Park Service), and the Carbon County Chamber of Commerce. Thus, statistics relevant to Jim Thorpe have been excerpted as subsets of information that are focused on the larger economy of these more expansive regions. It is our recommendation that a study focusing specifically on Jim Thorpe's tourism economy and potential be conducted in the near future in order to isolate tourism's role in the town from that of other larger regions.

Jim Thorpe benefits from the marketing and advertising efforts of these three larger regions, serving as a key destination or highlighted area within the grander context. The following report will divide the available tourist and demographic data beginning with the general tourist information in Jim Thorpe and then analyzing the gathered statistical data from three general regions: the Pocono Mountain Region, the specific area along the Delaware and Lehigh Rivers supported by the Delaware and Lehigh National Heritage Corridor, and Carbon County. Each set of data will be discussed as it potentially affects Jim Thorpe and the Switchback. All supplemental studies and information can be found in Appendix C in the third volume of this report.

Tourism in Jim Thorpe

Declared the "Switzerland of America" by Theodore Mumford in 1882, Jim Thorpe has been host to heritage, ecological and adventure/outdoor tourists since it's founding in the early 19th century. Heritage tourists are drawn to the industrial heritage of the town, recognized in sites such as the Switchback Gravity Railroad, Asa Packer mansion, and the jail that held the Molly Maguires. Ecological tourists enjoy the viewsheds and forest life. Recreational tourists take advantage of the varied terrain to mountain bike, horseback ride and hike, among other activities.

Interviews conducted with town officials, such as Rose at the Jim Thorpe Visitor Center and Dan Hugou, President of the Jim Thorpe Area Council, indicate that the busiest season is the fall for the town's biggest events: Fall Foliage and the Victorian Old Time Christmas in the Park. Both events attract larger numbers of out-of-state visitors than other town occasions.

Visitation is significantly higher during the weekends. There are no statistics regarding the numbers of weekend

day-trippers or overnight stays, although conversations with local officials indicate that visitors primarily come mostly from Pennsylvania, with many other visitors from the Tri-state area (New York, New Jersey and Connecticut) and Canada.

In 1990 McLaughlin Economic Research Associates was hired by the Switchback Gravity Railroad Foundation to conduct a study regarding the economic impact on tourism of the reconstruction of the entire 18-mile Switchback Trail. Although the results of the study show that increased development and awareness of the Switchback will most likely increase annual revenue and visitorship, this data should be used only as reference material and not depended upon to substantiate any plans for or against development. (See Appendix C for the detailed results of the study.)

Visiting the Pocono Mountains

The Pocono Mountains of Pennsylvania are located in Northeastern Pennsylvania. They encompass 2,400 acres of mainly wooded areas and small towns. The region includes four separate counties – Carbon, Monroe, Pike and Wayne.

In 2003, the Pocono Mountains Visitors Bureau (PMVB) reported 7% of the market share of Pennsylvania travel.[4] As the county seat of Carbon County, Jim Thorpe and its tourist attractions undoubtedly account for a noteworthy portion of tourist revenue, though exact figures are unavailable.

Between 1999 and 2001, the top three states of origin for visitors were New Jersey, New York and Pennsylvania. In 2001, surveys concluded that the primary purpose of overnight visitors was to have a 'getaway weekend'. In contrast, the priorities for day-trippers was to 'see friends or relatives' and 'other personal' business. See Appendix C for graphical data provided by PMVB.

Overnight visitors that came to the Pocono Mountains for a getaway or vacation were more likely to take advantage of the region's more tourist-oriented activities (tours, heritage sites, etc) and view the region as more distinct, separate, from their everyday lives. The tourist sites would not hold as much interest for day-trippers, as the personal attachment of friends/relatives and other personal business is the primary draw.

PMVB data provided a more complete profile of the 2003 overnight leisure traveler, below:

- Median age: 42
- Median Annual Household Income: $80,900 (national: $43,318)

[4] Pocono Mountain Visitors Bureau, http://www.800poconos.com/static/index.cfm?contentID=242

- Primary party types: Couples and Families
- Primary Purpose of Stay: Visiting Friends/Family
- Average length of Stay: 2.9 days
- Accommodation Preference: Private Home (50%)
- Top Activities: Sightseeing, Shopping, Entertainment
- Secondary Activities: Dining, Festival/Crafts Fair Shopping, Night Life
- Average Expenditures Per Person Per Day: $95.40
- Average Expenditures Per Travel Party: $597

The Switchback in relation to the Pocono Mountain Region

Jim Thorpe's reputation as the 'Switzerland of America', its various historic landmarks and festivals throughout the year are a draw for the average 2003 overnight traveler. Given that overnight visitors were more likely to spend money on tourist sites and activities, subsequent marketing efforts are geared towards increasing these visitors. The PMVB is currently continuing with this direction and has also begun focusing their attention towards the increased interest in heritage tourism. Jim Thorpe possesses an especially significant role within this campaign and the PMVB is capitalizing on its legacy of tourism that began with the Switchback Gravity Railroad.

Delaware and Lehigh National Heritage Corridor

The Delaware and Lehigh National Heritage Corridor (D&L) is the nation's third National Heritage Area. Designated in 1988 by the Congress, the D&L is both a State Heritage Park and a National Heritage Corridor. The Corridor comprises roughly 1.5 million people and extends 182 miles through 5 counties—Bucks, Carbon, Lehigh, Luzerne, and North Hampton—97 boroughs, 111 townships, and 7 third-class cities. Primary managing partners of the DLNHC include the congressionally nominated Delaware and Lehigh Canal National Heritage Corridor Commission and a coalition between the National Park Service and the Commonwealth of Pennsylvania.

Other contributing organizations include:

- The Heritage Conservancy
- The Lehigh River Foundation
- The Wildlands Conservancy
- The Pennsylvania Department of Conservation and Natural Resources
- The Pennsylvania Historical and Museum Commission
- The Pennsylvania Heritage Affairs Commission
- The Pennsylvania Department of Community and Economic Development

The Switchback in relation to the D&L National Heritage Corridor

Based on the 2005 National Park Service study provided in Appendix C, the majority of visitors to this area are from small middle to upper class families that earn more than $60,000, spend more than $250, and have at least 1 child.[5] Given that the SGRR lies within the D&L Corridor, one could deduce that the representative overnight visiting group to the Switchback Gravity Railroad will be within this demographic. However, this assumption is contingent on the premise that the overall D&L statistics accurately represent the population of tourists visiting the SGRR. Marketing campaigns aimed at these tourists should be based on methods that foster word of mouth communication. Since there is no income data pertaining to the day-trippers, one can only hypothesize that the majority of day-trippers are within local driving distance and thus earn incomes below that of the overnight tourist. More research is needed.

Thus, based on the study's results, it appears that D&L tourism has a positive impact on the economic revenues of Carbon County since the total economic impact of D&L tourism was approximately $24.57 million, producing 526 jobs and just over $8.6 million in personal income. Nevertheless, before deducing that increased SGGR tourism will necessarily stimulate the economy of Jim Thorpe given that the tourists spend a sizable amount of money on heritage sites, one also has to calculate the costs of heritage tourism. These costs are not included in the summary of the MGM2 results. Possible questions:

- Does the heritage tourism revenue benefit the local community? Perhaps out of town entrepreneurs are reaping the primary economic rewards and displace both the existing population and their respective jobs/businesses.
- Are there increased public expenditure costs pertaining to the increased tourism traffic? For example, if costs of maintaining roads and infrastructure due to tourism traffic exceed that of the revenues, then one can question the conclusions from this study.

For further information pertaining to the D&L's economic studies, see Appendix D.

Visiting Carbon County

As stated earlier, tourism statistics for Jim Thorpe have been difficult to find. Carbon County however, has relatively recent statistics from multiple agencies allowing us to gain some insight into the larger impact of tourism in the area.

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[5] In 2006, the firm of Public Works on behalf of the behalf of the Alliance of National Heritage Areas (ANHA) used the Money Generation Model (MGM2) to determine the 2005 impact of heritage tourism on Carbon County. The MGM2 model is an update of the NPS Money Generation Model as originally developed by Ken Hornback. Daniel Stynes and Dennis Propst at Michigan State University developed the newer version—MGM2—in 2001.

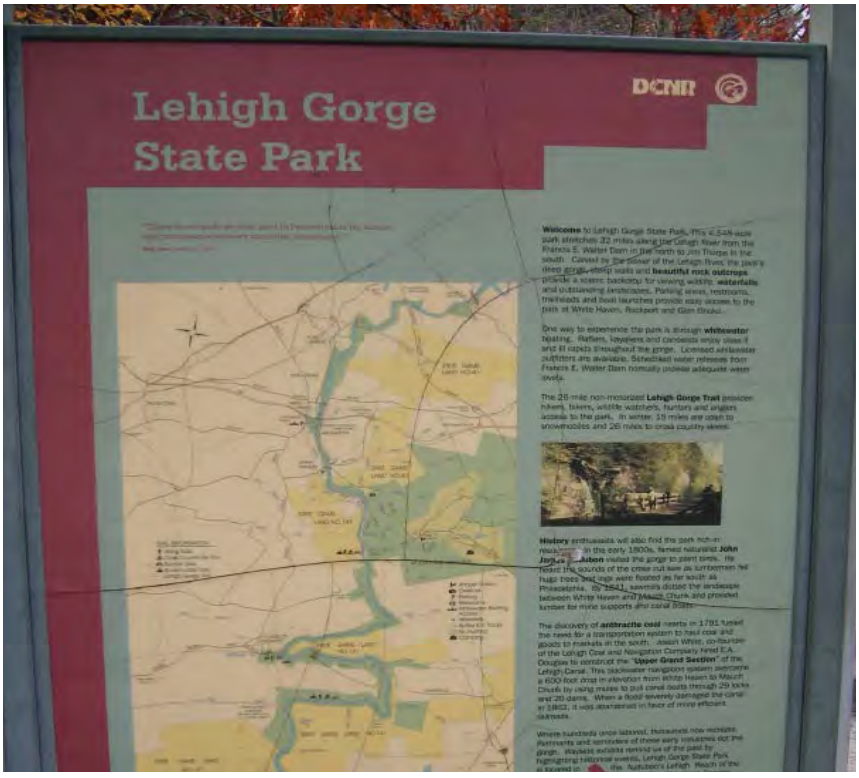
According to a 2001 study of tourism impact on Carbon County by the Pocono Mountain Visitors Bureau (PMVB), total direct visitor spending in the County was $146 million. This number has translated into 5813 jobs supported by traveler spending and total payroll compensation equaling $77.39 million. Federal, state and local taxes generated by traveler spending also provide a large amount of money for the county; in 2001 the number was at $36.76 million. Through speaking with residents and local business owners, we can assume that within Carbon County, Jim Thorpe is a large tourist destination, thus allowing us to apply this county data to the town.

See Appendix C for additional tourism information.

Conclusion

While exact numbers do not exist, it is safe to assume that Jim Thorpe currently benefits from tourist spending power. However, with resources that include two National Historic Landmarks, a National Register Historic District and various National Register Historic Sites, including the Switchback Railroad, it is the potential of this spending power that needs to be fully understood. Thus, more research is recommended.

comparables



In order to imagine what the potential future development of the Switchback Gravity Railroad could look like, and what effect it might have on the site's historic fabric, natural resources, and surrounding community, we examined a series of comparable sites. Our research on sites similar to the Switchback, or sites facing similar issues, began with a search for places that relate to the following themes:

- **Biking**
- **Industrial history/heritage**
- **Railroad-related sites, including funiculars**
- **Modern tourist trams**
- **Sports and recreation**
- **Other sites in the Poconos**
- **Similar sized small towns with historic attractions**

After examining these broad themes, we selected three sites that we felt were most relatable and comparable to the Switchback: the Horseshoe Curve National Historic Landmark, located in Altoona, Pennsylvania; the Lehigh Gorge State Trail (an example of Rails to Trails), located between Jim Thorpe and White Haven, Pennsylvania; and the Glen Onoko Trail, located in Lehigh Gorge State Park. These three sites were selected for a variety of reasons:

- **All are located within the same geographical region, and thus cater to a similar tourist market and are characterized by a similar natural landscape**
- **They are similar in current use (or potential use) to the Switchback**
- **They possess some of the same inherent resources, either natural or historical, as the Switchback site**

Looking at these comparables allows us to better understand the challenges, constraints, and opportunities posed by potential developments on the Switchback Gravity Railroad site. Comparable sites also provide ideas for improvements that could be made to the Switchback, and give us a sense of what types of interventions have and have not proven successful at other sites.

HORSESHOE CURVE NATIONAL HISTORIC LANDMARK AND FUNICULAR

The Horseshoe Curve National Historic Landmark, which includes a funicular, was selected for analysis as a comparable site because the Switchback Gravity Railroad Foundation has already looked at it as part of their proposal to build a similar funicular on the Pisgah Plane. In many ways, this site faces management challenges similar to those of the Switchback; it also provides useful insight into the benefits and costs associated with the construction of a modern funicular on a historic site.

The Horseshoe Curve Park dates back to 1879, when it was beautified and opened for public use by the Pennsylvania Railroad. A variety of amenity structures were built here during the mid-twentieth century, a retired locomotive was put on display, and in 1957 the management of the park was transferred from the Railroad to the City of Altoona. In 1966, the site was named a National Historic Landmark for its association with the region's railroad history. In 1989, a cooperative agreement was signed with the National Park Service to develop the site; soon after, from 1990 to 1991, a $5.8 million museum and visitor facility was constructed, and in 1992 the Horseshoe Curve National Historic Landmark was unveiled. A modern funicular carries visitors from the site's Visitors Center to the train tracks of Horseshoe Curve, which were constructed in the mid-nineteenth century. A historically accurate funicular could not be constructed due to safety concerns. Cost to access this site is $12 (for visitors center, museum, and funicular); it costs $8 to ride the funicular only.

The development of the Horseshoe Curve National Historic Landmark happened in stages, encouraged the participation of all stakeholders, and was completed with the cooperation of the National Park Service. The museum was the first portion of the site to open, and presents railroad history in America; it is not singularly dedicated to presenting the history of the Horseshoe Curve. The site also has a gift shop, the proceeds of which are used to further support the site. The funicular is open seasonally, while the museum is open year round. It is also important to note that the curve is still a functional railroad, serving Amtrak's Pennsylvanian service. Thus, the funicular serves as a means to view trains and functional rail lines in action, and is not an example of a "recreation" or "reinterpretation" of a historic rail line, as a funicular built on the Pisgah Plane would be.[1]

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[1] "Horseshoe Curve National Historic Landmark," Railroaders Memorial Museum, http://www.railroadcity.com/hc/index.php (accessed December 17, 2007).

LEHIGH GORGE STATE TRAIL: RAILS TO TRAILS

Because hikers and bikers currently frequent the Switchback Gravity Railroad trail, other successful recreational sites were looked into as useful comparables, specifically sites established by Rails to Trails, an organization that converts obsolete railroad tracks into recreational trails. This was an important avenue to explore, because it provides insights as to how the Switchback could be converted into a more user-friendly hiking and biking trail while still maintaining its multi-use function and preserving the site's natural and historic landscape.

Rails-to-Trails Conservancy is a nonprofit organization that works with communities to preserve unused rail corridors by transforming them into trails, enhancing the health of America's environment, economy, neighborhoods, and people. Their goal is to create a nationwide network of interconnected trails from abandoned rail lines that will be transformed into tangible community assets. Rails to Trails accomplishes their mission by promoting policy at the national and state level to make building trails possible, is a leader in the fight to preserve and protect the federal Transportation Enhancements program, defends the federal railbanking statute in the courts and congress, and promotes the transformation of rails into trails through education, technical assistance, and training.

rails·to·trails
conservancy

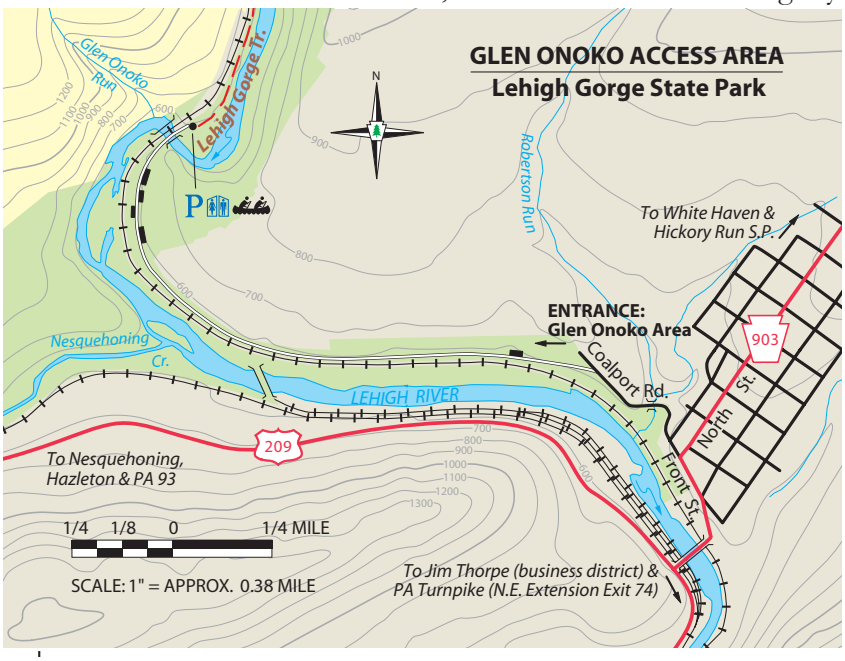
The Lehigh Gorge trail is 26 miles of an abandoned railroad right of way that runs between Jim Thorpe and White Haven through 4,548 acres of the Lehigh Gorge State Park along the banks of the Lehigh River. This is a multi-use trail that fosters hiking, biking, sightseeing, and photography. For visitors interested in bicycling, rentals are available onsite and shuttle service is provided to and from the trailhead. Visitors to the Lehigh Gorge State Trail can leave their impressions of the site on the Rails to Trails website as well as provide tips to other visitors who may be interested in visiting the site. This trail has proven to be success in preserving the right of way of the old railway as well as the rugged beauty of the natural landscape. It is a useful comparable to the Switchback because this trail has been very successful in maintaining historical assets while still encouraging multi-use visitation; Rails to Trails is also an important organization to consider because it develops sites similar to the Switchback for recreational use and provides a great deal of information and support for the community, site managers, and visitors.[2]

[2] "Rails to Trails," Rails to Trails Conservancy, http://www.railtrails.org/index.html (accessed December 17, 2007).

GLEN ONOKO TRAIL: LEHIGH GORGE STATE PARK

Glen Onoko Trail is another comparable recreational trail, located across the river from Jim Thorpe in East Mauch Chunk. The trail is a part of the Lehigh Gorge State Park and the Delaware and Lehigh National Heritage Corridor. Many Jim Thorpe residents frequently use this trail; although it is smaller than the Switchback trail, Glen Onoko possesses certain amenities, such as clearly marked access points, parking, and trail signage, that may make it more appealing to recreational users.

The trail runs alongside a series of waterfalls careening down a mountainside. Like the Switchback, the Glen Onoko trail is slightly off the beaten path, but there are clearly marked directional signs from Route 903 that lead the visitor to the trail's main access point on the Lehigh River. There is a fairly large parking lot located at this point, an amenity that the Switchback trail currently lacks. The signage on the Glen Onoko trail is also much more effective than the signage on the Switchback. At Glen Onoko there are several signs located near the parking lot, which allow visitors to orient themselves with the trail before they enter it; signage includes a map of the trail and surrounding area, the history of the trail, and information about the Delaware and Lehigh Heritage Corridor and the Lehigh Gorge State Park. Again, the Switchback lacks signage that gives visitors a basic overview of the site.



Although the Glen Onoko Trail differs from the Switchback in that its central importance is not historical, and because its landscape is potentially more appealing to the visitor, it is still an important comparable in terms of basic trail improvements and visitor amenities that could be established on the Switchback trail.[3]

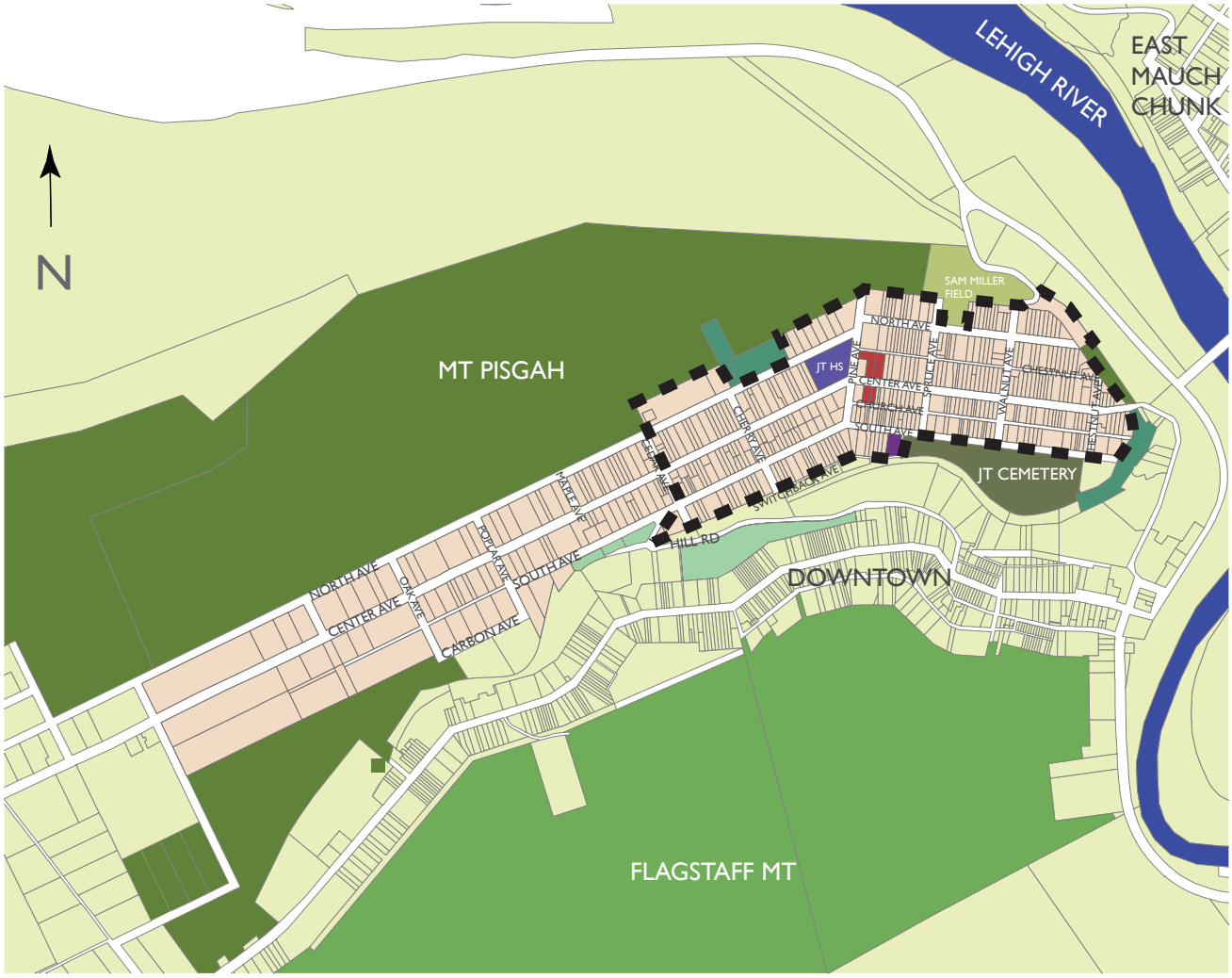
3 "Lehigh Gorge State Park," Pennsylvania Department of Conservation and Natural Resources, http://www.dcnr.state.pa.us/StateParks/parks/lehighgorge.aspx. (accessed December 17, 2007).

ethnography

In order to gain a better perspective on the Jim Thorpe community the team developed two surveys to administer to visitors and residents (for copies of survey forms see Appendix E). The first survey focused on visitor demographics and experiences in Jim Thorpe. The second survey was designed to learn more about resident demographics, their experiences in the Heights neighborhood, and their thoughts about the Switchback Gravity Railroad and the Switchback Gravity Railroad Foundation's proposal to construct a funicular on the Mount Pisgah plane. The team conducted these surveys in downtown Jim Thorpe and the Heights neighborhood.

RESIDENTS SURVEY: THE HEIGHTS

The team surveyed a total of 38 residents in the Heights neighborhood of Jim Thorpe (approximately 15% of the households within the target area boundary shown on the Heights Resident Survey Map) throughout October 2007, canvassing door-to-door on both weekends and weekdays. The study was conducted to learn more about resident demographics, their experiences in the Heights neighborhood, and their thoughts about the Switchback Gravity Railroad and the Switchback Gravity Railroad Foundation's proposal to construct a funicular on the Mount Pisgah plane. (See Appendix for a copy of the "Heights Resident Survey.")



The black dotted line delineates the boundary for the Heights Resident Survey's target area. The team determined that the homes within this boundary would be most impacted by future development of the Switchback Trail, such as the Switchback Gravity Railroad Foundation's funicular proposal.

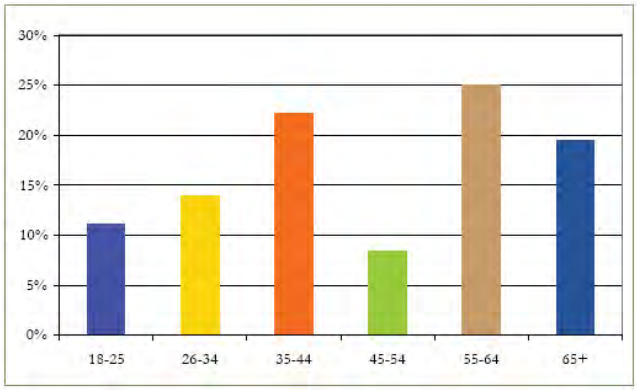
The Heights neighborhood was chosen as the target of the survey because it would be the area in Jim Thorpe most affected by development on the Pisgah Plane, as the incline runs directly behind several homes on North Avenue. Development of the plane would also involve the Sam Miller Field, a sports field at the base of the plane used by Heights residents as well as others in the area.

The team understands that many of the residents were not home during these times and, therefore, unable to offer their input. In addition, outcry from North Avenue residents at the Public Meeting in early December 2007 indicated the need for a larger scale civic engagement effort regarding the future of the Switchback Gravity Railroad.

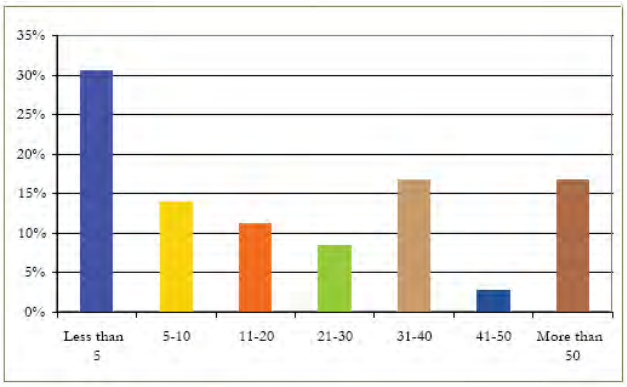
For many, such as these homes along North Avenue, the Switchback Trail is literally in residents' backyards. The Switchback Trail is heavily used for a myriad of activities year-round.

The Studio Team surveyed residences in the Heights, including these single- and multi-family homes along North Avenue at the base of Mount Pisgah.

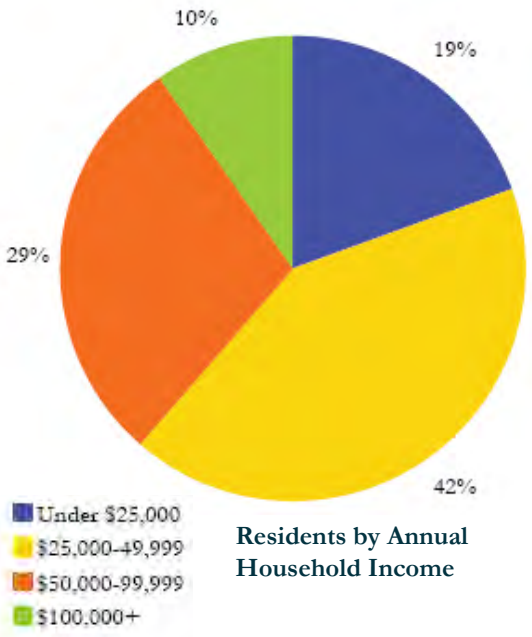
DEMOGRAPHICS OF SURVEYED RESIDENTS



Residents by Age



Residents' Tenure in Years

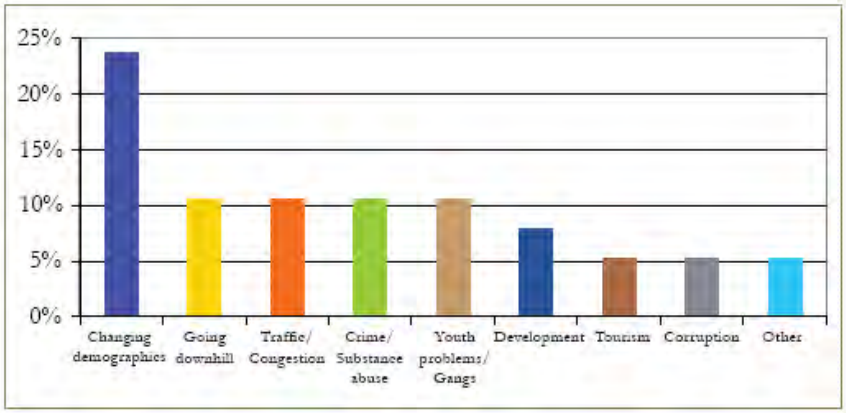


Residents by Annual Household Income

SURVEY RESULTS

The survey gave the team an opportunity to speak to residents and gain insight into the community.
Below is a list of points drawn from answers to survey questions.

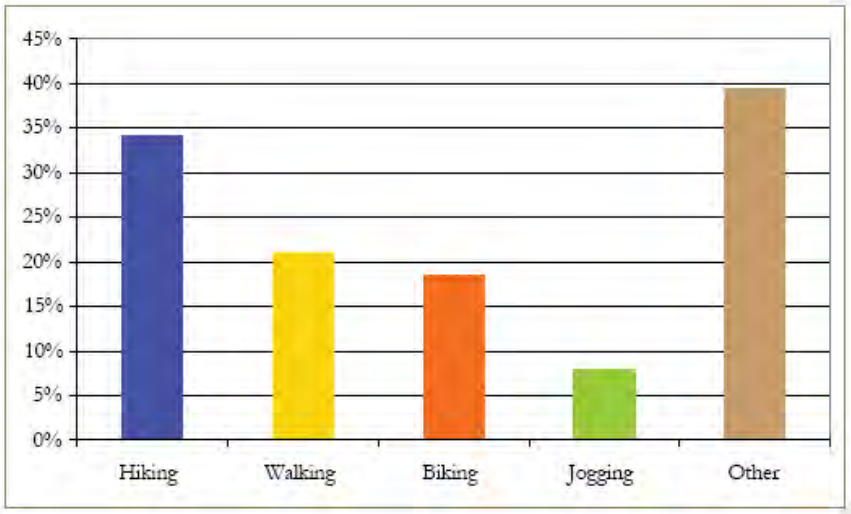
- **Quiet** was the most common word residents used to describe the Heights. Other common words and phrases were peaceful, quaint, scenic, and nice neighborhood.
- Residents described the Heights mostly in positive terms. However, most residents conveyed that there have been recent negative changes.
- Heights residents value their community's **scenic natural landscape** and **industrial heritage.**
- The Heights is a close knit neighborhood.
- The Switchback Trail is actively used by Heights Residents
- Residents regularly use the Switchback Trail for fishing, picnicking, sport vehicles, beach activities by Lake Mauch Chunk, camping, cross-county skiing, dog play, education, hunting, kite-flying and swimming.



Resident-Defined Changes in the Heights

What Residents Like Best

59%.....Mountains/Scenery
13%.....Quiet
13%.....Familiar (family, friends)



Residents' Activities on the Switchback Trail

Resident Awareness of the Switchback Gravity Railroad (SGRR)

70% Had been on the Switchback Trail (either themselves or a family member)
24% Had been on the entire 18-mile Trail
30% Do not use maps to navigate the Trail
79% Were somewhat or very familiar with the history of the SGRR

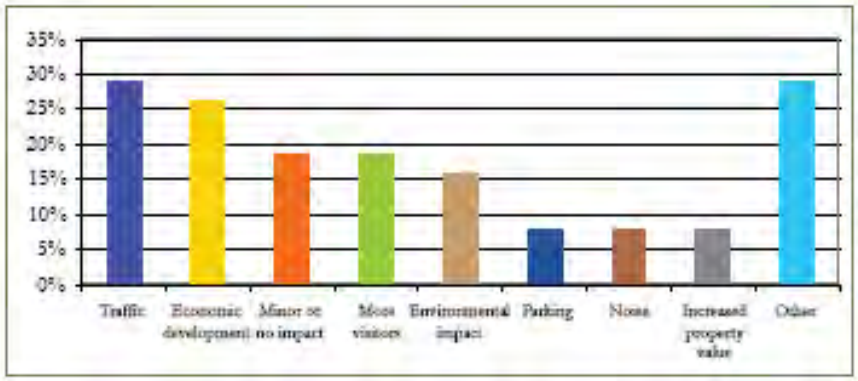
Residents' Use of Sam Miller Field

Residents described the importance of Sam Miller Field, situated at the base of the Mount Pisgah plane, as a public open space. The field and playground is the only public park that has a playing field in the borough (the playing fields in East Mauch Chunk, the area of the borough on the other side of the Lehigh River are owned and maintained by the public school system).

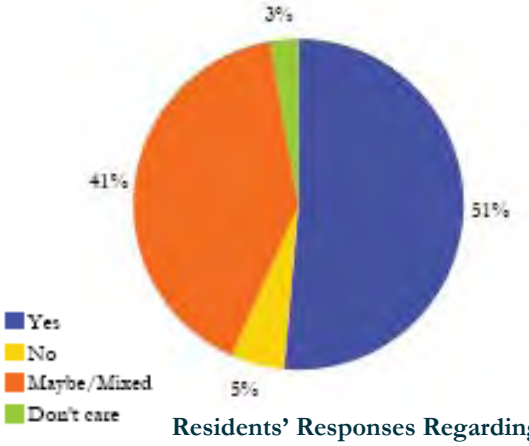
Residents' Thoughts on the Switchback Gravity Railroad Foundation (SGRF) Proposal to Construct a Funicular on the Mount Pisgah Plane

A conclusive statement about the feelings of the Heights residents about the SGRF's proposal cannot be made at this time. Many participating residents did not decisively answer this question and several nonparticipating residents voiced their desire to have their feelings recorded at the Public Meeting. Of those who were surveyed, 26% support the restoration of the Switchback Gravity Railroad and 18% want nothing done with the site.

Residents suggested other alternatives for the Switchback site and these ranged from short-term improvements to major development on the Mount Pisgah plane. Suggestions include enhanced maintenance of existing trail, the establishment of a wildlife sanctuary, enhanced maintenance of Sam Miller Field, residential development, and the installation of a lift for downhill skiing.



Residents' Responses Regarding How the SGRF Proposal Would Affect the Heights Neighborhood



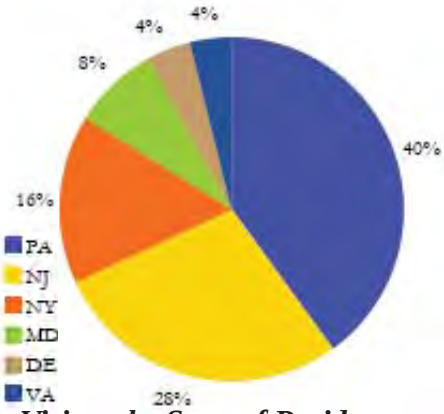
Residents' Responses Regarding Whether the SGRF Proposal Would Benefit the Borough of Jim Thorpe

The Heights will be affected, both positively and negatively, by most development of the Switchback site including the SGRF's proposal. Several residents noted the economic benefits of development while others expressed concern over the affects on the environment and the increased amount of visitors and traffic that would accompany an attraction on the plane. Residents also indicated concern about the following issues: access, cost, infrastructure, nuisance and private property rights. Others noted that the proposal may increase the community's recreational opportunities and awareness of the site's history.

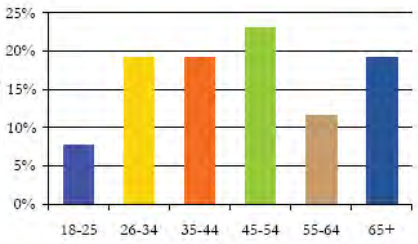
VISITORS SURVEY: DOWNTOWN JIM THORPE

The studio team surveyed a total of 27 visitors in Downtown Jim Thorpe throughout October 2007. The surveys were gathered during the Fall Foliage Festival as well as other weekend and weekday periods. The team understands that this figure is not statistically significant and therefore recommends the completion of a more in-depth visitor survey by the Project Partners.

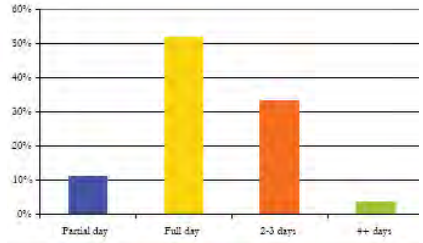
This study was geared toward learning more about visitors' demographics, their experiences of Jim Thorpe, and their awareness of the Switchback Gravity Rail Road.



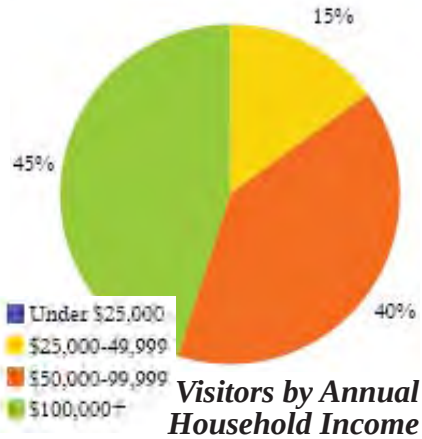
Visitors by State of Residence



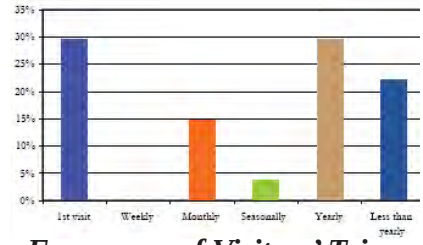
Visitors by Age



Length of Visitors' Stays



Visitors by Annual Household Income



Frequency of Visitors' Trips

Visitor Demographics

84% From the Tri-State Area (Pennsylvania, New Jersey, New York)

92% White, Non-Hispanic

81% Have children

100% Accompanied by companions (family, friends, and/or significant others)

SURVEY RESULTS

The survey allowed the team to learn more about the visitor experience in Jim Thorpe. Most visitors noted that shopping, dining, biking, walking and visiting railroad attractions were among the activities they participated in while in town. Quaint was the most common word visitors used to describe Jim Thorpe. Other common words and phrases were scenic, tranquil, historic, charming, and little village. Visitors commonly compared Jim Thorpe to New Hope, Pennsylvania and Europe. Of those surveyed, 68% were somewhat or very familiar with the history of the railroad and 81% would have an interest in a historic or recreational site that interprets the history of the Switchback. Only 23% had ever used the trial.

The team hesitates to draw a conclusion from this data about the demand for a tourist attraction associated to the Switchback historic landscape because surveying was not extensive enough. A more thorough survey would need to be conducted to gain accurate knowledge of this information.

stakeholders

From late October to mid-November, the Studio Team had the opportunity to observe and participate in stakeholder interviews scheduled and led by Dale Freudenberger of the Delaware and Lehigh National Heritage Corridor (D&L). Stakeholders included public, private, and non-profit entities.

Twelve of the stakeholders contacted by D&L scheduled interviews. The Stakeholder Interview Summary Chart lists highlights key information gathered. These stakeholder interviews informed the Team's recommendations, particularly the development of the policy statements. Most stakeholders viewed the entire 18-mile loop of the Switchback Gravity Railroad Trail as a regional recreational asset to be preserved and enhanced. Improved maintenance of the existing Trail was a chief priority, followed by improved interpretation and signage.

Additionally, Stakeholder interviews also revealed that while a majority of stakeholders felt the Switchback Gravity Railroad Foundation (SGRF) proposal was a positive idea, they were overwhelmingly concerned about various potential impacts, ranging from environmental to neighborhood to transportation. Many stakeholders were united their desire for SGRF to complete studies regarding their proposal before formally approving or disapproving. Government and business organizations felt that the proposal could produce positive benefits for tourism economy of both the Borough of Jim Thorpe and Carbon County. The greatest concerns of all stakeholders were neighborhood impact and transportation issues, including traffic congestion and parking accommodation.

CARBON COUNTY GOVERNMENT				
STAKEHOLDER	County Commissioners	Redevelopment Authority	Office of Economic Development	Parks and Recreation Department
REPRESENTATIVE	Charles Getz, Wayne Nothstein, William O'Gurek	Phyllis Bolton Director	Toni Artuso	David Horvath
DATE	11/15/2007	11/1/2007	11/15/2007	11/8/2007
SIGNIFICANCE OF TRAIL	Asset to residents and visitors to Jim Thorpe	-	Recreational attraction that can become a historic and cultural attraction; asset to entire community	National Recreation Trail
RECOMMENDATIONS FOR TRAIL	Maintenance	Maintenance	Tourist shuttle bus package to transport visitors to sites throughout the region	Resurfacing to improve drainage and prevent erosion; Downtrack needs to be the first priority of the Trail, followed by: Five-Mile Tree Overpass, area between Stoney Lonesome and Flagstaff Roads, Mt. Jefferson Crossover and Plane, area between Hill Road and Jim Thorpe water authority; interpretation; directional signage; rest areas; trailhead construction; maintain and improve Wagon Road
STANCE ON SGRF PROPOSAL	Need more information on proposal	Will support if feasible and community feedback is positive	Supports	Trail has other priorities
POTENTIAL BENEFITS OF SGRF PROPOSAL	Preservation of history; tourist attraction	Boost to tourism economy	Job creation; tourist attraction; boost to economy; good marketing for county; benefits to Carbon County in related food, gas, and lodging revenue	-
CONCERNS REGARDING SGRF PROPOSAL	Habitat impacts; community impacts; traffic; ownership; cost	Parking; traffic	Parking; traffic	Amount of access may impact site and current recreational uses; maintenance; cost; community impacts; security; Wagon Road would need improvements
FUNDING MECHANISMS FOR PROPOSAL	Potential matching funds to complte studies from County	-	Pennsylvania's First Industries Tourism Program, which offers low-interest (2%) loans for tourism-related projects	DCNR and federal transportation funding
ADDITIONAL COMMENTS	County parking lot could be expanded	Proposal should be explored further; SGRF should continue studies; public involvement and information distribution is very important	-	County works with Pennsylvania Conservation Corps to maintain Trail; Trail is open to public hunting

	STATE GOVERNMENT	*FEDERAL GOVERNMENT*
STAKEHOLDER	Department of Conservation and Natural Resources (DCNR)	Delaware and Lehigh National Heritage Corridor (D&L)
REPRESENTATIVE	Dennis DeMara	Elissa Marsden-Thorne Vice President of Heritage Programs
DATE	10/25/2007	11/6/2007
SIGNIFICANCE OF TRAIL	Successful recreational trail; one of the most historic and challenging sites in Carbon County	Integral part of community; historic/cultural resources are economic development
RECOMMENDATIONS FOR TRAIL	Maintenance; stabilization; preservation; interpretation; Backtrack needs the most improvement; construction of pavilion as visitor facility	Maintenance; directional signage; interpretation; stabilization and preservation of ruins; picnic pavilion; overlook; active friends group needed for maintenance;
STANCE ON SGRF PROPOSAL	Good idea, but blending tourism and livable communities is challenging	Opposes
POTENTIAL BENEFITS OF SGRF PROPOSAL	Tourism economic development; if there is profit, revenues could go towards Trail maintenance	Heritage tourism
CONCERNS REGARDING SGRF PROPOSAL	Parking; zoning; neighborhood impacts	Development and increased access may destruct the historic resource; inauthetntic reproduction; archaeological and other studies required; cost; widening of right-of-way would be required with federal funds and would damage the resource; impact on Sam Miller Field; shuttle bus would be difficult on tight streets in Heights; neighborhood impact
FUNDING MECHANISMS FOR PROPOSAL	County hotel tax; DCNR	-
ADDITIONAL COMMENTS	Switchback provides access to prime hutning grounds; funicular would be cleaner way to reach the summit than automobile access	Future D&L project to create linkage trail from Visitor Center to Trail; increased public participation encouraged in development of new Greenways Plan

SPECIAL INTEREST GROUPS			
STAKEHOLDER	Summit Hill Historical Society	Wildlands Conservancy, Smart Growth Carbon	Jim Thorpe Sportsmen
REPRESENTATIVE	Members	Camille Lore Outreach Coordinator	Steve Hrinkonich, Donnie Vincler
DATE	11/20/2007	11/1/2007	11/15/2007
SIGNIFICANCE OF TRAIL	History	National Recreation Trail	Access point to hunting grounds
RECOMMENDATIONS FOR TRAIL	Tying together with other attractions in area; signage improvements	-	Maintenance; education about what people should wear on the Trail and when hunting season is open
STANCE ON SGRF PROPOSAL	Supports	-	Will not suport any loss of open space/hunting and game grounds
POTENTIAL BENEFITS OF SGRF PROPOSAL	More developed visitor experience	-	Interesting, if it did not destroy the mountain or commercialize the place
CONCERNS REGARDING SGRF PROPOSAL	Community feedback	Proximity to water source; steep slopes (15% grade and higher); sediment runoff and stormwater infiltration; Natural Areas Inventory; preserve view scape; traffic; neighborhood impact; impact on recreational uses; zoning	Safety zones for huntesrs; hunters unable to traverse trail with firearms in hand
FUNDING MECHANISMS FOR PROPOSAL	Summit Hill is "best kept secret" but there is "nothing to do" compared to Jim Thorpe	Holds easement on 750+ acre tract adjacent to trail on Rt. 209 in Nesquehoning;Smart Growth Carbon concerned about views and ridges; Greenway Plan forthcoming	Wagon Road is 1 of the easiest points of access for the hunter, significant loss of hunting grounds in Carbon County over the last 10-20 years
ADDITIONAL COMMENTS	-	-	-

BUSINESS ORGANIZATIONS			
STAKEHOLDER	Jim Thorpe Council, Chamber	Carbon County Chamber of Commerce	Pocono Mountain Visitors Bureau
REPRESENTATIVE	Dan Hugos President	Michael Heery Executive Director	Ann Pilcher
DATE	11/8/2007	11/8/2007	11/15/2007
SIGNIFICANCE OF TRAIL	History; views	-	Authentic to Jim Thorpe; goal of regional trail system
RECOMMENDATIONS FOR TRAIL	Awareness; interpretation	Preservation and interpretation of ruins	More visibility of trailheads; cross-marketing with other attractions
STANCE ON SGRF PROPOSAL	Supports	Supports	Supports
POTENTIAL BENEFITS OF SGRF PROPOSAL	-	Boost for Jim Thorpe and Carbon County economies; enhance existing attractions	Increased traffic to businesses; added value for those already visiting
CONCERNS REGARDING SGRF PROPOSAL	Traffic flow; minimal impact on neighborhood	Temporary traffic increase when it first opens	Parking; ticketing for shuttle to mountain
FUNDING MECHANISMS FOR PROPOSAL	Not much foot traffic in Heights	Remote parking is key to project	
ADDITIONAL COMMENTS	-	-	-

PUBLIC WORKSHOP

On December 6, 2007, the Project Partners facilitated a Public Workshop in Jim Thorpe that included a presentation by John Drury of the Switchback Gravity Railroad Foundation's proposal to construct a funicular on the Mount Pisgah plane and an overview of the Studio Team's research by Randall Mason. Members of the Team had the opportunity to observe the meeting and listen to residents' feedback.

Approximately fifty residents attended the Public Workshop. The response to the SGRF proposal was overwhelmingly negative. In particular, residents of North Avenue abutting the Switchback Trail strongly opposed the proposal. In addition, residents raised issues regarding improvements to trail safety and directional signage.

Residents expressed great desire to have their voices heard. Many residents who were unable to participate in the Heights Resident Survey when the Studio Team canvassed door-to-door wanted the chance to share their concerns in the survey. Unfortunately, the Studio Team was unable to include additional data in the analysis for this report. Therefore, the Studio Team cites the need for a more in-depth community study with a higher participation rate to accurately assess public opinion of the proposal.

S.W.O.T.

A S.W.O.T. (strengths, weaknesses, opportunities, and threats) analysis was performed for the Switchback Gravity Railroad Studio Project. This process was the first attempt of the Studio group to synthesize the data accumulated from archival, ethnographic, site documentation, and policy research. What follows is a summary of the greatest strengths, weaknesses, opportunities, and threats as identified by the Switchback Gravity Railroad Studio Group. (See Appendix F for full results of voting session)

STRENGTHS

The existing viewsheds, the surrounding Tourist/Recreation infrastructure, as well as the Multi-Use of the Trail were identified as the Switchback Gravity Railroad's most significant strengths.

The primary strength of the Switchback Gravity Railroad are the viewsheds that could be enjoyed by all visitors. This strength has been consistent throughout the history of the site, as enjoyed by early pleasure seekers who rode on the Switchback as the first rollercoaster, or by the current hikers and bikers who ascend and descend the slope respectively. The surrounding tourist infrastructure was also found to be a strength, as Jim Thorpe has evolved into a popular destination due to its downtown renovation and scenic qualities. Like many small former-industrial towns, Jim Thorpe went through a period of industrial decline during the mid-twentieth century. However, unlike other towns, Jim Thorpe managed to reinvent itself through a series of initiatives, most importantly as a pilot site for the Main Street Program. The multi-use of the trail was also found to be a primary strength, as the 18 mile loop of the Switchback Gravity Railroad Trail allows for hiking, biking, fishing, hunting and other recreational uses. This multi-use is not only a benefit to visitors, but also residents of the community.

WEAKNESSES

Conflicting opinions regarding development, the lack of historic fabric, and poor signage were all identified as the Switchback Gravity Railroad's most significant weaknesses.

One of the primary weaknesses facing the Switchback Gravity Railroad landscape is the disagreement over development. Some stakeholders within the town support the proposal of the Switchback Gravity Railroad Foundation to rebuild and recreate a funicular on the Pisgah Plane. Other groups, such as those residents who live close to the site, oppose any development as it will lead to more traffic and noise. Furthermore, the lack of historic fabric can be seen as a significant weakness of the site. This shortage of material remains makes it difficult not only for visitors to appreciate the site, but also making for interested parties to draft a comprehensive preservation plan. Finally, poor signage was identified as significant weakness of the site, as many visitors find it almost impossible to navigate the entire 18 mile loop of the site. At several points the trail ends with no signage to indicate where the visitor should proceed next.

OPPORTUNITIES

Tourism – Economic Development, the opportunity to interpret existing historic fabric, as well as using the Switchback Gravity Railroad as a catalyst for change, were identified as the most significant opportunities.

One of the primary opportunities found for the Switchback Gravity Railroad is the possibility for tourist and economic development. The possibility of rebuilding the funicular or making improvements to the trail itself would lead to greater visitorship and economic benefits to residents in the region of the Heights, the neighborhood situated closest to the Pisgah Plane. The possibility of interpretation of the existing historic fabric was also identified as an opportunity, as little research has taken place prior to the studio workshop's commencement. Further interpretation could lead to greater information about the function of the Switchback Gravity Railroad and its history. Finally, the Switchback Gravity Railroad as a catalyst for change could also be an opportunity, as improvement of the site, whether through greater amenities or the recreational benefits of the funicular would lead to greater economic opportunity and development for Carbon County and the town of Jim Thorpe.

THREATS

Conflicting trail use, the taxing of infrastructure, noise, the perception of the Switchback Gravity Railroad Foundation, and increased traffic on the trail were identified as significant threats to the Switchback Gravity Railroad.

There are many outside elements that could be potentially threatening to the future of the Switchback Gravity Railroad. Possible conflicting trail uses were identified as a primary threat, as the Pisgah Plane and other portions of the 18 mile loop are currently used for illegal activities such as ATV riding. Furthermore, the possible development of a funicular would negatively affect other stakeholders such as hunters by decreasing their recreational space. The perception of the Switchback Gravity Railroad Foundation, the organization behind the proposal for the funicular on the Pisgah Plane, can also be perceived as a threat. Many residents of the town view the Foundation leadership as fronted by outsiders who do not have the best interest of the town at heart. They believe that any additional tourist development of the town would lead to further degradation of the town's unique character. The taxing of infrastructure, noise, and increased pedestrian and vehicular traffic were also valued equally as tertiary threats. If the trail continues to erode at its current rate or development proceeds at a pace that outstrips infrastructure development, the trail could fall into further disrepair and the town would suffer.

policies & recommendations

Based upon the research and analyses conducted, the studio developed a set of policies to address the current and future state of the Switchback Gravity Railroad. These policies are a set of guiding principles based on upholding the core values of the site. They have been used to determine a recommendation list of acceptable future actions associated with the Switchback Gravity Railroad site.

The six policies presented incorporate and consider the entirety of the semester's work, including historical research, ethnographic research, environmental research, GIS mapping, and stakeholder interviews. Addressing the current needs and future potential of the site, each policy is presented fully, including sets of distinct strategies and actions outlining what should be done to satisfy the policy recommendations.

policies & recommendations

Based upon these actions, the range of acceptable interventions for the site has been identified in terms of minimum and maximum response grouped per policy theme. Minimums are basic actions that should be taken in response to some of the site's most pressing concerns. They generally require the least amount of funding, infrastructure, and manpower. Maximums represent the highest degree of intervention that can be implemented at the current time, without negatively affecting any part of the Switchback's 18-mile loop; they generally require higher levels of funding and involvement. In addition, the group identified prohibited interventions within certain policy themes which should not be undertaken in any circumstance.

The combination of actions and minimum-maximum ranges provided opportunities for individual group members to explore and elaborate upon a specific recommendation. Some projects explore maximum interventions, while others focus on more intermediate means of addressing current issues and concerns. They represent practical applications of the determined recommendations.

The policies outlined below serve as a set of guidelines to consider when addressing any present and future treatment of the Switchback Gravity Railroad. Specific implementation of these policies is outlined through the spectrum of strategies, actions and individual projects. These policies were crafted to evaluate the most significant characteristics of the site. As such, future stewards of the Switchback should endorse these recommendations, guiding management in preserving the site's most significant values.

1.

preserve the SGRR historic landscape

1. Preserve the SGRR Historic Landscape

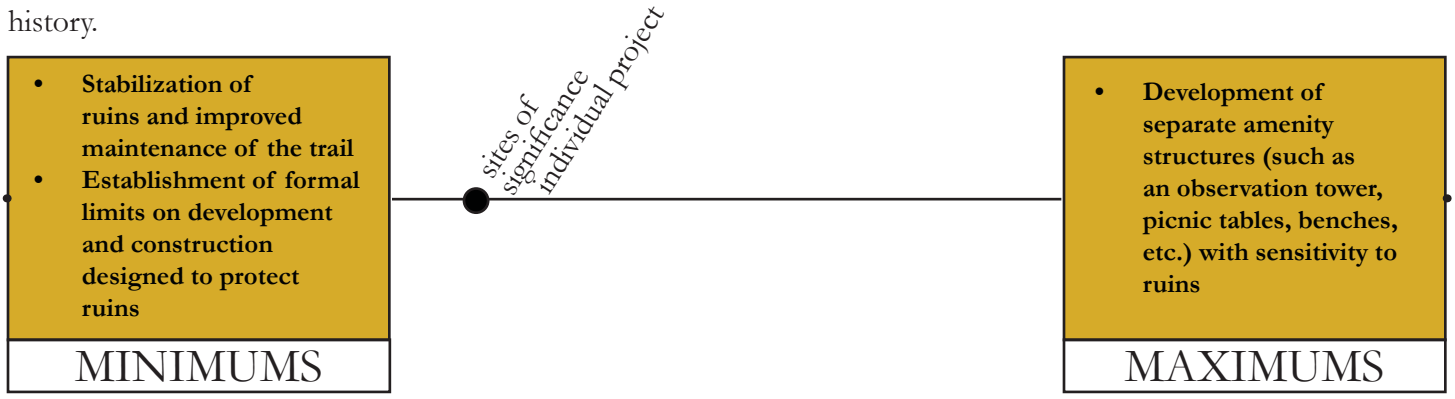
Policy

Remnants of the historic SGRR landscape should be preserved and stabilized in situ, and as a whole. These include the ruins of buildings and engineering structures, as well as landscape features (roads, rights-of-way, sites, views). The Mt. Pisgah Plane and peak are among the most significant areas to be preserved. The site must be viewed in its entirety (the 18-mile loop and its historic environs) when considering any plans for change. Decisions about particular places, resources, or activities must be evaluated in terms of their impact on the whole SGRR historic landscape.

Strategy	Actions
1. Stabilize and collect data on the historic ruins/fabric along the trail	• Prioritize historic fabric/elements based on historical significance as it relates to industrial history, railroad history, and Jim Thorpe.
2. Communicate the significance of the SGRR, complementing existing efforts	• Develop historic narrative of the entire 18 mile route • See Policy on Interpretation (below)
3. Maintain the original SGRR right of way as a whole, historic landscape, functioning as a multi-use trail as well as an interpreted historic site.	• Map entire original right of way • Establish protective measures for right of way, via zoning, designations, enhanced signage, etc
4. Manage/redesign the SGRR landscape to enhance the visibility of historic structures and elements.	• Design plans for priority sites of ruins, key parts of the right-of-way, and important historic views. • Review, and establish as necessar
5. Areas under consideration for preservation, development, or other management change must be investigated within their larger historical and geographic context.	• Use historic information from Strategy #1 to determine development potential of specific sites. • Establish design protocols and standards for development (trail development, economic development) that are sympathetic

Rationale

The Switchback Gravity Railroad is an historic landscape recognized as highly significant to American industrial and railroad history, the development of Pennsylvania coal fields, and the founding and development of the town of Mauch Chunk/Jim Thorpe. This value is rooted in its ruinous landscape; it is the remaining physical fabric that links this area with the SGRR's larger history. Furthermore, the true value of the SGRR can only be experienced directly on the site, where visitors can see and connect with the remaining fabric of a milestone in American industrial history.



An Alternative Interpretation Site for the Switchback Gravity Railroad

Project Summary

The 18 mile trail of the Switchback Gravity Railroad is home to numerous ruins dating back to the railroad's golden years of coal transportation and early American tourism. Currently ruins that remain along the 18 mile trail are unstable, and visually obscured by vegetation with little to no interpretive signage for trail users. While there is a plan proposed by Switchback Gravity Railroad Foundation to reinterpret the Pisgah Plane through the construction of a funicular, which would allow visitors greater access to view sheds and ruins that remain atop the steep incline, this proposal does not provide comprehensive interpretation of the Switchback Gravity Railroad as both an industrial wonder and an early American tourist attraction. Therefore the goal of this project is to survey the sites of significance identified by the mapping team and create a potential interpretive tour that would better incorporate the connection of the Switchback Gravity Railroad to the mining history of the Lehigh Coal and Navigation Company as well as to its early American tourism roots.

Justification

Based on policy number one, Preserve the SGRR Historic Landscape, the preservation and interpretation of the entire trail of the Switchback Gravity Railroad must be undertaken in order to maintain the site as a whole. The development of a maintenance plan for three key sites outlined in this project will serve as a base plan for the rest of the existing ruins along the 18 mile loop according to the minimums and maximums outlined in policy number one. Furthermore the development of a tour that incorporates these sites will provide for a more comprehensive interpretation of the Switchback Gravity Railroad trail as a whole and will encourage visitors to experience the entire site rather than just the Pisgah Plane.

Methodology

PHASE 1: IDENTIFICATION OF SITES TO BE STABILIZED AND

Using the sites of significance map and key created by the mapping team three key sites of significance in relatively close proximity to each other will be identified as optimal candidates for stabilization and interpretation. These sites will be selected based on their significance to the history of the Switchback Gravity Railroad, current condition, potential as tourist attractions, and proximity to one another.

PHASE 2: COMPARABLE RESEARCH

Once the three sites of significance have been identified, comparable research will be conducted in order to assess the feasibility of stabilizing each site, and the development of a comprehensive interpretation plan. This research will look at similar sites in the Pocono's region and around the country that have stabilized and incorporated industrial ruins into successful recreational sites.

PHASE 3: STABILIZATION PLAN

From the comparable research conducted in phase 2 a stabilization plan for the three chosen sites will be created in

accordance with the minimums and maximums outlined in policy one, Preserve the SGRR Historic Landscape.

PHASE 4: INTERPRETATION PLAN

Using historical research gathered during the first half of this studio project on the Switchback Gravity Railroad and comparable research from phase 2 an interpretation plan will be created for each of the three sites. The interpretation of each of the three sites will then be woven into an integrated tour for visitors.

Sites of Significance

The three sites that have been selected for this project are: the stand on the backtrack, the five-mile tree overpass, and the Hacklebernie mine. These sites were chosen based on recommendations from the mapping team who identified the above ruins as the most significant extant sites on the Switchback Gravity Railroad trail based on their historical significance and current condition (See Appendix B Sites of Significance Map).

Two sites which would serve as physical evidence of the Switchback Gravity Railroad's contribution to the industrial revolution and booming anthracite coal industry are the Stand on the Backtrack and the Hacklebernie Mine.

The abandoned **Hacklebernie Mine** is the only structure still standing that attests to the mining history of the Switchback Gravity Railroad. Although, the interior of the mine has been flooded for years, the mouth of the mine is still intact and stands as a testament to the once booming anthracite coal industry in Mauch Chunk/Jim Thorpe which led to the initial construction of the Switchback Gravity Railroad.

The inside of the Hacklebernie Mine.

About 1,000 feet from the Hacklebernie Mine stands the mammoth stone wall from the Stand on the Backtrack that presents dramatic visual evidence of the industrial history of the Switchback Gravity Railroad. It was at this location where empty coal cars were pushed off the Backtrack and sent down to the Hacklebernie tunnel breaker.[1]

The inclusion of the **Five-mile Tree Overpass** located approximately 5 miles away from the above two sites not only would enhance the telling of the Switchback's

[1] The Switchback Gravity Railroad Foundation, *The Route of the Switchback: A Walker's Tour.* TN Printing, Lehighton. 1997.

contribution to the American industrial revolution, but also would help to tell the story of the Switchback as one of the most popular tourist attractions in the country during the mid to late ninetieth century.[2]

Two rubble stone walls from the Five-mile Tree Overpass still remain where coal and passenger cars would cross over the backtrack trail. This site is one of the most popularly depicted of the Switchback Gravity Railroad appearing in historic photographs and postcards advertising the thrill visitors experienced riding the Switchback during its glory days as the first rollercoaster in the country.

The Stand on the Backtrack.

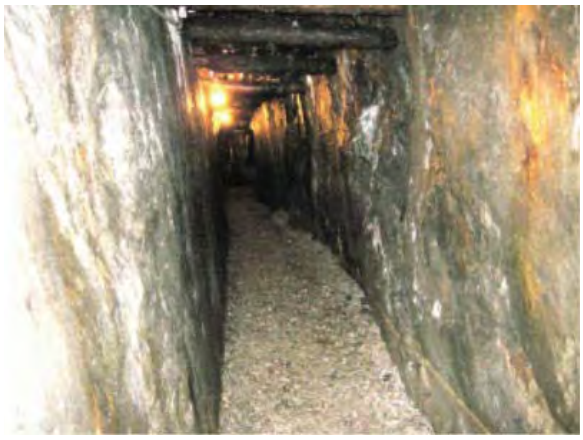
The stabilization and interpretation of each of these three sites into a cohesive tour for visitors would allow guests to experience the history of the Switchback Gravity Railroad from its birth as a result of the booming coal industry to its celebrated re-birth as a popular tourist attraction in the mid to late ninetieth century long after it ceased to be used for coal.

The Five-mile Tree Overpass.

Comparables

MINE NO. 9

Not far from the Switchback Gravity Railroad in Lansford Pennsylvania is Mine No. 9. This mine was one of the most successful mines in the Panther Valley and one that was originally associated with the LC&N Company. Today the mine is a heritage tourism site where visitors can descend underground to see the interior of the longest continuously running mine.[3] This site is highly successful and gives visitors a taste of the industrial history embodied in this site through an underground train tour, visitor center and shop.



Mine No. 9. Photograph courtesy of No. 9 Coal Mine and Museum http://no9mine.tripod.com

[2] The Switchback Gravity Railroad Foundation, *The Route of the Switchback: A Walker's Tour.* TN Printing, Lehighton. 1997.

[3] No. 9 Mine and Museum. http://no9mine.tripod.com

RAILS TO TRAILS: The Great Allegany Passage

The Great Allegany Passage is was one of the first inductees into the Rails to Trails program, this 150 mile trail running from Washington DC to Allegany Pennsylvania provides bike riders the chance to experience industrial heritage from the seat of bike. [4] Here riders can experience the serene landscape and industrial ruins that remain along the trail. This trail welcomes bike riders, hikers and horseback riders the chance to experience industrial history in its ruinous state amid breathtaking landscapes.

Bike riders on the Great Allegany Trail. Photograph courtesy of Allegany Trail Alliance http://www.atatrail.org

Stabilization Plan

In order to stabilize each of three ruins for this project, the Stand on the Backtrack, the Five-mile Tree Overpass, and the Hacklebernie Mine, an engineering study, and conditions survey must be conducted. This will ensure the life safety of each site for visitors and will identify active decay mechanisms to be treated and mitigated by conservation professionals to ensure the longevity of the ruins.

Prior to conducting any conservation work on site a comprehensive engineering study for each site especially in the case of the Hacklebernie Mine must be conducted. The Hacklebernie Mine is one of the biggest assets unutilized on the Switchback Gravity Railroad trail but before it is incorporated into an interpretation plan it

[4] The Allegany of Allegany Trail Alliance. http://www.atatrail.org

must be stabilized for visitors.

Once the engineering study has been completed a conditions survey of the above three sites should be undertaken. This process would include the documentation of active deterioration mechanisms leading to the erosion of the current historic resources. Some of the deterioration conditions present at the above sites have already been identified by the mapping team during their initial analysis of the extant ruins of the Switchback Gravity Railroad trail. The most significant active deterioration conditions identified by the mapping team include: macro-flora dislodging current stone construction and general vegetation overgrowth present at all of the above sites, and flooding in the case of the Hacklebernie Mine.

Visitors at the Entrance of the Hacklebernie Mine. Photograph courtesy of the Mauch Chunk Museum. http://www.mauchchunkmuseum.com/PhotoArchives

Interpretation Plan

A comprehensive visitor tour illustrating the evolution of the Switchback Gravity Railroad would begin at the Hacklebernie Mine. Here visitors would enter the mouth of the mine learning and would learn of the mining history of the Mauch Chunk area. Although this mine did not produce large quantities or good quality of coal it is a physical testament to the anthracite coal industry that gave birth to the Switchback Gravity Railroad.[5] From this point tourists would move to the Stand on the Backtrack, here visitors would be confronted by a remaining mammoth stone wall. Tourists would not only learn about how the Stand on the Backtrack functioned within the overall transportation of coal from the region, but they would learn about the evolution of transportation technology during the overall history of the LC&N. The last site included in the tour would be the Five-mile Overpass, here visitors would learn about the role the Switchback Gravity Railroad played in the advent of leisure culture in America during the mid-ninetieth century. Here visitors would see historic images of the remaining stone ruins and hear stories from visitors of years past told by their tour guide to learn of just how popular this site was during the mid-nineteenth century.

This comprehensive tour could be conducted as a walking tour for hikers or could be lead as a bike tour with the significant sites being pull off points for reflection. This plan would retain multiple use of trail and would provide a comprehensive telling of the history of the Switchback Gravity Railroad.

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5 The Switchback Gravity Railroad Foundation, *The Route of the Switchback: A Walker's Tour.* TN Printing, Lehighton. 1997.

Historic Image of The Five-mile Tree Overpass. Photograph courtesy of the Mauch Chunk Musuem. http://www.mauchchunkmuseum.com/PhotoArchives

Conclusion

The stabilization and interpretation of ruins along the Switchback Gravity Railroad Trail is vital to maintaining the history and physical fabric of the site. This plan addresses the physical stabilization of the three most significant sites identified by the mapping team and creates interest in another area of the 18 mile loop besides the Pisgah Plane drawing visitors to experience other areas of the trail. Additionally, this plan provides an example of how the Switchback Gravity Railroad trail can be interpreted and stabilized while still falling within the minimums and maximums of policy 1. Although, this program only addresses three key sites along the Switchback Gravity Railroad trail it is adaptable and can be used as a preliminary layout, for interpreting the entire 18 mile loop.

Recommendations

It is recommended that if this interpretation plan is adopted that the Switchback Gravity Railroad Trail be linked with sites such as Mine No. 9 in order to draw visitors from other industrial heritage sites that share similar interests.

Additionally, the Switchback Gravity Railroad should be incorporated into the Rails to Trails Conservancy Program. This is a preliminary measure that would require little maintenance of the site as it remains today, falling within the minimums and maximums outlined for the entire Switchback Gravity Railroad trail.[6] Incorporation into this program would provide the site with national exposure and revenue by drawing bike riders and hikers from all over the country by requiring a small donation to use the trail.

[6] **Rails to Trails Conservancy. http://www.railtrails.org**

2.
protect the existing environmental resources

2. Protect the Existing Environmental Resources

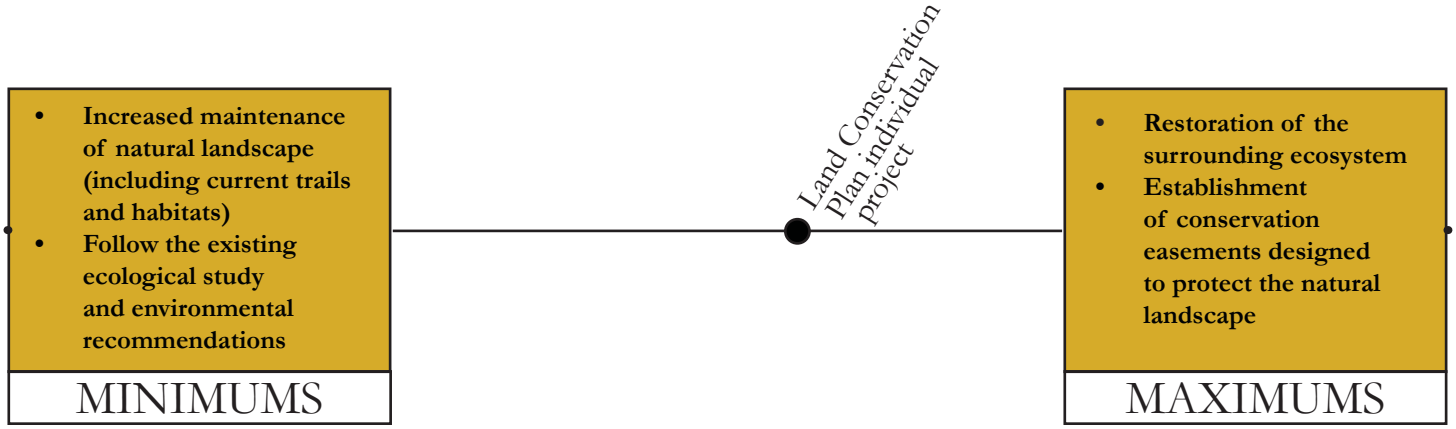
Policy

Protect environmental resources and viewsheds associated with, and surrounding, the Switchback Gravity Railroad.

Strategy	Actions
1. Establish priority viewsheds and threats to them	• Create a plan to monitor environmental conditions around the SGRR
2. Document existing protections and programs related to natural landscape.	
3. Make connections and reconcile any conflicts with ongoing natural-resource protection efforts and the preservation/ development objectives related to SGRR.te.	
4. Protect extant historic landscapes and views, balancing historic values with environmental values	• Explore land preservation tools with landowners and other stakeholders • Establish restrictions against any future development that may block established and documented viewsheds

Rationale

The viewsheds and natural landscapes of the area have been pivotal in drawing nature-seeking tourists to the "the Switzerland of America". This policy recognizes the enormous importance of the natural landscape to the entire region—as an ecological resource, a visual/quality-of-life factor, and pillar of the tourism economy. The community values the area as a complex natural landscape and utilizes it for many recreational activities. The mountain area functions as part of a larger regional ecosystem, and any large-scale development can have negative impact on the continuity of watersheds, forestry and natural resources. Recent tourism and residential development in the area pose potential threats to and put strain on the natural resources.



Switchback Trail Land Management Plan

After carefully analyzing the history and existing conditions of the 18-mile Switchback Gravity Railroad Trail, and creating policies and recommendations to guide the future of the site, it is evident that the community is in need of a management plan to assist in protecting and maintaining environmental resources. Rationale for Policy #2, Environmental Resources, states that the community values the area as a complex natural landscape and ecological resource, and that there must be protection of these resources.

The 18-mile Switchback Trail is surrounded by the Mauch Chunk Ridge Barrens and book ended by the towns of Jim Thorpe to the east and Summit Hill to the west, in the County of Carbon and the greater Lehigh Valley. The trail is currently managed by the Carbon County Department of Parks and Recreation and is part of the 165-mile Delaware & Lehigh Trail, established by the Delaware & Lehigh National Heritage Corridor, a branch of the National Parks Service.

In April of 1999 the Lehigh Valley Planning Commission contracted the Pennsylvania Science Office of The Nature Conservancy to conduct a Natural Areas Inventory Summary for municipalities within the region. The ecology surrounding the Switchback Gravity Railroad Trail is diverse and plentiful with natural systems and scenic beauty. The integrity of the natural environment needs to be carefully planned and managed to protect the natural habitats for the many wild plants and animals living in the region. Of concern is the rapid population growth and development in the area, and a great interest in planning growth carefully to maintain open space and guide development away from environmentally sensitive areas.[1]

The Mauch Chunk Ridge Barrens span from Jim Thorpe to Summit Hill and is a locally significant site and a valuable feature on a landscape scale. The forest is dominated by chestnut oak and some pitch pine. There are several small streams and a variety of habitat types. The Natural Areas Inventory Summary sited the biggest threat to the area as development and disturbances from logging and fires. More specifically for Jim Thorpe Borough, the Summary sites the main threats and disturbances to be heavy recreational use and recommend monitoring

[1] Lehigh Valley Planning Commission Natural Areas Inventory Summary. April 1999. http://www.lvpc.org/NAISummary/03_NAISummary.pdf (viewed on December 3, 2007)

recreational use at the site to prevent overuse and exploitation.[2] The Natural Areas Inventory Summary designated this area as a locally significant site, which means it "does not have exemplary natural communities or known occurrences of rare species, but that could be excellent sites for county or township parks or as natural areas within existing parks (sites within existing managed areas will need to be included in management plans). Ideal sites are those that can serve more than one purpose such as recreation, environmental education, wildlife habitat, flood and sediment control, and water supply.[3]

Existing Partners and their Relationships with the Switchback

The Carbon County Parks and Recreation Department works to conserve the natural areas within the 2820 acre forestland around Mauch Chunk Lake Park and the surrounding areas. They conserve these areas for recreational use by residents and tourists alike, for uses such as biking, camping, hiking, fishing, hunting, picnicking, swimming, and cross-country skiing. The Parks Department operates year round with annual visitation nearing 100,000.[4] Carbon County does not currently have a comprehensive plan or a long term management plan for the site and little to no financing, though in a meeting on November 15, 2007 with Carbon County Commissioners Charles Getz, William J. O'Gurek, and Wayne E. Nothstein, they all expressed sincere concern for the conservation and protection of the natural environment of the Switchback Gravity Railroad Trail. The County is contributing in one way, with the Carbon County Environmental Education Center which works to educate the public about the importance of the natural world, and combines environmental education and wildlife rehabilitation. Visitors to the center learn how their interaction with nature can be positive or negative, and how to minimize negative impacts on the natural environment.

A branch of the National Parks Service, The Delaware & Lehigh National Heritage Corridor is "a joint effort of private groups and interested citizens, county and municipal governments, the Commonwealth of Pennsylvania and the federal government to conserve cultural and natural resources in the five-county region of Pennsylvania that traverses the historic Delaware and Lehigh Canals. Since the Delaware & Lehigh's designation by Congress in 1988, it has been our mission to restore historic places, conserve green space for public use and preserve and interpret our heritage to enhance life for generations to come."[5] The Delaware & Lehigh Trail links Jim Thorpe and Summit Hill via the recreational Switchback Railroad Trail. The D&L works closely with the community to reach their organizations conservation goals. The D&L Trail Tenders program is an association of volunteer groups who help maintain the trails, providing litter cleanup, repair drainage problems, patch trails, clean and replace signs, control

2 ibid.

3 Ibid.

4 Carbon County Parks and Recreation Department
http://www.carboncounty.com/parks.htm (viewed on December 3, 2007)

5 Delaware & Lehigh National Heritage Corridor: About Us
http://www.delawareandlehigh.org/about-us.asp (viewed on December 5, 2007)

invasive plants and seed native species. They are also involved in trail enhancement projects.

In 2005 the Lehigh Valley Planning Commission published a comprehensive plan and an implementation strategy for land conservation and preservation. The plan suggests that a combination of landowner stewardship and public sector regulation combine in effort to preserve the natural resources. Local governments can choose regulatory, non-regulatory, and administrative measures for planning.[6]

Land Management Plans

Local non-profit organizations are a great way to bring stewardship to environmentally sensitive land and protect it from development. Common land conservation techniques include fee simple acquisition, conservation easements, and land management and stewardship.

Fee simple acquisition provides the greatest level of protection of the land in the transfer of ownership. The Department of Conservation and Natural Resources provides technical assistance with state and federal funds through the Community Conservation Partnership Organization, to help with grant funding to counties, municipalities, land trusts and preservation organizations to acquire and preserve natural, cultural, and recreational areas.

Conservation easements provide a method for protecting resources of a property with deed restrictions concerning the land's conservation value. Easements assign restrictions on the future use of the land, protect the environment, historic references, and viewsheds in perpetuity, and include the ability to sell or pass the land on to heirs. Potential future owners of the land are required to abide by the conservation easement terms.

Stewardship is the least expensive land preservation strategy and involves an understanding of the values and roles of the resources on the land. These values should be considered in the development and maintenance plans for private and public land.[7]

Future Partnerships for Land Conservation

Wildlands Conservancy
Emmaus, Pennsylvania

Considered to be the principal environmental organization of the Leigh Valley and supported by the William Penn

[6] Lehigh Valley Planning Commission, Comprehensive Plan: The Lehigh Valley…2030 http://www.lvpc.org/CompPlan/01_CompPlan.pdf (viewed on December 3, 2007)

[7] Lehigh Valley Planning Commission Natural Areas Inventory Summary. April 1999. http://www.lvpc.org/NAISummary/03_NAISummary.pdf (viewed on December 3, 2007)

Foundation, PA Dept of Environmental Protection, PA DCNR. Wildlands Conservancy fosters stewardship of their resources and environmental awareness for the public.

- Wildlands Conservancy Recreation and Trail Program
    - Support existing pathway projects, foster new pathway projects
    - Educate the public, government, and businesses about the economic, environmental, recreation, and health benefits of pathways
    - Promote pathways, trails, and alternative options for the transportation
- Wildlands Conservancy Land Conservation and Planning Program
    - Protect and enhance the quality of the environment through land conservation, planning and stewardship, and municipal and public outreach and education.
    - Services provided include: education about the development of conservation development designs, assistance to landowners with conservation easements and preservation[8]

Natural Lands Trust
Media, PA

The Trust is working to build a system of permanently protected open space of natural areas, cultural landscapes, and sustainable agricultural lands. As a non-profit land conservation organization, they work with their partners to do the following:

- Land Protection
    - Protecting land through direct acquisition (by donation or purchase) and with conservation easements.
- Conservation Planning
    - Guiding land use and preservation using state-of-the-art mapping tools and conservation science.
- Land Management
    - Managing and restoring land to ensure long-term ecological health.
- Growing Greener
    - Helping communities protect important resources as they grow.[9]

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[8] Wildlands Conservancy
http://www.wildlandspa.org/ (viewed on December 3, 2007)

[9] Natural Lands Trust
http://www.natlands.org/home/default.asp (viewed on December 3, 2007)

Appalachian Trail Conservancy
Boiling Springs, PA

The 2,175-mile Appalachian National Scenic Trail stretching from Georgia to Maine is a private non-profit organization dedicated to the conservation of the 250,000 acres the trail covers. The trail maintained by an advanced network of volunteer stewards in affiliated trail-maintaining clubs. The Appalachian Trail Conservancy provides club volunteers with the financing through grant money as well as the technical skills to maintain the land. The Appalachian Trail Conservancy receives financial support from the National Park Service and the USDA Forest Service.

Trail stewardship activities include:

- Cutting weeds back from the footpath
- Removing damaged trees and limbs from the footpath
- Building and repairing shelters
- Posting signs to provide information to trail users
- Erecting gates to stop illegal uses
- Monitoring flora and fauna that might be rare, threatened, or endangered [10]

[10] Appalachian Trail Conservancy
http://www.appalachiantrail.org/site/c.jkLXJ8MQKtH/b.1423119/k.BEA0/Home.htm (viewed on December 3, 2007)

3.

interpret / reinterpret the site

3. Interpret/Reinterpret the Site

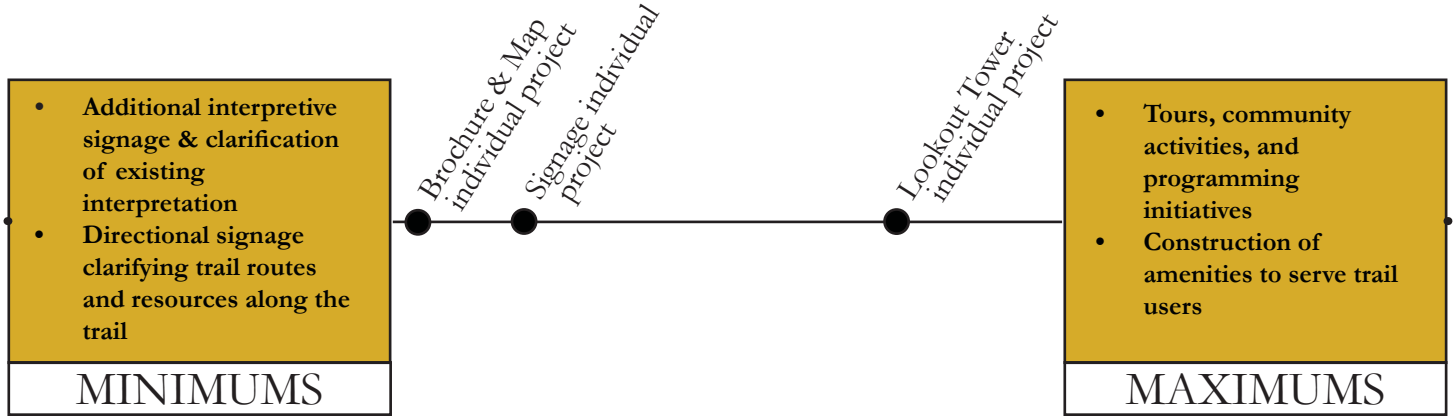
Policy

Interpretation of the evolution, significance, and current state of the SGRR for the casual visitor should be implemented along the SGRR itself—as a complement to the detailed interpretation already created off-site by the Foundation and the Mauch Chunk Museum. The SGRR must be interpreted as an integrated whole.

Strategy	Actions
1. Create passive interpretation systems bringing the story of the SGRR and its significance to the many audiences visiting the trail and Jim Thorpe.	• Create a comprehensive signage system, integrating directional and educational information. • Create brochures, maps or other take-away materials supporting both interpretive and wayfinding functions. • Driving/biking audio tours
2. Undertake additional research, as needed, to build a complete picture of the SGRR's historic evolution and significance.	• Conduct a study to document the Heights residents' use of and folklore about the SGRR site.

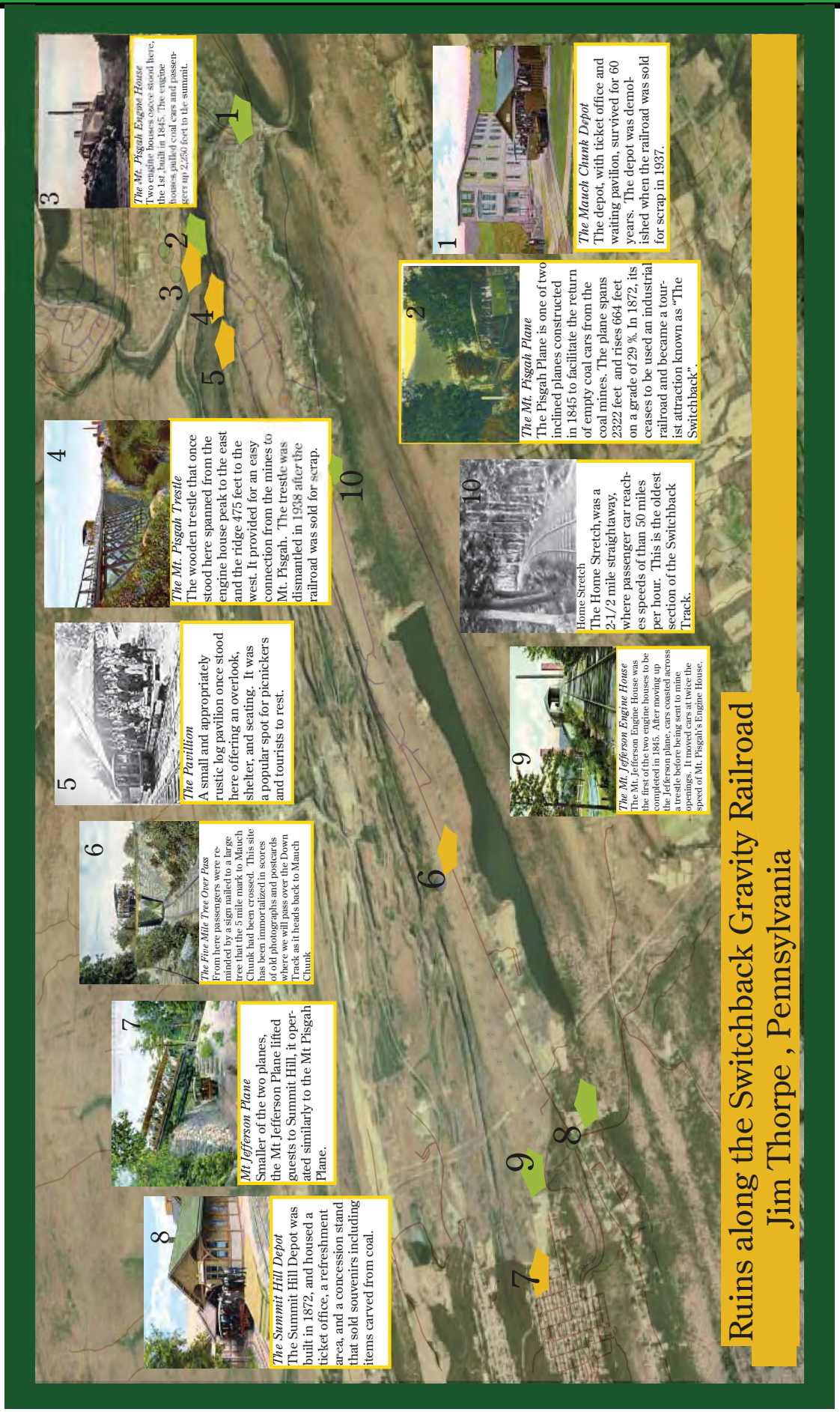
Rationale

The National Register nomination calls the site the "Mauch Chunk and Summit Hill Switchback Railroad," clearly outlining the fact that the railroad's 18-mile loop was a cohesive unit that was and still is located within multiple communities. The entire right-of-way remains largely intact. Generations of residents and visitors have used the 18-mile loop for recreational activities such as hiking, biking, and cross-country skiing. Thus, the site should be considered as a whole not only due to its recreational use as a unified trail, but also because its historical significance is based upon the construction and use of the entire 18-mile loop as system of coal and tourist transport. Because the Switchback's loop is located within multiple communities and jurisdictions, it is imperative that any decisions made regarding any portion of the site take into account their effect on the site (and surrounding communities) as a whole.



Map & Brochure of the Switchback

The Switchback Trail, as it currently exists, is a wild and rustic path which was once domesticated for the purposes of industry but also for public amusement. This guide serves to interpret the current landscape's features, some of which relate directly to the railroad and its coal-hungry legacy, while others tell a different story. Some of the ruins attest to the history of local industries, such as the Catfish pond and its relationship to the Mauch Chunk Foundry. Others, such as the reservoir by the Hacklebernie Trolley Stop convey a time when Mauch Chunk's residents drank water drawn from mountain springs. Ruins like the walls of the 5 Mile Tree Overpass allow us to connect what remains today with what no longer exists through the historic imagery and narrative of the brochure. The primary goal of this brochure is to facilitate this juncture of past and present while celebrating the many uses of the trail which helped define it.


Ruins along the Switchback Gravity Railroad
Jim Thorpe , Pennsylvania
1
The Mauch Chunk Depot
The depot, with ticket office and waiting pavilion, survived for 60 years. The depot was demolished when the railroad was sold for scrap in 1937.
2
The Mt. Pisgah Plane
The Pisgah Plane is one of two inclined planes constructed in 1845 to facilitate the return of empty coal cars from the coal mines. The plane spans 2322 feet and rises 664 feet on a grade of 29 %. In 1872, its ceases to be used an industrial railroad and became a tourist attraction known as "The Switchback".
3
The Mt. Pisgah Engine House
Two engine houses once stood here, the 1st built in 1845. The engine houses pulled coal cars and passengers up 2,250 feet to the summit.
4
The Mt. Pisgah Trestle
The wooden trestle that once stood here spanned from the engine house peak to the east and the ridge 475 feet to the west. It provided for an easy connection from the mines to Mt. Pisgah. The trestle was dismantled in 1938 after the railroad was sold for scrap.
5
The Pavilion
A small and appropriately rustic log pavilion once stood here offering an overlook, shelter, and seating. It was a popular spot for picnickers and tourists to rest.
6
The Five Mile Tree Over Pass
From here passengers were reminded by a sign nailed to a large tree that the 5 mile mark to Mauch Chunk had been crossed. This site has been immortalized in scores of old photographs and postcards where we will pass over the Down Track as it heads back to Mauch Chunk.
7
Mt Jefferson Plane
Smaller of the two planes, the Mt Jefferson Plane lifted guests to Summit Hill, it operated similarly to the Mt Pisgah Plane.
8
The Summit Hill Depot
The Summit Hill Depot was built in 1872, and housed a ticket office, a refreshment area, and a concession stand that sold souvenirs including items carved from coal.
9
The Mt. Jefferson Engine House
The Mt. Jefferson Engine House was the first of the two engine houses to be completed in 1845. After moving up the Jefferson plane, cars coasted across a trestle before being sent to mine openings. It moved cars at twice the speed of Mt. Pisgah's Engine House.
10
Home Stretch
The Home Stretch,was a 2-1/2 mile straightaway, where passenger car reaches speeds of than 50 miles per hour. This is the oldest section of the Switchback Track.

Interpretive and Directional Signage

Through community surveys and stakeholder interviews, one of the major missing components of the Switchback Gravity Railroad Trail identified is adequate signage. A few years ago, the Switchback Gravity Railroad Foundation implemented a series of interpretive signs throughout the trail at sites they deemed most important, and these signs were located and identified during the 18 mile mapping survey that the group undertook in September. Other signs, such as those implemented by the Carbon County Park System, also exist throughout the trail. (Insert 3 existing signage images)

These existing signs however are inadequate in communicating the multi-faceted nature of the Switchback Gravity Railroad and the environment it rests in. Based on conversations with stakeholders and personal exploration of the trail, it was also deemed necessary to install a more effective directional signage system. Visitors are often confused about the location of access and exit points and trailheads; the addition of directional signage would mitigate this problem.

In collaboration with the creation of a trail map and brochure, the interpretive signs will be located at ten sites on the Switchback deemed historically important. The following are the sites and ruins selected; the brief historical narratives included here are designed to be placed at the top of each sign:

1. **Mauch Chunk Depot**

   The Mauch Chunk depot, with its ticket office and waiting pavilion, was built in 1872 and would remain in use for over 60 years. Passengers would convene here as they waited to board the Switchback. They boarded the Switchback's cars under the awning of the 125-foot long Depot, or, on Sundays, when tourist traffic was at its heaviest, under the awning of the adjacent shed. The Switchback operated from May to October, with trains leaving the Mauch Chunk Depot once an hour between 8:30 am and 6:30 pm. The Depot was demolished when the Switchback was sold for scrap in the 1930s.

2. **Mount Pisgah Plane**

   Designed and named by Josiah White, the Pisgah Plane is one of two inclined planes constructed in 1845 to facilitate the return of empty coal cars from the coalmines. An engine house, housing stationary steam engines, was built atop Mount Pisgah, allowing trains of empty coal cars to be pulled to the peak via steam power. A barney pit sat at the base of the incline. Once the cars were positioned over the barney pit, a conductor, riding along with the empty coal cars, tugged a cable connected to a cowbell in the Mount Pisgah engine house. The engineer would then reverse the 90 horsepower steam engine, pulling a waiting barney car out of the barney pit until it bumped into the empty coal cars. The large driving wheels in the Mount Pisgah engine house would begin to turn, pulling the barney cars up the incline. The barney car then pushed the empty coal cars up at a rate of 370 feet per minute. In 1872, the railroad ceased to be used as an industrial railroad and became a popular tourist attraction known as "The Switchback." The railroad tracks were removed and sold for scrap in 1938.

3. **Mount Pisgah Engine House**

   The Mount Pisgah Engine House sat at the top of Mount Pisgah. Constructed in 1845, it housed the machinery that pulled the empty coal cars up the side of the mountain. It stood 900 feet above the Lehigh River.

4. **Mount Pisgah Trestle**

   The wooden trestle that once stood here spanned 475 feet, the distance between the Mount Pisgah Engine House and the ridge to its west. It served as an easy and necessary connection from the coalmines to Mount Pisgah. The trestle was dismantled in 1938, but its foundations remain.

5. **The Pavilion**

   The Pavilion Station was located at the west side of the trestle. The Pavilion was a small, rustic log pavilion that allowed passengers to get off the Switchback to enjoy scenic vistas, stretch their legs, or even have a picnic. Because trains stopped here at regular intervals, it was possible for passengers walk around and enjoy a leisurely picnic lunch, and get on a later train to complete their journey around the Switchback's 18-mile loop.

6. **Five Mile Tree Overpass**

   Here, a sign nailed to a large tree reminded passengers that the 5-mile mark to Mauch Chunk (now Jim Thorpe) had been crossed. The Overpass passed over the Down Track, which headed back to Mauch Chunk, and has been immortalized in scores of old photographs and postcards.

7. Mount Jefferson Plane

The smaller of the two planes, the Mount Jefferson Plane lifted coal and later passengers to the top of Summit Hill. It operated in the same manner as the Mount Pisgah Plane.

8. The Summit Hill Depot

The Summit Hill Depot was built in 1872, and housed a ticket office, a refreshment area, and a concession stand that sold souvenirs, including items carved from coal. Passengers were let off the train here and given 15-30 minutes to explore the town of Summit Hill; popular attractions included the town hall, which resembled the Bastille, and the "Burning Mine," a mine that was reputed to have been burning since 1832. A ship's bell rung by the conductor signaled to passengers that it was time to return to the train. From here, the Switchback began its gravity-induced descent to Mauch Chunk, running on part of the Down Track, the original mule track first built by the railroad in 1827.

9. The Mout Jefferson Engine House

The Mt. Jefferson Engine House was the first of the two engine houses to be completed in 1845. After moving up the Jefferson plane, cars coasted across a trestle before being sent to mine openings. It moved cars at twice the speed of Mt. Pisgah's Engine House.

10. Home Stretch

The Home Stretch, the fastest and oldest (and thus the roughest) stretch of track on the Switchback, was two and a half miles long. It was on this stretch of trail that the Switchback reached speeds of over 50 miles per hour, an exhilarating and frightening experience for the train's passengers.

The signs, which should be placed at each of these sites, are designed to complement the information included in the brochure. The map includes photos and a brief description of each site identified; these signs have been designed to compliment and enhance the content included in the brochure. Each interpretive sign also includes a uniform "you are here" map to clarify trail navigation

for the visitor. In addition to coordinating content with the brochure, there is a cohesive design scheme so the two projects coordinate.

The content of each sign will include these five elements:

1. A brief historical narrative
2. Historic facts related to the history of the Switchback and to the area's larger coalmining and industrial heritage
3. Recreational facts relating to each site
4. Environmental facts relating to each site
5. A quote from a community member about their memories of or experiences at a particular site; their picture will also be included

The signs, divided into five clearly delineated sections, are designed to impart to the visitor the variety of ways in which the Switchback is an important and meaningful site; the different quadrants of information are intended to correspond and coordinate with appropriate policies (including historical, environmental, community, and use) to

further reinforce the site's multi-faceted history and function.

Specific care was taken to ensure that the written sections of the interpretive signs are readable; it is hoped that everyone, including children, will be able to read and take away information from these signs. For this reason, text is kept to a minimum, each content section is clearly divided into easily discernable themes, and bullet points featuring interesting facts enable the signs to function as clear, interesting, and accessible sources for all visitors to the Switchback trail. Furthermore, if implemented, these signs could be used to enhance community programming. For example, children or school groups could go on "Switchback Scavenger Hunts," collecting facts from different signs. Additionally, the inclusion of quotes from community members on interpretive signage will not only make them feel more involved and connected to the Switchback, but will give visitors a better sense of how the Switchback is linked to the surrounding communities of Jim Thorpe, East Mauch Chunk, and Summit Hill.

The directional signage is simpler in content than the interpretive signage, and has been designed to be placed in response to complicated entrance and exit points along the trail. They will include a storage space for the map and brochure, allowing visitors to pick one up as soon as they get on the trail.

Lookout Tower on Top of Mount Pisgah

INTRODUCTION

The aim of this project is to determine whether it is feasible to construct a lookout tower on top of Mount Pisgah. In particular, this project will discuss the rationale for constructing the lookout tower paying special attention to the University of Pennsylvania preservation studio policies, outline the necessary conditions to adapt the tower to these policies, consider three suitable comparables for possible tower designs, and conclude with a recommendation for future tower construction.

POLICY RATIONALE

A properly designed lookout/observation tower on Mt. Pisgah would fulfill the following policies developed by the studio team:

Interpretation

Tourists and residents would have the opportunity to view the entire historical 18-mile Switchback Trail from an elevated position on top of Mt. Pisgah. Currently, it is only possible to perceive limited trail sections due to the tree canopy, the expansive 18-mile distance of the trail, and the relatively flat contours of the mountain plane. As a result of these above limitations, visitors must resort to abstracting GIS maps, trail guides, and photos to comprehend the whole distance of the trail and its significance as a historic cultural landscape. However, these graphic aids are only representations of the "real" site/landscape. A panoramic view of the trail could instead allow the observer to put the historical and natural sites of interest along the trail into visual context with the aid of an interpretive display situated on the tower platform.

Use and Access

A tower would encourage residents and tourists to become more involved with the trail and its historic resources by serving as a focal point for future site visits and by further adapting the SGRR historic landscape as a recreational trail. Only a small number of individuals knowingly access the historic resources on Mount Pisgah, and a tower has the potential to entice younger populations and families that would not normally climb the steep Mount Pisgah ridge to frequent the environs of the SGRR.

CASE STUDIES

The authors of this report selected three different lookout towers based on design to evaluate appropriate models for the Mount Pisgah site.

National Gettysburg Battlefield Tower

The tower at the Gettysburg Battlefield is a comparable example of a structure built to serve as a vantage point

to view an entire historic site. Much like the Switchback Trail, the Gettysburg Battlefield covers a vast amount of acreage. A private developer raised funds and constructed the tower just outside the park's boundary in the early 1970s. As soon as plans for the tower became public, controversy erupted. The monumental 393-foot structure was called "monstrous" and "a new low in historical tastelessness." Included in the tower design were two exterior observation levels and two interior levels intended for exhibits. The structure had the capacity to hold 750 people. After a number of appeals in court and changes in federal policy, the tower was demolished in July of 2000. The authors of this paper selected the former Gettysburg observation tower for consideration because the Switchback Trail is very similar to the Gettysburg Battlefield in that their main historic resource is a landscape. Lessons learned from the Gettysburg Tower: the design of the tower should not overpower the historic landscape, and the tower should not accommodate the needs of visitors to the point in which it becomes excessively massive in size.[1]

Gettysburg Battlefield Tower, Gettysburg, PA. Demolished. www.csdavidson.com

Stratton Mountain Fire Tower (Figures 1-9)

The Stratton Mountain fire tower is located in Windham County, Vermont at the summit of Stratton Mountain. Originally constructed in 1914, the fire tower was subsequently demolished and reconstructed as an Aeromotor windmill tower with a steel cab during early 1930s by the Civilian Conservation Corps. Hugh and Jeanne Joudry from the Green Mountain Club write, "This tower, abandoned as a fire tower in 1980, was renovated by the USFS in 1988. It is one of two fire towers remaining on USFS Vermont lands in 1988 and was nominated to the National Historic Register of Historic Places in 1989" (Green Mountain Club 36). The body of the tower is painted white and its cab is enclosed with a steel roof. Visitors can access the tower by climbing a series of alternating staircases to an open hatch at the bottom of the steel cab. Similarly designed Aeromotor windmill fire towers in Vermont include the

Stratton Mountain Fire Tower. Peru, Vermont. Extant. www.orbitals.com/pic/misc/big/tower.jpg.

[1] John Latschar, "The Taking of the Gettysburg Tower," *The George Wright Forum* 18, no. 1 (2001): 24-33.

Elmore Mountain fire tower, the Spruce Mountain fire tower, the Bear Hill fire tower, and the Gile Mountain fire tower as well as the Blue Mountain fire tower and the Hurricane Mountain fire tower that are both located in Adirondack Park, New York. The authors of this report selected the Stratton Mountain fire tower for consideration because its steel Aeromotor windmill design is durable as noted by its seventy plus years of existence, easy to construct, sturdy, relatively inexpensive (materials cost less than $10,000 depending on the desired height and dimensions of cab), and visually adaptable to the natural environment. The staircase of the tower is also easy to climb and its cab is large enough to accommodate roughly three or four visitors. The main disadvantages for these fire towers are that their cabs are open to the external environment, and that their steel design sways in the wind, the swaying of which can scare some visitors.[2]

Wooden Lookout Towers of the Northwest (Images 10-11)

The northwest has a unique style of wooden lookout towers with large cabs that often served as residences for trail crews, fire observers, and park rangers. Similar to the Aeromotor windmill towers, these lookout towers have alternating steps that lead to an open hatch access point to the cab shelter. However, many of these wooden towers have an exterior wraparound balcony. The authors of this report selected the northwestern wooden lookout tower design for consideration because its wooden construction can visually adapt to the rugged mountain environment, and its sizable weatherproof cab can accommodate roughly ten visitors. The main disadvantages for constructing the wooden fire tower compared to that of the steel tower design are that its wooden fabric is not as durable, requires more maintenance, is prone to fires and lightening damage, requires a wider perimeter to achieve structural stability, and is more complex and time consuming to construct. The construction costs for these fire towers greatly vary according the choice of wood, design complexity, cab size, and tower height.[3]

Hurricane Mountain Fire Tower. Adirondack Park, New York. Extant. http://nysfiretowers.com/Hurricane_Mt.jpg

[2] Dean Bennett Supply. "Windmill Towers." http://www.deanbennett.com/windmill-towers.htm. (Accessed December 1-18, 2007); The Green Mountain Club. 360 Degrees: A Guide to Vermont's Fire and Observation Towers. Waterbury: The Green Mountain Club Inc., 2005.

[3] Kresek, Ray. *Fire Lookouts of the Northwest*. Fairfield: YE Galleon Press, 1984.

GUIDELINES

Based on the findings of the Switchback Gravity Railroad study and comparisons to similar sites with towers the authors of this report developed eight guidelines for tower construction on top of Mount Pisgah.

1. The Tower Must Not Disturb the Natural Environment

The natural environment surrounding Mount Pisgah is important to residents of Jim Thorpe and users of the trail. Natural features are one of the fundamental reasons bikers, hikers and other recreational users enjoy the trail. In stakeholder meetings, residents have expressed concern regarding development on the Pisgah Plane. Thus, any structure created should not disrupt the natural surroundings.

Suggestions:

- The tower should be constructed on an open patch of land so it does not disturb the natural environment. A barren clearing that fits this description in proximity to a major view shed is already in existence at the top of the Pisgah Plane. This is an ideal site for the tower because the landscape would not have to undergo significant alterations for construction.
- An environmental impact study must be conducted to determine what effects the tower would have on the environment. This would also help decide what materials and methods to use for tower construction and ground anchorage.

2. The Tower Must Not Disturb View Sheds

One of the fundamental goals of the tower is to enhance the view from Mount Pisgah to other sites on the 18-mile Switchback Trail and the surrounding area. However, the tower should not become the focal point of Mount Pisgah and/or degrade the natural mountainscape when viewed from other vantage points such as Jim Thorpe and neighboring Flagstaff. The tower design and materials should instead collaborate with the existing environment.

Suggestions:

- The tower's color must match with the surrounding vegetation as determined by an appropriate designer. The height of the tower must not be excessively tall: a tower that is just tall enough for one to view the 18-mile visible trail would be sufficient. The tower's materials and scale should be congruent with the surrounding trees to minimize its visibility from a distance.

- Any necessary clearing around the tower should not disrupt the appearance of the tree canopy when viewed from a distance.
- Locating the tower on the northwest side of Mount Pisgah would decrease its visibility from Jim Thorpe and Flagstaff Mountain.

3. The Tower Must Not Disturb Historic Fabric

Any construction on Mount Pisgah must not disturb any remaining historically significant railroad fabric such as the engine house and trestle bridge that are both located near the potential tower placement area.

Suggestions

- The aforementioned clearing is a suitable site because it does contain any visible historic artifacts, and it is far enough away from the engine house and trestle to prevent any damage to these historical significant resources.
- Archaeologists should survey the site to ensure that there are no overlooked artifacts. It would be acceptable to move minor artifacts including railroad ties and pins to the local museums in Jim Thorpe.

4. Plans for the Tower Must be Sensitive to the Input from Local Stakeholders

The residents of Jim Thorpe, East Mauch Chunk and the neighboring towns have strong attachments to the Switchback Trail and hold very strong opinions regarding development on the Pisgah Plane. Therefore, the design of the structure must be sensitive to the desires of local residents.

Suggestions:

- Local representatives should be invited to meetings involving the design and construction of the tower to ensure local feedback.
- The local residents should be informed of the use and interpretive reasons justifying the construction of the tower.

5. The Tower Must Have Minimal Construction Costs

The Switchback trail receives only a small amount of funding from Carbon County, the entity that maintains it. Construction of a tower must not drain the financial resources of the county

Suggestion:

- The materials, size, design, and placement of the tower should practical and functional to reduce costs below $30,000, a benchmark number that is within the realm of public funding.

6. The Tower Must Have a Long Service Life to Reduce Maintenance Costs

As previously stated, Carbon County has little funding to spend on the maintenance of the Switchback trail. Rangers that already monitor the trail should be able to routinely maintenance the tower, excepting periodic inspections by engineers to ensure safety.

Suggestions

- The materials used to construct the tower should have a long service life, preferably over fifty years.
- The materials and design should be durable to ensure public safety.

7. The Tower Must Facilitate Public Interpretation of the Site

One of the primary reasons to construct the tower is to enhance visual comprehension of the 18-mile Switchback Trail.

Suggestion:

- An appropriate interpretive display at the top of the tower outlining the location of the significant historic and natural sites along the 18-mile trail possibly in conjunction with a telescope should be constructed to foster visitor interaction with the historical landscape.

8) There Must Be a Sustainable Means to Defray Some of the Tower Expenses.

Even though the tower should cost less than $30,000 to construct, there needs to be a way to generate some sustainable funds for the upkeep of the tower—i.e. routine painting, ranger inspections, interpretive displays, etc.—that do not depend on governmental funding.

Suggestions:

- Make the telescope on top of the tower quarter operated. The expected revenue may seem trivial, but can amount to a sizable sum as proven by numerous seaside boardwalks.
- Post donations boxes at the base and top cab of the tower.

RECOMMENDATIONS

The authors of this report recommend the steel Aeromotor windmill fire tower design as represented by the extant Stratton Mountain fire tower for the Mount Pisgah site because it is relatively inexpensive (less than $l0,000 material costs), easy to construct and maintenance, visually adaptable to the local environment because it can be painted, and durable enough to resist routine visitor traffic and environmental weathering; it also does not disturb historic fabric due its small base perimeter. Both the northwestern wooden tower and the Gettysburg tower design are not recommended because they would have greater construction complexity, would take up a large perimeter in a historically sensitive area, and would require routine maintenance. In addition, the volume of visitors to the site would not be such that there would be a need for a large weather resistant cab. The Gettysburg tower would also never be permitted on the site due to its monumental size, and resulting construction and service costs.

4.

preserve / enhance use and access

4. Preserve/Enhance Use and Access

Policies

Continue cultivating use of the SGRR historic landscape as a recreational trail.

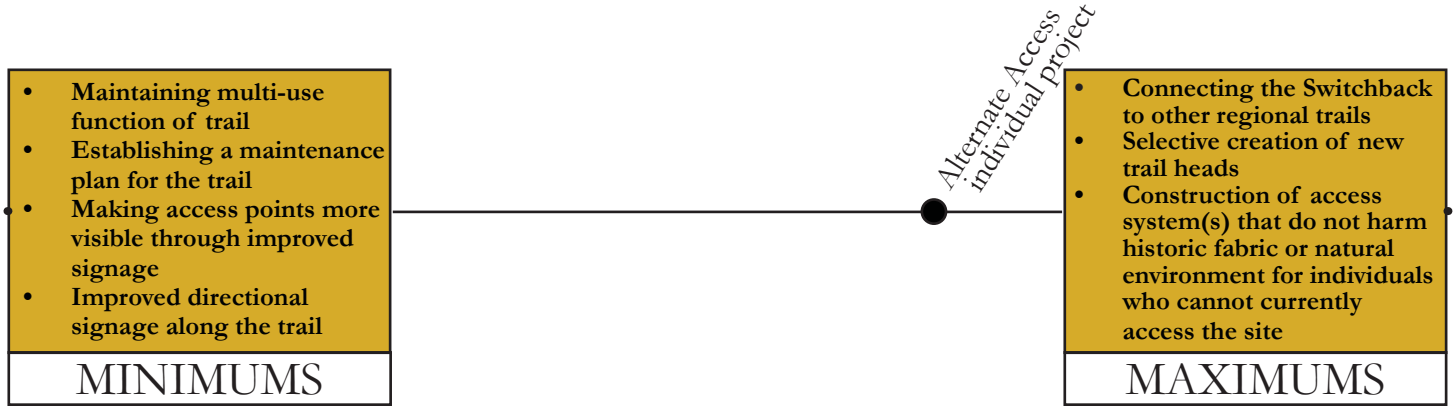
Preclude use/access that causes damage to the historic resources (ruins, sites and landscapes)—wheeled vehicles and other illegal uses.

Selectively improve access for additional user groups (who would not otherwise have access because of physical challenges of getting to the SGRR)—only where the improvements will not adversely affect SGRR historic resources.

Strategies and Actions as They Pertain to Policy 4	
Strategy	Actions
1. Work with existing stakeholders to improve linkage amongst existing regional trails.	• Improve signage on the trail to clarify points of interest and direction. • Evaluate the need of more entrance points along the trail to allow visitors more access.
2. Continue to develop additional means of allowing visitor access to the trail.	• Continue to encourage continued traditional community use of the trail.
3. Physical issues such as erosion, drainage and litter will be monitored in support of the County's efforts to maintain the entire loop.	• Commission study to determine the economic feasibility of (and otherwise identify funding streams for) "improved access" proposals

Rationale

Recreational use of the trail has, over time, come to be an important cultural value of the place—hiking, hunting and scenic views are part of the SGRR cultural landscape. Continuing use of the SGRR—for non-heritage uses as well as historic interpretation—makes the place relevant to contemporary stakeholders and is a politically strategic means of helping preserve the landscape.



Accessing the Pisgah Plane: Feasibility Study

EXECUTIVE SUMMARY

Throughout this studio course, there has been much debate over a proper balance between preservation and accessibility. The importance of the Switchback Gravity Railroad to the American industrial era, to American tourism and recreation and to the town of Jim Thorpe merits the preservation of the mountain ridge where the eighteen-mile trail lies. However, the current use of the trail as a modern parks and recreational site is just as important to the evolving values attributed to the site. Therefore, locals and visitors have a right to access the site and partake in the historical remains and natural scenery atop the Mount Pisgah Plane.

Ascending the Pisgah Plane has been difficult ever since the railroad was shut down in the early twentieth century. The only two existing means of access are the actual incline of the Mount Pisgah Plane and a windy, somewhat steep and jagged trail along the southern portion of the plane – two paths that are difficult even for the experienced biker or hiker. This project seeks to identify possible accessibility methods and points of access so that both tourists and land managers can more easily access the Pisgah Plane.

Comparables of possible alternative methods of access were identified and analyzed to determine if they were suitable at the Switchback site. The comparables were various forms of accessing a historic site that proves problematic given the site's steep incline or descent. Three methods were analyzed: motor vehicle transportation to the site, a railing system or set of stairs, and a complex system such as a ski lift.

Possible alternative points of access were also identified and analyzed with the two existing paths: the actual Mount Pisgah ascent and the Wagon Road. The topographical features and existing conditions were discussed to determine whether it would be feasible to actually create a path along the areas. The comparable methods of accessibility were then analyzed at each point of access identifying the overall feasibility of each option in terms of construction and implementation costs, structural feasibility, political feasibility, the affected stakeholders and the policies that would be supported or compromised by the various scenarios.

It was determined that the given the County Parks Department's limited funds and resources, the most appropriate means of improving access to the Pisgah Plane would be to enhance the Wagon Road by means of a stair or railing system. This option not only would be respectful to the historical and environmental aspects of the site but also would allow a multitude of activities to simultaneously occur. Those who cannot currently ascend the Mount Pisgah Plane would have a support system by means of the railing/stair system. In addition, this project could incorporate the existing path to enable hikers and bikers to continue using it -- and the path could even be widened to allow the Parks Department to use emergency vehicles along the trail if necessary. If more funds were available to the ruling entities of the site (the D&L, the Parks Service, the Switchback Foundation and the County Parks Department), two other areas of development would include the new installations of Liberty Road Path to the east and White Lane Path to the south. The following pages detail the analytical process that led to this conclusive recommendation.

ALTERNATE ACESS

PROJECT SUMMARY

The purpose of this project is to analyze the availability and feasibility of access points on the Pisgah Plane. Based upon the recommendation of the class not to implement a funicular as this time, the project will seek to find alternatives for ascending the Pisgah Plane. The project will begin with an outline of the scope of access appropriate for our site. The group members will determine what level of access is appropriate for the protection and preservation of historic resources.

JUSTIFICATION

Based on the agreed policy of access, there needs to be greater access on the Pisgah Plane both for the public and for those in charge of administration of the site. Increased access will facilitate a greater understanding of the Switchback Gravity Railroad fabric/history and lead towards a greater appreciation of the site as an integrated whole. Furthermore, access for those controlling bodies will ensure both regular maintenance and better monitoring of the trails and ruins located on the Plane proper.

METHODOLOGY

PHASE I: COMPARABLE RESEARCH

To research comparable sites of access and determine whether they are feasibly applicable to our site and context.

PHASE II: SYNTHESIS

A summary of the prose and cons of each application will be given, as well as a justification for the final option agreed upon by the project members. This portion of the project will be presented in a narrative/research paper format.

PHASE III: DESIGN

Based upon the agreement reached in Phase II, a map/series of maps will be produced identifying the potential location(s) of the most appropriate access option. This portion of the project will be presented as GIS/CAD maps, with narratives to explain/justify the proposals.

SCOPE

The project seeks to establish a plan of action to increase access atop Mount Pisgah. Since the entire Switchback Gravity Railroad should be viewed as an integrated whole, the Pisgah Plane should be accessed and understood just as easily as those sites along the down track (the lower portion of the trail). The sites on the mountain top should also be maintained as efficiently as those on the lower portion of the track. Furthermore, the historic fabric and breathtaking viewsheds atop Mount Pisgah are a crucial part of understanding the history of the site both as an industrial and recreational facility. Therefore, improving access to the Pisgah Plane will engage tourists in the site's resources and aid officials in maintaining the area.

RANGE OF ACCESS

One of the primary responsibilities set forth for those in charge of the future of the Switchback Gravity Railroad is the protection and stabilization of the natural and historic resources along the entire 18-mile trail. Therefore, access should be granted only to those who are willing to respect the remaining fabric atop the mountain. Furthermore, the trail's distinguishing facet as a multi-use recreational pathway should be continued and enhanced if possible. This precludes all uses that are potential threats to the existing physical features and historic fabric on the site. With this in mind, access to the Pisgah Plane should be granted to those who wish to view and learn from the Switchback's historic remains as well as use the trail for recreational purposes. However, access should be limited to those who will be mindful of the existing environment.

In addition, access should not allow so many people atop the mountain at one time as to potentially threaten the historic fabric. Thus, it is advised that limited access be enforced. This proposal outlines a proper plan of limited access to allow management, maintenance staff and tourists quickly and more easily atop the mountain.

IMPLEMENTATION PLAN

This proposal is designed with the intention that implementation will be an effort combining many forces, namely, the Switchback Foundation, Carbon County Parks officials, the National Parks System and the D&L Corridor. All of these stakeholders feel that the tourists should be able to ascend and interact with the Pisgah Plane both for its historic aspect and its recreational possibilities (hiking, biking, etc.) Therefore, developing an easier, safer route of access for the plane is a top priority to these officials and should be within their responsibility to implement. The funds pooled from all sources will aid in a swift and safe set-up. Also, the multiple groups will make sure that the integrity of the site is maintained and that the site is able to be used by all those who wish to visit the historic fabric and enjoy the recreational trail.

MAINTENANCE PLAN

This design is proposed with the idea that maintenance of the planned route of access will be monitored and properly kept up by the Carbon County Parks staff of rangers that currently secure the site. The design is not intricate enough that the Parks system will need to perform daily operations and maintenance. The minimal staff and limited funds that the Parks have at this time will not be strained or threatened by the maintenance program this design intends. However, regular monitoring of the route and the subsequent Pisgah Plane is part of this proposal's intention. Maintenance of the route will require minimal intervention (clearing away debris, fixing any worn portions, etc.) which is within the Parks' available resources.

COMPARABLES ANALYSIS

In looking for comparables for an access route to the Pisgah Plane, several different issues were considered. Previously, it had been decided by the team that a funicular system applied to the historic track of the Pisgah Plane was not an appropriate access system due to the fragility of the historic ruins and possible damage to the ecosystem. Thus, the first step in looking for comparables was to set a minimum and a maximum level of intervention that could be applied as alternative means of access for the site. It was decided by the research team that the minimum intervention that could undertaken at the site was to use a stair system or modified rail to help ascension to the top of the mountain The maximum level of intervention that could be undertaken would be to employ a ski lift or a motor vehicle transport that would convey visitors to the top of the mountain with the minimum of exertion.

From there comparables were selected, with attention being paid to characteristics in common with the Pisgah Plane. The four sites chosen share in common the fact that they are remote and difficult to access, as well as popular sites for visitors. The sites also are served by varying layers of protection, as each is either a United States National Park or a World Heritage site under the domain of UNESCO. Though the Pisgah Plane is on the National Historic Register, it is not a protected site. Thus, the research team thought it imperative to analyze sites that were considered by experts to be better protected than the norm.

ACCESS VIA STAIRS\RAILING\PATHWAY:

Comparable 1: Indian Echo Caverns
Hummelstown, PA

Location

Indian Echo Caverns, located 3 miles west of Hershey in the middle of Pennsylvania, is within a two hour drive of Philadelphia, Baltimore, and Washington.

History

Indian Echo Caverns is a Mid-Atlantic cave formed through the erosion of the local limestone geology by flowing water throughout the area. Beginning over millions of years ago, Its constant 52° temperature made it a convenient refuge for the natives until their unexplained disappearance in the 1670's. The first explorers to reach the caves were French fur traders in the late 17th century as they journeyed down the creek. Although they traveled through the caves, the area remained natural and virtually uninhabited.

Tourism

The natural beauty and wonder of the Caverns were rediscovered in the twentieth century when John Bieber first opened the site to the general public in 1929. Bieber commercialized the area by opening up many rooms within the caves and cleared narrow trails through the terrain. The pathways created a safe passageway through the caverns, and tourism to the site flourished in the following years. However, Bieber lost ownership of the site during the Great Depression. The caverns were not neglected for long, however; in 1942, Mr. Edward S. Swartz, a Hershey native, purchased the caverns. His family still owns and operated the caverns today, with hundreds of thousands of tourists experiencing the site each year. The site is even connected to the nearby Middletown &, Hummelstown Railroad, which makes scenic train rides with coaches from the 1920s. Indian Echo Caverns has its own station, making it possible to combine a ride with a visit to the cave.

Access to the Caves

Access to the caverns is only permitted when partaking in a scheduled tour. Tour guides assist tourists down a series of stairs to the cave entrance; the entire journey through the cave takes approximately 45 minutes. Originally wood, approximately 71 concrete steps with metal railings lead you down into the caves. It is recommended that parents watch their children at all times since the stairs and passageways become narrow at times. Allowing wheelchairs and strollers is not possible within the caverns.

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ACCESS VIA STAIRS\RAILING\PATHWAY

Comparable 2: Uluru (Ayers Rock), Australia

Location

Uluru is located in the southern part of the Northern Territory/ central Australia, approximately 200 miles southwest of Alice Springs, the largest town in the area.

History

The world's largest monolith and the most famous Aboriginal sacred site, Uluru is Australia's most visited natural landmark and a World Heritage Site.

According to Aboriginal tradition, Uluru is a physical reminder of the wondrous feats accomplished by ancestral beings during the creation period. Specifically, the local Aborigines believe that the mountain is the home to an energy source called 'Tjukurpa': the dream time. The direct descendants of the lands' original creators, the Anangu have been the stewards responsible for the preservation, maintenance and management of the lands.

European explorers first journeyed to the area during the conquests of the 1870s. The first to record his findings, Ernest Giles, traveled through the area in 1872, naming the mountain area Mount Olga. Giles, the first European to sight the mountain, was also the first European to climb the rock; he accomplished this with the aid of an Afghan camel driver. William Gosse later named the land mass after the Chief Secretary of South Australia, Sir Henry Ayers. Today the site is identified as both Uluru and Ayers Rock.

Aside from Giles, most explorers could not withstand the strong, unyielding climate and steep terrain of the mountain; the only Europeans to pass through the area, for the most part, were trappers, miners, and the occasional missionary. In the early 1900s, the area was declared the Petermann Aboriginal Reserve, which existed until the 1940s.

Tourism

Attraction to the site increased when the rock was declared a national park in 1950. Within the decade, Bill Harney became the official curator of the site. Tourism flourished to the point where both a motel and airstrip sprang up near to the rock.

Climbing the mountain soon became a popular attraction, as many attempted the steep ascension. The Parks added a chain handhold in 1964 to make the climb easier; this railing system was later extended in 1976 during the height of tourism when the Commonwealth Government set up the lease at Yulara. Heightened tourism alarmed the Aboriginals, who claimed the travelers were damaging the rock as well as invading a sacred dream track. In 1983-84 tourist locations were closed down and ownership was returned to the traditional holders. These locals, in turn, allowed the Australian National Parks and Wildlife Service to place a lease on the park for the following 99 years. Today, Kata Tjuta National Park is owned and run by the local Aboriginals.

Accessing the Site

The site offers many tourist attractions. Visitors can attempt the 1.6km ascent to the top or take guided walking tours around the rock. A pathway with a rope handhold, added in 1964 and extended in 1974, makes the climb easier - although the steep ascent has been the cause of several deaths a year. Wooden pathways with metal railings also aid travelers on guided tours through the caves. The local Aboriginals in charge of the land have requested that climbing be prohibited since the pathway up the rock passes through a scarred and legendary dream track. Since they cannot enforce this, they monitor tourism by establishing six emergency radio alarms located at key places around and on the rock. Park Rangers are on the site at all times and when climate conditions, particularly temperature and wind conditions, are severe, the locals close access to the site.

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ACCESS VIA SKI LIFT/MOTOR VEHICLE TRANSPORT

Comparable #1 – Wasatch –Cache National Forest – Salt Lake City County, Utah

Location

The Wasatch Cache National Forest is located in three different locations: the northern and western slopes of the Uinta Mountains, the Wasatch Front which extends from the Lone Peak north to the Idaho border, and the Stansbury Range in the Great Basin. The park is comprised of over 2 million acres of which 1.2 million are part of the National Forest System.

History

The Wasatch Cache National Forest is an important site to both Native American and American Pioneer History. For centuries, the forest has been used as natural resource for industry, first serving Ute and French hunters and trappers, and later developing as a major grazing area for cattle and sheep. Overuse of the land soon led to rampant pollution, and in 1906 the Wasatch Forest was declared a natural park, followed by the Cache Forest in 1907. Since the declaration, both forests have continued to be used for commercial purposes, with varying degrees of environmental impact.

Tourism

"Recreation is by no means incompatible with a healthy forest. However, a thoughtful, proactive approach is essential. Several conservation education and restoration programs are already in place across the Wasatch-Cache. As the Forest Service carefully balances diverse recreation opportunities with conservation efforts, visitors are encouraged to learn more about forest ecosystems and tread lightly while recreating on land. Working together, we can safeguard the land and beauty of the Forest for many generations to come." State Park Service, Utah

Today, Wasatch-Cache National Forest is used for a variety of recreational purposes.
Primary amongst these uses is skiing, as the site boast five downhill ski areas, which are serviced by fifteen different ski lifts. Other uses include two marinas, five boating areas, and six scenic byways which bisect the site.

Access to Wasatch-Cache National Forest

Access has long been a debated issue in Wasatch-Cache National Forest. Like many other recreational parks, it has had to contend with the issue of limiting modern uses such as snowmobiles and ATV's while balancing the needs of the park's visitors. As such, many of these activities are limited to specific areas of the park, where the environmental impact has been judged to be minimal. The ski lifts that have been installed serve the sole purpose of serving their respective ski resorts, and cannot be used by the general public as a way of conveyance to the top of the mountain.

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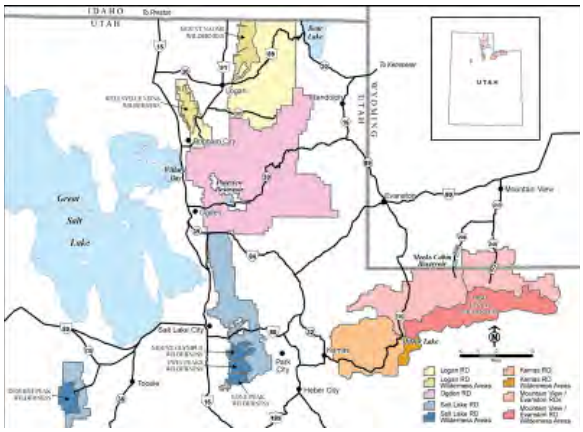

ACCESS VIA SKI LIFT/MOTOR VEHICLE TRANSPORT

Comparable # 2 – Tongariro National Park, New Zealand

Location

Tongariro National Park is located in the central North Island of New Zealand. The nearest towns are Turangi, National Park and Ohakune.

History

Tongarino National Park, founded in 1887, was the fourth National Park in the world as well as the first National Park in New Zealand. The Park is a dual World Heritage site, which recognizes both the importance of its native Maori culture as well as the significance of the natural landscape.

Tourism

Tongarino has long been a mecca for tourism in New Zealand. It features skiing, hiking, biking, and mountaineering. The site is serviced by two visitor areas, which independently handle the needs of visitors by offering the services of equipment rental, permits for camping, as well as reservations for local hotels and establishments. The park has seen a substantial increase in visitation over the last decade, growing from 41,000 visitors annually in 1998 to over 100,000 in 2007.

Access to Togarino National Park

Tongarino National Park can be seen as one of the most accessible National Parks in the world. The park is bisected by a series of trails that offer the visitor varying degrees of difficulty, dependant on their physical fitness level.

Skiing, one of the park's primary recreational activities, is enabled by a series of ski lifts. However, unlike Wasatche-Cache Park, the lifts can also be used by casual visitors to access hiking trails and path located at the peaks of the volcano and mountain ranges

The park is also served by three different methods of transportation, including a scenic rail system, a daily bus service from the cities of Auckland and Wellington, and a daily shuttle from the nearest town of National Park. Both the bus and shuttle systems are serviced by companies that employ carbon neutral emission systems.

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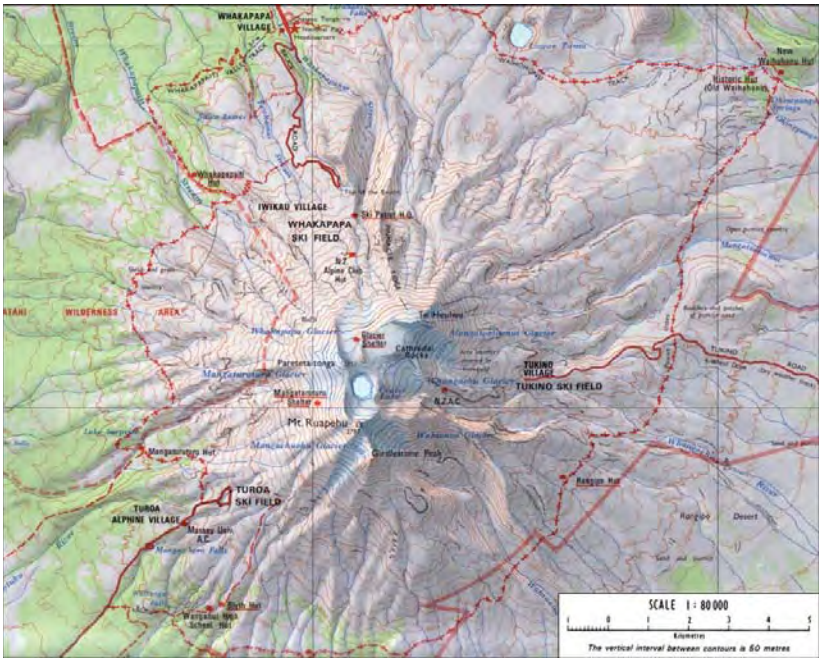


CONCLUSIONS FROM COMPARABLES

One common theme that can be drawn from each comparable is the fine line that the organization overseeing each site walks with regard to access. In each case, the site has experienced problems when confronted with an increase in popularity, or allowing greater access to historic ruins. Especially problematic for each site is when modern uses need to mitigated or allowed, which can cause great damage to the ecosystem or delicate historic fabric. This issue of recreation, such as the use of ATV's and snowmobiles, has been a persistent problem for both National and International Parks. As regarding the Pisgah Plane and the 18 Mile loop of the Switchback Gravity Railroad, these uses are prohibited by the Carbon County Park Service.

Each site also attempts to limit the use of personal vehicles within its domain. In the case of Tongariro Park, the site relies on a variety of public services to convey visitors to the site. While Wasatche-Cache National Forest allows for the use of personal vehicles on its grounds, it attempts to mitigate the damage through the use of reserved land for off-road activity as well a designated scenic by-way for travelers crossing through the site.

Ski lifts, while less damaging to the ecosystem than a funicular, are used primarily as a means for recreation rather than a method of conveyance to scenic views. It is to be further noted that the two sites that utilized ski lifts also charged for their services, either for the access as a ski slope, or a general admittance fee to the park.

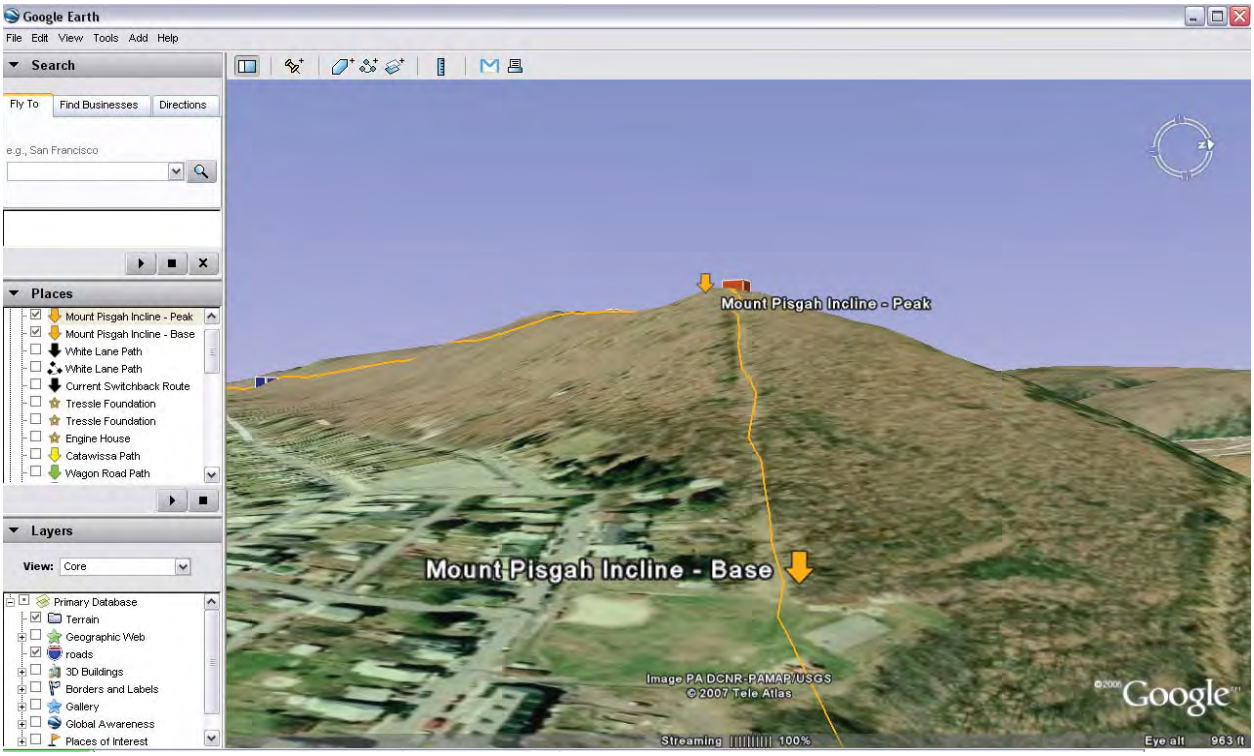
Stair and rail systems, while the least intrusive of any system applied to a site, also offer the least amount of access mitigation. While a rail was successfully installed on Uluru, the path to the top is still considered difficult and dangerous by most visitors. Furthermore, both Uluru and the Caverns are inaccessible to those that are infirm or have disabilities.

Finally, with the exception of the Caverns, it can be noted that each site was reachable via several different access points. These included not only trails and roads open to the public, but also paths and roads that can only be used by the rangers and staff. The Caverns' lack of multi-accessibility is mitigated by the fact that the site cannot be toured unless one is accompanied by a ranger. Thus, it can seen that the application of only one access path is not enough when improving a site, but further utility paths must be developed in concurrence.

POINTS OF ACCESS ANALYSIS

Not only is the type of path a necessary decision, but the actual location of such trail ways is a crucial step in improving accessibility to the Mount Pisgah Plane. The site's topography and existing conditions were studied to compare possible new areas for pathways to each other and to the two already existing routes: the Mount Pisgah incline and the Wagon Road. Five possible locations (four trails and one utility path) are shown within the context of Jim Thorpe in a map attached at the end of this project; closer images of each trail are provided in the following descriptions in order to visualize the existing topography of each location.

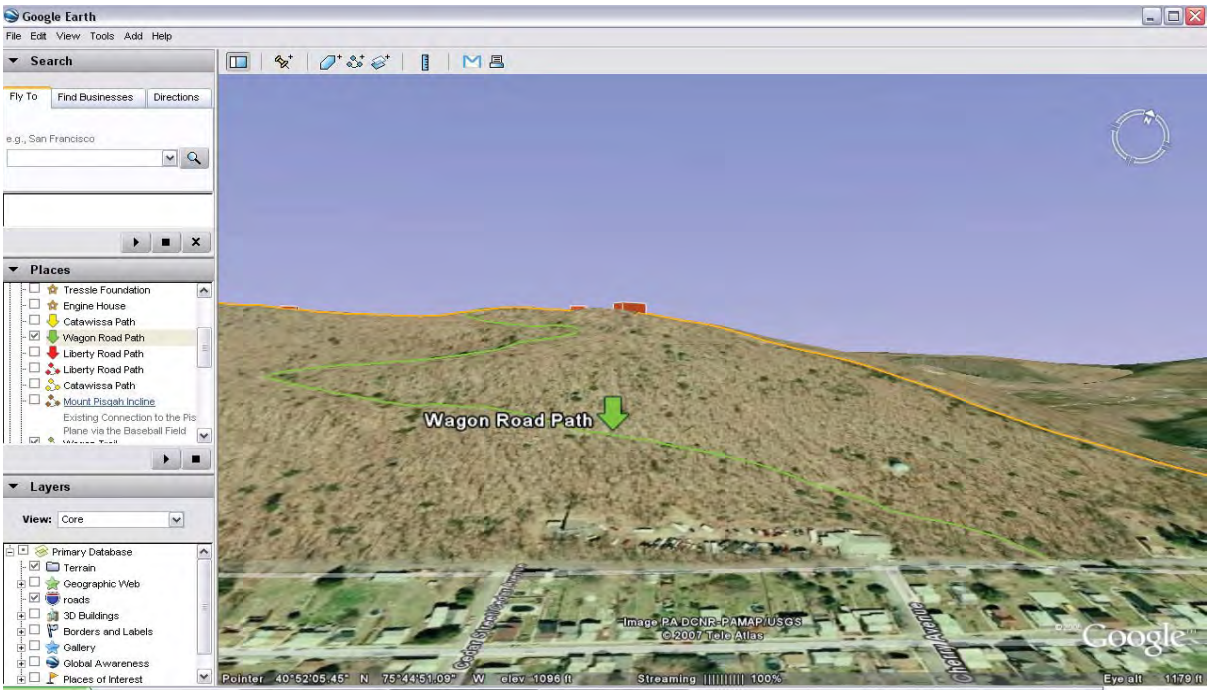
The Mount Pisgah Incline



Elevated View of the Mount Pisgah Incline. Courtesy of GoogleEarth, 2007.
NOTE: Sam Miller Ball Field at the Base of the Incline and the Elevated Ruins at its Peak.

The existing route to Mount Pisgah, this incline lies atop the original Switchback Gravity Railroad backtrack. This and the Wagon Road are the only two pathways up to the Plane; as such, it is already cleared for hikers and bikers with some riprap for erosion control and wooden planks spaced every ten feet or so. The main problem with this original trail is its steep grade that makes in inaccessibility to those who are not avid hikers or bikers. The incline begins at 770 feet above sea level and ends at the top of the Plane at 1360 feet. Its length of 2693 feet creates an incline of .219, making this an arduous and sharp upward journey. It lies totally within Carbon County lands, which makes it easier to alter/improve if necessary. However, alterations of any kind to this portion of the plane would be irresponsible since the primary focus of this study is to preserve the historic remains of the original Switchback and the trail. The incline is a crucial part of the Switchback where the engine house sits at its peak; changing this portion would jeopardize the integrity of the remaining historic fabric.

The Wagon Road

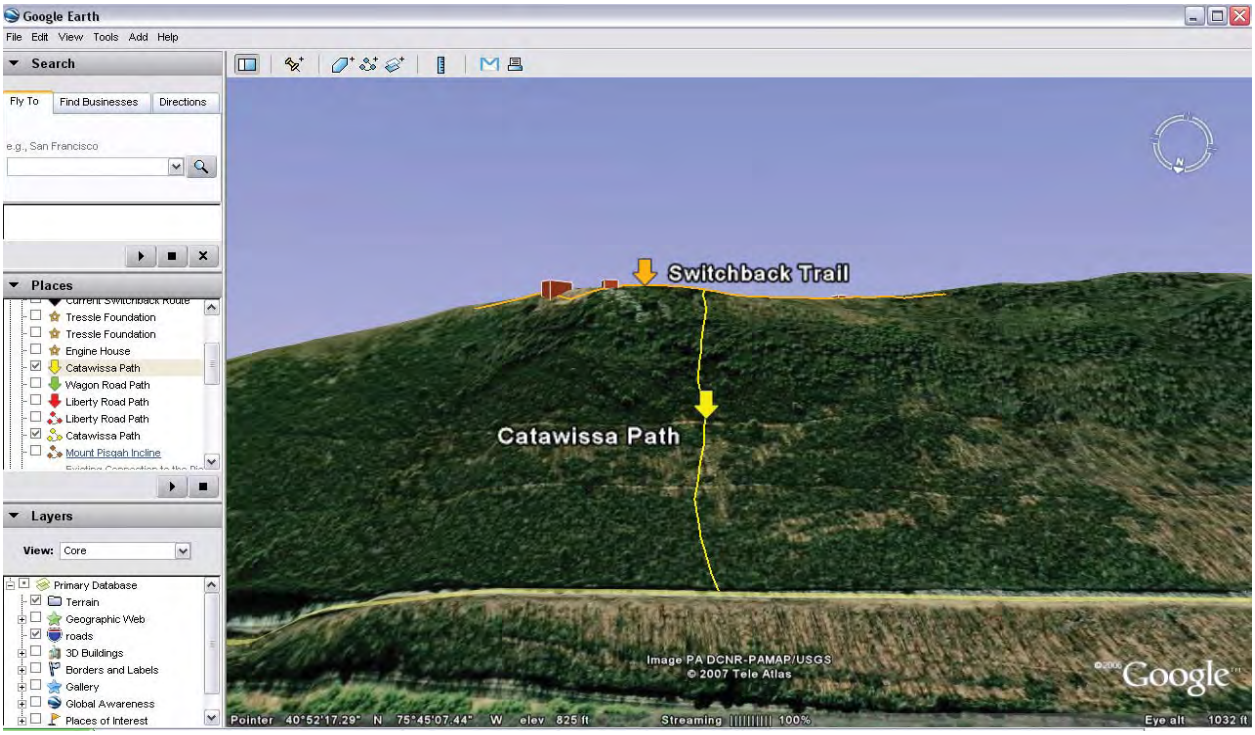


Elevated View of the Wagon Road. Courtesy of GoogleEarth, 2007.
NOTE: Historic ruins are identified as elevated boxes.

The second existing pathway that allows access from the base of the Pisgah Plane to the top of the backtrack is the Wagon Road – the original pathway in which donkey-drawn carts were led up the plane. Currently, it is the primary pathway that the County Parks department uses to access the upper portion of the Switchback for maintenance and monitoring. The pathway covers 2746 feet, with a base of 870 feet and a height of 1345 feet, creating a gentler slope of .173. Hikers and bikers who wish an easier route to the top of Mount Pisgah use the less steep Wagon Road that curves more gently up the southern portion of the plane. However, the riprap and erosion-control tarp that now covers the beginning 500 feet from the base is worn and outdated, creating a path of jagged and variously-sized rocks. This, like the Mount Pisgah Incline, is situated within Carbon County Park land, making it easier to improve/alter. Furthermore, since this pathway is not along the original Switchback and does not bisect or

intertwine with original historic fabric, alterations can be made without endangering the ruins or contradicting the policies outlined by this studio study. With this said, upgrading the Wagon Road is a viable option for improving access to the plane; given its width of about 15 feet, it could even be improved to allow vehicles such as emergency trucks or cars access atop the mountain.

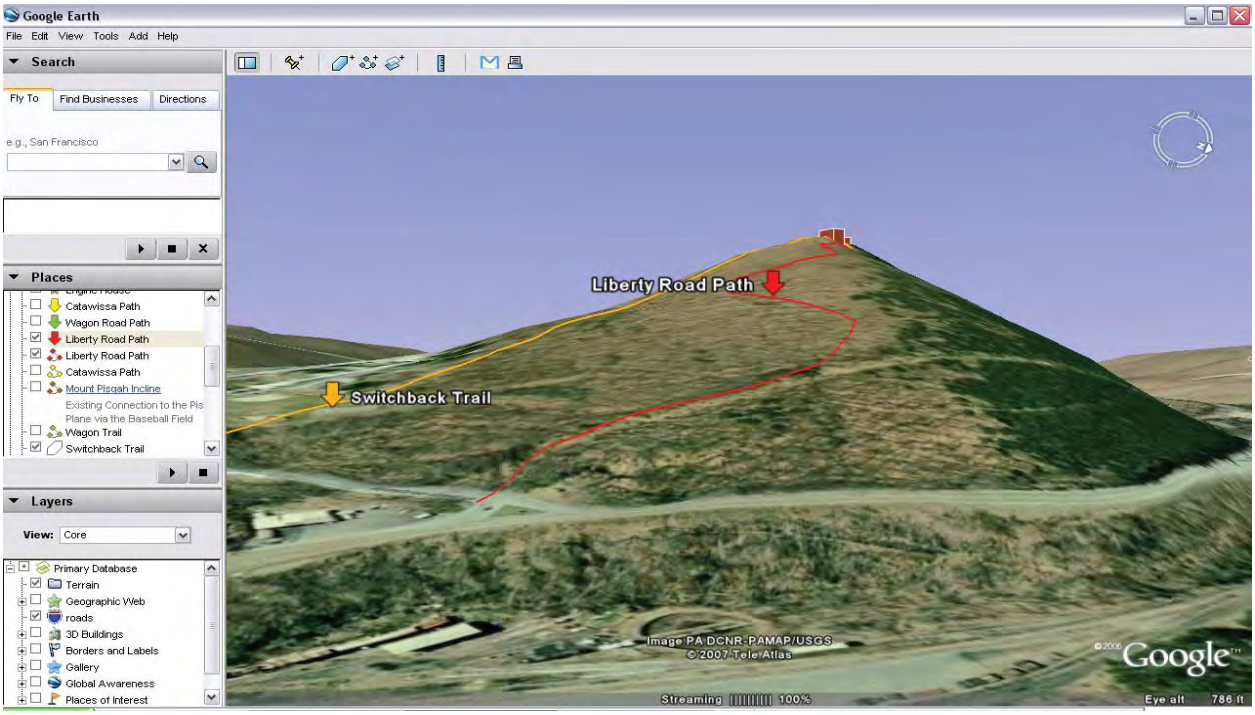
Catawissa Path



Elevated View of the Catawissa Path. Courtesy of GoogleEarth, 2007. NOTE: Historic ruins are identified as elevated boxes along the Switchback as indicated by the orange line.

Another possibility would be to place a pathway along the northern, undeveloped portion of the mountain range. This pathway could connect to Catawissa Road, which hugs the northern perimeter of the mountain, making it a convenient and easy to find trail. Also, a pathway on this portion of the mountain would not disrupt the original trail or historic ruins. However, creating this route would require the most work, since dense forests extensively cover the area. Furthermore, the slope on this side of the mountain is so steep that there is no place for a gentle ascension. The path begins at a base of 700 feet above sea level and ends at the top at 1345 feet. A straight path of 1214 feet from the base to the top would create a dangerous grade of .531, which is unacceptable for any form of route – hikers, bikers, emergency vehicles, etc. Creating a winding pathway would lessen the slope but not enough. Furthermore, this portion of the mountain privately owned by Christopher Peterson, which would require more work in terms of leasing and zoning jurisdiction. Therefore, it has been decided that, given the resources currently available to the County Parks services, creating a pathway on this side of the mountain is not possible.

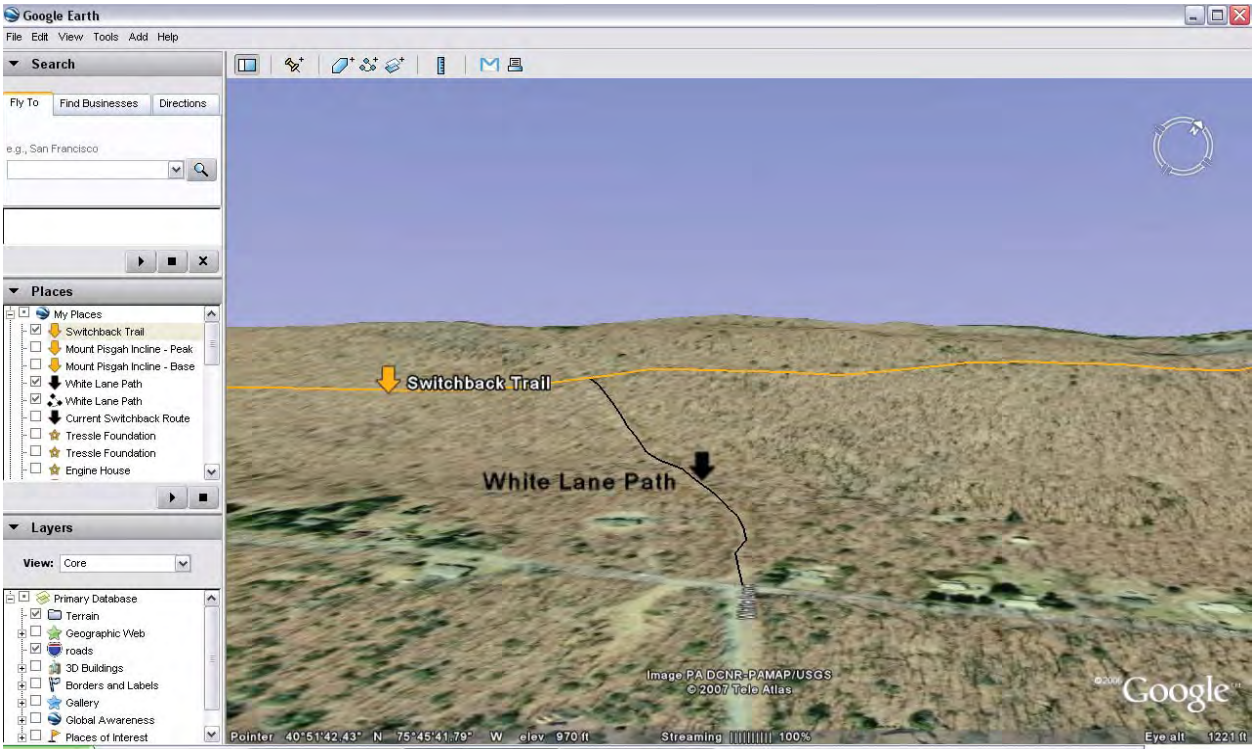
Liberty Road Path



Elevated View of Liberty Road Path. Courtesy of GoogleEarth, 2007.

Another area that could be developed into a path leading to the Pisgah Plane is along the eastern-most portion of the mountain. Like the Catawissa path, this could connect to a well-known and easily accessible roadway – in this case, Liberty Road. Like Catawissa, this portion of the mountain would not disrupt the original trail or historic ruins. The path begins at a base of 655 feet above sea level and ends at the top at 1360 feet; however, there is extensive land in the area to create a winding route that will allow a gentle uphill grade. Although creating a route here would also require some demolition and construction, the area is only scarcely scattered with trees. On the other hand, this area is privately owned by Christopher Peterson, which could involve much negotiation and litigation. This aside, the extensive forest area would be a prime candidate to place a path alongside the original route which travelers and the County Parks service can use to hike, bike, or patrol.

White Lane Path



Elevated View of White Lane Path. Courtesy of GoogleEarth, 2007.

Another pathway that should be considered is the White Lane Path. Although this route does not connect to the Pisgah Plane, it should be considered as a possible utility path for the County Parks department to access the upper portion of the track. The trail would begin at White Lane with an elevation of 970 feet above sea level and culminate at the top of the Switchback at 1330 feet. Its length of 1320 feet creates a somewhat manageable slope of .27. Since it is a bit steeper than the original path, this path would allow only limited access for County Parks officials to patrol, monitor and maintain the Switchback. According to topographic maps, this area appears to be somewhat cleared and would require minimal clearing and possible widening to allow the access of emergency vehicles. It falls completely within Carbon County lands; therefore, it should be considered as a potential maintenance trail.

FEASIBILITY ANALYSIS OF COMPARABLES AT ACCESS POINTS

These five areas of interest have varying degrees of strengths and limitations that must be considered in order to recommend the most suitable course of action given the Switchback's limited resources. For each of the following categories, five design scenarios (general clearing and maintenance, creating a series of steps, implementing a railing system, constructing a ski-lift and providing motor vehicle transportation to the base of the access points) will be considered on the four different locations identified as potential points of access. A matrix detailing the analysis is provided at the end of this project.

Construction and Implementation Costs

General clearing of each of the access points differs, as the Pisgah Plane and Wagon Road are already cleared while the other three paths are new routes that necessitate being designed, cleared and laid. The Wagon Road requires more work than the less rocky Pisgah Incline; the jagged boulders currently on the beginning fifty feet of the Wagon Road make the pathway difficult for even the experienced hiker, and this level of intervention would require a moderate amount of labor and materials. Much more major construction in terms of wide-spread clearing and forest demolition is necessary on Catawissa Road Path, Liberty Road Path, and White Lane Path which are covered with trees. Catawissa Road Path would need the most manpower to clear a pathway through the dense forests along the northern portion of the mountain. These paths would require not only labor and materials but also construction equipment in terms of backhoes and high-tech machinery for demolition and removal. Both Catawissa Road Path and Liberty Road Path are on private property and thus have the added cost of solving zoning issues that may arise when developing within private lands. This general work is the bare minimum level of intervention necessary to create a simple path at each access point. Developing more advanced methods of access would include this level of construction as well as other more complex interventions.

Adding a railing and stair system would add another level of construction to each of the options. While only basic labor and materials are necessary to implement these systems on the Pisgah Incline and the Wagon Road, more equipment and higher levels of skill and construction are necessary for both the demolition and construction phases that would be necessary at the other three points. Implementing a ski lift at any of these points would require high levels of construction, as well as specialized design on behalf of engineers and architects, expertise in assemblage and construction and staff for operation and maintenance. This, in conjunction with the general work necessary to create the initial paths, places the Catawissa Road Path as in need of maximum construction with the most specialized labor and costs.

Providing motor vehicle transportation at the base of each of the access points does not address the creation, cleaning or maintenance of trails to the Pisgah Plane. Therefore, this scenario will not be applicable for most of the rest of the analysis in terms of structural feasibility, stakeholders affected by change and an assessment with policies; however, the costs of implementing this option include regular transportation fees as well as adequate staffing to shuttle groups to the mountain.

Structural Feasibility

All other factors aside, it is structurally feasible to implement a basic cleared path, a railing system or a series of steps at each of the access points – except along Catawissa Road Path. Clearing a route to the Pisgah Plane at the four other points would require little, if any, advanced skill or designs; a basic site civil engineering analysis is needed to create basic demolition and clearing paths and to ensure that the paths' grades are within trail standards. It should be clarified here that no path created along the mountain will have a grade that meets the Parks Services' maximum allowable grade of 15%.[1] Therefore, since the Wagon Road's current grade is 17%, anything around 20% will be acceptable for this study. The slope along the northern portion of the mountain is so steep that any path implemented along the area would not satisfy this heightened grade tolerance; therefore, Catawissa Road Path is not structurally feasible for a basic pathway. Although it is not feasible to implement a pathway along this area, it is possible to create a ski lift type system at this location (and the other four locations). There is plenty of area to construct such a system at each of the sites both along each of the inclines as well as at their bases and peaks. From a pure topographical/site civil analysis, implementing a sky lift at the each of the access points is structurally feasible.

Political Feasibility

Political feasibility includes both the amount of officials (stakeholders with political and economic clout) who would be willing to support the idea and the political capital that would be donated for the process. Since providing motor vehicle transportation to the base of the mountain does not affect the actual land, officials would back this option; this option would also require the least funds in terms of implementation and operation. Since the town already supports the Mauch Chunk Museum's sporadic trolley runs up to the mountain, Jim Thorpe's officials would support the continued use and upgrade of this form of access. However, it does not address actually ascending the plane; therefore, it will be considered as an isolated option.

A huge political and legal problem deters any form of pathway implementation upon both the Catawissa Road Path and the Liberty Road Path: private ownership. Since both locations lie within the privately-owned and controlled lands of Mr. Christopher Peterson, the County Parks service, D&L and the Parks Service would have no authority to build within this area. There would be much opposition on the part of the land owner, and there would be many legal matters and zoning issues to deal with. Therefore, as it currently lies, it is not politically feasible to implement a path at either location.

Implementing access systems upon the Mount Pisgah Incline comes with some opposition. It was the general recommendation of the class not to support the Foundation's proposal to implement a funicular; this was based upon the conclusion that any development upon the Pisgah Incline would negatively affect the historic ruins in place, affect the existing ecosystem of the site and alter/detract from the multi-use aspect of the site at a pivotal point along the trail. This correlates to the preservation guidelines for such a historic resource. Therefore, in

keeping with such policies, it would be against the class's recommendation and belief to encourage any development aside from general maintenance along the Pisgah Plane. The D&L, Parks Service, and the County parks department have all supported this opinion. Without their support, it would be politically infeasible to develop upon the Pisgah Incline.

Implementing a cleared path, a railing system or a series of stairs on both the Wagon Road and the White Lane Path will be politically feasible. Neither path interferes with the original Switchback or any of the original fabric. Although they may alter the original environment, they will not affect the trail system already in place, allowing the Switchback's multi-use facet to continue. These three options would also be economically feasible with the D&L and Parks Service support and easy for the Carbon County parks department to maintain and monitor.

Stakeholders

Based upon the many stakeholder meetings that took place, there are many entities that have a valued interest in the future plans for the Switchback. Development is a heated debate, as many of these parties fear that encroaching development and new construction will affect the current state of the Switchback – which they happily use. A vocal entity, local hunters, were adamantly opposed to construction that affects the current state of the forested areas along the Switchback; therefore, they would be the primary party affected by the construction of the Catawissa Road Path. Furthermore, being the rightful landowner, Mr. Peterson would be affected by the construction of both this path and the Liberty Road Path. The current recreational users (hikers, bikers, etc.) would be affected by alterations to both the Pisgah Incline and the Wagon Road. A railing system would be the minimal change that may not affect these groups – since the system would be placed along the perimeter of the track and not affect the grade or actual path at these two points. Since White Lane Path would be a new path along an area that is currently not used by locals or tourists, it would not be affecting the current Switchback users. Furthermore, it would aid the County Parks department in providing another way to monitor and maintain the trail.

Policy Assessment

The structural, political and economical feasibility should be considered for each option at each location; however, just because implementation of an option is feasible does not mean it is in keeping with the original policies set forth for the site. Each option must be assessed in terms of the six policies outlined by the class (historical, environmental, interpretation, use and access, community involvement and maintenance). Since this study addresses the fourth most important policy, use and access, all appropriate recommendations should be in keeping with the three policies valued higher: historical, environmental, and interpretation. Particularly, the systems should not disrupt the original fabric of the trail or the ruins, nor should they severely alter the environment or stimulate negative ecological affects to the mountainous region.

Improving general conditions and adding proper maintenance to each of the locations is in keeping with the

policies at all locations except the Catawissa Road Path. Although this path would not interfere with the historical remains of the Switchback, the clearing of such dense forests would severely alter the hydrological and floodplain issues around the site. The clearing of scattered wooded areas of Liberty Road Path and White Lane Path would not affect the area as much as the destruction of the environment to the north of the mountain – especially since rainwater that falls upon this area is always trying to find its way southeast to the basin of the Lehigh River watershed – the Lehigh River.[2] Similarly, the implementation of a ski lift or other complex rail system would increase erosion along the mountainside, altering the existing environment and creating increased groundwater/ hydrological issues for the Heights – which already floods during intense rain periods. Therefore, an engineered system, such as a ski lift (or funicular) cannot be recommended because of the valued natural environment of the mountain area.

Implementing a series of steps or a railing system upon the Mount Pisgah Incline would negatively affect the historic ruins, affect the existing ecosystem of the site and alter/detract from the multi-use aspect of the site. Therefore, no development along the Pisgah Incline is recommended.

FEASIBILITY ANALYSIS OF COMPARABLES AT ACCESS POINTS ENDNOTES

1 "Designing and Building Sustainable Trails." 2006 IMBA Summit. http://www.imba.com/resources/trail_building/sustainable_trails.html

2 Lehigh River Watershed Conservation Management Plan. Wild lands Conservancy. December 2003.

CONCLUSIONS

The above analysis has highlighted specific recommendations according to the five distinct access points. The most suitable area to improve access is the Wagon Road, where either a stair system or railing system could be implemented. This pathway is already cleared and moderate alterations of it would not interfere with the existing trail system, environment or historic landscape. This rail or stair system could be along the perimeter of the path, leaving room still for hikers or bikers who wish to approach the incline as it currently is. Also, the width of the path also leaves the option of allowing the Parks department to drive emergency vehicles up to the peak if necessary. The system may also intersect(?) the Wagon Road, creating a direct route from the base of the mountain to the peak. The Wagon Road could intersect the system at different points, allowing visitors the choice of ascending the incline along the windy Wagon Road or up the straight stairwell.

In order to preserve the historic path and multiple uses of the Switchback trail, the only appropriate alteration to the Mount Pisgah Incline would be to improve its erosion control and maintain its cleared presence for bikers and hikers. The Wagon Road has proven a more viable candidate for access in this area of the mountain, and as such, should be considered instead of the actual Pisgah Incline where historic ruins remain.

If more resources become available after upgrading the Wagon Road, White Lane Path and Liberty Road Path are other viable options for accessing the trail. Although this is farther west than the other, placing a stair or rail at White Lane Path would allow visitors access to a portion of the trail they previously could not access. The trail's proximity to the County Parks department also offers the possibility of keeping the pathway a limited means of access for Park Rangers and others that need to monitor and maintain the site. A trail along Liberty Road Path may be possible given the amount of room that this portion of the site offers. However, since it falls within private ownership, zoning and legal matters need to be resolved before any construction can be implemented.

ALTERNATE ACESS

Locations of Potential Access Points to the Pisgah Plane

Courtesy of GoogleEarth, 2007.

APPENDIX B. FEASIBILITY MATRIX

Category	Information	Proposed Points of Access				
		Mount Pisgah Incline	Wagon Road	Catawissa Road Path	Liberty Road Path	White Lane Path
General Characteristics	Base Point (feet)	770	870	700	655	970
	Peak (feet)	1360	1345	1345	1360	1330
	Length (feet)	2693	2746	1200	3960	1320
	Grade	22%	17%	54%	18%	27%
	Ownership	Carbon County Parks	Carbon County Parks	Christopher Peterson	Christopher Peterson	Carbon County Parks
Construction	Work Done Already	RipRap with Wooden Rails	RipRap with Erosion-Control Tarp	None/ New Trail	None/ New Trail	None/ New Trail
	Work Necessary for...					
	General Conditions/ Maintenance	None	Flatten large boulders, update torn tarp	Complete clearing of dense forests, implement erosion control	Complete clearing of forest areas, implement erosion control	Complete clearing of forest areas, implement erosion control
	Steps	Update the wooden rails and flatten steps (Construction phase): Little to Moderate Construction	Add step system (Construction phase): Little to Moderate Construction	Clear area (demolition and construction phasing); implement an entire new system: Maximum Level of Construction	Clear area (demolition and construction phasing); implement an entire new system: High Level of Construction	Clear area (demolition and construction phasing); implement an entire new system: High Level of Construction
	Railing	Add rails: Little Construction	Add rails: Little Construction	Complete clearing and add rails: High Construction	Complete clearing and add rails: Moderate Construction	Complete clearing and add rails: Moderate Construction
	Ski-Lift	Implement entire new system: High Construction	Implement entire new system: High Construction	Implement entire new system: Maximum Construction	Implement entire new system: Maximum Construction	Implement entire new system: Maximum Construction
	Motor Vehicle Transport to the Base	None	None	None	None	None
Implementation Costs	General Conditions/ Maintenance	None	Labor/Material	Labor/Material/Equipment/Zoning	Labor/Material/Equipment/Zoning	Labor/Material/Equipment
	Steps	Labor/Material	Labor/Material	Labor/Material/Equipment/Zoning	Labor/Material/Equipment/Zoning	Labor/Material/Equipment
	Railing	Labor/Material	Labor/Material	Labor/Material/Equipment/Zoning	Labor/Material/Equipment/Zoning	Labor/Material/Equipment
	Ski-Lift	Specialized Design/ Expertise/Labor/Material/Equipment/ Staffing	Specialized Design/ Expertise/Labor/Material/Equipment/ Staffing	Specialized Design/ Expertise/Labor/Material/Equipment/ Staffing	Specialized Design/ Expertise/Labor/Material/Equipment/ Staffing	Specialized Design/ Expertise/Labor/Material/Equipment/ Staffing
	Motor Vehicle Transport to the Base	Transportation Fees/ Staffing	Transportation Fees/ Staffing	Transportation Fees/ Staffing	Transportation Fees/ Staffing	Transportation Fees/ Staffing
Structurally Feasilible	General Conditions/ Maintenance	yes	yes	no	yes	yes
	Steps	yes	yes	no	yes	yes
	Railing	yes	yes	no	yes	yes
	Ski-Lift	yes	yes	yes	yes	yes
	Motor Vehicle Transport to the Base	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Politically Feasible	General Conditions/ Maintenance	yes	yes	no	no	yes
	Steps	no	yes	no	no	yes
	Railing	no	yes	no	no	yes
	Ski-Lift	no	no	no	no	no
	Motor Vehicle Transport to the Base	yes	yes	yes	yes	yes
Stakeholders Affected by Change	General Conditions/ Maintenance	Contemporary recreational users	Contemporary recreational users	Hunters; C. Peterson	C. Peterson	none
	Steps	Contemporary recreational users	Contemporary recreational users	Hunters; C. Peterson	C. Peterson	none
	Railing	none	none	Hunters; C. Peterson	C. Peterson	none
	Ski-Lift	Contemporary recreational users	Contemporary recreational users	Hunters; C. Peterson	C. Peterson	none
	Motor Vehicle Transport to the Base	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Assessment with Policies	General Conditions/ Maintenance	yes	yes	no (Environmental)	yes	yes
	Steps	no (Historic)	yes	no (Environmental)	yes	yes
	Railing	no (Historic)	yes	no (Environmental)	yes	yes
	Ski-Lift	no (Historic/Environmental)	no (Environmental)	no (Environmental)	no (Environmental)	no (Environmental)
	Motor Vehicle Transport to the Base	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Final Recommendations	General Conditions/ Maintenance	yes	yes	no	yes	yes
	Steps	no	yes	no	yes	yes
	Railing	no	yes	no	yes	yes
	Ski-Lift	no	no	no	no	no
	Motor Vehicle Transport to the Base	no	no	no	no	no

5.

engage the community

5. Engage the Community

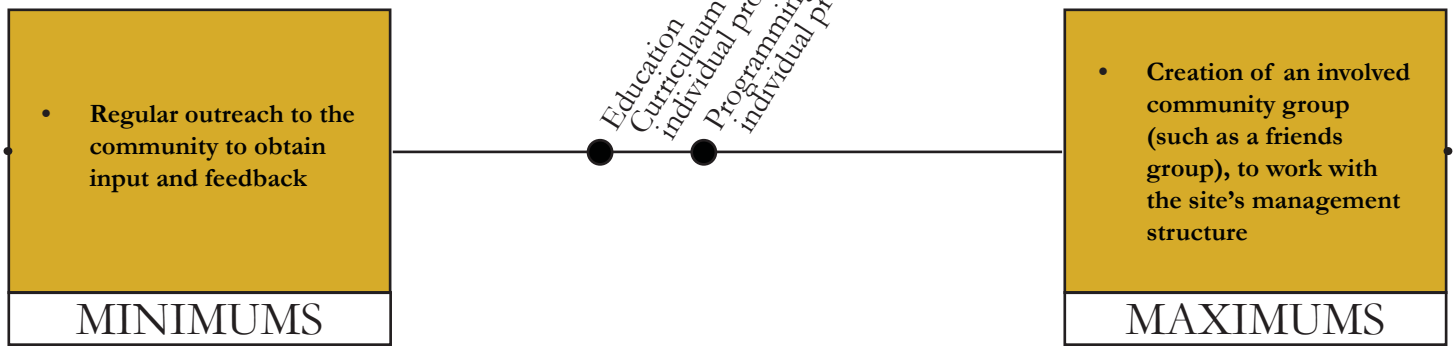
Policy

All stakeholders must have the opportunity to be involved in discussions regarding preservation, development or management of the Switchback Gravity Railroad. Ongoing management of the site will depend on the coordinated action of multiple partners.

Strategy	Actions
1. Partners in the SGRR's development must ensure a sustained community dialogue by establishing lines of communication and outreach to residents, stakeholders, and visitors.	• Establish a Heights Residents Advisory Council as a liaison for site development review; this organization will ideally also have the capacity to address neighborhood revitalization issues. • Establish a broader representational committee of community stakeholders (drawn from around the SGRR area) to attend client meetings regarding site management issues. • Conduct formal Visioning Process via public meetings and an interactive website.
2. Reinforce neighborhood connection through parallel community-driven project(s) relating current residents to the area's history.	• Website catalogue of oral histories modeled after www.placematters.net. • Include stories and images from past and present members of the community on trail signage and literature. • Annual "Clean-Up and Picnic" for community members to maintain and celebrate the site. • Identify sites of cultural importance to Heights residents and evaluate impacts of future development on these areas.

Rationale

The residents of Jim Thorpe are essential stakeholders in the preservation of the Switchback Gravity Railroad. The site's historical significance should be a more prominent part of the collective memory and historical identity of the local community. As the most proximate parties, Jim Thorpe and other area residents will be the greatly affected by any plan for developing the site, and their involvement will be crucial to creating an appropriate and effective preservation plan.



Programming Plan for the Switchback Gravity Railroad

While many Jim Thorpe residents are keenly aware of their town's industrial heritage, there remains an opportunity for further education. From descendants of Switchback workers with an intimate knowledge of the railroad, to those who have only heard the name in passing, interactive programming will benefit people of all degrees of awareness. Taking place both on the Switchback trail and in Jim Thorpe, activities such as tours and open houses provide direct interaction with the site and town's history. Our goal is to increase this interaction by providing more opportunities to learn about the Switchback's history while participating in a myriad of contemporary uses. This programming plan follows careful consultation with our preservation policies, the first of which states that the entire 18-mile Switchback Gravity Railroad trail is worthy of preservation because of the unique role the railroad played in the nation's industrial heritage. Other policies highlight the importance of increased interpretation and community involvement in the historic resource. Founded on preserving and propagating the Switchback's history, programming will be focused entirely upon galvanizing the Jim Thorpe regional community to actively participate in the town's heritage and will stimulate onsite interpretation, both guide-based and personal. Activities will be organized around three main themes of interpretation, all of which capitalize on the historic resources –railroad history, industrial heritage, and multi-use of environmental resources.

These three themes are all crucial to building a greater sense of community-based appreciation for the Switchback and Jim Thorpe's role in American industrial heritage. All programming is initiated from the historic significance of the railroad, but each theme emphasizes different aspects of the site's contribution to past and present-day Jim Thorpe. Railroad enthusiasts will have the opportunity to learn from and contribute to the growing body of knowledge surrounding the Switchback's operations, while others will learn about the railroad's connection to the town below through examples of industrial heritage such as the houses of the wealthy investors. More active-minded residents will absorb Switchback history while simultaneously enjoying the site in its current state via activities such as hiking, biking and bird watching.

Education will not be founded upon the dissemination of historical facts in a classroom setting. Though this information plays a central role in creating the story of the Switchback and Jim Thorpe, people will learn more about this history if they encounter it first-hand through their individual senses. They will remember their personal experiences and the larger history that served as a vehicle for that interaction will accompany the memories. Programming will strive to provide opportunities for these encounters. Through this education, residents will connect to their town's history in a personal manner that will inspire further appreciation for the Switchback and Jim Thorpe's heritage.

By experiencing the site's history in its contemporary context, residents will not only learn more about the town's past, they will also feel a stronger sense of pride and ownership over the site. Simply put, the local population will be more invested in the future of the historic resource that sits in many of their backyards if they know more

about it and if they interact with it as part of their every day lives. The more that the Switchback and Jim Thorpe's industrial history can be woven into the existing cultural fabric of the town – the more residents are connected to their history – the more invested they will be in its maintenance and preservation.

Comparables

Before making programming suggestions, it is important to examine programs that sites with similar values have implemented to educate and inspire their visitors. The semester's analysis identified various themes of importance that are embodied by the 18-mile Switchback Gravity Railroad. As such, we have chosen three of these themes that have the most potential for interpretive programs and that capitalize on its current use value – railroad history, industrial history and environmental use. We looked at three sites, each deemed a suitable comparable for embodying one of these three themes.

Railroaders Memorial Museum- Altoona, Pennsylvania

Altoona, PA played a crucial role in the development of the railroad and as a result the nation's transportation infrastructure.[1] For more than a century Altoona was a thriving railroad center housing the Juanita Heavy Repair Shop Complex and a locomotive construction facility. In the 1920's 15,000 workers were employed by the Altoona railroad and by 1945 it had become the world's largest railroad complex.[2] Similar to Jim Thorpe, Altoona is a town created from increased industrialization.

Today, Altoona maintains its legacy as a railroad town. Its frequent railroad activity and its role in railroad history make it a mecca for railroad enthusiasts. One of the first stops for railfans is The Railroaders Memorial Museum operated by The Railroaders Heritage Corporation. The museum's mission is to celebrate the contributions of railroad workers to American life and industry. Through exhibits, excursions and events the museum has been able to grow from a handful of employees and an annual budget of less than $100,000 to more then 30 employees and a budget of $1.6 million.[3]

The Railroaders Memorial Museum has developed a variety of programs aimed at railroad enthusiast in an effort to simultaneously preserve history, educate the public and raise funds. The audience for each program varies slightly allowing the museum to make a connection with a wider public. This is an important idea to keep in mind when coming up with a programming plan especially if funding is low; speaking to varying audiences will result in a larger draw. However, this needs to be approached with caution ensuring the mission remains clear.

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1 Railroaders Memorial Museum, paragraph 4, http://www.railroadcity.com/rrm/index.php (December 11. 2007).

2 Ibid.

3 Peter Barton, History of the Altoona Railroaders Memorial Museum, paragraph 8 http://www.trainweb.org/horseshoecurve-nrhs/aboutarmm.htm (December 11, 2007).

Altoona has established a memorial program to honor railroad workers and their years of service. Available for purchase are two types of plaques, theater seats, and a foot of track on the Horseshoe Curve. With price points ranging from $50.00 to $300.00, this is financially viable option for individuals and families with varying incomes. This program both raises money for the Museum and presents the history of the railroad on a personal level by memorializing men and women who had a part in this revolutionary form of transportation.

To reach a wider yet localized audience, in April the Museum introduced Neighborhood Spirit Days. Once a week from July through October a different neighborhood within Altoona will be special guests at the Museum. On these days, residents gain free entry to the museum, access to behind the scenes events, and a look at exclusive displays about the corresponding neighborhood. According to Scott Cessna the Museum's CEO, "We wanted to find a way to promote a sense of pride and community spirit one neighborhood at a time."[4] The value of this program lies within its ability reach local residents not necessarily personally connected to the railroad. This is an effective way to connect the town with its history and pass its historical narrative on to future generations.

Reaching an even wider audience still is the yearly Railfest. One of the Museum's greatest fundraisers, Railfest is marketed as a "Model Train and Railroadiana Show". During this two-day event, railfans have access to exhibits, vendors, rarely seen railroad cars and railroad excursions not to mention the more family friendly fireworks, entertainment and food and drink. Although, while children under two are allowed free of charge, some excursions will not allow children under twelve. This event appeals to all types of railroad enthusiasts and draws attendees from across the country. While a major event like this is quite an undertaking especially for a small organization it is an excellent way to promote their history and educate the public.

West Hill Dam- Uxbridge, Massachusetts

Located in Uxbridge, Massachusetts, just north of Rhode Island and within the Blackstone River Valley National Heritage Corridor, the West Hill Dam is a wildlife management area with extensive programming in place to consecutively promote the protection and value of the site while benefiting its visitors.

Between 1999 and 2000, 71,000 people visited West Hill Dam bringing in $930,000 in spending within 30 miles of the lake, 66% of which directly benefited the community proving the monetary value of the site.[5] However, as a wildlife management area, its primary concern is not a financial one but rather that of the environment. A noted birding area and home to hundreds of species of wildlife the mission of West Hill Dam is to "increase motivation to learn more about the environment; understanding and awareness of environmental issues; and sensitivity to the environment."[6]

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4 Newsletter, paragraph 2, http://www.railroadcity.com/newsletter/index.php (December 11, 2007).

5 Value to the Nation- Fast Facts, Lake Level Report for West Hill Dam, http://www.vtn.iwr.usace.army.mil/recreation/reports/lake.asp?ID=435 (December 15, 2007).

6 Ibid.

West Hill Dam draws not only nature lovers but sportsmen, outdoor enthusiasts and families looking to enjoy open-air activities. Aware of the full scope of their audience, programs have been developed if not for each group specifically but with all in mind. Promoting the public use of the site, the West Hill Website thoroughly encourages multi-use by suggesting individual exploration specifically sunrise and sunset hikes being sure to caution hikers to the presence of hunters.

A program currently instituted at the West Hill Dam is "Watchable Wildlife". Composed of a variety of habitats from wetlands to upland mixed forests, management saw an opportunity to interpret these areas by calling specific attention to them. Signs such as the one below encourage visitors to bring and use their binoculars to view the various mammals, birds and reptiles prominent to these noted areas.

Additional programming aimed at the larger public includes tours including a "Get to Know West Hill Dam" tour and critter trek which includes animal tracking. These tours can be joined individually or in a group with the only limitation being that those under the age of 17 be accompanied by an adult. Management is always seeking out volunteers for multiple programs within the site one of which is their Biodiversity program. The mission behind this is to return the area to the quality grassland and shrubland habitat it once was. While this mission may not be appropriate for all sites, it is just another way to involve and educate the public while propagating management's mission.

In an effort to appeal to a younger audience management instituted a Jr. Ranger program and partners regularly with Boy Scout and Girl Scout troops for projects and tours. Eagle Scout Candidates are encouraged to partner with West Hill Dam in pursuit of their Eagle Award. Hike kits are also available to all Scout Troops. This educational pack includes a self-guided Scout activity booklet.

Lowell National Historic Park- Lowell, Massachusetts

"While there is no single birthplace of industry, Lowell's planned textile mill city, in scale, technological innovation, and development of an urban working class, marked the beginning of the industrial transformation of America."[7] Incorporated in 1826, Lowell, Massachusetts was strategically planned among an intricate interconnected system of rivers, canals, dams and a thirty-two foot waterfall. This abundant waterpower was used to run the towns numerous textile mills. The first large factory town in America, Lowell enjoyed nearly 150 years of bustling growth. In the mid-1960's the Lowell textile industry was in serious decline leaving the town and manufacturing district in ruins struggling with overall deindustrialization and suburbanization.

Encompassing sites throughout the town, the Lowell National Historic Park was established in 1978, to showcase Lowell's important role in America's Industrial Revolution. The parks mission is to not only provide an in-depth

[7] Lowell- Spirit of the Past, paragraph 1, http://www.nps.gov/lowe/photosmultimedia/prologue.htm (December 15, 2007).

look at the past but connect this past to the present and reveal visions for the future.[8] In all of its success, the park has served to propagate the town's industrial history while just as important, aided in the town's economic rebirth.

Managed by the National Park Service, the Lowell National Historic Site enjoys certain liberties when developing programs that smaller, independent sites are not often afforded. A level of financial freedom makes it easier not only to reach a larger audience but also to implement events that may not directly tie into the parks mission but rather act as fundraisers and community building events. This idea is demonstrated by the parks partnership with the Patrick J. Morgan Cultural Center and the University of Massachusetts, Lowell. This partnership serves to engage the community by sharing their stories and family history as tied to the city's history. Additional programming sponsored by the partnership includes celebrations related to Black History Month and Native American Pow Wow and the Jack Kerouac Weekend.[9]

Functioning independently, the park showcases multiple interpretive programs. Visitors are encouraged to take part in both guided tours and exhibits throughout the park as a way to tell the history of this early industrial town. To compliment these exhibits, museum talks are also offered as a way to bring the history to life. This interpretive program uses visual, written and oral techniques to reach their audience that is most likely made up of people who learn in different ways. The presentation of history through multiple vehicles ensures a greater reach to visitors who may understand the information better in multiple formats.

The Lowell National Historic Park has instituted multiple programs to educate teachers and students throughout the country. "Inventing America: Lowell and the Industrial Revolution" is a weeklong program for teachers that uses not only Lowell but other industrial sites throughout Massachusetts to provide hands on learning for educators. A lesson plan created by the National Park Service is also available online for teachers. Intended for grades 8-12, the plan, "Land Use in Lowell: Mapping Industrial Change" is available as a free download. Possibly the most impressive educational undertaking by the park is the Tsongas Industrial History Center, a partnership between the park and the University of Massachusetts- Lowell. This collaboration combines the historical resources in Lowell with interactive learning. Students learn about the history of America's Industrial Revolution by weaving, role-playing, working on an assembly line and creating canal systems. Science is also a focus by allowing students to test local water quality, trace the flow of groundwater pollution, or discovering river cleanup techniques.[10]

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[8] Lowell National Historic Park, paragraph 1, http://www.nps.gov/lowe/index.htm (December 15, 2007).

[9] Lowell- A City With Soul!, brochure, *Lowell National Historic Site 2005 Annual Report*, http://www.nps.gov/lowe/parkmgmt/upload/Lowell%20AR%202005%20single%20pages.pdf.

[10] What Is the Tsongas Industrial History Center?, Tsongas Industrial History Center, paragraph 1, http://www.uml.edu/tsongas/index2.htm.

IMPLEMENTATION

Many Jim Thorpe residents are well-versed in their town's history and are self-proclaimed historians. There is however, an opportunity to provide further education through perhaps different means. Surrounded by mountains on three sides, Jim Thorpe has a plethora of cultural and natural resources at its disposal. These resources offer distinct opportunities for a diverse array of social programs that will interpret and promote the town's unique heritage.

All programs are run by the Friends of the Switchback Gravity Railroad. No additional "Interpretive Center" is needed. Promotion of programs would take place in the existing downtown Jim Thorpe Visitor Center near the parking lot. The Mauch Chunk Museum will also play a key role in the operation of many of the programs due to its obvious historical emphasis. For speakers and events, existing space in the Visitor Center can be used along with other meeting spaces throughout the town, such as the Mauch Chunk Opera House and the Dimmick Memorial Library.

Tours

Tours are a major programming component to any historic site and should be adopted for the Switchback Gravity Railroad. They are one of the most interactive methods for bringing visitors to the site and allows them to engage with the site directly. Tours have been developed to coincide with the three previously stated themes – railroad history, industrial heritage and multi-use of environmental resources. Topics will vary according to user interest and age range and ability.

There is insufficient information to determine an appropriate comparative price point for tours, but prices should be competitive while still being profitable for the site and business operations.

Guides

Guides will undergo training and be 'licensed' before being able to give official Friends-sanctioned tours to the public. Guides will also determine the best route for their tours, depending on visitor needs, length of tour, and activities. Active tours – such as biking, river rafting, cross-country skiing – will follow a prescribed path, pending weather and trail conditions.

A number of Jim Thorpe local stores have pre-existing maps and trail ranking systems and suggestions. In order to retain cohesion among trail users and uses, tour paths will abide by these existing guidelines.

Logistics

Visitors will sign up for tours at the Visitor's Station near the parking lot, but meet their guide at the Mauch Chunk museum for a 15-minute tour of the museum before departing for the trail. From there, participants will be

shuttled to the trailhead that will begin their tour, or walk to the site of initiation.

Tours will last from anywhere from 1 ½ - 3 hours, pending type of tour.

Themes

History of the Switchback

Visit key ruins along the Switchback trail. Guides will include mechanical explanations of how the railroad operated and provide an overview of the sites history.

Mission: Promote the historical significance of the railroad within American industrial history and the creation of local heritage. An important goal of this tour will be to capitalize on viewsheds experienced by original Switchback workers and riders.
Physical Scope: Sites on the trail deemed significant such as historical sites Five Mile Tree Overpass, and the Hacklebernie Mine pending trail and weather conditions.
Audience: This is a leisurely tour appropriate for all age levels. This tour can be customized to meet educational or group needs.

Switchback Railroad, Advancement on Tracks

The choice for avid railfans, this tour provides a look into the Switchback Gravity Railroad and its place in railroad history. Included are a visit to the site, specifically sites of significance, an in-depth explanation of how the railroad functioned and a visit to the museum.

Mission: Draw railfans from around the country to educate and preserve the roll the Switchback had in railroad history.
Scope: Specially picked sites on the trail and the museum.
Audience: This tour would be designed to speak to adult visitors but children are not discouraged. Again, material can be altered for different age groups.

Jim Thorpe's Industrial Past

Visit the town landmarks of industrial heritage on the National Register: Asa Packer Mansion, Harry Packer Mansion, the Olde Jail, St. Marks Episcopal Church, a walk through Old Mauch Chunk Historic District and end at the Mauch Chunk museum for a look at the Switchback model. This tour will coordinate with currently offered tours at each site to ensure continuity with their educational standards.

Mission: Demonstrate Jim Thorpe's importance to America's industrial heritage through selected sites throughout the town.
Physical Scope: Industrial sites in Downtown Jim Thorpe including the Switchback.

Audience: This tour is appropriate for all age levels and can be customized to meet educational or group needs.

The Switchback & Its Natural Habitat

Visitors will walk along the Switchback trail and witness the environmental resources that surround the trail. Guide will focus primarily on plant and animal life, but basic information about the Switchback will be disseminated. Specific 'lookout points' will be distinguished and will serve as focal points from which visitors can witness the most wildlife and/or plants.

Mission: Introduce visitors to the multi-use opportunities and resources the 18-mile trail has to offer.
Physical Scope: Guides will determine the ideal places along the Switchback trail to engage in tour activities, according to their prior experience and recommendations set for by the Friends group.
Audience: This is a leisurely tour appropriate for all age levels. This tour can be customized to meet educational or group needs.

Bike the Switchback

Jim Thorpe already has a well-established mountain biking industry with a wide variety of mountain bike rental options. There are also a number of private individual residents that offer guided rides – the Friends group will reach out to these guides to create a cohesive network of bike tour options. Guides will disseminate information about the Switchback along the trail as appropriate and will go through the above-mentioned historical training. However history will not be the main mission of this tour. Riders will be able to sign up for a guided tour through the bike stores or at the Jim Thorpe Visitors Center.

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Mission: Introduce and promote the multi-use of the trail.
Physical Scope: Active tours (hiking, biking, rafting) will take place a long a pre-established route, pending weather and trail conditions.
Audience: These 'active' tours are open to people 16 years of age and up.

Winter on the Switchback

Capitalizing on its reputation as the "Switzerland of America", winter in Jim Thorpe offers breathtaking scenery as well as an opportunity for winter-sport enthusiasts to enjoy the serenity of the snow-covered landscape. Tour options will include snow-shoeing and animal tracking. The Friends group will coordinate with local sports rental stores to integrate equipment rental availability. While Switchback history is not the primary focus of this tour, basic history will be disseminated as needed.

Mission: Introduce and promote the multi-use, multi-seasonal uses of the trail.
Physical Scope: Active tours (hiking, biking, rafting) will take place along a pre-established route, pending weather and trail conditions.

Audience: These 'active' tours are open to people 18 years of age and up.

Spring on the Switchback

In the early days of the Switchback, coal was off-loaded onto vessels in the Lehigh Valley River. Rafting tours along the Switchback will depart from the municipal parking lot and follow the coal's path down the river. Safety equipment will be provided. Basic historical information will be disseminated.

Mission: Introduce and promote the multi-use, multi-seasonal of the trail.
Physical Scope: Active tours (hiking, biking, rafting) will take place a long a pre-established route, pending weather and trail conditions.
Audience: Families, including children over 8 years of age.

OFFSITE PROGRAMS

The following programs are focused on off-site education to reach a wider array of individuals, particularly those who are unable to actively access and engage the Switchback and surrounding areas. Implemented within a more traditional classroom-like setting, these educational programs are designed to teach and engage professionals and experts in their respective fields.

Leaders

Leaders – lecturers, rangers and sportsmen – must be recognized within their respective fields as reputable instructors. While no formal 'certification' process is required, leaders will need to show evidence of their capabilities and willingness to participate in the program.

Logistics

Rental space for events will be negotiated with local businesses and colleges, pending audience size and topic.

Lehigh Valley Railroad & Industrial Lecture Series

In conjunction with a local college – the two closest being Lehigh Carbon County Community College in Schnecksville and Muhlenberg College in Allentown – this program will bring in experts for lectures on a variety of themes, ranging from railroad and industrial history to the geography of the landscape.

The two local colleges currently offer classes focusing on regional history and other topics. Bringing these local specialists to the town to give lectures from their fields of expertise will widen the scope of exposure that Jim Thorpe residents have regarding the Switchback. Many are already well-versed in Switchback

and Jim Thorpe regional history, but these lectures will provide a different lens through which they can experience the site. Lecturers will also have the opportunity to hear personal stories from the local residents.

Mission: Advocate for railroad and industrial history.
Physical Scope: Lectures will take place in Jim Thorpe and surrounding region.
Audience: These lectures will be aimed at an audience of 18 years of age and up.

Rangers-in-Training

Children under the ages of 17 will have the opportunity to work with active park rangers, learning about plant and animal life surrounding the trail, as well as the history of the Switchback. The program will run in conjunction with local school curriculum and partner with regional Boy and Girl Scout troops. Activities will include on-site educational training, weekend camping, maintenance assistance.

Mission: Educate younger generations and encourage their roles as future stewards of the 18-mile Switchback Gravity Railroad site.
Physical Scope: All activities will take place on the trail or in ranger stations.
Audience: Children between the ages of 8 and 17.

Sportsmen Roundtables

The multi-use of the trail can be a difficult challenge in areas where hunting is allowed. These roundtables will serve as a way to open a dialogue between hunters and other recreational users of the trail to ensure safety for all users as well as ensuring a respectful coexistence.

Mission: Create an open dialogue and symbiotic educational program between sportsmen and other recreational users of the site.
Physical Scope: An off-site location to be determined.
Audience: 12 years of age and up. These classes can be customized for a group of young adults as well.

SPECIAL EVENTS

Switchback Day in Jim Thorpe

Switchback Day in Jim Thorpe will be annual community-based event that celebrates the town's heritage and encourages further education by all residents. For residents only, all museums will provide free access and tours. Shopkeepers are encouraged to setup tables or booths along the main downtown routes, local musicians can perform freely within a carnival-like atmosphere and artists can open their galleries for viewing. Local bike stores will offer discounted rates to encourage locals to experience a natural resource

that is in their backyard. The above-mentioned tours will also be available.

There also exist a number of plays that tell the story of the anthracite coal era. Each year one such play will be highlighted and performed as the capstone to the day. This acts as yet another way to express the legacy of coal in the region (for play references, see *Anthracite!:An Anthology of Coal Region Drama*, by Philip Mosley).

Mission: To ensure the legacy of the Switchback and Jim Thorpe's industrial heritage by allowing greater access to educational opportunities and further the sense of community.
Physical Scope: Downtown Jim Thorpe
Audience: This is a family event open to all ages.

SGRR Legacy Day

With every year that passes, there are fewer people around with first-hand accounts of the Switchback. As such a crucial piece of Jim Thorpe's history it is important to keep these experiences alive. SGRR Legacy Day will be a time for people with familial ties to the railroad to gather, exchange stories and ensure the history continues to be passed down to future generations.

Mission: To ensure the legacy of the Switchback by creating a forum for stories, lore and heritage.
Physical Scope: Mauch Chunk Lake.
Audience: This is a family event open to all ages.

Local History Curriculum for the Lawrence B. Morris 7th-8th Grade Classes

The history of the Switchback has been instilled in older generations of Jim Thorpe residents by the men and women who actually experienced it. With this generation growing older and another generation emerging, it is important to instill knowledge and appreciation of the site in the younger generations. These children are not only the next generation of users and caretakers of the site, but will also be responsible for passing its history on to future generations. This individual project investigates possible ways in which the history of the Switchback can be incorporated into the 7th-8th grade level history curriculum in Jim Thorpe schools. By designing curriculum initiatives which involve a tangible local site, students will become more familiar with the history that lies in their own backyards.

This project addresses our studio's policy concerning community involvement. By educating young residents about the history of the Switchback Gravity Railroad, knowledge and appreciation will be garnered.

These lesson plans provide a general framework for educating students about specific themes of the Switchback Gravity Railroad's history: the technology of the railroad, coal mining heritage, and leisure culture. Using maps, historic images, biographies and personal accounts, each theme is emphasized. Each lesson also incorporates visits to sites related to the Switchback Gravity Railroad.

Lesson Plan Themes:

1) Technology of the SGRR – How the creators of the Switchback utilized gravity and emerging locomotive technology to work the railroad. Sites to be discussed include:
    a. The backtrack
    b. The trestle bridge
    c. Barney cars and cable/pulley system
    d. The canal and the chutes
2) Coal Mining Heritage – How the discovery of coal and the Industrial Revolution affected the development of Jim Thorpe, Summit Hill, and the surrounding areas.
    a. Discovery of anthracite lead to the development of Mauch Chunk
    b. Big Names / Small Names – the lifestyle of Asa Packer and other Switchback big wigs vs. the workers on the railroad and in the mines
3) Leisure Culture – How the timing of the Switchback as a "leisure carriage" corresponds with the growth of the middle class and the ability of more Americans to experience "leisure time."
    a. The Switchback as a rollercoaster after it outlived its use for mining
    b. How the trail remains a place of recreation today

Each lesson plan is outlined in five steps. These steps highlight important topics associated with each theme and culminate in a visit to a site related to the Switchback Gravity Railroad.

1) Beginning the lesson: Lead-Off Question

To introduce each themed lesson, ask students to respond to a lead off question which responds to a specific historical image or a pair of historic images. This/these image(s) can be projected onto a screen or can be printed out so that each student has a copy. By linking an initial question to a historic image, students will begin to think about the history of the site.

2) Laying the Groundwork

A short synopsis of the theme should be read to students. This information could include a description of the Switchback Gravity Railroad system, biographies of important individuals, or quotes from people who experienced the railroad. Questions and comments should be encouraged throughout this process. This information can also be printed out and distributed to small groups of students so they can read and discuss together.

3) Gaining Familiarity with the Site

A map which locates the site along the Switchback trail should be distributed to the students. Point out main streets to the students and ask them to locate their home, the school, etc. Then show them on the map where the site is, so they can gain an understanding of where the site lies in relation to where they live and where they go to school.

4) Visualizing the History

Divide the class into five groups and distribute one image to each group. Have students follow these five steps for analyzing each image:

- Examine the image for ten seconds. How would you describe what you see?
- Divide the image into quadrants and study each section individually. What details—such as people, objects, and activities—do you notice?
- What other information—such as time period, location, season, reason the photo was taken—can you gather from the photo?
- How would you revise your first description of the photo using the information you gave in steps 2 and 3?
- What questions do you have about the photograph? How might you find answers to these questions?[1]

After each group has completed the analysis process, have a member of each group present the group's answers and findings to the entire class.

[1] National Park Service, Photo Analysis Worksheet, 2002, available from http://www.nps.gov/nr/twhp/PHOTOANA.HTM; Internet; accessed 20 November 2007.

5) Seeing it in Context: Site Visit

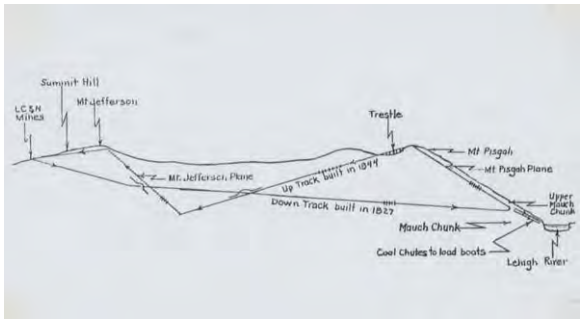
After the discussion of the site's history and the presentation of images, students should be taken to a specific site that relates to the Switchback Gravity Railroad.

Theme One: The Technology of the Switchback Gravity Railroad

view of Pisgah Plane and the town of Jim Thorpe

Beginning the lesson: Lead-Off Question

Compare these two images. Imagine that the rail is laid on top of the mountains. Can you identify where specific points along the rail would line up with the mountains?



outline of SGRR system, courtesy of Mauch Chunk Mueum

Laying the Groundwork

<u>A step by step description of transport process after Backtrack is introduced:</u>

(Compiled by Catherine Keller)

- Full coal cars dump loads into waiting canal boats or into coal storage pockets at the chutes.
- Empty cars were given a "push" and drifted under the action of gravity to the foot of Mount Pisgah's inclined plane (short distance from chutes)
- Once positioned over the "barney" pit a conductor, riding along with the empty coal cars, tugs a cable connected to a cowbell in the Mt. Pisgah engine house.
- Mt. Pisgah engineer reverses the 90 horsepower steam engine.
- This would pull a waiting "barney" car out of the "barney" pit until it bumped into empty coal cars.
- As a "barney" car comes out of pit, its collapsible axles would expand, allowing the "barney" to shift from an inner track to an outer one.
- As the large driving wheels in the Mt. Pisgah engine house started to turn they caused the two 6.5 to 7 inch iron bands (one end of which was connected by gears to the engines wheels and the other end was connected to the front of the "barney" car) to pull the "barney" cars up the plane. The "barney" car in turn, pushed the empty coal cars up at a rate of 370 feet per minute.

  Note:

  This action generated a second "barney" car, currently located on top of the plane and on the other track, into descending the Mt. Pisgah plane where upon reaching the lower "barney" pit, its axels would contract thus allowing the car to descend into the pit and await the next set of empty coal cars. The cycle was then repeated.
- Once the "barney" car arrived at the top of the Mt. Pisgah plane, it came to a stop just at the crest of the

incline. After clearing the engine house and being "pushed" away from the "barney" car, the coal cars would roll by themselves across a wooden trestle bridge.

Note: *The trestle spanned a ravine on the top of the mountain and provided a view that later would attract tourists.*

- Once past the trestle, the cars would coast for six miles on an average grade of fifty feet per mile to the foot of the Mount Jefferson plane.

  Note: *Between the crest of Mount Pisgah and the foot of Mount Jefferson the Backtrack crossed over the "loaded" track at a place called the "Five Mile Tree" crossover where, using switches, empty and full cars could be moved to down or up tracks, depending on necessity.*

- Upon reaching the foot of the Mount Jefferson plane, the empty coal cars were again pushed up the plane by a "barney" car to the summit of Mount Jefferson (740 feet per minute)
- After clearing the Jefferson engine house, cars coasted across another trestle bridge, this one much shorter than the Pisgah trestle, to the area of Summit Hill, where the car could be switched as necessary to the proper mine opening.

Trestle Bridge, Courtesy of Mauch Chunk Museum

Engine House, Courtesy of Mauch Chunk Museum

carriage emerging from the engine house, courtesy of Mauch Chunk Museum

Gaining Familiarity with the Site

Distribute maps of the Switchback Gravity Railroad and the town of Jim Thorpe to the students. Use this map in conjunction with the next stage.

Visualizing the History

Divide students into five groups and distribute one of the following images to each group.

Ask students to go through the image analysis steps and discuss how each site would be used within the Switchback system. Have each group present their findings to the entire class. It may be helpful to provide them with a copy of the transportation process write up.

Chutes, Courtesy of Mauch Chunk Museum

Seeing it in Context: Site Visit

Visit the Flagstaff Mountain lookout point. Encourage students to bring their cameras and journals so they can record what they see and experience.

Visit the Mauch Chunk Museum. Let students see the scale model of the Switchback Railroad to gain an understanding of how the parts of the system worked as a whole. Ask them to recall the view they experienced from Flagstaff Mountain and imagine the rail in its original context. Be sure to point out specific sites of significance on the model, such as the Pisgah Plane, the Engine House, and the Trestle Bridge.

Theme Two: Coal Mining Heritage

Beginning the Lesson: Lead-Off Comparison

Compare these two images and describe the differences you see.

Asa Packer Mansion, courtesy of Asa Packer Mansion website

Laying the Groundwork

<u>The Discovery of Coal and Origins of Mauch Chunk</u>

(Compiled by Maureen McDougall, Catherine Keller, Caroline Cheong, and Nicole Collum)

In 1791, Philip Ginder discovered anthracite coal on the summit of Sharp Mountain, between the Lehigh and Little Schuylkill Rivers.[2] He informed his friend and neighbor Colonel Jacob Weiss, a businessman with strong connections in Philadelphia with whom he later formed a partnership on February 21, 1792. This partnership resulted in the investment and formation of a joint-stock company called the Lehigh Coal Mine Company (LCMC).[3] Mining of anthracite coal boomed in the Mauch Chunk region, but the transportation of the coal proved to be difficult and the LCMC had no means of transporting their product to potential clients. Difficulties persisted and in 1798 the company began leasing their lands to anyone willing to attempt transportation. This offer caught the attention of Josiah White, a mechanical expert and entrepreneur who had an established interest in anthracite coal. In January of 1818, White and his partners, George F.A. Hauto and Erskine Hazard leased the coalfields from LCMC for twenty years at a yearly rental of one ear of corn, during which they were required to deliver at least 40,000 bushels of coal to Philadelphia.[4] In the same year a small settlement began to grow at the spot where the coal mining operation had their shipping outpost, in the ravine where the Mauch Chunk Creek and Lehigh River

2 Vincent Hydro, Jr. *The Mauch Chunk Switchback: America's Pioneering Railroad*. (Easton, PA: Canal History and Engineering Press, 2002), 1.

3 Hydro. 2.

4 Ibid. 7.

meet. The village was named Mauch Chunk after the nearby mountain, which had been known to the Lenape Indians as "Mountain of the Sleeping Bear."[5]

Short Biography of Asa Packer

(Compiled by Maureen McDougall)

Asa Packer (1805-1879) grew up in modest circumstances in Mystic, Connecticut. After trying his hand at a number of occupations including carpentry and farming, Packer moved to Mauch Chunk in 1833 to work as a coal barge captain on the Lehigh canal. Over the next 19 years he progressed from a barge captain to a contractor who built both locks on the canal and boats to ship coal, making him a very wealthy man. In the 1850s, Asa Packer bought controlling stock in the Delaware, Lehigh, Schuylkill and Susquehanna Railroad, and oversaw the expansion of the railroad to Easton, PA, where it could further connect via existing rail lines to New York and Philadelphia. In 1861, Packer and his wife, Sarah Blakslee moved into the Italianate mansion they had built in Mauch Chunk, which is today the Asa Packer Mansion Museum. After the Civil War, Packer's philanthropic activities led to his founding Lehigh University in Bethlehem, Pennsylvania, to provide the kind of education that he had never had. During his life, Asa Packer also served in the Pennsylvania State Legislature, as an Associate Judge of Carbon County, as a two-term U.S. Congressman. Packer was also a nominee for the Democratic Nomination for President in 1868 and ran for Governor of Pennsylvania in 1869.[6]

A descriptive account of the quarry, printed in Samuel Hazard's *Register of Pennsylvania* in 1832

(Compiled by Kimberly Forman)

"At the head of the railway are several houses, a tavern, and a number of stables belonging to the company. A large clearing is here made, but there are no signs of cultivation, except a few small patches for garden vegetables, and this whole country, for agricultural purposes, has an appearance of utter desolation. We here took the stage and passed by the mines, or rather quarries, from which the coal is taken. They are situated on the west end of the mountain, and the surface now worked contains an area of perhaps five or six acres. The earth, trees, and rocks are removed from the surface to a depth of from five to ten feet, and the whole mountain then discloses a mass of solid anthracite coal. Hundreds of laborers were employed with picks and bars in getting up coal, and in some places many were engaged in drilling and blasting it off. They had excavated in many spots 30 or 40 feet in depth, and water courses were frequently constructed to carry off the vein of water which continually proke in upon them. Temporary railways were laid down in every direction among the quarries, on which the cars were drawn about the mules to receive their cargoes, after which they were drawn up the main way, and placed in regular train for Mauch Chunk. The business is carried on with such regularity, and I could not but admire the advantages to the laborers of procuring his coal, where he can work in the clear light of heaven…"[7]

5 Drury, John H. and Gilbert, Joan. *Jim Thorpe (Mauch Chunk)*. (Charleston, SC: Arcadia Publishing, 2001.)

6 Asa Packer Mansion Museum. Packer Family History. 2002. Available from http://www.asapackermansion.com/history.html; Internet; accessed 16 December 2007.

7 Hydro, Vincent Jr. *The Mauch Chunk Switchback: America's Pioneer Railroad.* (Easton, PA: Canal History and Technology

Gaining Familiarity with the Site

Give the students the address of the Asa Packer Mansion and ask them to locate it on the map.

Visualizing the History

Divide students into five groups and distribute one of the following images to each group.

Packer Mansion west parlor, courtesy of Jim Thorpe Lion's Club

Downtown Mauch Chunk, courtesy of Mauch Chunk

Asa Packer, courtesy of Asa Packer Mansion website

Coal Miners, courtesy of Mauch Chunk Museum

Switchback along Front Street, courtesy of Mauch Chunk Museum

Ask student groups to go through the image analysis steps and present their findings to the entire class.

Seeing it in Context: Site Visit

Visit the No. 9 Mining Museum in Lansford, Pennsylvania. Encourage students to bring journals to record their thoughts and reflections.

Visit the Asa Packer mansion and encourage students to compare the home of Asa Packer and his lifestyle to the lifestyle of coal miners that they learned about at the No. 9 Mining Museum.

Press, 2002), page 46.

Theme Three: Leisure Culture

Beginning the Lesson: Lead off Comparison

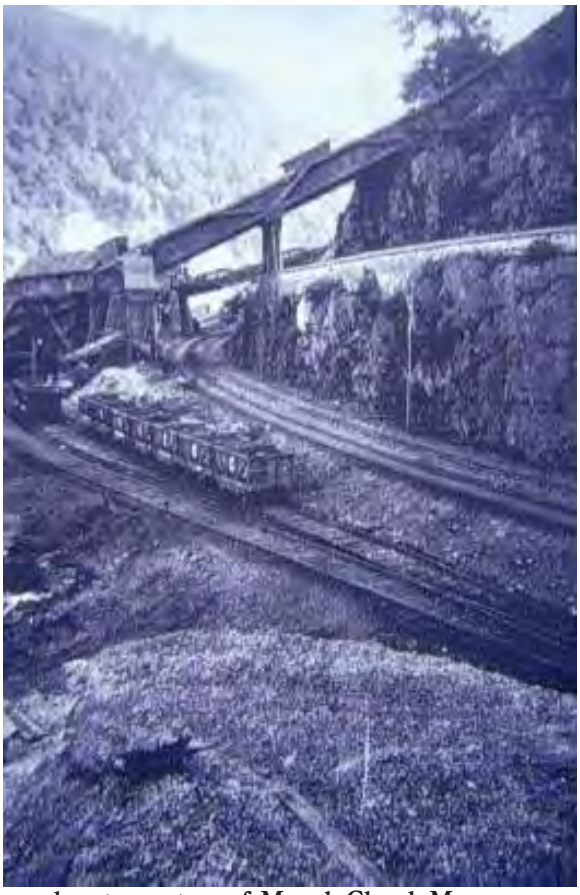
Compare the carts in each image. What differences do you notice?

Laying the Groundwork

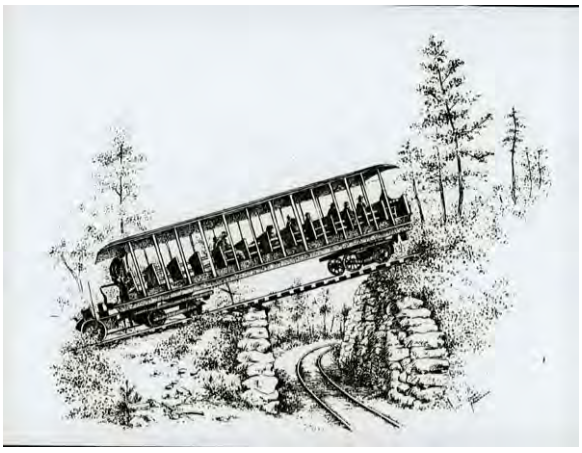
The Switchback Gravity Railroad and Golden Era of Tourism in Mauch Chunk

(Compiled by Maureen McDougall, Catherine Keller, Nicole Collum, and Caroline Cheong)

The operators of the Switchback Gravity Railroad envisioned its entertainment value from early on in its existence. Foreign visitors and wealthy investors of the Lehigh Coal and Navigation Company (LC&N) were among the first tourists to the area. Beginning in 1829, travelers could ride in a "Pleasure Carriage." Passengers began their voyage in the upper part of Mauch Chunk, just before the railroad ended at the chutes. As the 1830s drew to a close, coal production had increased enough that the Lehigh Coal and Navigation Company had to cancel passenger service on the railroad because it was interfering with coal traffic. In 1846 the Backtrack was placed into service and passenger service resumed. The term "switchback" caught the fancy of tourists, and eventually the whole of the LC&N gravity railroad from Mauch Chunk to Summit Hill and the Company's mines came to be known by that name. The mid to late 1850's saw increased tourist travel to Mauch Chunk due to the completion of the Lehigh Valley Railroad that extended from Easton to Mauch Chunk. In 1860 the LC&N completed a railway that expanded the entire length of the Panther Valley, dramatically increasing the amount of visitors to the area. In the 1870s the coal crisis hit Carbon County, where the demand for anthracite coal was at an all time low and the LC&N was forced to shut down the chutes and close the gravity railroad. Unable to avert financial ruin, in 1874 the LC&N sold the Switchback and all materials related to the railroad to the New Jersey Central Railroad. Despite economic uncertainty during the coal depression, the Switchback boomed as a tourist attraction. Visitors enjoyed moonlit rides and the addition of



coal cart, courtesy of Mauch Chunk Museum



people cart, courtesy of Mauch Chunk Museum

two new attractions, the burning mine and the ice cave. The only major dip in tourist numbers between the 1870s and 1880s occurred during the Molly Maguires' trial. However, once the trial ended in 1877, visitors began to return to the area, and the Switchback was reborn as a tourist mecca, under the management of the Mumford Brothers. Throughout the 1880's the Switchback enjoyed record high attendance, with 1885 recording 100,000 visitors for the season. At the turn of the 20th century, the Switchback Gravity Railroad continued to prosper, although it faced stiff competition from the attractions at nearby Flagstaff Park in Lehighton. The 1920s saw a decline in railroad traffic throughout the United States, largely due to the increasing popularity of the automobile. By 1925, the Switchback reached a point of strong decline that would continue, with only a few brief upswings, until its eventual demise in 1933. On October 29, 1933 the last Switchback car made the trip from Summit Hill to Mauch Chunk. Despite the efforts of the company and other locals, the railroad's demise was inevitable, and on September 2, 1937 it was sold at auction for $18,100 to Isaac Weiner, who dismantled it for scrap metal.[8]

Gaining Familiarity with the Site

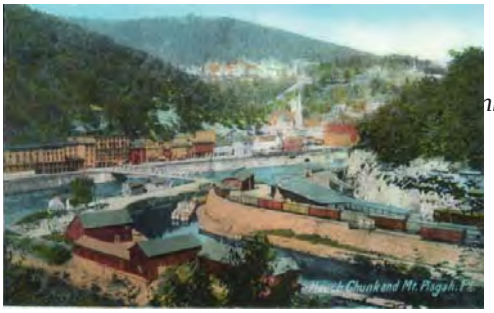
Use the map to identify where the crossover, swimming pool, downtown Jim Thorpe, and other sites of interest for tourists are located.

Visualizing the History

Divide students into five groups and distribute one of the following images to each group.

Switzerland of America, courtesy of Mauch Chunk Museum

Swimming Pool, courtesy of Mauch Chunk Museum



Mauch Chunk postcard, courtesy of Mauch Chunk Museum

people riding, courtesy of Mauch Chunk Museum

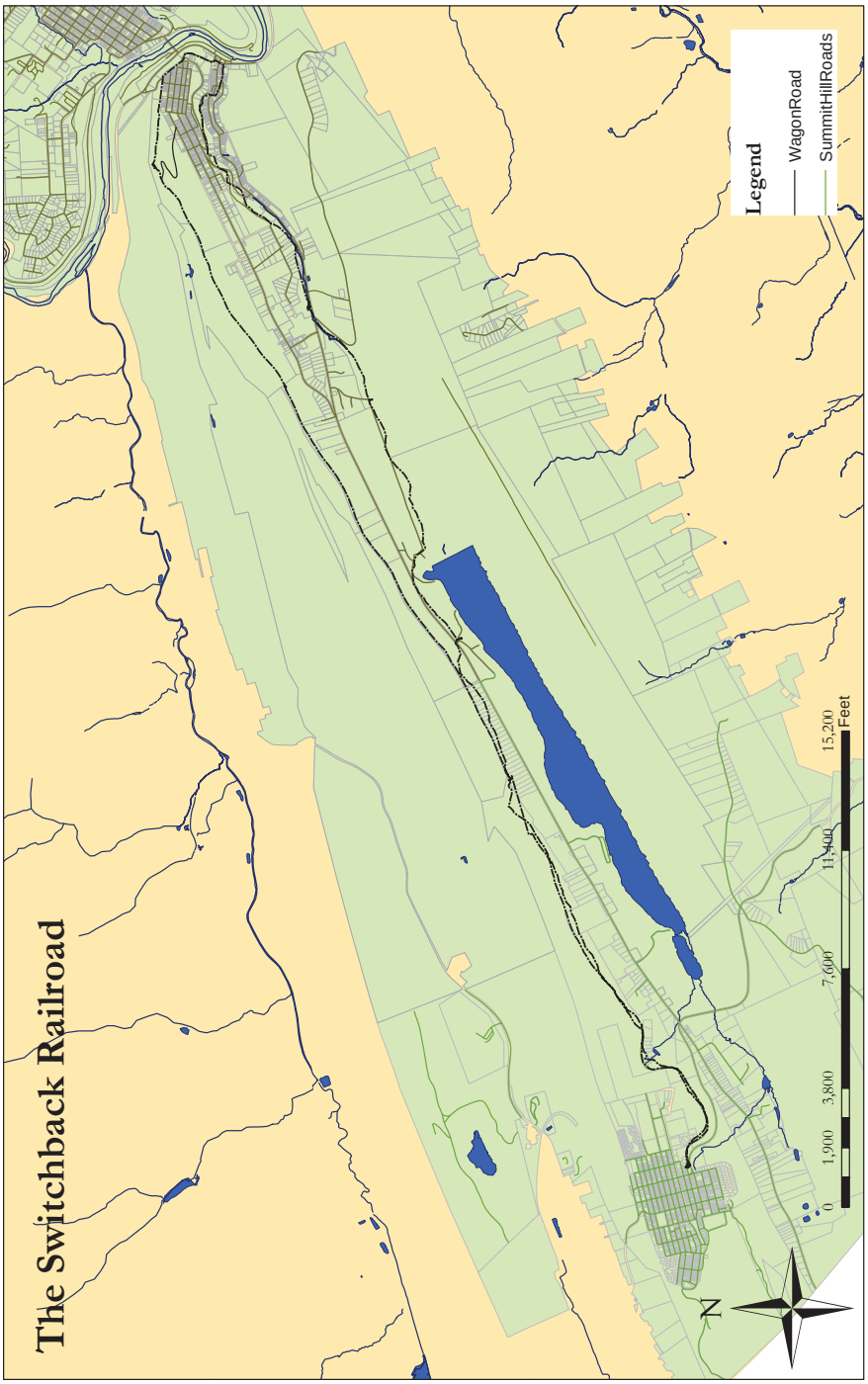
Advertisement, courtesy of Mauch Chunk Museum

Ask student groups to go through the image analysis steps and present their findings to the class.

Seeing it in Context

Leisure culture continues on the Switchback Gravity trail today. Encourage students to visit the Switchback Gravity Railroad trail with their families and to share the information they have learned.

Supplemental Materials: Map of the Switchback Gravity Railroad



Jim Thorpe School Contacts:

We spoke with several people in different educational departments in the borough of Jim Thorpe and the state of Pennsylvania. Their comments led us to the decision to create curriculum for the 7th-8th grade classes at Lawrence B. Morris Elementary School.

Jeff Zeiders
Social Studies Advisor, Pennsylvania Department of Education
Mr. Zeiders told us that he doesn't believe there is any form of local history taught in any of the schools of Jim Thorpe.

Ms. Barbara A. Conway, superintendent of Jim Thorpe School District
570-325-3691
Ms. Conway was unable to provide us with any new information.

Mr. James, Curriculum Director for Jim Thorpe School District
570-325-3691
Mr. James told us that there was once a local history unit taught at the 8th grade level, but that it is no longer in place. He told us that the PSSA has taken control of curriculum development, and that teachers believe there is not enough time to teach local history. As recently as three years ago, local history was part of the curriculum.

Mrs. Mordaunt, Principal of Lawrence B. Morris Elementary School
570-325-2703
We tried to contact Mrs. Mordaunt several times, but were unable to reach her.

6.

establish a management system

6. Establish a Management System

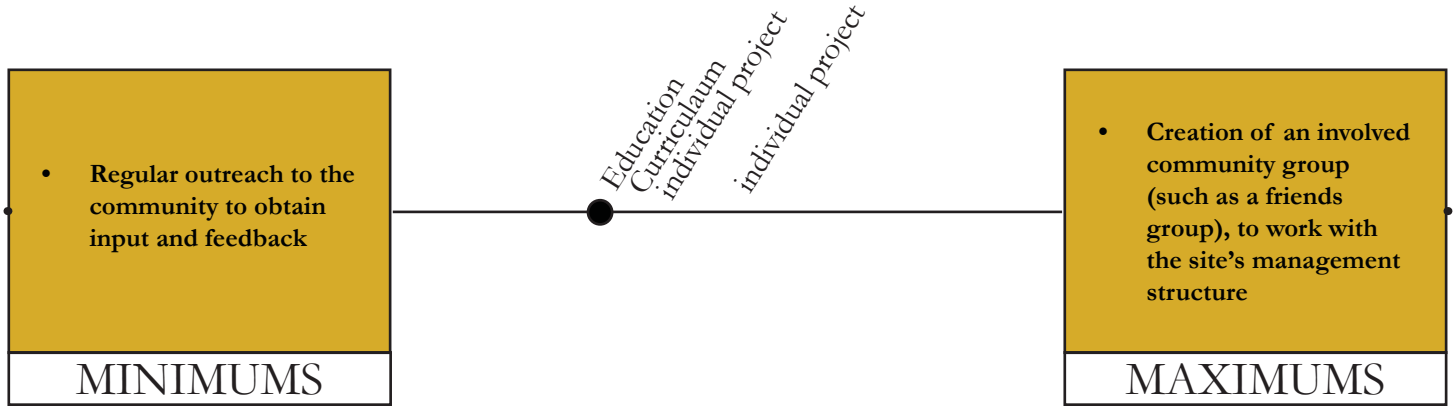
Policy

The 18-mile Switchback Gravity Railroad site should be operated and maintained under a comprehensive Management Plan.

Strategy	Actions
1. Create a management structure to oversee and delegate responsibilities for the site	• Found an administrative body to work with the Carbon County Parks and Recreation.
2. Local community will be involved in the management of the site	• Establish a partnership with a new or existing group to spearhead community efforts with site maintenance and operations.

Rationale

With a variety of stakeholders the Switchback Gravity Railroad's 18-mile site is a complex landscape to manage. The incorporation of a management plan would provide a single comprehensive set of standards to follow, to assure proper conservation and preservation of historic structures and the natural landscape.



Joint Management Partnerships

The public engagement process highlighted that there is strong interest from a variety of stakeholders in what happens to the Switchback Gravity Railroad's 18-mile site and that it is a complex landscape to manage. In light of this, a policy recommending the creation of a comprehensive management plan is presented in Section I of the full report as a means of assembling a single set of standards which if followed will assure the proper conservation and preservation of the historic structures and natural landscape associated with the site. The two recommended actions articulated below can be used as vehicles to sustain this policy.

The first action is to establish an administrative body to execute the proposed comprehensive master plan for managing Mauch Chunk Lake Park which includes the 18-mile Switchback Gravity Railroad site. This body, in concert with the Director of Carbon County Parks and Recreation, would have the main implementation role with the overall responsibility for coordination and oversight along with delegating the work associated with the management plan.

The second action, a means of addressing the fact that the community values the site in multiple ways and has a strong interest in how it is managed, is the formation of a "Friends of the Switchback" group to spearhead and coordinate community efforts relating to the site. This group would play a supportive role to the administrative body and would consist of partnerships formed out of some of the diverse stakeholder groups heard from during the public engagement process.

Project Summary

Using information gathered from the fourteen stakeholders meetings conducted during the past twelve weeks, this project will analyze which organizations would be best equipped as partners for the administrative body vs those organizations that should play a more supportive role in a friends group. Political acumen, management skills and the ability to deliver financial resources will be considered essential criteria for any partner organization recommend for the administrative body. Accordingly, groups that have not yet had the opportunity to participate in stakeholders meetings but are important enough to be considered for either role will be identified.

Justification

As outlined in policy 6 Management, it has been determined that a comprehensive management plan must be created in order to preserve and maintain the 18-mile trail of the Switchback Gravity Railroad. Coordinating and implementing a comprehensive management plan will require assembling a management body that is sophisticated enough to see the big picture, navigate the political landscape at the federal, state and county levels and identify and secure financial resources. Carbon County Parks and Recreation Department which currently has responsibility for oversight of the entire Mauch Chunk Lake Park which includes the Switchback Gravity Railroad Trail is not in a position to successfully execute a management plan or support it without additional resources.

Methodology

The body of data (in the form of note taking) gathered during the stakeholders meetings was extremely useful in discerning the main concerns relative to each organization. An awareness of potential opportunities as well as risks also surfaced during these discussions. When suggestions for possible sources of partnerships or funding were made this data was also recorded.

Composition of Administrative Body

As discussed earlier, when selecting the organizations that will comprise the administrative body the essential requirements are the ability to grasp the "big picture", navigate the political landscape and secure financial resources.

Based on the data culled from the stakeholders meetings the most logical candidate at the federal level for inclusion in the administrative body is the National Park Service. NPS has an active presence in the region and is currently functioning in an advisory capacity to various organizations involved with the trail. Their involvement in the administrative body in an advisory capacity will bring a level of sophistication to the management process. Knowledge of potential funding sources available within the federal government and experience managing large tracts of land with multiple owners is also a benefit they bring to the table.

At the state level there are two organizations that stand out as excellent candidates for inclusion in the administrative body, the Pennsylvania Department of Conservation and Natural Resources and the Delaware and Lehigh National Heritage Corridor. These two organizations, like the National Park Service currently operate in an advisory capacity to the Carbon County Office of Parks and Recreation. Inviting representatives from both these organizations to participate in the administrative body would again bring management, potential resources and experience. The D & L has already contributed constructive advice first by pointing out the need for a comprehensive master plan for the park and second by suggesting that the county explore "Open Space Funding" which are grants issued by the state that might be applied to maintenance issues.

Incorporating local government into the administrative body is an obvious choice since the management of Mauch Chunk Lake Park is the responsibility of the Carbon County Office of Parks and Recreation. Unfortunately, the Carbon County Commissioner's have a poor record when it comes to preservation planning. A recent example of their lack of sensitivity towards preservation issues happened within the last year. The Packerton Shop Building, the largest remaining structure from the days of the Lehigh Valley Railroad in Jim Thorpe was demolished after a protracted legal battle. The Commissioners voted 2-1 to tear down the building and replace it with an industrial park. The Pennsylvania Historical and Museum Commission supported the decision despite a last minute offer

from a developer to convert the former train-repair shop into outlet stores similar to those in Reading, Pennsylvania. Demolition occurred in December 2006 and earlier this year the Commissioners filed a law suit against the citizens group that had formed to save the building, seeking $10,404.57 to cover legal fees incurred during the dispute. This public controversy and subsequent law suit created ill will between community groups interested in the preservation of railroad related history within the town and local government. The lack of engagement by the County Commissioners is the biggest impediment to the success of the administrative body. Funding at the county level is at an all time low for the Park and available resources are being channeled to the maintenance of areas associated with Lake Mauch Chunk and not the trails. Without county government support resources will continue to be in short supply and priorities will be randomly set by Commissioners instead of a comprehensive master plan. On a positive note, if they could be engaged they could be very useful in identifying and helping to procure financial resources available at the state level.

Jim Thorpe is organized as a Borough which is a self-governing entity similar in authority to a town. The JT Borough should be included as a potential partner in the administrative body but is currently viewed as ineffective, disorganized and politically impotent. Attracting the interest of this group and empowering them to exercise what clout they have would be a means of assuring the community's voice is represented within the administrative body. (See appendix B for complete list of government organizations considered.)

Composition of Friends of the Switchback

Throughout the process of public engagement it is clear that that the Switchback Gravity Railroad Trail is valued in multiple ways by many stakeholder groups. This strong interest and enthusiasm should be harnessed into a formal structure tasked with spearheading the organization and coordination of community efforts on behalf of the site. This "Friends of the Switchback" group would also play a supportive role to the administrative body by working to address issues identified by the body that could be delegated to volunteers.

All of the organizations listed at the end of this project should be invited to participate in the "Friends of the Switchback group.

Conclusions

In conclusion implementation of the two recommendations set forth above will have a significantly positive impact on the success of a comprehensive management plan.

Note:
Entities that have participated in stakeholder meetings are red.
Entities that should be asked to participate in future stakeholders meetings are blue.

*The term borough is used the way other states sometimes use the word "town." A borough is a self-governing entity that is smaller than a city.

Summary of Government Organizations

Federal Government

Dept. of Interior/National Park Service

Dept. of Transportation/Federal Highway Administration

State Government

PA Dept. of Conservation and Natural Resources (DCNR)

- Trail maintenance needed most
- Stabilize, preserve and interpret
- County working on Recreation and Conservation plan
- Downtrack section most used by public
- Scenic and recreational #1 value

Delaware & Lehigh National Heritage Corridor

- Trail maintenance needed most
- Stabilize, protect and interpret
- Serves as a linkage trail in the region
- Suggest looking at "Open Space Funding" for maintenance $
- Form a friends of the trail group
- Need to update County park master plan

State Rep. Keith McCall (D)

- Works closely with County Commissioners
- Neutral until further studies are available.
- Indicated willingness to find funding at the state level if the project is feasible (according to John Drury)

PA Dept. of Transportation

PA Game Commission

PA Historical & Museum Commission

Local Government

I. Carbon County Government

- Democratic party swept elections 11/7/07
- Carbon County Commissioners - two Democrats one Republican

Commissioners

- Feel entire 18 mile loop is significant
- Agree that maintenance is a big issue
- No money available for general upkeep
- Neutral until more studies are done
- Possibly matching $ for more studies

Carbon County Redevelopment Authority

- Trail needs improved standard of maintenance
- Right of way already exists - "50 feet"
- Tourism is the best thing for this community
- Parking and traffic are the biggest concerns

Carbon County Office of Economic Development

- Suggests looking into PA First Industries Tourism Program for low interest loans for tourism related projects like Funicular
- See's building of a Funicular as a huge as positive for economy
- Tourism is very important to the County

Carbon County Office of Parks and Recreation

- Responsible for maintenance of Mauch Chunk Park which includes Switchback trail (one of four in

park)

- Works with County Conservation District and PA Conservation Corps
- Lack of resources at county level is biggest issue
- Suggests looking at Lehigh Trail grants and Transportation enhancements for money; also DCNR and Federal Transp.

Smart Growth Carbon

- Support increased Tourism
- Concerned about preserving view sheds
- Currently no Greenway plan, although one is planned

Carbon County Office of Planning and Development

II. Jim Thorpe Borough Government*

- Not a well organized Borough
- Mayor is an honorary position

Jim Thorpe Borough Administrator

Jim Thorpe Zoning Board

Summary of Community Organizations

Business Development, Environment, Recreation and Community

Jim Thorpe Chamber Council

- Carbon County is one of the poorest counties in the state
- Thinks Funicular would be good for community
- JT suffers from Youth Drain

Carbon County Chamber of Commerce

- Funicular would have positive impact on economy
- Create more reasons to come to Jim Thorpe
- Trail should be preserved and interpreted

Wildlands Conservancy

- Trail is heavily used
- National Recreational Trail
- Pisgah Plane is in the source water contribution zone for Jim Thorpe
- Need to look at the National Areas Inventory for Carbon County

Jim Thorpe Sportsmen

- Strive to protect open land ie hunting land
- Maintenance

Pocono Mountain Visitors Bureau

- Visitor information is currently not captured for JT
- Supports an authentic experience
- Good for region from an economic standpoint

Lehigh Gorge Scenic Railroad

Adventure Central/Pocono Whitewater

Jim Thorpe River Adventures

Blue Mountain Sport

Residents of Jim Thorpe

- Preserve, protect and identify
- Strongly against the proposal
- Maintenance and signage
- Town's infrastructure in need of repairs

Switchback Gravity Railroad Foundation

- Funicular proposal
- Maintenance and signage

Summit Hill Historical Society

- Nothing to do or see in Summit Hill
- Locals not connected with trail
- No initiative for Tourism
- Maintenance and signage

Jim Thorpe Historical Society

recommendations

The most appropriate course of action for the Switchback Gravity Railroad, as determined by the preceding policies, is to preserve existing resources while improving vital infrastructure to ensure that the site remains open and accessible to the public. Construction or development on the site that would damage its existing historic and natural resources, or have an overwhelmingly negative impact upon the surrounding community, cannot be endorsed. Since the Switchback Gravity Railroad Foundation's proposal to build a funicular on the Pisgah Plane has the potential to interfere with any of these, the studio group cannot advocate such action.

Preventative conservation methods should be initiated to stabilize, reveal and maintain the remaining historic ruins. The historic fabric and trail should be fully documented in a professional capacity. Such documentation, including photographs, narratives, and a collection of oral histories will serve as a permanent record of the site's current state. Maintenance of the current Switchback trail should include erosion control and other environmentally-conscious improvements for hikers and bikers. That said, the use of ATVs and other motorized vehicles should be banned from the trail. Utility and emergency vehicles associated with the duties of the Carbon County Parks and Recreations Department should be the only motorized traffic allowed on the site.

There should be an effort to increase awareness of the significance of the Switchback as both a historic and cultural site. The creation of more user-friendly maps and brochures will allow visitors to more easily navigate and understand the trail and historic fabric. Interpretive and directional signage at pivotal trail points would also ease the visitors' experience.

Access to the site is fundamental to the visitors' experience and understanding of the Switchback. Increased access, by means of

improvements to the existing trailheads or the creation of alternative routes should be evaluated. Ideally such alternate routes would have minimal impact upon the existing environment. Regardless, the current multi-use of the site should be maintained, and the County Parks Department should encourage the continuance of legal uses, such as walking, hiking, and biking.

The public engagement process highlighted the strong interest of stakeholders in the future of the Switchback Gravity Railroad's 18-mile site. With such a diverse collection of outspoken stakeholders, this site is a complex landscape to manage. To best ensure the successful implementation of all recommendations, a cooperative management structure – as stated by the final policy – should be organized. This structure would begin with the formation of an administrative body, which would work in an advisory capacity with the Carbon County Parks and Recreation Department. Political acumen, management skills and the ability to deliver financial resources should be considered essential criteria for any partner organization recommend for the administrative body. This body would have the responsibility of creating a comprehensive management plan, assembling a single set of standards, which if followed will assure the proper conservation and preservation of the historic structures and natural landscape. Once a comprehensive plan is developed this body would have the overall responsibility for coordination and oversight; including delegation of the work associated with implementing the management plan. As a means of addressing the community's appreciation of the site and their strong interest in how it is managed, a "Friends of the Switchback" group should be formed to spearhead and coordinate community efforts relating to the site. This group would play a supportive role to the administrative body and would consist of partnerships formed out of some of the diverse stakeholder groups heard from during the

response to SGRF proposal

Response to the Switchback Gravity Railroad Foundations's Proposal

In conjunction with the research and analysis of the entire SGRR historic landscape, the group also examined the proposal of the Switchback Gravity Railroad Foundation for the Mt. Pisgah Plane/Summit part of the SGRR that is currently being addressed by the larger Jim Thorpe community.

The Foundation's proposal, as the group understands it, aims to build new structures on the Mt. Pisgah Summit and to recreate a rail system, commonly referred to as a funicular, on the historic incline plane to provide access to the summit. This attraction would bring a significantly greater number of people to the Summit and Plane, and the transportation infrastructure would be supported by reconstructions of a few historic structures (of which only foundation ruins are extant) to provide visitor services. The SGRF expects the whole proposal to generate a positive flow of direct economic benefits (an operating surplus). In its current state, the proposal is a brief outline of means and ends—site plans, building designs, specifications, cost estimates or management arrangements are not detailed.

While not included in the Foundation's preliminary plans, the head of the organization, John Drury, acknowledges that further, detailed economic and engineering studies are necessary and as yet undone. The rationale for the project combines preservation and interpretation of the SGRR as well as economic development. Mr. Drury has stated in stakeholder meetings that funds accrued from funicular operations will be directed to maintenance of the trail. He has also reported that State Representative Keith McCall will earmark funds for the funicular's construction once these impact studies are produced and are found in favor of construction.

In light of the policies, actions and strategies devised for the entire SGRR site, the Switchback Gravity Railroad Studio Group cannot support the Foundations proposal. The new construction referenced in the proposal does not fall within the acceptable range of the minimum and maximum levels of intervention for the site. Several different aspects of the proposal, and likely impacts, contribute to our determination:

- The construction would damage valuable historic resources on the Mt. Pisgah Plane and summit. Even though these historic resources have little integrity, the extant ruins and landscape features warrant a non-destructive, preservation approach—sustaining and protecting their current configuration while continuing in use as a recreational trail. Their historic form as a transportation corridor would not necessarily be enhanced by creating a modern vehicular system (funicular, for instance); indeed, it is believed that such a project would be precluded under federal preservation guidelines (the Secretary of Interior's Standards and Guidelines) which, in addition to providing best-practice guidance, would come in to force if any federal funds or permits were required to construct the new transportation facility (which is likely). (Elsewhere in this report, further preservation and interpretive actions to make these historic remains better protected and more visible while continuing service as recreation resources is recommended.)

- The increased traffic and access generated by construction of a funicular or other transportation facility would compromise the environmental character of the Mt. Pisgah Plane, and perhaps the SGRR trail and other areas of the mountain more widely. These impacts would also be strongly felt (and likely resisted) by nearby residents (especially in the Heights), requiring sensitive design and probably some sort of mitigation.

- The clear lack of broader community support for the SGRF proposal must also be noted. Strong opposition is not in itself a reason to not support the proposal; however, the reasons for opposition are significant. It is understood that community groups and residents wish to prevent change to the current environment. A strict anti-change policy is not supported; it is believed that incremental improvements to interpretive and recreational infrastructure can well be accommodated without negatively affecting the experience of the SGRR landscape for its multiple uses.

- It is doubtful that the funicular proposal will yield positive economic benefits without significant public subsidy. As noted above, a federal subsidy is unlikely, given the fact that the SGRR is listed on the National Register of Historic Places and the current proposal would likely not pass the Section 106 review that would be required (and carried out by the Pennsylvania Historical and Museum Commission). Related to the community opposition—also noted above—it is unclear in the current proposal exactly who would build and manage a new facility, or who would benefit from and take responsibility for the financial aspects of the facility. Apart from the pragmatic and legal details to be worked out, the sharp political debate in the JT community over the perceived privatization of the SGRR landscape by the SGRF proposal is also noted. In the current environment and with SGRF acting alone, residents and community groups are very resistant to the idea that one fraction of the community (the SGRF) will benefit from the proposed new facility and exclude existing public use of the landscape.

Should the Foundation choose to revisit their proposal in the future it should be done so with the studio's policies in mind. It is important to note that the conclusions of this study are not against regulated increased access to the site or additional interpretation. But rather the group believes that the historical and environmental values should take precedence.

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appendix a

Switchback Gravity Railroad Master Timeline

Year	Month/Season	Event
1791		Philip Ginder discovers anthracite coal on Sharp Mountain. Shares his discovery with neighbor and entrepreneur Jacob Weiss who helps Ginder get investor attention in Philadelphia. Ginder forms joint-stock company Lehigh Coal Mine. Discovery sparks interest in land in the area.
1791		Company not set up for transportation, questionable how much coal they transported downstream. Difficult to get coal from mine to river; elevation of 1000 ft.
1791		Consumers not familiar with anthracite; anthracite stoves were rare.
1791		Sharp Mountain later discovered to be a unique location where the Mammoth Vein, the greatest of all coal veins in Pennsylvania anthracite, was folded back on itself, doubling the coal resources. It lay on top of the mountain, not too far from the surface.
1792		LCMC board orders a road to be built from Sharp Mt to the Lehigh River.
1793		Weiss had opened up a 'passable' but incomplete road.
1798		Transportation problems continue. LCMC offers a $150 reward for discovery of coal on LCMC land "easy of access and within eighty rods of the river Lehigh".

1798	Attempts unsuccessful, so LCMC leased lands to anyone willing to try to transport coal.
1798	Most successful was Wilkes-Barre company, led by Jacob Cist, nephew of Weiss and his partner Isaac Chapman. They were able to get coal down to the Lehigh and turn a profit. Also, began a basic marketing campaign to educate people on anthracite coal; word spread.
1798	Began working during the War of 1812, when the British blockade of the Delaware and Chesapeake Rivers made fuel scarce and coal prices go up; they returned to pre-war prices after the war.
1804	Philadelphia investors Thomas C. James and Anthony James visit the mine. James writes first description of the mine.
1814	Cists's first ark trip down Lehigh.
1818	Josiah White and company lease lands from LCMC for 20 years at a yearly rental of one ear of corn. Required to deliver at least 40,000 bushels of coal to Philadelphia.
1818	Cist terminates lease with LCMC. Nearby wire mill owner Erskine Hazard, White and colleague George Hauto gained legal monopoly control of transportation on the Lehigh.
1818	Formed the Lehigh Navigation Company. Cleared a channel in the river, built stone walls, wing dams, stone channels.
1818	Later formed Lehigh Coal Company. Investor funds allowed them to construct a road from the

	coal mine on Sharp Mt to Lehigh Rvr, and to lay out town of Mauch Chunk at the mouth of the creek.
1818-19	stone turnpike created; 8.5 mi long with a descent of 75-100 ft/mi to within 4 miles of Mauch Chunk Creek, then it reached the Lehigh, descending at a rate of 100-150 ft/mi. Intended to be replaced by a railroad.
1820's	LC&N exploring the coal lands under its ownership
1820	Hauto exposed as a fraud, bribed to leave the company when he couldn't produce frunds from his wealthy acquaintances that would alleviate financial hardship from damage to dams.
1820	The two companies are consolidated into the Lehigh Navigation and Coal Company. Dams were repaired. • Shipped 365 tons of coal to Philadelphia. Swamped the market. o Major force in starting Industrial Revolution
1822	Financial problems continue. LC&N incorporated.
1823	LC&N discovers the Sharp Mountain seams extend almost clear to Mauch Chunk. This information leads Josiah White to drive the "Tunnel Mine" (later known as the Hacklebernie or Old Tunnel)
1824	Mansion House Hotel (Mauch Chunk Inn) completed by the LC&N, was used to house visitors.
1824	LC&N leases rights to operate "Pleasure Carriages" on the gravity railroad. First private operator is

		Joseph Lippincott.
1825		Schuykill Navigation creates competition. LC&N begins to look for other ways to transport coal 2-ways.
1826		White introduces idea of railroad to board, they hesitate. Request that William Strickland, engineer and architect familiar with railroads, come to Mauch Chunk to assess area and design railroad before approval. White goes behind board and tests, then builds the railroad. Strickland comes, board approves his plan. White does an immediate about-face and builds railroad upon Hazard's advice to use wooden sleepers to support both rails to keep them from spreading, rather than single stone blocks under each rail.
1826		Erkine Hazard visits England to learn from Their experience with locomotives
1827- 1845		Lehigh Coal and Navigation Company operates Mauch Chunk Railroad as a single track.
1827		The first chute is completed
1827	(May 23)	First group of visitors to travel the railroad was a committee appointed by the Baltimore and Ohio Rail Road Company to examine the Mauch Chunk and Quincy Railroads
1827	(June 2)	Miner's Journal referred to the Mauch Chunk railroad as …the 'Lion' of the day, and attracting an uncommon number of visitors from all parts of the country.
1827	(Aug. 1)	1st coal chute accident 1 killed and others Injured and as a result the

		plain underwent a complete reconstruction
1828		White discovers another section of Mammoth Vein near the summit of Sharp Mountain. From here loaded cars could descend directly into Mauch Chunk without having to be hauled by mules to the summit.
1828		LC&N builds house for superintendent and a school house for the settlement
1829		Famous travel writer of the day, Anne Royall takes the tour and raves about it.
1829		Artist George Lehman visits
1829		Josiah White submits his plan for the creation of a Backtrack. Board tables his plan.
1829		LC&N formally reports extensive discoveries of coal to general public. Plans entry into Panther Valley at this time. Constructs company's first mechanized coal breaker at Summit Hill. Becomes known as "Old Crackers".
1829	(May)	It costs 75 cents to take the tour on the gravity railroad
1830s		Visitors wrote descriptions of the mine that were sometimes published in various newspapers. Visitorship increases, drawn to the picturesque accounts of the quarry and industry and the ability to ride the railroad.
1830		Train used as part of stage coach route to points west of Mauch Chunk. Carried passengers, mail and freight.

1830		Miner's village, first names being "Anthracite" and "Coalville", had been established with a population of 250 located near the summit.
1830		Beaver Meadow Railroad was chartered a competitor to LC&N from day one
1831		Quarry covered five acres.
1831		More houses had been built and town had a tavern.
1831		Underground mining was underway at Room Run to the northeast.
1831		LC&N begins subcontracting mining, hauling, clearing sections of the quarry, constructing worker housing and stables, making changes to the railroads. Over the next few decades employees became wealthy themselves.
1832		Artist Karl Bodmer visits in the company of Prince Maximilian of Wied
1834		390 wagons in use
1834		Expanded coal production.
1834		Mauch Chunk mine also called the "Great Mine", became almost as famous as the Mauch Chunk railroad, as more and more people burned "Lehigh Coal".
1835-1836	(winter)	Another complete reconstruction of the chute was Completed
1835	(Oct.)	The superintendent was authorized to construct a new chute at the foot of the railroad. However it was not carried out.

1836	(Apr.)	The most recent reconstruction design was tested The original coal chute was capable of handling 200 wagons of coal a day.
1836	(Apr.)	The superintendent was ordered again to construct a new chute (Chute No.2) as soon as "practicable".
1837	(May)	The second chute was under construction.
1838		Coal production has increased enough that passenger service on the railroad has to be cancelled due to interference with coal traffic.
1838-1845	(Jan)	Passenger service temporarily discontinues due to it interrupting coal service
1840's - 1850's		Anthracite industry struggles to keep profitable in face of intense competition brought abut by over-expanded production and transportation facilities. A drastic decline in coal prices.
1840's	(Early)	Over 70% of of LC&N capital expense was in form of unsecured loans resulting in large annual interest expenses.
1840s		Underground mining begins in earnest at Summit Hill and Panther Valley
1841	(Spring)	LC&N mortgages its property as security for a loan of a million dollars to finance repairs to the navigation system
1841	(Jan. 11)	The Great flood of the Lehigh River occurs. The water level at Mauch Chunk reached 17 ft.
1841 – 1856		Packer leased Room Run mines and railroad

1843		Plans were completed to replace the sliding screens of the Chutes with rolling screens.
1843	(Prior to Sept.)	Construction begins in Tunnel No. 1. Originally called "Bone Hollow" tunnel and later "Springvale" tunnel.
1843		Construction begins on Springvale Railroad.
1843		Construction of Panther Creek Plane No. 1
1843	(Oct.)	A fire broke out in the "head house" of Chute No. 1
1843	(Dec.)	Edwin Douglas was instructed to get an estimate of the cost of constructing a third chute.
1844		LC&N installed a machine for washing fine coal, hoping to recover a large portion that had previously been tossed onto dirt heaps.
1844		Erkine Hazard went to Washington to patent his coal breaking, slating and screening machine. "The steam engine drove a machine that performed the tasks of breaking, slating and screening.
1844	(June 10)	Special meeting of the board managers called. LC&N must drastically increase coal production or face financial ruin. Determine they must build a Backtrack (return track used for empty coal cars – instead of mules)
1844	(June 12)	By unanimous vote, board approves Josiah White's revised steam powered plan for a Backtrack.
1844	(June 26)	Edwin A. Douglas (LC&N engineer) instructed to prepare plans and estimates for the railroad
1844	(Aug. 31)	Contracts were authorized by the board

1844	(Sept.)	Company orders a single steam engine or Mount Pisgah to be constructed by John Fatzinger of the LC&N foundry.
1845		The rolling screens at the landing were finally under construction.
1845-1846		Construction of Panther Creek Plane No. 4. Most likely abandoned in 1850 after construction of valleys second return backtrack.
1845-1855		The Lehigh Canal was the major source of income for the LC&N
1846		Construction on a new Chute which would be numbered No. 2 and the previous No. 2 chute was re-named No. 3
1846		The Delaware Lehigh, Schuylkill and Susquehanna Railroad (later the Lehigh Valley railroad) chartered the LC&N's major competitor
1846		Springvale Railroad completed
1846		Passenger service resumes
1846	(Jan./Feb.)	Four additional tunnels are contracted to be built. Tunnel No. 2, 5, 6 and 7
1846	(April)	Tunnel No. 8 contracted to be built
1846	(May)	New Backtrack placed into service

1846	(June)	Service began at the newly constructed Chute named No. 2
1846-7		Tunnels No. 1, 3 and 4 are producing coal.
1847		Great Mine (old mine) abandoned after miners hit bottom rock. Mining continued at Summit quarry and continued expansion into Panther Creek Valley.
1847		Tourists still frequented mine because of easy access (surface level) – would look for fossils
1847		Superstructure for Panther Creek Plane No. 2 completed (later known as Coaldale Plane)
1847	(July)	A smaller tough had been constructed upstream from where Chute No. 4 would be built a few months later.
1847	(Oct.)	Clearing of the ground for Chute No. 4 began
1847	(Nov.)	Panther Creek Plane No. 1 fully operational
1848		Railroad renovations began. Rebuilt ~4 miles of original railroad.
1848		Springvale inclined plane was replaced by a backtrack down into the valley
1848		NC&N opens Slope No. 1
1848	(April)	Tunnel No. 5 reaches Mammoth Vein. Tunnels No. 2,5,6,7 and 8 continue to be driven.
1848-49	(winter)	Following experiments in Panther Creek Valley, the

		hemp ropes connecting the loaded cars to empty cars were replaced with wire ropes.
1849	(Aug.)	Panther Creek Railroad completed
1849	(June)	LC&N constructed a short section of track to connect the screens with the lower dam.
1849	(Late Autumn)	Another turbine water wheel was installed at Mauch Chunk on the upper dam.
1850		Increased tourist travel to Mauch Chunk due to the completion of the Lehigh Valley Railroad from Easton to Mauch Chunk.
1850		Lehigh River flood
1850		LC&N opens Slope No. 2
1850	(April)	Second return backtrack was completed. Known as the "new" switchback.
1850	(Nov. 15)	Josiah White dies
1851		Sharp Mountain Railroad completed
1851		LC & N construct a large coal depot located between the inclined planes for chutes 1 and 3 at the foot of the hill.
1851		Grading of the Lehigh, Schuylkill and Susquehanna Railroad (later Lehigh Valley railroad) begins.
1852		Contract for digging Tunnel No. 9

1852	Prosperity returns to the LC&N due to increased coal production and they reinstate their dividend and interest payments and begin the process of debt reduction.
1853	Lehigh, Schuylkill and Susquehanna Railroad railroad is reorganized by Asa Packer and became known as the Lehigh Valley Railroad.
1854	Separate gravity-operated switchback was constructed to connect the Old Tunnel with the downtrack of the Mauch Chunk gravity railroad.
1854	Entire road re-graded, wooden ties and rail replaced and new strap-iron arils laid on new wood.
1854	Hacklebernie switchback constructed
1855	Completion of Lehigh Valley Railroad passenger depot across from Mansion house Hotel and Hotel renovations.
1855	Stewart M. Line running "pleasure carriages" on railroad
1855	Asa Packer requests a $200,000 loan from LC&N but request is denied.
1855	Lehigh Navigation was closed for the season, and water had to be let out of the canal.
1855	The lessees of the Room Run mines and railroad including Asa Packer petition LC&N for permission to ship via the Lehigh Valley Railroad. Permission was granted. This was the first time coal from the Lehigh Region went to market over a railroad instead of a canal.

1855	(Sept. 12)	The Lehigh Valley Railroad is complete between Easton and Mauch Chunk
1856		LC&N acknowledges the financial impact of the Lehigh Valley Railroad in their annual report.
1856		Double tracks are laid on inclines.
1857		Mining finally begins in Tunnel No. 2
1857		A water flume was constructed from the upper dam to the lower dam. As a result dirt tracks and mules were eliminated.
1857	(May 4)	The Penn Haven and White Haven Railroad Company was incorporated with Asa Packer
1857	(Dec. 25)	Tunnel No. 9 strikes Mammoth Vein
1859		LC&N abandon Sharp Mountain incline plane
1859		Springvale switchback replaced by descending track with shallower grade.
1859		Plane and backtrack No. 2 also abandoned.
1859		Edwin Douglas, Superintendent of LC&N dies
1859		The "burning mine" was discovered
1860's		Completion of LC&N and Susquehanna Railroad through the valley added to volume of travelers in region.
1860		Book published, History of the Lehigh Valley by

		M.S. Henry whose description of the ride along the switchback draws more tourists
1860		Steam Engines had replaced the propellers and the turbine water wheel
1860		John Leisenring, Jr. becomes new Superintendent.
1860		LC&N eliminates the Springvale switches
1861		Contract for digging Tunnel No. 10
1861		The Nesquehoning Valley railroad incorporated
1862		Earthen pipes were replaced with two thousand feet of three inch cast iron pipes
1862		The Molly Maguires began a reign of terror in the coal regions, killing superintendent Frank Langdon and blowing up and firing of collieries as well as outright assassination of mine officials.
1862		The Lehigh River floods and the upper section of the Lehigh Navigation was abandoned and was replaced with a railroad. The water level at Mauch Chunk reached 27 ft. above normal low water.
1862	(Oct. 3)	Shipments from the East Mauch Chunch loading docks resume after LC&N repairs on the lower division of the canal and the East Mauch Chunk loading docks.
1863		Tunnel No. 10 strikes Mammoth Vein
1863		Leisenring proposes extending Tunnel No. 7 of the Panther Valley coal mine all the way through the mountain to an intersection with the Nesquehoning

		Valley Railroad. Further proposes that company abandon archaic inclined planes and gravity road and replace with locomotive road.
1863		The main shipping facilities at Mauch Chunk were rebuilt in time for the opening of the boating season
1863		Two large basins were under construction at the new head of the navigation, approximately one mile above Mauch Chunk.
1863	(Mar. 4)	The governor signed the petition of the LC&N to abandon the navigation above the mouth of the Nesquehoning Creek and replace it with a railroad extending from White Haven to a connection with the Lehigh Valley Railroad immediately below Mauch chunk.
1863	(Nov.)	Approval is given to John Leisenring who proposed LC&N abandon its archaic inclined planes and gravity railroad and proposes that coal mined in Panther Creek Valley be hauled with Locomotive power over the Nequehoning Valley Railroad through a tunnel driven through the Nesquehoning Mountain.
1864	(June)	The Penn Haven and White Haven Railroad was Completed
1864	(July 8)	The Lehigh Valley Railroad acquired the Beaver Meadow railroad outright
1865 – 1868		Stewart Line purchases cars and leases rights to use the railroad
1865		LC&N complete new shipping pockets at Coalport

1865		First locomotive used on track (4 feet 8.5 inch gauge). Replaces mule power.
1865	(June)	The extension of the LC&N's L&S Railroad lying between Penn Haven and the LC&N's new shipping facilities at Coalport were completed.
1866		All wooden rails replaced with T-rails.
1866		The White Haven-Penn Haven section of the LC&N's Lehigh and Susquehanna Railroad was completed
1868-1869		Jamestown switches torn out to prepare for the use of locomotive power as a replacement for gravity.
1869		Lehigh River flood
1869		The work of connecting the Nesquehoning Valley Railroad with the mines in Panther Creek Valley commenced.
1870's	(Early)	Tourist industry flourishes in Mauch Chunk bringing excursion trains from New York and Philadelphia to the area
1870's		Popularized trips on railroad by the light of the moon.
1870		The Nesquehoning Valley Railroad was completed and turned over to the LC&N, and the Nesquehoning mines connected to the railroad.
1870	(Dec. 31)	The work on the north side approach tunnel Commenced

1871	(Sept. 15)	The north and south headings of the Nesquehoning Tunnel met.
1871	(Dec. 20)	The last Nesquehoning tunnel blast was fired
1871	(Dec.)	The final coal car passes over the Mauch Chunk Railroad.
1872		A trip around the valley cost an additional 50 cents
1872		The Chutes are shut down and the Gravity Railroad is closed.
1872	(Jan. 19)	The tracks of the Nesquehoning tunnel had been laid halfway through.
1872	(Jan. 23)	The Nesquehoning tunnel was formally opened.
1872	(Feb 1)	LC&N took control of the Nesquehoning tunnel
1872	(Feb. 2)	The first train passed through the Nesquehoning Tunnel
1872	(July 7)	The Mount Pisah Pavilion and summerhouses were formally opened.
1872	(Summer)	Eight trains were running daily on the Switchback.
1872	(Late)	LC&N discontinued tourist trips into the Panther Valley
1872	(Dec. or Nov.)	The last car loaded with coal ran down the railroad
1872	(Dec. 20)	John Leisenring given a section of land occupied by the chutes that adjoined his current residence
1873		Expansion of the Mansion House Hotel had begun
1873		The financial panic and the depression in the coal industry hit Carbon County. Philadelphia Banking House Jay Cooke suspended business, rocking the foundation of the country's financial structure.

1873		The tracks on Panther Creek Plane No. 2 were torn up.
1873		The LC&N's interst payments on long-term debt soared to an all time high of $1,405,000
1873	(Jan.)	The Switchback announced it would not be opened until spring due to snow on the tracks.
1873	(Mar.)	The last timber of the chutes was removed
1873	(June)	LC&N began to remove the coal dirt mounds along the inclines but did not complete the work
1873	(Dec.)	The LC&N sold or leased all of its mining and transportation properties, including the Lehigh and Susquehanna Railroad, to the Central Railroad of New Jersey and its subsidiary, the Honey Brook Coal Company in order to get our of its financial crisis.
1874		The "Burning Mine" and the "Ice Cave" two new attractions near Summit Hill opened.
1874	(April 18)	The LC&N leased Summit Hill and the Switch-back Railroad to the Central Railroad of New Jersey.
1874	(June)	The Central Railroad of New Jersey bought Summit Hill and the Switch-back outright for $75,242.12. However, it did not transfer ownership of the right-of-way.
1874	(Sept.)	A "Draft of Assignment" transferring the right-of-way to the Jersey Central Railroad was ordered to be executed unter the LC&N corporate seal.
1874	(Nov. 7)	The right-of-way was leased to the New Jersey Central Railroad for $1 per year.
1875		The Molly Mauguire problem climaxed with the

		shooting of John P. Jones in broad daylight.
1875		A complete set of Switchback and Glen Onoko stereoviews sold for $2.00 at Schneur's Switchback Bazaar in the Mansion House Hotel.
1876		A new connection between Lansford and Summit Hill was established.
1876		The Molly Maguire trials began for the killing of John P. Jones.
1876	(April)	The gallows was slated to be used to hang the assassins of Jones.
1877		The Molly Maguire trial wore on
1877	(May)	Disappointing crowds for the Switchback Gravity Railroad
1877	(June)	The Molly Maguires were hung and the gallows dismantled
1878		Mr. E.T. Booth proprietor of the Mansion House Hotel transferred management of the Mansion House to J.S. Wibirt, formally of the Astor House in New York City
1878	(June 8)	Judge Leisenring proposed to turn the remaining coal mounds into a park
1879		The Central Railroad of New Jersey began leasing the Switchback Railroad to Col. Wibirt, the proprietor of the Mansion House, and two brothers, Messrs. T.L. and H.J. Mumford.
1879	(Mar.)	The park proposed by Judge Leisenring was complete
1880		The Switchback was leased to the Mumford brothers for $1,000 for four years with the privilege of a five-year extension.

1883		The ownership of the Switchback falls into the hands of the Philadelphia Reading Railroad.
1885		Mauch Chunk had seen one of the best tourist seasons ever boasting 100,000 visitors
1885		Switchback has a terrible accident none dead but many sever injuries including nearly severed limbs, internal injuries and broken legs.
1886		A lawsuit was filed against the Mumford brothers and the Switchback land is temporarily seized by the sheriffs dept as a result of the Switchback accident.
1886	(Nov.)	Mumford trial begins.
1886	(Dec.)	Jury of the Mumford trial find for the plaintiffs in the sum of $800
1887		Mumford lease of the Switchback is sold by the Sherrifs dept. to an unnamed party but the Mumford brothers still remained employees of the Switchback.
1889		The Mumford brothers regain control of the lease
1889		The most prosperous year of the Switchback
1890		Henry Mumford and C.J. Howell, a New York business man proposed the construction of a true gravity roller coaster called the Dunderberg Spiral Railway, to be built on a mountain near West Point on the Hudson River.
1893		The electric trolley makes its debut in Mauch Chunk, connecting the town to East Mauch Chunk across the Lehigh River.

1893		The two railroads running through town unloaded well over five thousand people in a single day.
1894		Theodore Mumford died, Henry Mumford took over operations
1898		Henry Mumford died J.S. Wibirt "Colonel"'s widow took over operations
1899		The end of the lease to Col Wibirt, and the Mumford brothers
1899-1909	(April)	Alonzo Potter Blakslee and Asa Packer Blakslee lease the railroad from Central Railroad of New Jersey for a period of ten years from March 1, 1899 to March 1, 1909. The company is renamed "The Mauch Chunk, Summit Hill and Switch-Back Gravity Railroad Company"
1902		The trolley route is extended to reach points south, including Lehighton
1903		A park with dancing pavilion, picnic ground, and rival views to Mount Pisgah opens at the summit of Flagstaff, increasing tourist patronage to the town, but pulling patronage away from the SGRR. By the early 1920s, the Flagstaff park is a larger draw then the SGRR.
1909		The Blakslee brothers renew the lease.
1911		Alonzo Blakslee dies
1912	(Feb 1)	Asa P. Blakslee becomes sole name on lease.
1912	(Apr. 30)	The Mauch Chunk Switchback Railway Company is incorporated by an act sighed by the Pennsylvania governor and the deputy secretary of the Commonwealth. The corporation remains in private hands, "with stock ownership being limited to family members and close friends" (208).

1912	(May 5)	The first meeting of the Mauch Chunk Switchback Railway Company
1912	(May 31)	The lease is transferred from Asa P. Blakslee to the corporation
1914	(Feb. 1)	Asa Blakslee dies, Henry Augustus (Harry) Butler becomes president and general manager. He renegotiates the lease (decreasing the % take by the Central Railroad of New Jersey) retroactive to the 1913 season.
1914	(May)	Ira Ross, the cashier of the Mauch Chunk National Bank is struck by a Switchback car and hurled into Mauch Chunk Creek; he is knocked unconscious by the impact but survives.
1915-1916		Butler convinces Jersey Central to make needed repairs to the railroad, including repairs to the street crossing in Summit Hill, installation of a new steam pump at the Mount Jefferson engine house, and overhaul of the engines on Mount Pisgah (210).
1917	(Oct. 7)	The main shaft of the Mt. Pisgah engine snapped, "putting the road out of commission during its prime autumn excursion season" (211).
1917		Butler arranged a lease of the Switchback Swimming Pool, which became popular with local residence and increased the volume of weekday Switchback riders (212).
1918	(July 18)	The Switchback opened for business for the 1918 season, but the road is shut down again by a boiler leak on Mount Jefferson.
1918	(Sept. 29)	A steel band on the Mount Pisgah plane tore apart

		and shuts down the railroad for the remainder of the year.
1925		"the revenue for the Switchback Railroad began a steep decline that continued, with a few interruptions, until the end of the railroad in 1933" (220).
1926		The CRR of NJ announces it will shut down the railroad; Harry Butler convinces them to keep it open.
1929		"At the end of the 1929 season the trolley route to Flagstaff Park was abandoned and the park closed" (226).
1929	(Jan. 23)	Harry Butler announces that the Central Railraod of New Jersey decided to abandon and scrap the railroad.
1929	(Feb. 1)	"Harry Butler announces the Central Railroad of NJ had agreed to sell the Switchback for $9,000…Meeting attendees pledged amounts ranging between $100 and $500, and agreed that the sale should be open to the public" (222).
1929	(May 7)	"the directors of the Switchback Railway Company agreed to increase the indebtedness of the company from nothing to $10,000 dollars" (223).
1929	(May 24)	"the mortgage of the Switchback Railway Company was recorded in Mortgage Book 94, page 513" (224).
1929	(May)	The new corporate stock is placed on the open market.
1929	(June 4)	Harry A. Butler resigns as general manager. The board of directors elects Steward K. Evans as General Manager.
1930	(Early)	"In early 1930 the general manager placed direction arrows along highways leading to Mauch Chunk in an area with a radius of about 50 miles" (228).

1931	(Aug.)	The main driving shaft of the engine on Mt. Pisgah shattered, putting the railroad out of commission for two weeks.
1931	(Late)	"the trolley tracks themselves were being stripped from Mauch Chunk streets" (222).
1932		Mansion House hill, the main road into Mauch Chunk, closes for the entire year.
1932		The railroad lowers the fare by 25 cents to $1 in an effort to boost ridership.
1932	(Mar.)	A storm topples the smokestack on the Pisgah powerhouse, the railroad opens in late May.
1932	(June)	A 52-year-old Summit Hill woman is struck and killed by a Switchback car.
1932	(June 24)	"the Chamber of Commerce announced that the Jersey Central Railroad Company had decided to discontinue excursions to Mauch Chunk following the July Fourth holiday" (232).
1932	(Dec.)	The company takes out another loan to cover expenses.
1933		The 115th anniversary of the Switchback Railroad
1933	(Memorial Day)	The Switchback opened for the season but without funds to pay laborers, who agree to stay on until money can be found for their pay, (it never was).
1933	(Sept. 28)	Harry Butler, president and principal champion of the railroad company, dies at 72.
1933	(Oct. 29)	The railroad closes after "a Switchback car rode

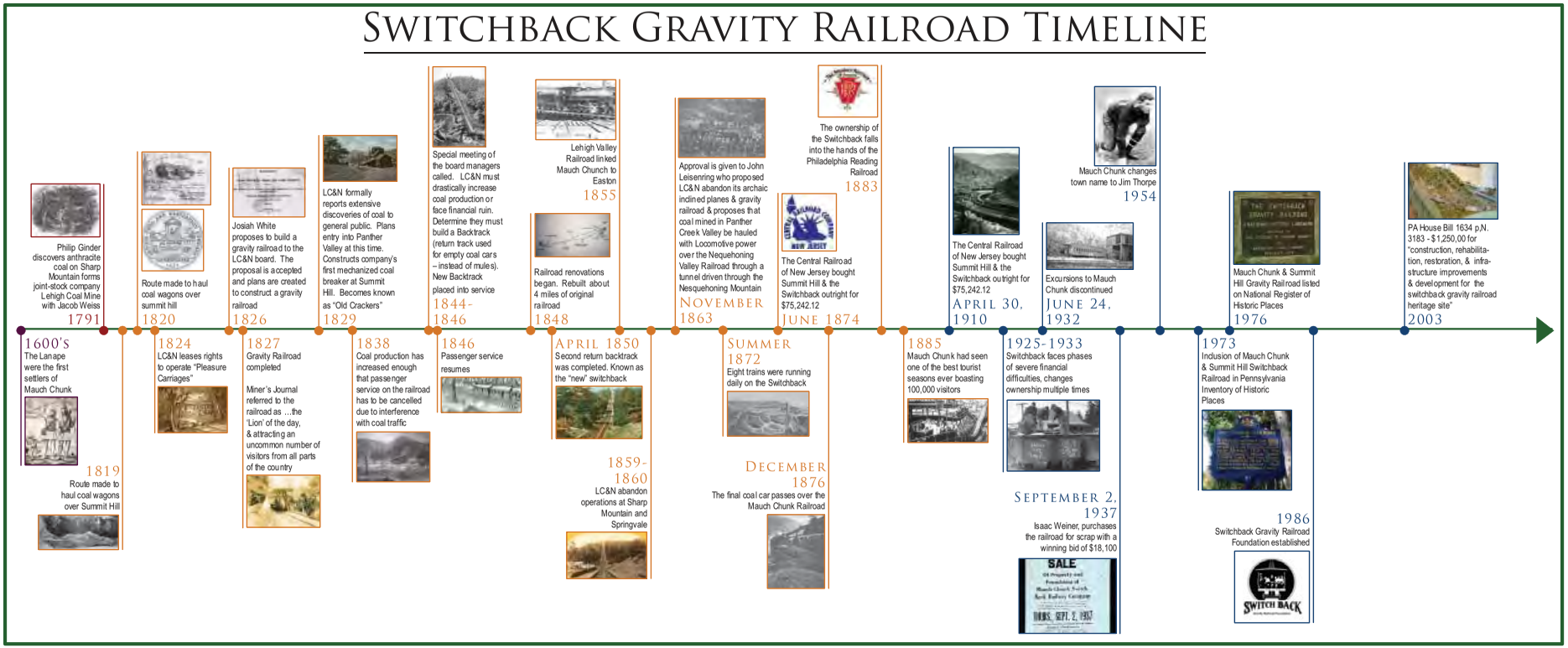
		over the rails from Summit Hill to Mauch Chunk" (236-237).
1934	(Mar.)	A new president is elected and company officers meet to review the condition of the railroad.
1934	(May 15)	The directors decide not to open the railroad for the season.
1935	(Oct. 9)	The directors meet to decide whether to keep the road intact or scrap it; past due notices and bills amount to $21,401.47.
1936	(Jan. 27)	The stockholders meet to consider accepting an option for purchase, the deal collapses in May.
1937		Vandalism and damages to the railroad reach $10,000; rails were being stolen from the abandoned railroad, and the power houses are robbed and stripped.
1937	(Aug. 31)	The Times News announces the bankruptcy sale of the railroad.
1937	(Sept. 2)	The Switchback goes to auction; Isaac Weiner, a scrap dealer from Pottsville purchases the railroad with a winning bid of $18,100.
1937	(Sept. 19)	"the engine house burst into flames when workmen using acetylene torches attempted to burn the spokes out of the huge hoisting wheels. The fire started at 9 a.m. and had reached its height by 2 p.m. No attempt was made to extinguish the blaze, which also consumed the wooden bridge in front of the plane house" (245).
1938	(Nov.)	The LC&N take possession of the Mauch Chunk structures which had not been removed by the expiration of Isaac Weiner's permit. The buildings were razed and wood sold for $.50 per load or burned by LC&N workers.

1939	(July)	A Mauch Chunk man leases the downtrack from the Mount Jefferson plane to Hacklebernie to use as a bridle trail and agrees to put the trail in good condition.
1940s		"Hiking along the Switchback Trail became a favorite pastime of 'Chunkers.' This custom started in the 1940s when World War II gasoline rationing curtailed Sunday-afternoon drives" (253).
1954	(Sept. 1)	The towns of Mauch Chunk and East Mauch Chunk become the town of Jim Thorpe, named after the Native American Olympian and athlete, and after Thorpe's remains were interned in a public mausoleum in the town. (256)
1970s		William T. (Bill) Richards, a Lansford historian, discovered an old movie showing the railroad in operation.
1971	(Oct. 23)	The first annual Switchback Scamper begins as a relay race, using a spike from the railroad as a baton.
1973		Inclusion of Mauch Chunk and Summit Hill Switchback Railroad in Pennsylvania Inventory of Historic Places
1976		NRHP Nomination: right-of-way (30'-100' wide, 13 miles long), includes Mt. Pisgah plane house, over- and under-passes, etc.
1979		Venturi/Scott-Brown plan for Jim Thorpe
1980		Jim Thorpe Main Street program established
1986		Switchback Gravity Railroad Foundation established
1988		Delaware & Lehigh National Heritage Corridor Designation

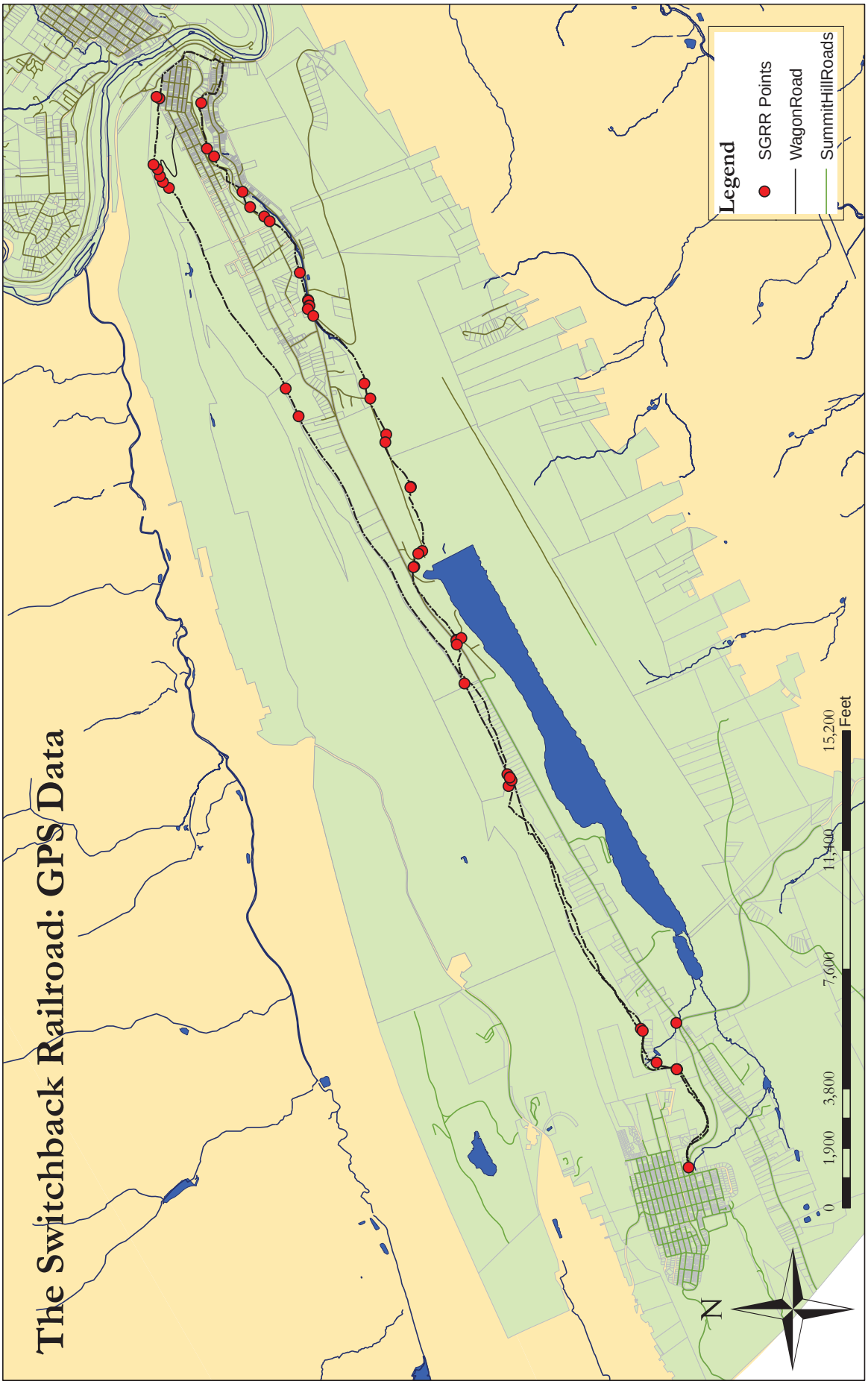
1989	Engineering Feasibility Study for the Switchback Gravity Railroad Restoration (Penneast Corporation)
1990	Economic Impact on Tourism Switch-Back Restoration
1993	D& L Management Action Plan
1996	"Partial Restoration Plan"
1999	Allegheny Heritage Development Corporation – fulfilled technical assistance grant; site visit by Paula Zitzler
1999	Heritage Tourism study for DCNR and PA DCED, PHMC, Preservation PA
2000	"Jim Thorpe PA Incline" engineering technical proposal by American Tramways, Inc. July 19, 2000.
2000	Focus shifts back to Partial Restoration Plan
2000	(Special Purpose Study) "Switch Back Gravity Railroad Memorial Park Feasibility Study"
2000	Lackawanna Valley National Heritage Area
2001	SGRF votes to proceed with shelved 1996 Partial Restoration Plan
2002	Jim Thorpe Visioning Committee Task Forces established
2002	D& L National Heritage Corridor, Inc. established (cooperative agreement in 03)
2002	Switchback Railroad Preliminary Evaluation (Institute for the History of Technology and Industrial Archaeology, University of West Virginia)

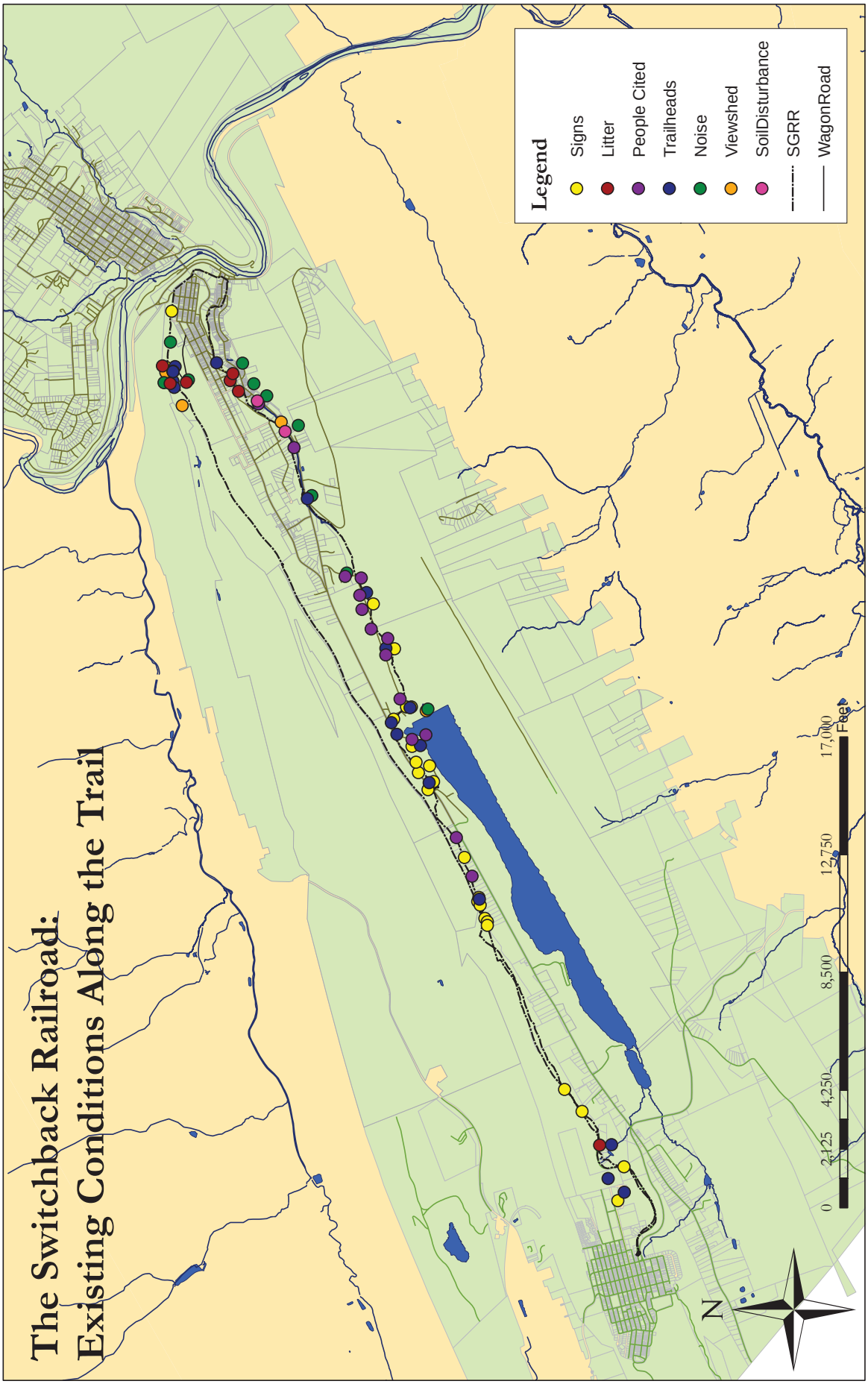
2003		PA House Bill 1634 p,N. 3183 - $1,250,00 for "construction, rehabilitation, restoration, and infrastructure improvements and development for the switchback gravity railroad heritage site"
2004		"Switchback Gravity Railroad Heritage Site Study" – grant application D&L, PHPP (John Drury) □ 2005: PA DCED – no $ in PHPP, Heritage Partnership funding granted $14,000 for master plan
2005		Master Plan grant funded $14,000 from D&LNHC
2006		Panther Valley Trail feasibility study (planned from Tamaqua to Jim Thorpe)
2006		RFP – site evaluation and feasibility study
2006		"Cabin Village" planning for Summit Hill – vacation cabins + hotel
2006		Switchback car in Capitol Centennial Parade
2006		Heritage Bike Weekend in September
2007	(April)	Project Agreement (NPS RTCA – SGRF – D&L, Inc.)

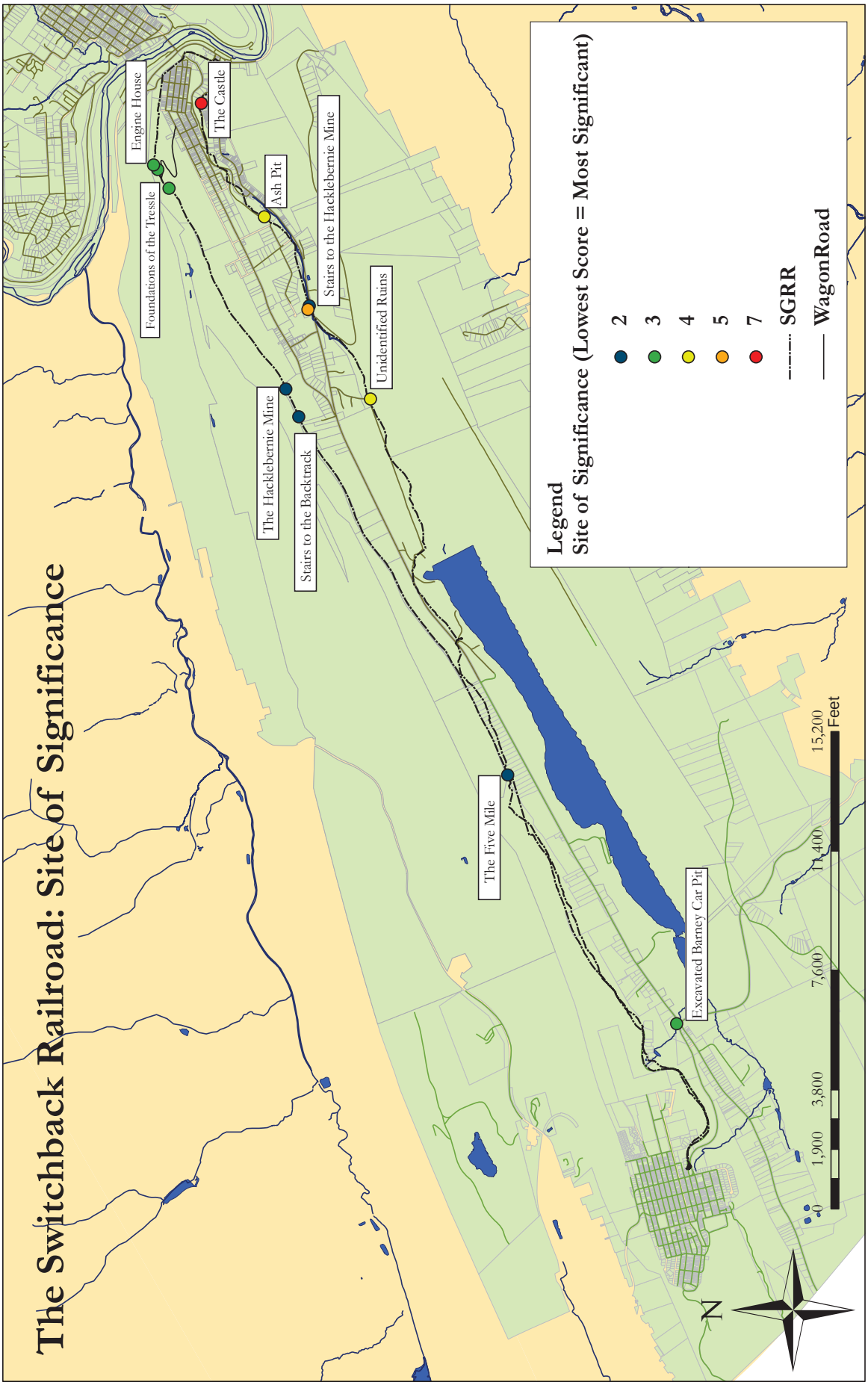
Switchback Gravity Railroad Timeline



appendix b


The Switchback Railroad: GPS Data
Legend
SGRR Points
WagonRoad
SummitHillRoads
0
1,900
3,800
7,600
11,400
15,200
Feet
N


The Switchback Railroad:
Existing Conditions Along the Trail
Legend
Signs
Litter
People Cited
Trailheads
Noise
Viewshed
SoilDisturbance
SGRR
WagonRoad
0
2,125
4,250
8,500
12,750
17,000
Feet
N


The Switchback Railroad: Site of Significance
Legend
Site of Significance (Lowest Score = Most Significant)
2
3
4
5
7
SGRR
WagonRoad
Engine House
The Castle
Foundations of the Tressle
Ash Pit
Stairs to the Hacklebernie Mine
Unidentified Ruins
The Hacklebernie Mine
Stairs to the Backtrack
The Five Mile
Excavated Barney Car Pit
0
1,900
3,800
7,600
11,400
15,200
Feet
N

appendix c

The Current State of Tourism in Jim Thorpe and Surrounding Areas

SUPPLEMENTAL DATA AND STUDY RESULTS

Section: Tourism in Jim Thorpe

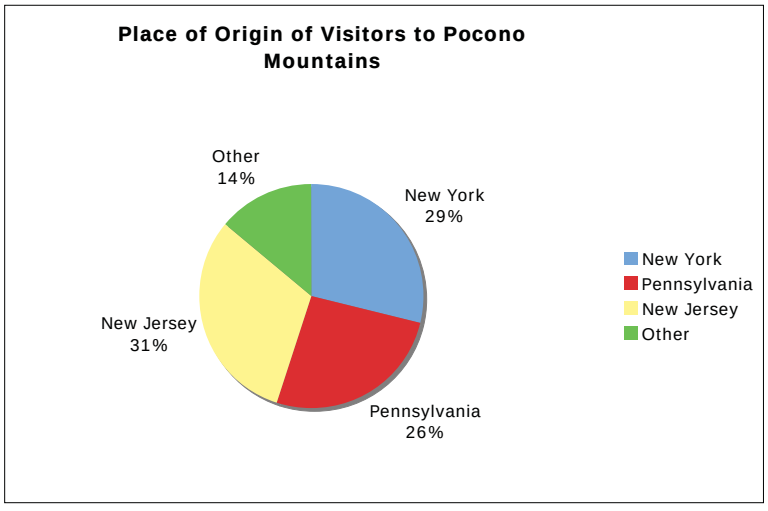
1990 McLaughlin Economic Research Associates Study regarding the economic impact on tourism of the reconstruction of the entire 18-mile Switchback Trail

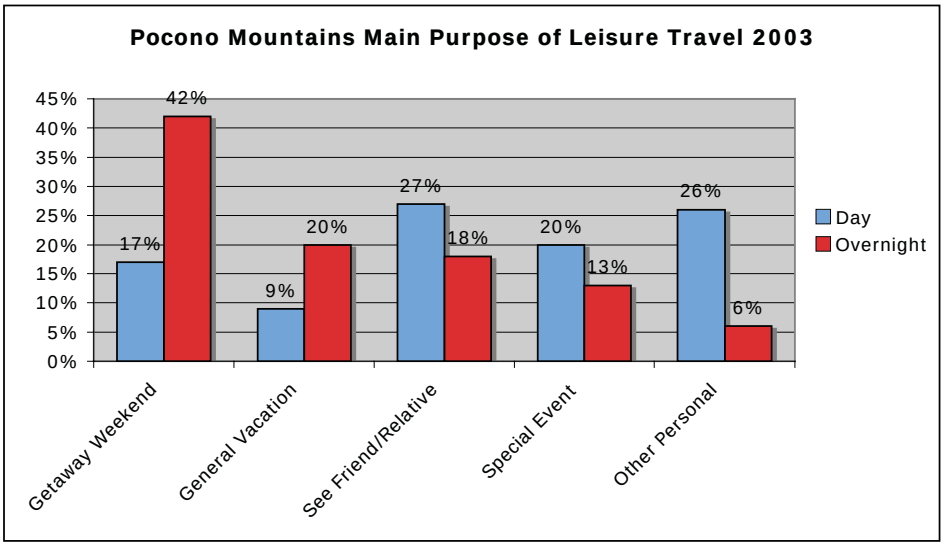
- Total tax revenue paid to State of PA by Carbon County from travel-related income in 1988: $464,00
- Based on operation of the SGRR, annual revenue can be expected to increase to $817,000 in 1993, $1.1m in 1997 and ~$1.5m in 2000.
- 1988: estimated 109,531 visitors came to JT. If SGRR rebuilt, in conjunction with other existing outdoor recreational activities, visitorship can be expected to increase to 138,000 in 1993, 172,000 in 1997 and 203,000 in 2000.
- If an average of 80% of visitors take advantage of the scenic tour and experience of the SGRR, a conservative estimate for ridership is 111,000 in 1993, 137,000 in 1997 and over 162,000 in 2000.

Section: Visiting the Pocono Mountains

All information from Pocono Mountain Visitors Bureau,
http://www.800poconos.com/static/index.cfm?contentID=242

In 2001, two-thirds of both overnight and day visitors had annual household incomes above $50,000, and almost forty-five percent of all day visitors have annual household incomes above $75,000. Compared to the 2001 national median household income of $42,228, the average visitor to the Pocono Mountains was wealthier and had more spending power to contribute to the tourist economy.





In 2003 however, the PMVB reported that the primary purpose of visit for overnight travelers had shifted to prioritize visiting friends and family. See Figure above. However, fifty percent of visitors are staying in private homes such as bed and breakfast hotels, and are participating in sightseeing and shopping, contributing to the tourism economy of the region.

Section: Delaware and Lehigh National Heritage Corridor

Based on the 2005 National Park Service study which compared the D&L Corridor with 4 other National Heritage Areas, word of mouth (61%) was the primary means of making tourists aware of the D&L, followed by brochures (11%). Parents outnumbered children 2.5 to 1, and the average visitor number was 3.5. 54% of the visitors were repeat visitors, 46% were first timers; 60% of the visitors came for only one day, and 40% of the visitors frequented the area for more than one day. Of the overnight visitors who came to visit the D&L heritage sites, a separate 2006 study by the firm of Public Works on behalf of the Alliance of National Heritage Areas (ANHA) indicates that in 2005, one in four surveyed overnight visitors who visited Delaware and Lehigh NHA sites in Carbon County last year reported annual incomes of $100,000 or more.[1] About two in three surveyed overnight visitors reported annual incomes of $60,000 or more, and by deduction, 1/3 earned less than $60,000. In addition, more than one-half of the overnight tourists spent more than $250 during their stay, and 10% spent more than $1,000. There is no specific data on the reported annual incomes and spending for day-trippers. In general, most of the spending by visitors to NHAs tends to occur at hotels, restaurants, amusements, and retail shops.

The study from the firm of Public Works on behalf of the Alliance of National Heritage Areas (ANHA) implies that the 2005 impact of tourism spending on the D&L NHC sites in Carbon County can be summarized as follows:

- There were 862,000 visitors to Delaware & Lehigh NHC sites in Carbon County in 2005. They generated about $16.4 million in spending while in the area. Most of this spending occurs in hotels, restaurants, amusements, and retail shops.

1

- The total economic impact of 862,000 D&L visitors in Carbon County—including both direct and indirect impacts—is approximately $24.57 million in spending, which produces 526 jobs and just over $8.6 million in personal income. The total value added is nearly $13.8 million.

The overall statistics for the Delaware and Lehigh National Heritage Area are summarized below:

- A recent study determined that tourists spent $276 million while visiting D&L sites. The direct and indirect economic impact of tourism spending when visiting D&L sites created nearly 7,892 jobs, generating nearly $159 million in personal income and $250 million in total value added to the economy.

Between January 2000 and November 2005, the National Park Service chose 6 "Market Towns"—White Haven, Lansford, Jim Thorpe, Lehighton, Palmerton, Slatington—from the D&L Corridor to focus on town assistance/community development initiatives that follow the National Trust's Main Street principles for economic development. In particular, the Main Street model advocates the revitalization of historic commercial districts by concentrating on 1) historic architecture, 2) a pedestrian friendly environment, 3) personal service, 4) local ownership, and 5) a sense of community. The study concluded that the 6 towns realized a net increase of 25 businesses. However, for results from this study to be informative, one needs to statistically determine whether there would have been a net increase of 25 businesses or more if the 6 market towns adopted economic development initiatives other than the Main Street model.

In another economic development study, the D&L evaluated the past 17 years of its work on Corridor-facilitated heritage projects. Conclusion: "Through fiscal year 2005, the total federal investment of $8.02 million provided through the National Park Service has leveraged nearly 12 times its value in direct funding from other sources. State funding totaling $6.59 million through the Pennsylvania Heritage Parks Program has leveraged more than 14 times is value." Hence, the D&L Sustainability Study implies that public funding for D&L heritage expenditures will result in greatly increased contributions from other sources thus resulting in an economic investment multiplier. These results are pertinent in that D&L investments have historically generated expanded economic activity. Though, it is unclear whether past success with federal funding on D&L heritage tourism will necessarily mean that federal funding for future SGRR projects will generate multiplier investments.

appendix d

Jim Thorpe and Switchback Gravity Railroad Historic Designations

Desig. Year	Property	Listing	Details	Details 2
1974	Carbon County Jail	National Register of Historic Places	Historic Significance:	Architecture/Engineering, Event
			Architect, builder, or engineer:	Haviland,John, Bowman,Henry
			Architectural Style:	No Style Listed
			Area of Significance:	Social History, Architecture, Industry
			Period of Significance:	1850-1874
			Owner:	Local Gov't
			Historic Function:	Government
			Historic Sub-function:	Correctional Facility
			Current Function:	Government
			Current Sub-function:	Correctional Facility
1974	Asa Packer Mansion	National Historic Landmark		
		National Register of Historic Places	Historic Significance:	Person, Architecture/Engineering
			Architect, builder, or engineer:	Packer,Asa
			Architectural Style:	Late Victorian, Other
			Historic Person:	Packer,Asa
			Significant Year:	1852
			Area of Significance:	Social History, Architecture, Industry, Commerce
			Period of Significance:	1850-1874
			Owner:	Local Gov't
			Historic Function:	Domestic
			Historic Sub-function:	Secondary Structure, Single Dwelling
			Current Function:	Recreation And Culture
			Current Sub-function:	Museum
1974	Harry Packer Mansion	National Register of Historic Places	Historic Significance:	Architecture/Engineering
			Architect, builder, or engineer:	Unknown
			Architectural Style:	Renaissance, Other
			Area of Significance:	Architecture

			Period of Significance:	1850-1874
			Owner:	Private
			Historic Function:	Domestic
			Historic Sub-function:	Single Dwelling
			Current Function:	Domestic
			Current Sub-function:	Single Dwelling
1976	Central Railroad of New Jersey Station	National Register of Historic Places	Historic Significance:	Event, Architecture/Engineering
	(aka Jersey Central Station; Jim Thorpe Station)		Architect, builder, or engineer:	Wilson Bros., Neast & Co.
			Architectural Style:	Queen Anne
			Area of Significance:	Architecture, Transportation
			Period of Significance:	1875-1899
			Owner:	Private
			Historic Function:	Transportation
			Historic Sub-function:	Rail-Related
1976	Mauch Chunk and Summit Hill Switchback Railroad	National Register of Historic Places	Historic Significance:	Event, Architecture/Engineering
	(aka Gravity Railroad)		Architect, builder, or engineer:	Lehigh Coal & Navigation Co., White,Josiah
			Area of Significance:	Engineering, Transportation, Industry
			Period of Significance:	1825-1849
			Owner:	Private , Local Gov't
			Historic Function:	Transportation
			Historic Sub-function:	Rail-Related
			Current Function:	Landscape
			Current Sub-function:	Underwater
1977	Old Mauch Chunk Historic District	National Register of Historic Places	Historic Significance:	Architecture/Engineering, Event
	(located on Broadway and Race Sts., in Jim Thorpe)		Architect, builder, or engineer:	Hutton,Addison, Multiple
			Architectural Style:	Italianate
			Area of Significance:	Architecture, Transportation, Industry, Commerce
			Period of Significance:	1825-1849, 1850-1874, 1875-1899
			Owner:	Private , Local Gov't

			Historic Function:	Commerce/Trade, Domestic
			Historic Sub-function:	Business, Single Dwelling
			Current Function:	Commerce/Trade, Domestic
			Current Sub-function:	Business, Single Dwelling
1977	St. Mark's Episcopal Church	National Historic Landmark		
		National Register of Historic Places	Historic Significance:	Architecture/Engineering
			Architect, builder, or engineer:	Upjohn,Richard
			Architectural Style:	Gothic Revival
			Area of Significance:	Architecture
			Period of Significance:	1850-1874, 1875-1899
			Owner:	Private
			Historic Function:	Religion
			Historic Sub-function:	Religious Structure
			Current Function:	Religion
			Current Sub-function:	Religious Structure
1988	Delaware & Lehigh National Heritage Corridor	National Heritage Corridor	The Corridor showcases the Delaware, Lehigh and Wyoming Valleys where anthracite coal was discovered, canals were built and iron was first poured. Management is provided by the Congressionally authorized Delaware and Lehigh Canal National Heritage Corridor Commission and a collaborative partnership with the National Park Service and the Commonwealth of Pennsylvania. The Commission has a full-time Executive Director and plans to hire additional management level staff with Pennsylvania Heritage Parks Program funds.	
1993	Delaware & Lehigh State Heritage Park (same boundaries as NHC)	State Heritage Park	Overlay of DLNHC. Allows access to state-funded grant programs for economic development, conservation, community-building, etc.	
2000	Lackawanna Valley National Heritage Area	National Heritage Area	Borders DLNHC to the Northeast	
2002	D& L National Heritage Corridor, Inc. established (cooperative agreement in 03)			

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NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

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SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC: MAUCH CHUNK and SUMMIT HILL SWITCHBACK RAILROAD

AND/OR COMMON: "Switchback" Railroad; Gravity Railroad

2 LOCATION

STREET & NUMBER: Along Pa. L.R. 13033 between Ludlow St. in Summit Hill and F.A.P. 209 in Jim Thorpe — __NOT FOR PUBLICATION

CITY, TOWN: the Boroughs of Jim Thorpe & Summit Hill — __VICINITY OF — CONGRESSIONAL DISTRICT: 11th

STATE: Pennsylvania — CODE: 42 — COUNTY: Carbon — CODE: 025

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
__DISTRICT	__PUBLIC	__OCCUPIED	__AGRICULTURE	__MUSEUM
__BUILDING(S)	__PRIVATE	X UNOCCUPIED	__COMMERCIAL	X PARK
__STRUCTURE	X BOTH	__WORK IN PROGRESS	__EDUCATIONAL	__PRIVATE RESIDENCE
X SITE	**PUBLIC ACQUISITION**	**ACCESSIBLE**	__ENTERTAINMENT	__RELIGIOUS
__OBJECT	__IN PROCESS	__YES: RESTRICTED	__GOVERNMENT	__SCIENTIFIC
	X BEING CONSIDERED	X YES: UNRESTRICTED	__INDUSTRIAL	X TRANSPORTATION
		__NO	__MILITARY	__OTHER:

4 OWNER OF PROPERTY

NAME: (See Continuation Sheet)

STREET & NUMBER:

CITY, TOWN: — __VICINITY OF — STATE: Pennsylvania

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC.: Carbon County Courthouse

STREET & NUMBER: Broadway and Market Square

CITY, TOWN: Jim Thorpe — STATE: Pennsylvania

6 REPRESENTATION IN EXISTING SURVEYS

TITLE: Pennsylvania Inventory of Historic Places

DATE: 1973 — __FEDERAL X STATE __COUNTY __LOCAL

DEPOSITORY FOR SURVEY RECORDS: Pennsylvania Historical & Museum Commission

CITY, TOWN: Box 1026 Harrisburg — STATE: Pennsylvania

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
_EXCELLENT	_DETERIORATED	_UNALTERED	X ORIGINAL SITE
_GOOD	X RUINS	X ALTERED	_MOVED DATE_____
_FAIR	_UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

Construction began on the "Gravity Railroad" on January 1, 1827 and the line was completed by May of the same year, 3 months and 26 days later. The line was narrow gauge (3 feet, 7 inches across), with rails from England, of rolled iron bars, 3/8 inch thick, 1½ inches wide, mounted on wooden timbers. The railroad ran between the towns of Summit Hill and Mauch Chunk (now known as Jim Thorpe), a distance of 8.5 miles. The grade was 96 feet/mile and loaded cars, each with a capacity of 3000 pounds and connected in trains of 6 to 14 cars, ran the downhill grade by gravity, controlled only by a runner. Mules were originally used to return the empty cars to the Summit Hill mines, with 8 mules hitched to a train of 14 cars.

During the years 1844-45, a backtrack was built over Mt. Jefferson near Summit Hill and Mt. Pisgah near Mauch Chunk. The Mt. Jefferson plane was 2020 feet long, 470 feet high and 1662 feet above sea level; the Mt. Pisgah plane was 2240 feet long, 740 feet high, and 1400 feet above sea level. The ascent at each end utilized a barney , a four-wheeled, four-axled car powered by a 120 horsepower steam engine, which pushed the empty cars up the grade. The operations of the planes were controlled by two men, a tender in charge of the cars at the foot of each plane and an engineer who handfired ten 2½ foot by 30 foot boilers in the plane house at the top of the plane. In 1858, all burners were changed to burn pea coal.

Eliminating the use of mules, cars now made a continuous circuit as the loaded cars travelled on the original Gravity line, known as the downtrack, while the empties were returned on the backtrack. At Mauch Chunk, the cars were halted, uncoupled, taken into a station house and placed on a turntable atop three inclined planes which lead down to the Lehigh Canal, 215 feet below. One plane was a sliding chute while two others each consisted of two sets of tracks, one for the descending load car which pulled the ascending car on the other track to the top. At the foot of each plane, the coal was released into a hopper. Empty cars were hoisted up the plane, directed out of the station house where they ran by gravity around the brow of the hill to the foot of the Mt. Pisgah plane.

Although the ties, rails, and cars have long since been sold for scrap, much of the right-of-way still remains intact. The 8.5 mile downtrack runs the entire distance with but several minor intrusions: a dirt trail, and several roads. Several significant features still exist on the downtrack among them the overpass-underpass (commonly referred to as the 5-mile-tree) where the backtrack crosses the downtrack and several turnarounds or mule sidings. At the Jim Thorpe terminus are also located several sidings where empty cars were pulled aside to allow a train of full cars to descend.

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CONTINUATION SHEET ITEM NUMBER 7 PAGE 1

Description: (continued)

The right-of-way of the Mt. Pisgah plane still remains intact and several features are also extant at the top of Mr. Pisgah. These include the reminants of the plane house which was originally built in 1843, the concrete water reservoir, and concrete footings for the trestle which bridged the gap at the top of the mountain. The backtrack then runs intact to the 5-mile-tree. The remaining portion including the Mt. Jefferson plane area has been substantially altered and is not included in the nomination.

8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW			
__PREHISTORIC	__ARCHEOLOGY-PREHISTORIC	__COMMUNITY PLANNING	__LANDSCAPE ARCHITECTURE	__RELIGION
__1400-1499	__ARCHEOLOGY-HISTORIC	__CONSERVATION	__LAW	__SCIENCE
__1500-1599	__AGRICULTURE	__ECONOMICS	__LITERATURE	__SCULPTURE
__1600-1699	__ARCHITECTURE	__EDUCATION	__MILITARY	__SOCIAL/HUMANITARIAN
__1700-1799	__ART	X ENGINEERING	__MUSIC	__THEATER
X 1800-1899	__COMMERCE	__EXPLORATION/SETTLEMENT	__PHILOSOPHY	X TRANSPORTATION
__1900-	__COMMUNICATIONS	X INDUSTRY	__POLITICS/GOVERNMENT	__OTHER (SPECIFY)
		__INVENTION		

SPECIFIC DATES 1827, 1844-45 BUILDER/ARCHITECT Josiah White (Lehigh Coal & Navigation Co.)

STATEMENT OF SIGNIFICANCE

The Lehigh Coal and Navigation Company was formed in 1818 by Josiah White and Erskine Hazard in the heart of the anthracite coal fields of northeastern Pennsylvania. The Summit Hill mines were discovered as early as 1791 and the Company's problem was to transport the coal to Mauch Chunk (presently Jim Thorpe) about nine miles away on the Lehigh River (and later the Canal, 1829) where it could be loaded on boats to Easton and Philadelphia. The coal was originally hauled by mules, but in 1827, the Company's business had increased sufficiently and a more efficient means of transportation was needed.

Ground was broken for the "Gravity Railroad" on January 1, 1827 and, under the direction of Josiah White, the railroad from Summit Hill to Mauch Chunk was completed by May of the same year. The cars of the railroad ran the downhill grade of 96 feet/mile by gravity and were hauled back by mule.

By 1844, the demand for coal became so great that a single track proved inadequate, and a backtrack was built during the years 1844-45. The cars could now make a continuous circuit between Mr. Jefferson near Summit Hill and Mt. Pisgah near Mauch Chunk. The Mt. Pisgah and Mr. Jefferson planes were used to reach sufficient grade for the cars to make the circuit.

By 1872, the Hauto Tunnel was completed through North Mountain and provided a more efficient means for transportation of coal. By 1874, the Central Railroad of New Jersey purchased the railroad and leased it to local residents who operated it for the many tourists who visited the area. By 1929, the Central Railroad of New Jersey sold the railway to local citizens and by 1937 the line was abandoned, primarily because the Central Railroad of New Jersey no longer ran excursions.

The original Gravity Railroad was the first in the country which was constructed for the movement of coal. Considered one of the first lines of major significance in Pennsylvania, the development of the railroad and its impact on the coal industry was of major importance to the economic growth of the region. The line continued to play an important role well into the 20th century as Mauch Chunk became a tourist mecca for residents of the urban areas of the East Coast.

Although the ties, rails, and cars have long since been sold, much of the right-of-way still remains as a reminder of the earlier years of the railway.

9 MAJOR BIBLIOGRAPHICAL REFERENCES

Morton, Eleanor - Josiah White, Prince of Pioneers, Stephen Daye, New York, 1946.
White, Josiah - "Josiah White's History Given by Himself", G. H. Buchaman, Philadelphia, 1909.
Hoffman, John N. - Anthracite in the Lehigh Region of Pennsylvania 1820-1845 Smithsonian Institution Press, Washington, D.C., 1968 (Contributions from the Museum of History and Technology: Paper 72).

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY 47 acres

UTM REFERENCES SEE CONTINUATION SHEET FOR UTM'S

	ZONE	EASTING	NORTHING		ZONE	EASTING	NORTHING
A				B			
C				D			

VERBAL BOUNDARY DESCRIPTION

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME / TITLE David M. Berman/Curator
Bruce Conrad/Community Development Director Carbon Co. Planning Comm.

ORGANIZATION Pennsylvania Historical & Museum Comm.
Carbon County Courthouse Annex

DATE March, 1976

STREET & NUMBER Box 1026, Wm. Penn Memorial Museum

TELEPHONE 717-787-4363

CITY OR TOWN Harrisburg
Jim Thorpe

STATE Pennsylvania

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL X STATE ___ LOCAL ___

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

STATE HISTORIC PRESERVATION OFFICER SIGNATURE William J. Mercer

TITLE Executive Director
Pennsylvania Historical & Museum Commission

DATE 4/9/76

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION
ATTEST:

DATE

KEEPER OF THE NATIONAL REGISTER

GPO 892-453

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CONTINUATION SHEET ITEM NUMBER 10 PAGE 1

UTM'S References:

Lehighton Quadrangle, Pa.:

(1)	A	18	437 590	4524 240	(2)	A	18	437 930	4524 000
	B	18	437 580	4524 150		B	18	437 760	4524 000
	C	18	436 800	4524 260		C	18	437 580	4524 150
	D	18	436 800	4524 370		D	18	437 590	4524 240
(3)	A	18	437 930	4524 000	(4)	A	18	437 640	4523 840
	B	18	437 650	4523 760		B	18	437 650	4523 760
	C	18	437 640	4523 840		C	18	437 380	4523 910
	D	18	437 770	4524 000		D	18	437 390	4523 970
(5)	A	18	437 390	4523 970					
	B	18	437 380	4523 910					
	C	18	436 800	4523 670					
	D	18	436 800	4523 770					

Nesquehoning Quadrangle, Pa.:

(1)	A	18	427 270	4519 250	(2)	A	18	427 830	4519 550
	B	18	427 310	4519 350		B	18	427 940	4519 510
	C	18	427 050	4519 350		C	18	427 310	4519 150
	D	18	427 050	4519 520		D	18	427 270	4519 250
(3)	A	18	427 840	4519 860	(4)	A	18	428 260	4519 860
	B	18	427 920	4519 770		B	18	428 320	4519 810
	C	18	427 940	4519 510		C	18	427 920	4519 770
	D	18	427 830	4519 550		D	18	427 840	4519 860
(5)	A	18	429 150	4520 530	(6)	A	18	430 910	4521 210
	B	18	429 220	4520 430		B	18	430 960	4521 020
	C	18	428 320	4519 810		C	18	429 220	4520 430
	D	18	428 260	4519 860		D	18	429 150	4520 530
(7)	A	18	431 690	4521 500	(8)	A	18	432 570	4522 090
	B	18	431 750	4521 440		B	18	432 880	4522 150
	C	18	430 940	4521 110		C	18	431 750	4521 440
	D	18	430 910	4521 210		D	18	431 690	4521 500
(9)	A	18	434 810	4523 290	(10)	A	18	435 430	4523 710
	B	18	434 880	4523 210		B	18	435 500	4523 650
	C	18	432 880	4522 150		C	18	434 880	4523 210
	D	18	432 570	4522 090		D	18	434 810	4523 290

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UTM References: (continued)

Nesquehoning Quadrangle, Pa.:

(11)	A	18	436 070	4523 950	(12)	A	18	436 800	4524 340
	B	18	436 110	4523 840		B	18	436 800	4524 210
	C	18	435 500	4523 650		C	18	436 110	4523 840
	D	18	435 430	4523 710		D	18	436 070	4523 950
(13)	A	18	431 770	4521 280	(14)	A	18	432 040	4521 580
	B	18	431 820	4521 320		B	18	432 140	4521 520
	C	18	430 960	4521 020		C	18	431 820	4521 320
	D	18	430 940	4521 110		D	18	431 770	4521 380
(15)	A	18	434 930	4522 500	(16)	A	18	435 270	4522 890
	B	18	435 010	4522 410		B	18	435 340	4522 790
	C	18	432 140	4521 520		C	18	435 010	4522 410
	D	18	432 040	4521 580		D	18	434 930	4522 500
(17)	A	18	435 980	4523 040	(18)	A	18	436 480	4523 550
	B	18	436 020	4522 920		B	18	436 570	4523 500
	C	18	435 340	4522 790		C	18	436 020	4522 920
	D	18	435 270	4522 890		D	18	435 980	4523 040
(19)	A	18	436 790	4523 720					
	B	18	436 790	4523 600					
	C	18	436 570	4523 500					
	D	18	436 480	4523 550					

AREA:

The area encompasses the right-of-way of the nominated portion of the railroad, a strip of land approximately 30 feet wide and approximately 13 miles long. It also includes several turn-offs, sidings, the overpass-underpass, and the area around the Mt. Pisgah plane house. The right-of-way in thses areas extends to approximately 100 feet in width.

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CONTINUATION SHEET ITEM NUMBER 4 PAGE 1

OWNERSHIP:

Carbon County Commissioners
Carbon County Courthouse
Jim Thorpe, Pennsylvania 18229

ATTN: Hon. Albert F. Koch, Chairman

Borough Hall
West Broadway
Jim Thorpe, Pennsylvania 18229

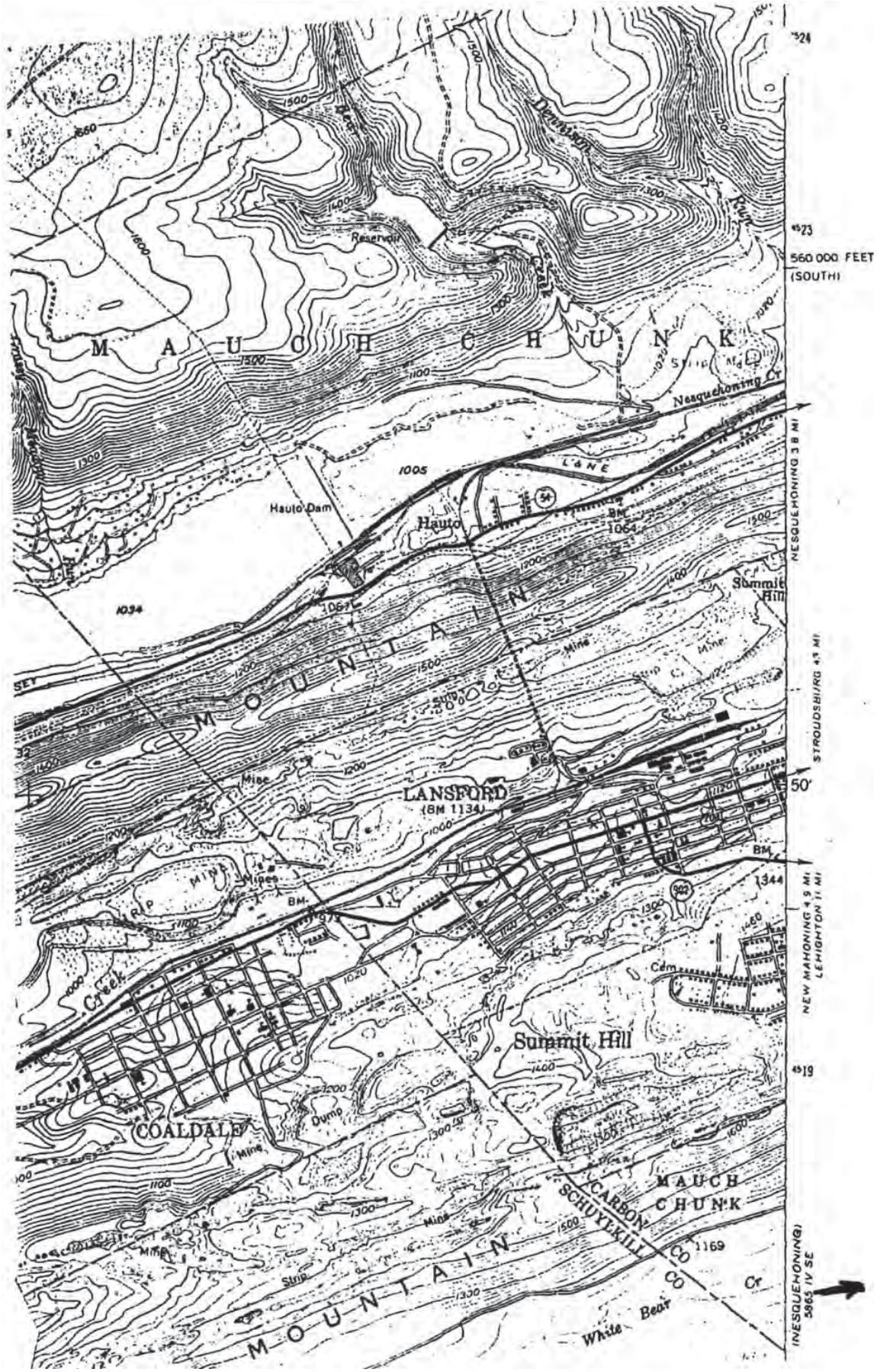
ATTN: Mary Louise Redline

Northeast Land Company
Route 115
Blakeslee, Pennsylvania 18610

ATTN: Curtis Kemmerer, President

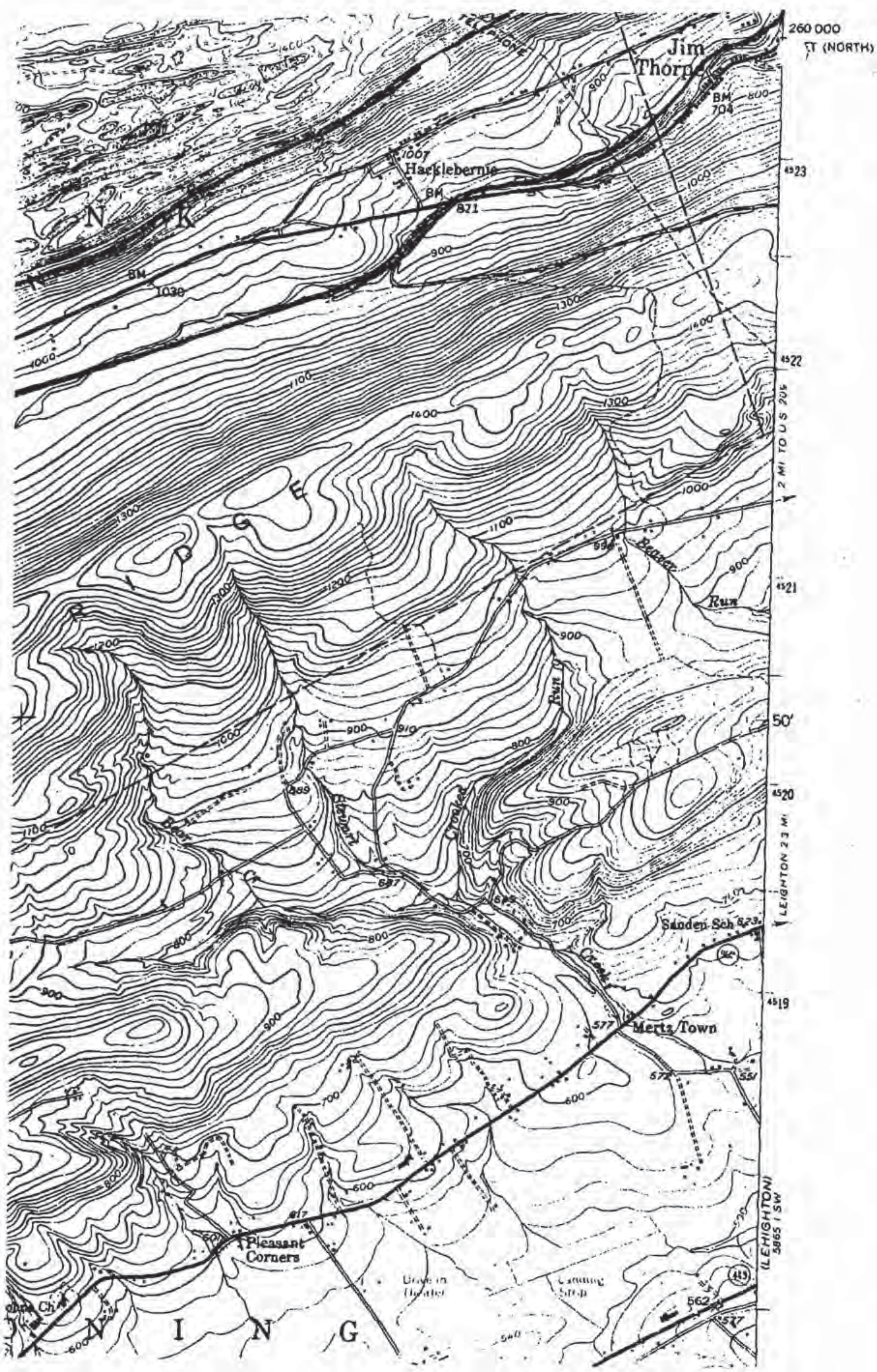
Summit Hill Boro Council
Boro Building
Ludlow Street
Summit Hill, Pennsylvania 18252

ATTN: Kathleen Lanzos, President


MAUCH CHUNK
MOUNTAIN
MOUNTAIN
Hauto Dam
Hauto
Reservoir
Nesquehoning Cr
LANE
Summit Hill
LANSFORD
(BM 1134)
COALDALE
Summit Hill
MAUCH CHUNK
CARBON CO
SCHUYLKILL CO
White Bear Cr
Mine
Strip
Dump
Cem
BM
560 000 FEET
(SOUTH)
NESQUEHONING 3 8 MI
STROUDSBURG 45 MI
NEW MAHONING 4 5 MI
LEHIGHTON 11 MI
INESQUEHONING
5965 IV SE


Nesquehoning
CENTRAL R R OF NEW JERSEY
NESQUEHONING MOUNTAIN
Settling Basin
SUMMIT HILL BOROUGH
LANSFORD
SUMMIT HILL
Bloomingdale
Cemetery
Panther Cr
White Bear Creek
MAUCH
560 000 (SOUTH)
MAHANOY CITY 15 MI HOMETOWN 6.2 MI
TAMAQUA 5.7 MI
5865 IV SW (TAMAQUA)
Strip Mine
Run
Creek


NESQUEHONING
(BN 820)
Indian Mtn
Creek
MOUNTAIN
M A U C H
C H
M O U N T A
P I S G A H
SUMMIT HILL BOROUGH
Mauch
Chunk
Cree
C H U N K
Bloomingdale
M A U C H
BM 1085
BM 1032
BM 1055
BM 1030
BM 1065
1092


260 000
FT (NORTH)
Jim Thorpe
Hacklebernie
BM 821
BM 704
BM 1030
Beaver Run
Crooked Run
Sanden Sch
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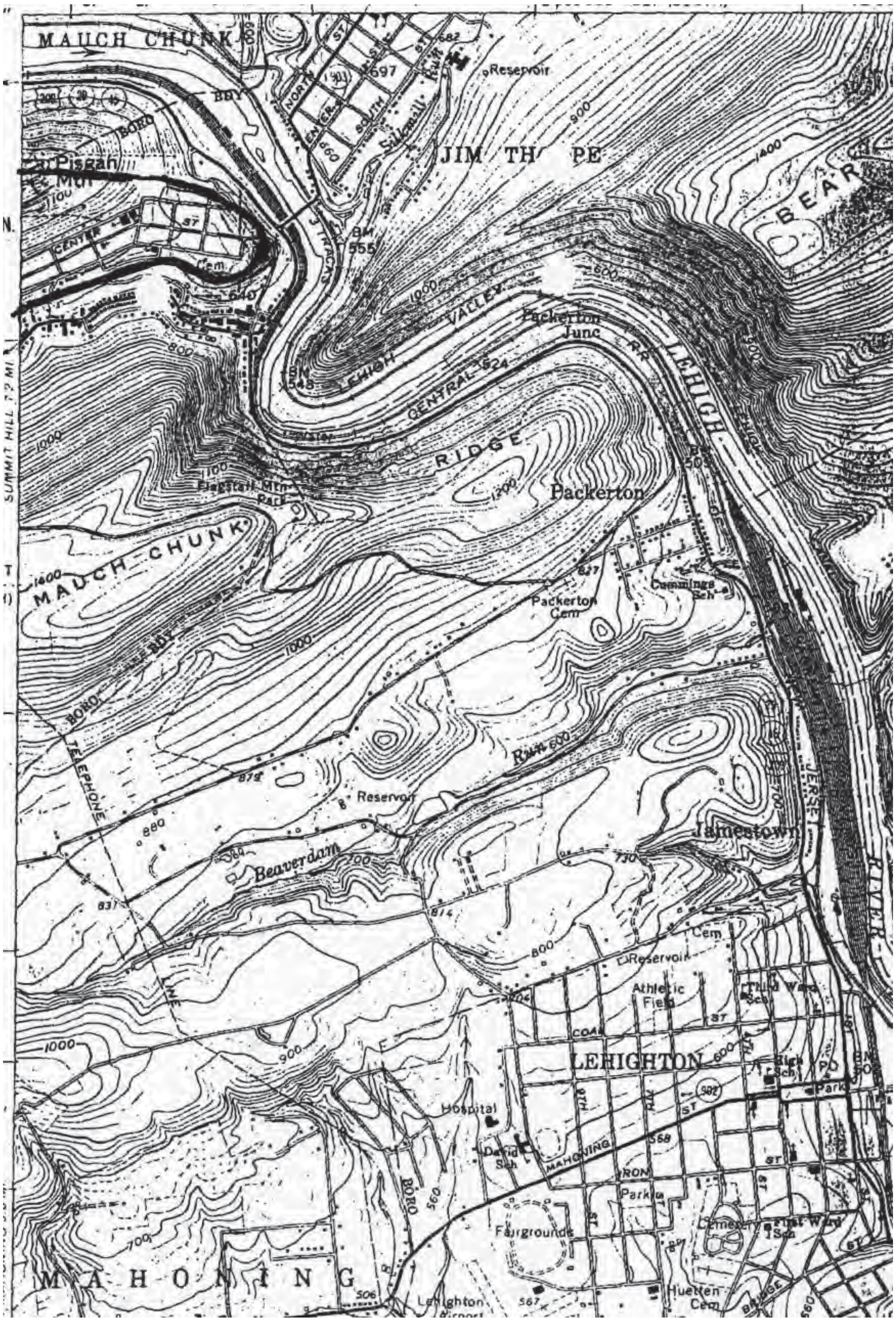
MAUCH CHUNK
JIM TH PE
BEAR
LEHIGH VALLEY
Packerton Junc
CENTRAL
RIDGE
Packerton
MAUCH CHUNK
Packerton Cem
Reservoir
Beaverdam
Jamestown
LEHIGHTON
Hospital
Fairgrounds
MAHONING
Lehighton Airport

appendix e

HEIGHTS NEIGHBORHOOD DOOR-TO-DOOR SURVEY **DATE:**

ADDRESS: **SURVEYOR INITIALS:**

TALKING POINTS

PURPOSE: ***Anonymous survey to understand how residents feel about Jim Thorpe and the area that includes the historic Switchback Gravity Railroad***

PROJECT: ***Historic Preservation Studio at University of Pennsylvania School of Design***

TIME: ***7-10 minutes***

QUESTIONS ABOUT THE HEIGHTS

1. How many years have you lived in this neighborhood? ***NUMBER OF YEARS:*** _____

2. Why did you choose to live/stay in this neighborhood?

3. Have you noticed any changes in this neighborhood since you've lived here?

4. What do you like about living in your neighborhood?

5. If you could change something about your neighborhood, what would it be?

6. If you were going to describe your neighborhood to a friend who has never been here, what words would you use to describe it?

QUESTIONS ABOUT JIM THORPE

7. What activities do you like to do during your spare time in Jim Thorpe?

CHECK ALL THAT APPLY.

☐ Antiquing	☐ Biking	☐ Cultural Events	☐ Dining
☐ Fishing	☐ Hiking	☐ Historic Sites/Museums	☐ Hunting
☐ Railroad History	☐ Rafting	☐ Religious Activities	☐ Rock Climbing
☐ Shopping	☐ Skiing	☐ Skirmish	

☐ ***OTHER(S):*** _____

8. Are there stories about the history of Jim Thorpe that are interesting to you? ☐ No ☐ Yes

NOTES:

QUESTIONS ABOUT THE STUDY AREA

9. Who uses Sam Miller Field?

9a. What activities?

9b. How often?

10. Have you or your family ever been on any portion of the 18-mile Switchback Gravity Railroad Trail?
☐ No ***SKIP TO QUESTION 11.*** ☐ Yes ***ASK QUESTIONS 10A-10C.***

10a. What areas of the trail have you or your family visited?
CHECK ALL THAT APPLY.
☐ Mt. Pisgah Plane ☐ Mt. Jefferson Plane ☐ Mauch Chunk Lake Park

☐ ***OTHER(S):*** _____

10b. What activities have you or your family done on the Trail?

10c. How often do you or your family go on the Trail now?

11. Do you notice others using the Switchback Trail?
☐ No ***SKIP TO QUESTION 12.*** ☐ Yes ***ASK QUESTION 11A.***

11a. How do you notice?

12. How familiar are you with the history of the Switchback Gravity Railroad?
☐ Unfamiliar ☐ Somewhat familiar ☐ Very familiar

TALKING POINTS

The Switchback Gravity Railroad was built in the early 19th century to haul anthracite coal from the mines in and around Summit Hill to Mt. Pisgah down to the Lehigh River.

Later, the Railroad became a roller coaster and tourist attraction, but was dismantled and sold for scrap in the 1930s.

Remains of Railroad still exist on its original 18-mile loop.

The Switchback Gravity Railroad Foundation (SGRF) would like to reconstruct a portion of the Rairoad as a historic and recreational attraction.

THE HEIGHTS NEIGHBORHOOD DOOR-TO-DOOR SURVEY **DATE:**

ADDRESS: **SURVEYOR INITIALS:**

QUESTIONS ABOUT THE SGRF PROPOSAL

13. Do you think that Jim Thorpe would benefit from the Switchback Gravity Railroad Foundation's proposal?

☐ Yes ☐ No ☐ Maybe ☐ Don't care

14. How do you think this project would affect you as a resident of this neighborhood?

CHECK ALL THAT APPLY.

☐ Affect current use of trail ☐ Better trail maintenance ☐ Displace Sam Miller Field
☐ Disruption of viewshed ☐ Economic development ☐ Education
☐ Environmental impacts ☐ Increased recreational opportunities
☐ Noise ☐ Parking issues ☐ Pollution/trash
☐ Property infringement ☐ Raise awareness of Jim Thorpe's history
☐ Raise property values ☐ Safety ☐ Traffic ☐ Trespassing

☐ ***OTHER(S):*** _____

NOTES:

15. What, if anything, would you like to see done with the Switchback Gravity Railroad site?

ADDITIONAL COMMENTS:

DEMOGRAPHIC SURVEY

Please answer these questions to help us learn more about who we are surveying.

1. What is your ZIP Code? _____

2. What is your gender?
   - ☐ Female ☐ Male ☐ Prefer not to answer

3. What is your age?
   - ☐ 18 - 25 years ☐ 26 - 34 years ☐ 35 - 44 years
   - ☐ 45 - 54 years ☐ 55 - 64 years ☐ 65 or older
   - ☐ Prefer not to answer

4. Do you have any children?
   - ☐ No ☐ Yes ☐ Prefer not to answer

   If yes, what are their ages?
   CHECK ALL THAT APPLY.
   - ☐ 0-5 years ☐ 5-10 years ☐ 10-15 years
   - ☐ 15-20 years ☐ Adult(s) ☐ Prefer not to answer

5. What is your racial and ethnic background?
   CHECK ALL THAT APPLY.
   - ☐ White ☐ Black ☐ American Indian and Alaska Native
   - ☐ Asian ☐ Native Hawaiian and Other Pacific Islander
   - ☐ Hispanic or Latino origin ☐ Prefer not to answer

6. What is your annual household income?
   - ☐ Under $25,000 ☐ $25,000 - $49,999
   - ☐ $50,000 - $99,999 ☐ $100,000 or more
   - ☐ Prefer not to answer

VISITOR SURVEY **DATE:**

LOCATION: **SURVEYOR INITIALS:**

TALKING POINTS

PURPOSE: ***Anonymous survey to understand how residents feel about the Borough of Jim Thorpe and area that includes the historic Switchback Gravity Railroad***

PROJECT: ***Historic Preservation Studio at University of Pennsylvania School of Design***

TIME: ***7-10 minutes***

QUESTIONS ABOUT JIM THORPE

1. How long is your visit to Jim Thorpe?

☐ Partial day ☐ Full day ☐ 2-3 days ☐ 4 days or more

2. How often do you come to Jim Thorpe?

☐ First visit ☐ Weekly ☐ Monthly ☐ Seasonally
☐ Yearly ☐ Less than once yearly

3. What things do you like to do in Jim Thorpe?

CHECK ALL THAT APPLY.

☐ Antiquing ☐ Biking ☐ Cultural Events ☐ Dining
☐ Fall foliage ☐ Fall Foliage Festival ☐ Fishing ☐ Hiking
☐ Historic sites/Museums ☐ Hunting ☐ Rafting
☐ Railroad history ☐ Religious activities ☐ Rock climbing ☐ Second home
☐ Shopping ☐ Skiing ☐ Skirmish ☐ Weekend getaway

☐ ***OTHER(S):*** _____

4. What are your favorite places in Jim Thorpe?

6. What words would you use to describe Jim Thorpe?

7. How did you hear about Jim Thorpe?

CHECK ALL THAT APPLY.

☐ Guide book ☐ Family ☐ Friend ☐ Internet
☐ Magazine ☐ Newspaper ☐ Television ☐ Radio

☐ ***OTHER(S):*** _____

8. Are you here by yourself or with others today?

☐ Self ***SKIP TO QUESTION 9.*** ☐ Others ***ASK QUESTION 8A.***

8a. Who is here with you today?

☐ Club/recreational group ☐ Family ☐ Friend(s) ☐ School group
☐ Significant other
☐ ***OTHER(S):*** _____

9. Do you plan to return to Jim Thorpe? ☐ Yes ☐ No ☐ Maybe

10. Where else do you go for similar activites?

QUESTIONS ABOUT THE STUDY AREA

11. Have you or your family ever been on any portion of Jim Thorpe's 18-mile Switchback Gravity Railroad Trail?
☐ No ***SKIP TO QUESTION 12.*** ☐ Yes ***ASK QUESTIONS 11A-11C.***

11a. What areas of the trail have you or your family visited?
CHECK ALL THAT APPLY.
☐ Mt. Pisgah Plane ☐ Mt. Jefferson Plane ☐ Mauch Chunk Lake Park

☐ ***OTHER(S):*** _____

11b. What activities have you or your family done on the Trail?

11c. How often do you or your family go on the Trail now?

12. How familiar are you with the history of Jim Thorpe's Switchback Gravity Railroad?
☐ Unfamiliar ☐ Somewhat familiar ☐ Very familiar

TALKING POINTS

The Switchback Gravity Railroad was built in the early 19th century to haul anthracite coal from the mines in and around Summit Hill to Mt. Pisgah down to the Lehigh River.

Later, the Railroad became a roller coaster and tourist attraction, but was dismantled and sold for scrap in the 1930s.

Remains of Railroad still exist on its original 18-mile loop

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13. Would you be interested in visiting a historic and recreational site that tells the story of the Switchback Gravity Railroad?
☐ Yes ☐ No ☐ Maybe

ADDITIONAL COMMENTS:

DEMOGRAPHIC SURVEY

Please answer these questions to help us learn more about who we are surveying.

1. What is your ZIP Code: _____

2. What is your gender?
   ☐ Female ☐ Male ☐ Prefer not to answer

3. What is your age?
   ☐ 18 - 25 years ☐ 26 - 34 years ☐ 35 - 44 years
   ☐ 45 - 54 years ☐ 55 - 64 years ☐ 65 or older
   ☐ Prefer not to answer

4. Do you have any children?
   ☐ No ☐ Yes ☐ Prefer not to answer

   4a. What are their ages?
   CHECK ALL THAT APPLY.
   ☐ 0-5 years ☐ 5-10 years ☐ 10-15 years
   ☐ 15-20 years ☐ Adult(s) ☐ Prefer not to answer

5. What is your racial and ethnic background?
   CHECK ALL THAT APPLY.
   ☐ White ☐ Black ☐ American Indian and Alaska Native
   ☐ Asian ☐ Native Hawaiian and Other Pacific Islander
   ☐ Hispanic or Latino origin ☐ Prefer not to answer

6. What is your annual household income?
   ☐ Under $25,000 ☐ $25,000 - $49,999
   ☐ $50,000 - $99,999 ☐ $100,000 or more
   ☐ Prefer not to answer

appendix f

SWOT Analysis
SGRR Studio Group

STRENGTHS

Viewsheds (10)
Existing Trail (2)
Railroad/Industrial History (1)
Community Support of Railroad History (5)
Regional Stewardship (3)
Tourist/Recreation – Surrounding Infrastructure (12)
Multi-Use of the Trail (11)
Changing Demographics (0)

WEAKNESSES

Crime/Drugs (2)
Accessibility – both to site and to Historic Fabric (4)
Lack of Parking (1)
Poor Signage (9)
Erosion (0)
Safety Issues (0)
Land Ownership Issues (4)
Lack of Historic Fabric (9)
Lack of Trail/Enforcement (1)
Insider/Outsider Issues (4)
Conflicted Opinions in regards to Development (8)
Local Disconnect from Heritage (0)
Changing Demographics (0)
Lack of Funds (2)
Distrust of Elected Officials (1)

OPPORTUNITIES

Potential to Connect Trails (2)
Tourism – Economic Development (13)
Changing Demographics (0)
Foundation Interest (0)
Revenue for Town (3)
Increase in Property Value (1)
Catalyst for Change (9)
State Bill funding for Railroad (0)
Interpretation of Historic Landscape (10)
Mt. Pisquah vs. 18 Mile Trail (1)
Finance/Maintain Trail (3)

THREATS

Noise (5)
View Obstruction (2)
Conflicting Trail Uses (8)
Taxing of Infrastructure (10)
Changing Demographics (0)
Property Value Increase (1)
Perception of Foundation Officials (5)
Loss of Rugged Wilderness (2)
Increased Traffic/Continued Decline of Trail (5)
Mt. Pisquah vs. 18 Mile Trail (1)

appendix g

SCENARIO 1:
Natural Landscape Exploited, Strong National Government

The Deal With The Devil

We define the natural landscape as the 18-mile tract of land which resides between the towns of Jim Thorpe and Summit Hill. With the remains of the Switchback Gravity Railroad existing on this land, the exploitation or loss of the natural landscape would directly affect the history tied to the Railroad and thus compromise the local history.

A stronger national government would mean more funds for development and improvements to Jim Thorpe whose infrastructure is in need of upgrading to accommodate the booming tourist industry. Planning a major highway to cut through Jim Thorpe would not only ease roadway traffic, but allow visitors to reach new condos and hotels built in the town. Additionally, the highway would make traveling to other Lehigh Valley destinations quicker and easier as well as providing a better connection between Jim Thorpe and Philadelphia and New York. This highway upgrade would also improve Jim Thorpe as a destination town.

To build the new highway, Carbon County could purchase land from existing Jim Thorpe residents and run it through The Heights neighborhood. The Switchback Gravity Railroad Hotel and Restaurant would be a new destination at the top of Mount Pisgah. Suffering as a result of this new tourist destination would be the spectacular view sheds, ecosystem, and wildlife, which could cause the extinction of some species. Maximizing tourism values would also mean an influx of people and traffic on the Switchback Gravity Railroad trail and likely a complete loss of the ruins and historic fabric.

SCENARIO 2:
National Landscape is Treasured, Strong National Government

This scenario is characterized by two potentially positive attributes. The national government assumes much of the responsibility over the switchback. We imagined a scenario where dominated by National Park Service branding potentially bringing about a theme-park quality with it.

In this scenario, park tours are given on burro and donkey by tour guide in miner's garb. The historical aspect becomes commodified though this and other aspects which appeal more toward the site as a national tourist destination. The access to the Switchback to the general public become very limited as only a set amount of guests are permitted to enter. All guests are required to pay admission fees. Permits are needed for mountain biking and ATV and motorcycles become prohibited on the trail. The trail is adorned with signage, pavilions and wide walking paths.

The heights development is demolished to make way for parking lots for tour busses. A monumental visitor center and gift shop is erected. Locals are marginalized and many natives leave. Some are able to secure contracts with the National Park Service making a selected few very rich. Main Street loses many of its local shops as national chains move in. A highway is built to connect Jim Thorpe to interstate 76.

All the surrounding lands become protected under federal laws limited all kinds of development.

SCENARIO 3:
National Landscape is Treasured, Strong Local Government

The Greenest Green You've Never Seen

Within this scenario, the entirety of Jim Thorpe and the SGRR is protected and preserved. At this level, the environment and surroundings of the SGRR is highly valued and the most important resource. There will be serious use restrictions placed on the land, and heavy fines established for any and every violation.

The natural landscape area of the mountains would only be available for the locals to use, and there would be restrictions on outside visitation. All access to the mountain would be limited to foot and bike only.

All future development in the town would have to be LEED certified. The town's identity would become linked with environmental sustainability, and the continued upkeep of the natural resources in the area. Watershed protection and forest re-growth would be main objectives.

The remaining ruins from the SGRR would be left as is, and continue to decay. Though acknowledged for their history, all signage and interpretation would be taken off the trail to restore as much of the land as possible. The mountain area would serve more as a wildlife nature retreat than a recreational trail site.

The majority of the decision making would be done by the Jim Thorpe municipal powers. A local watchdog group would be created to protect and upkeep the area mountain area, but inevitably problems would arise between Jim Thorpe and Summit Hill over ownership of the land. The national and state level agencies would play minimal if any role in the process.

SCENARIO 4 :
Natural Landscape Exploited, Strong Local Government

Jim Thorpe in 2037 – A Thirty Year Retrospective

If one were to compare the Jim Thorpe of thirty years ago to the Jim Thorpe of today, one would see few similarities between the two places. The township's continued dedication towards growth and expansion has transformed the town from a sleepy tourist destination to one of the premier attractions in the northeast United States. The first tentative steps towards a new Jim Thorpe can be traced back to 2008, when a initiative to reconstruct a portion of the Switchback Gravity Railroad was passed by the city council by the narrow margin of 5 to 4. Construction of the railroad began immediately, and within a year the railroad opened to a crowd of 6,000 visitors. The success of the railroad quickly led to other development projects, which included not only the construction of recreated historic buildings along the site, but also the rezoning of the neighborhood near the Pisgah Plain to allow for greater parking and amenities for visitors. Over the next thirty years, the site of the Switchback Gravity railroad was to experience a revival in popularity, and the funds produced by the site eventually allowed for a total recreation of the railroad, which now serves more than 1,000 people daily.

The "Jim Thorpe Renaissance" as it has come to be called by many observers, cannot be seen as an event that happened in isolation. Northeastern Pennsylvania as a whole has seen great growth over the same period, as many residents have moved from the larger metropolitan areas of Philadelphia and New York to purchase a second home, or set up a primary residence due to the ease of telecommuting. With this influx of new wealth, an improvement of the existing infrastructure was necessitated, and today one can measure that growth through the number of newly constructed hotels and restaurants in the area.

Jim Thorpe Timeline

2008 – Construction on the Switchback Gravity Railroad begins.
2009 – Proposal to reopen the coal mines fails due to inability of Anthracite coal to meet EPA standards.
2010 – Switchback Gravity Railroad opens to 6,000 visitors.
2011- Success of the SGRR necessitates the need for new amenities, to be situated at the base of the Pisgah Plain. These amenities include a new visitor center, as well as a parking lot for 150 cars.
2012- Jim Thorpe is voted #2 on "Top Ten Small Towns in America" in Newsweek Magazine.
2013- The Lehigh Coal and Navigation Corporation sells its remaining property to the town of Jim Thorpe for $7,500,000.
2015 – Plans for the recreation of the down track are presented to the local planning council.
2016 – Construction of the down track commences.
2017 – Growth in the Jim Thorpe continues as the town rezones areas of the heights to allow for six story development. Both the Radisson and Marriot Hotel chains bid on local property for development.

2020. Census numbers indicate that only 20% of the permanent residents of Jim Thorpe have resided in the community for over 20 years.

2025 – Construction of the entire Switchback Gravity Railroad is completed.

2027 – Success of the Switchback has lead to the opening of other local resorts and the continued recreation of former historic sites.

2037 – Jim Thorpe is named the "#1 Attraction in Pennsylvania."