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Redevelopment of the Bethlehem Steel site : a public history perspective

Amey J. Senape
Lehigh University

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Senape, Amey J.

**Redevelopment of
the Bethlehem
Steel Site: A Public
History Perspective**

May 2008

Redevelopment of the Bethlehem Steel Site:

A Public History Perspective

by

Amey J. Senape

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Date

John Kenly Smith, Thesis Advisor

Kimberley Carrell-Smith, Co-Advisor

Michael G. Baylor, Department Chair

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Abstract

Bethlehem is at a crossroads. The city once again finds itself at a pivotal time on the brink of major changes. As the community continues to struggle with deindustrialization, in the shadow of the controversial redevelopment of the former Bethlehem Steel site there is an excellent opportunity for Bethlehem and the Lehigh Valley to reestablish itself by recognizing the accomplishments of the generations of men and women who toiled in the mill. Utilizing pervasive interpretation through broad-based public history practices will encourage the community to seek inspiration from its rich industrial heritage, while shaping its future by generating new investment and economic growth. Thoughtful redevelopment of the Steel site can provide a much needed venue for the community to reflect on its great accomplishments at a time of painful changes and uncertainties. In a town currently known for its colonial past, the redevelopment of the Steel site will focus the spotlight on the community's more recent industrial heritage, which can be used as a foundation to empower the community and help them move forward.

A careful integration of history into the redevelopment process can ultimately provide greater and longer-lasting economic benefits for the community and the developers as well by creating a place that has great meaning to residents and visitors alike. This paper investigates the key themes that can provide the foundation for this renaissance. Bethlehem's long, rich history reveals established patterns that can provide the basis for meaningful public history interpretation on the Steel site and throughout the community while providing insight and cautionary tales for the redevelopment at hand. The common themes of Investment, Innovation and Industry, Community, Education and

Health Care connect four centuries of community in Bethlehem, with correlations to national storylines providing the basis for thoughtful redevelopment and encouraging the investment of new human and capital resources throughout the region. Embracing public history as a vital part of the redevelopment of the Steel site will honor the community's past while solidifying its identity, creating a strong foundation upon which a solid, meaningful future can be built.

How Public History Can Add Value to the Redevelopment of the Steel Site

The redevelopment of the former Bethlehem Steel site provides an unprecedented opportunity for implementation of a comprehensive public history plan. Currently the largest privately-owned brownfield in the United States, this 1800 acre redevelopment project has the nation looking towards Bethlehem as it did when the Steel produced arms and built the nation's skylines. The vast majority of the site (over 1500 acres) is undergoing traditional economic development which includes the Bethlehem Commerce Center, an industrial park promising to bring jobs and to drive an economic resurgence in an area dormant for more than a decade. The Center has been an excellent example of a public-private partnership dedicated to revitalization. Following the principles of Governor Edward G. Rendell's Growing Greener and Keystone Innovation Zone initiatives, the Center blends state grants with private funds to create and improve infrastructure.¹

It is, however, the remaining 124 acres (approximately) drawing the most attention. Innovative redevelopment of historic resources on this site will redefine the area for the next generation and beyond. History-based redevelopment may also provide a successful model for other post-industrial brownfield projects throughout the world (Appendix A). Following Bethlehem's long tradition of investment in innovation, the city is once again poised to be a world leader and a focus of international attention through the ground-breaking redevelopment of its famed steel plant.

¹ \$1.25 million Infrastructure Development Program grant and \$312,500 Industrial Sites Reuse Program Grants administered through the Pennsylvania Department of Community and Economic Development. Northampton County \$13 million bond issues for construction of Commerce Center Boulevard, LVIP, non-profit economic development corporation and site coordinator, \$2 million in equity with \$8 million commitment in bank financing. Source: Governor's Newsletter, January 16, 2004, "Rendell Delivers Funds to Create Jobs at Bethlehem Commerce Center," <http://www.virtualtours.state.pa.us/newsletter/default.asp?varFilterDate=1/16/2004&Q=W&C=&IA=&S=&W=>

Through innovative interpretation, this project can embrace the area's rich and diverse past and transform the home of the former industrial giant into an economically viable center of heritage tourism and mixed commercial uses, while becoming a prototype for brownfield redevelopments everywhere. The large well-built industrial buildings featured on most brownfield sites lend themselves nicely to rehabilitation and can be adapted for a variety of new uses. Public history, through broad and pervasive interpretation of the site's heritage can add value to these commercial projects. Public history can help a project combine modern, mixed-use amenities with existing resources while providing wide-spread appeal for one-time and repeat visitation. If done correctly, the use of public history in the redevelopment of the Bethlehem Steel site will add lasting economic and cultural value for the site owners, the city and the community at large.

This site provides an opportunity to move beyond the older and more static examples of public history, such as the self-contained models of Lowell and Steamtown, to a fresh and innovative design that allows for numerous learning opportunities while connecting to other sites throughout the local area. Just as the canals drew visitors curious visitors from Europe, cutting-edge public history technology and techniques can also be a draw. History can be leveraged further to generate ongoing economic revitalization, reviving nearby neighborhoods and improving the quality of life for residents and visitors. By demonstrating how a sensitive embrace of community heritage can generate both popular support and powerful heritage tourism forces, the work at the Bethlehem Steel site could create a new formula for private investment in public history.

Community support is vital to the success of this project and the current community must be vested and involved, understanding their place in the process and in

the history yet to be created – the community’s involvement in this process will be part of the history of the site. Their input and involvement in the redevelopment process will help to guide and define the community for the next generation. Through an open and inclusive redevelopment process, the community can claim its identity within the story, generating pride and renewing its sense of place by finding itself within the story. This invigorated community spirit will empower individuals to take further positive actions on their own behalf, drawing the community together around a commonality. The community has a unique opportunity to help shape its destiny through collaboration with the redevelopment effort.

The breadth and scope of the Bethlehem Steel site, as well as the enormous power of place embodied by it and its adjoining communities, provides an ideal venue to encourage visitors to learn about the industrial past and, ultimately, about America itself. The remaining historic structures possess the power to inspire awe in visitors, drawing them to this location where their attention can be captured and harnessed, encouraging them to learn more and to visit accompanying sites. The site is sufficiently intact to allow visitors to experience an environment from an earlier and strikingly different time, conveying its significance through its integrity. The buildings that remain and the history they embody are extremely compelling and a significant part of the story. This landscape offers opportunities for various forms of widespread on-site interpretation while serving as a paperweight in the community, keeping it from being swept away by all the changes blowing through town.²

² Steve Mellon, After the Smoke Clears: Struggling to Get By in Rustbelt America (University of Pittsburgh Press, 2002), 44.

Unlike traditional museums that construct a building to contain memories, the site is part of the memories, functioning as a touchstone to allow stories and interpretation that radiate out to the larger community where additional pieces of the story can be told. In this way, the need for fabrication and embellishment decreases and the construction of a static facility to hold and contain memories is unnecessary. The site stands on its own as a heritage tourism destination where visitors come face-to-face with history, providing an economic boost to the area as well.³ Combining this with proper and pervasive public history interpretation will enable visitors to discover learning experiences around every corner, encouraging further exploration while connecting them to related locations throughout the larger community. The Bethlehem Steel site offers a unique opportunity to create a large-scale public classroom where visitors can learn from the preservation, adaptive reuse and historical interpretation throughout the entire site and surrounding communities.

The numerous stories that can be told at the Steel have the ability to connect powerfully with all visitors because the local history parallels the larger regional and national stories. The span of this redevelopment project is dense with relevant historical artifacts and collective memories, and these historical and cultural resources not only tell a fascinating story but also serve as a source of pride and motivation to rally support from residents and visitors alike. Utilizing personal historic resources such as photos, oral histories, artifacts and heirlooms, interpretive work at the Steel will spark local citizen

³ Cultural/historical travelers spend more money than the traditional tourist (\$623 versus \$457 per average U.S. trip). Their stays are also longer – 5.2 nights versus 3.3 nights. Heritage tourism is an important segment of many local economies, particularly in localities that have lost their former industrial base. Source: Measuring the Economic Impact of Federal Historic Properties: An Introduction to the Impact of Federal Stewardship of Historic Properties on Economic Vitality, Information Paper prepared by Federal Preservation Institute, National Park Service, Department of the Interior, Washington, DC, June 2005, 14.

involvement and encourage long-term stewardship of this valuable community asset.

Public history will provide an anchor for unification and a touchstone for commonalities that bind people and stories together, providing a foundation upon which the community can build a promising future.

The common historical threads woven into the fabric of this area allow for pervasive public history opportunities to tell stories from various perspectives and through various means. The site allows for multiple ways to learn: visual, audio and tactile through art, research, preservation, conservation, recreation, interaction and conversation. The site should provide opportunity for individual reflection and social interactions; a place for ongoing public dialogue and civic engagement. To help foster this, community space should be provided where “kitchen table conversations” can occur and where visitors can discuss and debate issues with other visitors and docents.⁴

Visitors will discover how complex and messy history can be and will learn on their own that historical analysis can be interactive, requiring their participation, thereby vesting them in the site and larger community. Interpretation can also address major developments that have profoundly altered U.S. communities, such as urban renewal, suburbanization, industrialization, deindustrialization and post-industrial life. The site can provide an open forum to discuss difficult or controversial subjects such as

⁴ Since the fall of 2004, the Tenement Museum (Lower East Side, NY, NY) has offered visitors an opportunity to deepen their experience at the museum by participating in a dialogue program immediately following their tour of historic immigrant apartments. The objectives of this program are (1) to engage visitors in a dialogue using stories from the tour as a starting point for them to share their own related experiences and challenge their assumptions and beliefs about larger contemporary immigration issues, (2) to help participants gain new perspectives on contemporary questions by looking at how they were answered in the past, (3) to develop in visitors a heightened awareness of their own involvement with contemporary immigration issues, and (4) to inspire visitors to become more active in learning about contemporary immigration issues. Source: Abram, Ruth J. “Kitchen Conversations: Democracy in Action at the Lower East Side Tenement Museum.” *The Public Historian* 29 (2007), 60.

immigration, labor-management relations and the struggles of recovering from deindustrialization. These topics can be difficult and contradictory and the site could provide a home for research, analysis and debate on these subjects which remain relevant for citizens today.

Opportunities exist for analysis of other contentious topics that are often overlooked or avoided. Visitors could be challenged by contrasting interpretations that acknowledge all aspects of history. Topics such as suburbanization and white flight from the urban core, the environmental impact and consequences of industrialization, and the social challenges of ethnic, racial and religious diversity. Analysis can also be conducted on the assessment of large, dominant economic forces on a community – from the Moravians to the Steel to the Sands Casino; there is much to learn from Bethlehem’s experience. Debate and discussion on such topics should be encouraged and explored. Through interpretation, visitors can be taught how to “do history right” and to act on the insights they gain. The Bethlehem Steel site and surrounding community is a living classroom that has the power to create lasting effects on visitors, teaching them analytical skills as they learn to formulate their own questions about historical evidence presented to them in various formats from different viewpoints.

The possibility also exists to present a global perspective on the cause and effect of deindustrialization, including the social, economic and political implications of the loss of manufacturing, including the movement of industrial production in search of cheaper labor. Documentation and research regarding the pattern of factory growth and loss from the northeastern and southern United States to Mexico to China will reveal

implications for any society experiencing deindustrialization. These lessons will prove to be valuable to other groups who may be on a similar trajectory.

In addition, continued local commitment and connection to education can serve as a focal point in the redevelopment process. The site can become an education center for scholarly research and study, drawing people from around the world. Local collections and archives could be made accessible for research, while the physical site and larger cultural landscape can be a workspace for a variety of artists, architects, environmentalists, educators, planners, designers, researchers, developers and archaeologists. Public history is a way to educate locals and visitors alike and instituting this new form of education through the redevelopment of this site is a commitment to an enduring legacy, continuing the tradition of the Moravians, industrialist Asa Packer and Bethlehem Steel whose dedication to education and research remains visible and vibrant within the community today.

Extending interpretation beyond the Steel site to encompass the Lehigh Valley, will allow visitors to explore the area's other historical sites, further broadening their understanding and allowing for deeper analysis of industrial history. The possibility of multiple interconnecting site visits will create unique and enhanced experiences while attracting return visitation and future tourism. Key to the local area's success as a heritage tourism destination is a commitment to preservation, adaptive reuse and proper broad-based interpretation of the enormous wealth of cultural resources available. The proposed large-scale preservation and adaptive reuse of approximately twenty two former Bethlehem Steel structures can serve as a hub, creating a starting point for visitors eager to pursue different historical angles and narratives available throughout the city and the

Lehigh Valley. Preservation and adaptive reuse of historical sites allows access to important locations and demonstrates a commitment to the community's heritage, thereby creating a feeling of privilege in those who visit as they share in the history and importance of sites which were saved for their learning and enjoyment. Therefore, a powerful sense of value and a special connection and personal investment can be established. Large-scale preservation of the artifactual evidence on the Steel site conveys a powerful message, reassuring the community while asserting an image of durability, dependability and traditional values evident in value it places on its heritage.

The surrounding residential and industrial communities are integral to interpretation of the Steel site and vice versa; each is needed to understand the other. In addition, the local community is reminded of its importance, valuing its past and the groups and individuals who contributed to their historical achievements. The historical lessons generated by a properly redeveloped site allow comparison between the past and present, reminding us that we are only passing through – others came before and others will come after.

Access to a wealth of natural resources, the influx of outside capital and innovation, a commitment to education and a community able to adapt continue to help redefine Bethlehem for a new generation. As the area begins to redefine itself after the demise of the Steel, its shared industrial heritage can serve as a strong foundation on which to create the next chapter in its long and diverse history, where the cultural resources of the communities remain as fascinating symbols of its past and windows on its future. Much like it has always done, Bethlehem continues to change while maintaining a close bond with its heritage, as its remarkable cultural landscape represents

the “multiple layers of use and change over time.”⁵ In many ways, this latest chapter in Bethlehem’s history is a continuation of patterns that built and shaped this community over four centuries.

⁵ Edward K. Muller, “Industrial Preservation Connecting People, Place, and History,” (University of Pittsburgh) Sixth Annual Fredric M. Miller Memorial Lecture, City Museum of Washington, April 17, 2004, 12.

Investment, Innovation and Industry

The early Moravian settlers and the Bethlehem Steel Corporation built their early success upon financial investment blended with innovation and a willingness to adapt. Both, however, ultimately lost control of their legacies by failing to maintain innovative leadership and financial reinvestment. Their early visions faded as insular cultures stifled new ideas, and therefore growth, leading to debilitating calcification. While the early Moravian period boasted technological landmarks such as America's first public waterworks, the leadership of the church-dominated society was unwilling to adjust as times changed and financial hardship forced them to loosen their grip. In addition, transportation innovations such as the canals and railroads brought unwanted outside influence to Moravian Bethlehem and created new competitive pressures it was unable to meet.

Over one hundred years later, the cycle repeated as Bethlehem Steel failed to modernize. Again, changes in transportation contributed to its demise. While railroad transportation served the Bethlehem Iron Company well in the nineteenth century, the lack of access to a shipping port became a serious disadvantage to the inland Bethlehem steel plant in the twentieth century, making it less competitive at a time when reducing costs became vital. The Steel's leadership had become unwilling to adapt to such necessary changes, leaving them unable to compete with more efficient mills and sealing the fate of Bethlehem's antiquated plant.

In many ways, the city of Bethlehem, Pennsylvania mirrored national trends, growing from a small rural community into an industrial powerhouse of international importance. Innovations in technology grew naturally from the first settlers' desires to

capitalize on the region's abundant natural resources. Their determination was greatly aided by the proximity of investors and financiers in Philadelphia and New York. Much like the foundation of Jamestown, Virginia, which was a private enterprise initiative of the Virginia Company, Bethlehem would be the recipient of numerous private investments from those willing to risk their fortunes. Bethlehem became a nexus where applied knowledge and capital combined to generate innovative thinking, creating industrial marvels that changed societal patterns and contributed to the ongoing process of globalization.

The local story begins with Native Americans who were drawn to the area's wealth of natural resources and established the region's first transportation route known as the Minsi Trail. This trail connected the tidewater area near the current city of Philadelphia to the areas to the north and west. The Minsi Trail eventually became the Bethlehem Pike, perhaps the oldest road in the country, predating the European discovery of America.⁶

The Moravians, a devout Protestant sect that believed in discipline, education and hard work while living in a communal society, found their way to the area in 1741 by way of the Minsi Trail and gave the name of Bethlehem to their settlement. Originally from Herrnhut, Saxony (Germany), the Moravians came to America seeking social and economic opportunity that would allow them to spread their religious beliefs to the Native Americans through missionary work. Pennsylvania offered the religious tolerance they sought while the Lehigh Valley provided an abundance of natural resources. Their

⁶ Copyright ©1999-2006 by the Independence Hall Association, a nonprofit organization in Philadelphia, PA, founded in 1942. Publishing electronically as ushistory.org.
http://ushistory.org/philadelphia/street_bethlehem.htm.

settlement became the seat of the Moravian community in America as well as its manufacturing center. Financially stable thanks to Count Nicholas Ludwig von Zinzendorf of Saxony, who funded the settlement, the Moravians were able to purchase large amounts of property which would remain under the church's control for over a century. The pacifist Moravians were efficient, organized and industrious with an economy based on crafts and specialized trades. They established the first municipal pumped waterworks in the United States, which provided drinking and washing water to the citizens of Bethlehem. The Old Waterworks (begun in 1751, completed in 1755 and enlarged in 1762 is now a National Historic Landmark) predated Benjamin Latrobe's celebrated Philadelphia Waterworks (opened in 1801) by over forty years. By 1761, the hard-working Moravians had erected over fifty buildings, maintained fifty industries and had cleared hundreds of acres of land.⁷ The majority of the structures were well-built of stone masonry, unusual for a frontier community. The economic backing from Europe allowed them to create structures meant to last, representing their commitment to the community and demonstrating the permanence of their young society. While maintaining their traditions, the Moravians utilized "every material that nature placed in their hands" displaying an early embrace of technology and innovation and ability to adapt. Their energetic work ethic did not go unnoticed: the Moravians displayed the "native energy of their German breed," setting a precedent for work and industry that continued into the nineteenth century iron and steel industries.⁸

⁷ Bethlehem Digital History Project, The Moravians, Bethlehem 1741-1844, <http://bdhp.moravian.edu/bethlehem/bethlehem.html>.

⁸ John K. Mumford, The Story of Bethlehem Steel 1914-1918, (Bethlehem Steel Company Printery, 1943), 4.

The Moravians were a tight-knit community living in relative seclusion and maintaining strict religious control over their members, the use of land and the local government. The church dominated the economy. Church leaders selected which enterprises were to be church-owned or leased to private individuals. They controlled the supply of goods and services deemed appropriate to maintain the independence and morals of the community, even selecting occupations for members to prevent oversupply and competition.⁹ The success of the communal system, however, was also its downfall, as by 1762 the church was struggling to maintain communal and economic discipline in a settlement swollen to over 1,000 members. This was further complicated by the loss of European financial support with the death of Count Zinzendorf in 1760 as Moravian settlements were pressured to bail out the bankrupt church in Germany.

This combination of circumstances led to the decision to forgo their communal system in favor of a cash economy as their congregation and the area continued to grow and change. While the community was now more open to individual operations, the Moravians still owned the vast majority of land, which they leased for homes and private businesses.¹⁰ By 1829, however, the Moravians faced new challenges. Their economy was threatened as rapidly increasing canal traffic, carrying coal to Philadelphia, returned upriver with manufactured goods of sufficient quality and variety to compete with Moravian products. Furthermore, the church's overwhelming power, which had held the community together for many years, now created disputes. The community lost young men who moved away from Bethlehem to seek their fortunes in the expanding regional

⁹ W. Ross Yates, Bethlehem of Pennsylvania: The First One Hundred Years 1741-1841 (Bethlehem Chamber of Commerce, Lehigh Litho Inc., 1968), 175.

¹⁰ Bethlehem Digital History Project, The Moravians, Bethlehem 1741-1844, <http://bdhp.moravian.edu/bethlehem/bethlehem.html>.

economy. A major national economic depression (1837-1844) and a severe flood in 1841 caused the failure of many Moravian businessmen, leaving the church responsible to cover their debts or risk losing control of the community's assets.

Ultimately, the church's growing burden of supporting all of its members while struggling to repay its debt to the Moravian Church in Germany created a complex and uncertain economy which proved to be too much for the leadership to handle. Unwilling to take the necessary risks dictated by a capitalistic society and pressured by local businessmen who demanded more autonomy from the Moravian's moral economy, the church relinquished its political and economic hold. By 1844, church leaders began offering land for sale to individual investors, paving the way for a non-Moravian influx that ultimately led to privatization and extensive industrial development.

While tight control initially created enormous success for the Moravians, the combination of internal and external forces led to changes that in the end made them lose control over their own legacy. This pattern would, with a surprising number of similarities, be repeated later by a dominating steel company. Like the Moravians, "the Steel" exercised control of the community's economic and social life. The eventual calcification within their own corporate community led in the end to their failure. Ultimately, however, the Moravians had laid the foundation for a hardworking, innovative and industrious community thus setting the tone for the major changes to come.

The privatization of Bethlehem opened the community to an influx of new ideas, energy and investment. In conjunction, new transportation systems that had been at odds with the Moravian's desire for control proved to be a major channel for innovative

industrial growth. Goods could now be moved around easily and cheaply, further sparking new investment in industry. Once again, Bethlehem's location was a valuable asset as it was ideally situated between the New York and Philadelphia markets. Beginning with the canals in the early nineteenth century, goods such as coal, iron ore, flour, lumber, whiskey and grain began to move through the area. Canal traffic boomed in the late 1840s and early 1850s. The canals themselves were innovations that allowed non-navigable shallow and rocky rivers, such as the Lehigh, to be utilized for transportation by using a series of dams and locks to lower and raise boats through a parallel channel. Philadelphia entrepreneurs Josiah White and Erskine Hazard used these transportation innovations to their full advantage. In 1818, before the explosion of the coal trade, White and Hazard seized an opportunity to acquire the rights to the Lehigh River. The river was not viewed as particularly valuable at the time. However, their innovative thinking got them a legislative charter that granted them a thirty-six year term, making the Lehigh River the only privately-owned river in America.¹¹ White designed and built an engineering marvel by creating high-lift locks on the upper canal, which inspired technological growth and attracted curious travelers from Europe.¹² With this, they controlled the river through tolls as they worked towards a regular coal trade. With the support of new investors, they created the Lehigh Coal & Navigation Company, receiving a charter from the legislature in 1821.

White and Hazard's coal shipments into Philadelphia helped to increase the popularity of anthracite coal and created a demand for more to be mined and shipped. By

¹¹ The Morning Call, "Honor for Lehigh River recalls its history, promise" Christopher M. Kocher, June 19, 2007.

¹² W. Ross Yates, Asa Packer: A Perspective (Asa Packer Society Lehigh University, 1983), 11.

1829, they had built a navigation system along the Lehigh River to move anthracite coal down from Mauch Chunk (Jim Thorpe) through the Lehigh Valley to Easton, and then to Philadelphia by way of the Delaware River Canal. They believed that coal was poised to supplant wood as the American fuel of choice, and their timing coincided with the country's boom of industrialization. The Lehigh Coal & Navigation Company owned the Lehigh Canal and anthracite fields near Mauch Chunk and had a monopoly on transportation from the upper Lehigh River to Easton.¹³ Locally, businessmen eager to increase their profits and frustrated by the monopoly on the canal began to search for alternative forms of transportation that would allow them to move goods faster and cheaper. Like the Moravians, White and Hazard (perhaps complacent in their success) failed to adapt to the need for new innovative transportation.

The desire for new forms of transportation led to the introduction of railroads, a key catalyst that brought major investment, innovation and technology wherever they were installed. This held true in the Lehigh Valley, where the railroad bound the scattered boroughs and villages together.¹⁴ While gravity and stationary steam engine railroads had been used in conjunction with the canals (White had created a gravity railroad, the Switchback, to haul coal to the canal, possibly the first regularly-operating railroad in the United States) it would be the introduction of a conventional railroad line that would bring unprecedented growth along with new investment and increased industry, production and prosperity to the area.¹⁵

¹³ The Morning Call, "Forging America: The Story of Bethlehem Steel" 2003, 7.

¹⁴ W. Ross Yates, Bethlehem of Pennsylvania: The Golden Years 1841-1920, (Bethlehem Chamber of Commerce, Lehigh Litho Inc., 1976), 105.

¹⁵ W. Ross Yates, Asa Packer: A Perspective (Asa Packer Society Lehigh University, 1983), 11.

The vision of Asa Packer, a former canal boat builder and coal mine operator, created a railroad line that provided year-round transportation without relying on mule power. Packer's desire to increase the capacity and efficiency of his mining operations sparked his effort to utilize the new technology of the steam-locomotive-powered railroad even though they were costly to build and maintain.¹⁶ After the initial attempts by others to establish the Delaware, Lehigh, Schuylkill & Susquehanna Railroad stalled, he risked personal financial ruin by purchasing controlling interest in 1851 and renaming it the Lehigh Valley Railroad. Packer financed and built the line, mandating that a new route be surveyed along the Lehigh River.¹⁷ Packer's willingness to invest at a time when many were still feeling the impact of the economic depression of the 1840s paid off. A shrewd businessman with an eye for talent, Packer put his right-hand man Robert Heysham Sayre, whom he hand-picked as chief engineer and superintendent, in charge.

A hard-working and dedicated employee, Robert Sayre "saw himself as an agent of progress whose purpose was to serve civilization by spreading the wonders of technology."¹⁸ Sayre made an important decision to relocate himself and the railroad's headquarters to South Bethlehem, investing himself in the community and creating a hub for operation and maintenance where he could watch over the daily activities. The collaboration of Packer and Sayre made them both wealthy, while the railroad became a local institution in itself. When Packer joined his railroad to another line, the North Pennsylvania, that offered a link to the rich markets of the Quaker City, the merger made

¹⁶ The Morning Call, "Forging America: The Story of Bethlehem Steel" 2003, 12.

¹⁷ Frank Whelan and Lance Metz, The Diaries of Robert Heysham Sayre (Lehigh University, 1981), 7-8.

¹⁸ The Morning Call, "Forging America: The Story of Bethlehem Steel" 2003, 12.

South Bethlehem the center of an industrial empire that would eventually include the Bethlehem Steel Corporation.¹⁹

While the area was no longer an insular rural farming center or a quaint retreat for the curious traveler, its greatest changes were yet come. Again following the national trend, railroads became the most viable way to move goods and created numerous opportunities for economic and industrial growth. A railroad line demanded iron for locomotives and cars and had an insatiable need for rails. Packer's railroad was no different, but local furnaces were producing only pig iron, which had to be sent elsewhere to be turned into rails.²⁰ Frustrated, and unwilling to pay the expense for imported British rails or buy an inferior-quality product from the iron shops of competing railroads, Packer began to search for an answer to his supply needs. To ensure an adequate and cost effective source, he formed the Bethlehem Rolling Mill & Iron Company to manufacture his own iron rails.

While Packer and Sayre built the local railroads, canal industrialists Josiah White and Erskine Hazard were aggressively pursuing their own experiments with blast furnace technology.²¹ They wanted to find a way to smelt iron using anthracite coal. Their earlier discovery of how to make anthracite burn was a major technological innovation leading to its popularity as a fuel, but their new venture would prove to be even more significant. Their techniques and equipment to successfully use anthracite (a far superior fuel than the charcoal then in use) for smelting iron ore in a blast furnace was probably their greatest contribution to American technological innovation. This achievement

¹⁹ Frank Whelan and Lance Metz, The Diaries of Robert Heysham Sayre (Lehigh University, 1981), 10.

²⁰ The Morning Call, "Forging America: The Story of Bethlehem Steel" 2003, 13.

²¹ The Morning Call, "Forging America: The Story of Bethlehem Steel" 2003, 7.

marked the true commercial beginning of the American anthracite iron industry and allowed rapid expansion of production, making the Lehigh Valley one of the largest iron smelting centers in the world by the mid-1870s.²² This success in turn laid the foundation for the evolution of the American steel industry.²³

Utilizing the anthracite-fueled furnace designs of White and Hazard, Augustus Wolle, a Moravian and Bethlehem merchant, created the Saucona Iron Company in 1857. He formed the company to process local ore from a deposit he had obtained possession of in Saucon Valley known as the Gangwere mine.²⁴ While the company only ever existed on paper, it was a distant ancestor of the Bethlehem Steel Company. Coinciding with the Lehigh Valley Railroad's need for iron, the Saucona Iron Company eventually merged into the Bethlehem Rolling Mill & Iron Company, in time becoming the Bethlehem Iron Company with the guidance and financial support of industry leaders Packer and Sayre. A site on the south side of the Lehigh River, away from the Moravian influence that dominated the north side, was chosen for iron production. The site was ideal due to the availability of ore and coal and because it was adjacent to the junction of the Lehigh Valley and North Penn railroads, which connected the new venture to Philadelphia and New York markets.²⁵

As growth transformed Bethlehem, the area continued to be a magnet attracting new people, ideas and investment. A crucial turning point for the venture occurred in

²² Donald Sayenga, Canal History and Technology Proceedings Volume II "The Untried Business: An Appreciation of White and Hazard" (Canal History and Technology Press, 1983), 121-122.

²³ Sayenga 123.

²⁴ Thomas P. Vadasz, The History of an Industrial Community, Bethlehem, Pennsylvania: 1741-1920, Thesis, College of William and Mary, 1975, 69.

²⁵ At this time, New York could be accessed via connection through Philadelphia. In 1870, direct connection from Bethlehem to New York was established via agreements with other railroad lines. In 1899, LVRR completed a direct and continuous line of wholly-owned track from Bethlehem to New York.

1860 when Packer and Sayre lured renowned engineer and iron master John Fritz to Bethlehem from the Cambria Iron Company in Johnstown, Pennsylvania. Fritz's reputation was well-deserved as he had already developed the three-high rolling mill for making rails, surpassing the productivity of the standard two-high mill by saving time and expense in the process while improving the quality of the rails produced.²⁶ Sayre was intrigued by Fritz's ingenuity, broad range of skills and the ability to simplify ideas and technologies to make them mechanically efficient on a large scale.²⁷ Fritz was enticed by Sayre's offer that allowed him free rein to set up and operate a rolling mill to produce top-quality iron rails to supply the expanding railroad industry, which would experience even greater expansion after the Civil War.²⁸ Furthermore, Bethlehem's growing prosperity and well-established community located in the core of a great iron making region added to the appeal. A generous salary and the position of general manager and superintendent sealed the deal and Fritz agreed to come to Bethlehem. He would build and supervise a plant for making iron while cultivating expansion plans for the Bethlehem Iron Company.²⁹ One of his original buildings, the raw material stockhouse for the furnaces, still stands on the site today (Appendix B).

By 1870, company leadership embraced innovation and invested in the modern technology of steel production. Packer, Sayre, Joseph Wharton and members of the Board of Directors agreed that steel, not iron, rails were the future, so Fritz was ordered to build a steel mill on the site. In preparation, Fritz visited other mills in Pennsylvania and Europe. Then, as he had done in the past, he used his skills to build a steel mill

²⁶ W. Ross Yates, Joseph Wharton: Quaker Industrial Pioneer (Lehigh University Press, 1987), 143.

²⁷ The Morning Call, "Forging America: The Story of Bethlehem Steel" 2003, 15.

²⁸ Frank Whelan and Lance Metz, The Diaries of Robert Heysham Sayre (Lehigh University, 1981), 12.

²⁹ W. Ross Yates, Joseph Wharton: Quaker Industrial Pioneer (Lehigh University Press, 1987), 144.

across the Lehigh Valley Railroad tracks from the iron plant (Appendix C). Completed in five years, the plant was a technological marvel, combining Bessemer converters and rolling mills into one production unit and showcasing Fritz's genius with mechanics and design.³⁰ In true Fritz style, and following the Moravian precedent, everything from the buildings to the machinery was built to last. His building, a beautiful series of stone arches in a huge double-cruciform layout, survives today as well (Appendix D). In the fall of 1873, the plant rolled its first steel rails and the era of steelmaking in Bethlehem was underway.

While the company became a regional producer, filling orders for many competing railroads, the bulk of its production went to the Lehigh Valley Railroad. The mill, where approximately 700 employees worked, was groundbreaking in its layout and organization of steel production. The Bessemer process turned iron into steel while mechanization handled the materials and semi-skilled and unskilled labor tended the machines. The steel was made and rolled into finished rails in a coordinated fluid process. Unfortunately, the ruinous national recession of 1873 created a panic which caused several big railroads to fail and many of the area's iron furnaces were forced into bankruptcy. The center of the nation's iron making shifted to Pittsburgh, close to western Pennsylvania's bituminous coal fields. Taking advantage of the recession, Andrew Carnegie ruthlessly lowered steel prices to force smaller competitors out of business devastating eastern Pennsylvania's iron industry.

³⁰ The Morning Call, "Forging America: The Story of Bethlehem Steel" 2003, 17.

Bethlehem Iron, however, survived the price squeeze by shifting from making rails to making armaments, which commanded a higher price per ton of finished steel.³¹ Through the last quarter of the nineteenth century, though, Carnegie and Pittsburgh dominated the national steel market, and by 1880 Bethlehem was feeling the pressure.³² But just as the company had done earlier by embracing the Bessemer steel making process, they gambled on another unproven market: armor plate and armaments. This decision proved profitable for the company because its timing coincided with the United States' decision to improve its navy. The company also became a significant international arms maker as other nations also rushed to upgrade their military equipment.

Carnegie, who had a moral opposition to war, initially refused to produce armaments, which gave Bethlehem the foothold it needed. Government contracts provided Bethlehem orders for the ships' guns, armor and machinery. To meet the new demands, Fritz built a new plant with an open-hearth furnace. This new technology was an improvement over the Bessemer process, allowing for greater precision and the ability to make high-quality steel with superior strength, which was just what the Navy demanded. By 1887, Bethlehem expanded operations to include gun forgings, produced in America's first heavy-forging plant, also designed by Fritz.³³ Bethlehem Iron became a leader in the market as it produced propeller shafts, steam engine parts, armor plate, guns and shells, boasting the biggest forge press and machine shop in the world. Fritz's

³¹ Burton W. Folsom, Jr., Urban Capitalists, Entrepreneurs and City Growth in Pennsylvania's Lackawanna and Lehigh Regions 1800-1920, (Baltimore: John Hopkins, 1981), 138.

³² "By 1900, The Carnegie Steel Company was producing one quarter of all the steel in the United States and controlled iron mines, coke ovens, ore ships and railroads." Source: The Columbia Electronic Encyclopedia, 6th ed. Copyright © 2007, Columbia University Press.

³³ The Morning Call, "Forging America: The Story of Bethlehem Steel" 2003, 20.

No. 2 Machine Shop, almost a third of a mile long, turned out battleship guns 60 to 70 feet long and in quantities of 20 to 30 guns per day.³⁴ The impressive structure remains standing today. While the lathes and tools have been removed, the cathedral-like interior still has the power to awe those fortunate enough to stand inside (Appendix E).

The goods produced became so successful that the company was renamed the Bethlehem Steel Company in 1899. This event marked a significant transition, as members of the old guard (Sayre, Linderman and Wharton) sold out, replaced by a charismatic entrepreneur, Charles Schwab, with an aggressive approach to business and a flair for gambling that would transform the company into an international leader.

In 1904, Schwab, formerly president of United States Steel in Pittsburgh, took the reins of the new Bethlehem Steel Corporation and promised to make it the greatest armor-plate and gun factory in the world.³⁵ He kept his promise: under his guidance Bethlehem became the unchallenged leader of naval supplies through the 1940s. The company virtually created the modern U.S. Navy by manufacturing most of the armor plating, large naval guns and shells used by the allies in World War I and building on average a ship a day during World War II.

Under Schwab, the company diversified yet again, taking the risk of licensing the “Grey Mill” technology to roll wide-flange beams. This proved to be yet another master stroke. The wide-flange “H-beam” was a great improvement for the construction industry over the then-current labor-intensive method of riveting beams together from multiple pieces. Bethlehem made its first Grey beam in 1908 and it proved to be an enormous leap in building technology, becoming known throughout the world as the

³⁴ The Morning Call, “Forging America: The Story of Bethlehem Steel” 2003, 20.

³⁵ The Morning Call, “Forging America: The Story of Bethlehem Steel” 2003, 29.

“Bethlehem Beam.” The H-Beam became the company logo (Appendix F). Demand for the beam led to the opening of an additional mill in 1911, making Bethlehem Steel the largest producer of structural steel in the East.³⁶

The Bethlehem Beam was a critical contributor to the creation of the New York City skyline because it lowered the costs of high-rise construction. It was also a key component in awe-inspiring structures such as the George Washington, Verrazano-Narrows and Golden Gate bridges. The Steel, as the company was known locally, and the thriving City of Bethlehem became synonymous with American power, innovation and prosperity. Under the leadership of Charles Schwab and his protégé, Eugene Grace, Bethlehem Steel became the nation’s number two steel producer.

Schwab’s decisions to reinvest profits allowed the company to expand while his willingness to diversify kept it viable in the 1920s when railroad construction declined and war production ended. The Steel acquired mines, railroads, shipyards and competitor’s steel mills, assembling a massive industrial empire. When Schwab stepped out of his active role in management, his protégé, Eugene Grace, placed his faith in continuous expansion, running the Steel by his motto “Always More Production.”³⁷

Even into the 1950s and 1960s this motto served the company and the City of Bethlehem well. Unfortunately, Grace’s autocratic style of leadership planted the seeds of the company’s demise, as he sacrificed innovation for short-term profits, convinced that the world would always need Bethlehem’s steel.³⁸ On his watch, the company earned a reputation for the excesses of its executives. The top-heavy organization was

³⁶ The Morning Call, “Forging America: The Story of Bethlehem Steel” 2003, 39.

³⁷ The Morning Call, “Forging America: The Story of Bethlehem Steel” 2003, 44.

³⁸ The Morning Call, “Forging America: The Story of Bethlehem Steel” 2003, 44.

clearly divided into levels of privilege, with parallel (but unequal) sets of dining rooms, social clubs and golf courses. An executive's standing in the company was reflected in where he played golf or in which dining room he was allowed to take lunch. The company kept apartments in cities around the country and a fleet of private cars and planes, all at the disposal of company executives. Stories abound of executives' wives on company-financed shopping sprees to New York and of the herd of cattle kept on a farm in Saucon Valley to stock the executive dining rooms with the best beef. Numerous colorful accounts of corporate opulence and executive extravagance are part of the local Steel legacy.

Meanwhile, after decades of low pay, discrimination, long hours and dangerous and unhealthy working conditions, blue-collar workers, supported by New Deal policies, finally obtained improved working conditions and generous pay through unionization. After World War II, blue-collar workers felt entitled to increased compensation as they watched the Steel's profits continue to rise and the company leaders perennially listed among America's most highly-compensated executives. Successive favorable contracts offering unprecedented wages and benefits that often overshadow the long hard battles, involving several strikes, endured by the workers who sought to gain some of this prosperity for themselves.

By the 1970s, the optimism about the future of American steel had begun to wane. Foreign competition was growing and the United States had an excess of steelmaking capacity that rendered Grace's motto, "Always More Production," obsolete. Unfortunately, company leaders had failed to foresee these market changes. As for the Moravians before them, the insular corporate culture that had grown from the dominance

of the company's early leaders now proved to be a liability. The Board of Directors was filled with executives from within the company; men who had been shaped by Eugene Grace's beliefs and methods and were therefore unable to guide the company through tough times. Under Grace's leadership, the company failed to invest its significant profits in upgrading the machinery and processes of its plants, burdening it with a higher cost structure than most foreign steelmakers and the new domestic "mini-mills."³⁹ This put the Steel at a serious competitive disadvantage.

In addition, the unions were now very powerful and the adversarial relationship between labor and management would not allow for compromise even in the face of imminent financial collapse. Bethlehem Steel cut its workforce and closed plants through the 1980s and 1990s, but it was too late. The market and industry had changed faster than the Steel could maneuver to remain competitive. Bethlehem Steel, like the Moravians, had lost control over its dominion. Again, the inability to be innovative, and an inflexible desire to maintain complete control ultimately smothered their own creations. Once the number two steelmaker in the nation, mighty Bethlehem Steel was perched on the brink of extinction by the mid-1980s.

The Steel's downfall is often ascribed to corporate greed and lack of vision coupled with hard-line unionists unwilling to compromise. An example often pointed to is the infamous Clause 2B of the 1956 labor contract that stated established labor practices cannot be changed unless there is a change in underlying conditions. This

³⁹ Ironically, Nucor, a mini-mill that revolutionized the use of electric furnaces to make steel from scrap in 1966, stealing much of the Steel's business because they didn't take them seriously, is currently shipping tons of steel to Bethlehem for the Sands BethWorks casino project. Source: [The Morning Call](#) "BethWorks Says Beam Me Up: Project officials scurrying to get steel to Bethlehem Steel site in time" Matthew Assad, June 22, 2007.

devastating contract language became an ominous concession in the face of labor-saving technology, forcing the struggling company to compete at a disadvantage with regards to labor cost structures.⁴⁰

Equally astounding are the numerous accounts of corporate blindness and lack of initiative as factors in the company's ultimate demise. Eugene Grace instilled a legacy of inward focus, creating a close-knit, inbred board and segregating all activities and departments according to a person's level within the company. Grace's tight-fisted style and suffocating expectations of those in management created an atmosphere where, "executives were so removed from the real world that they rarely encountered a fresh point of view."⁴¹ The Board's approval of a \$10 million research complex in the mid-1950s perpetuated the illusion of Bethlehem Steel being a technological leader, but the research center was mostly a showpiece.⁴² Homer Research Labs, opened in 1959, did produce some new technologies, including an aluminum-coated sheet metal named Galvalume,⁴³ but the center never reached its full potential. The net effect of this was that the center drained company resources without being allowed to see innovative products through to profitable production. "Why bother with this untested stuff? and "Why rock the boat?" seemed to be favorite expressions of the decision makers who believed "the Bethlehem way was to do it the way they always did it in the past."⁴⁴

⁴⁰ John Strohmeyer, Crisis in Bethlehem: Big Steel's Struggle to Survive (University of Pittsburgh Press, 1986), 65.

⁴¹ Strohmeyer, Crisis in Bethlehem, 30.

⁴² Strohmeyer, Crisis in Bethlehem, 60.

⁴³ GALVALUME is a 55% aluminum-45% zinc alloy coated sheet steel developed by Bethlehem Steel and sold commercially under the trademark Galvalume®, starting in June 1972. Bethlehem Steel later licensed other major steel companies to produce and sell the product using its patents and technology. Source: <http://www.steelroofing.com/faqs.htm>

⁴⁴ Strohmeyer, Crisis in Bethlehem, 60, 85.

Along with the underutilized research center, Steel executives also spent \$35 million on a new corporate office building (Martin Towers, named for Chairman Edmund F. Martin) in the late 1960s. Both construction projects were viewed as symbols of “blind commitment to monumentalism during an era when the company still had the resources to become a technological leader.”⁴⁵ This lack of vision and inability to adapt crippled the struggling company.

By the time an outsider, Donald Trautlein, took the reigns of the company in the 1980s, it was too late. Trautlein understood that permanent changes had taken place in the steel industry and was willing to dismantle unneeded facilities, slash excess expenses and call for mass dismissals. These drastic efforts to fix the ailing company were not enough, however, as other forces beyond his control were pulling it down. The ultimate failure, and perhaps the most damning element in the demise of the company, however, is viewed by many as a failure of both management and the union.

Management and labor needed to work together to free their plants from strangling, archaic “past practices” work rules and forego their costly, cyclical confrontations to avoid bankruptcy. These long-standing problems of the industry did not allow for innovation and froze the big steel plants in time. Meanwhile, foreign competitors and American mini mills were constantly adapting their labor practices.⁴⁶ Internal strife helped cause the collapse of the industry, therefore, only through the recognition of steel management and labor that they needed to stop fighting each other could the company have recovered.

⁴⁵ Strohmeyer, *Crisis in Bethlehem*, 63.

⁴⁶ Strohmeyer, *Crisis in Bethlehem*, 232.

On November 18, 1995, Bethlehem Steel shut down the “hot end” of the plant. After more than 120 years, steel making in Bethlehem came to an end. While the coke works and rolling mills continued to operate, their fate had already been sealed. The company went into bankruptcy in 2001 and was sold to an investment consortium,⁴⁷ ceasing to exist at the stroke of midnight on New Year’s Eve 2003.

During the late 1990s, in an attempt to preserve its legacy, Bethlehem Steel created a mixed-use redevelopment plan know as Bethlehem Works for a portion of the site. This plan included commercial, recreational and residential components incorporated with the preservation and adaptive reuse of numerous historic Steel buildings. The company story along with the larger national story of industrialization would be told through an innovative museum collaboration, the National Museum of Industrial History (“NMIH”), which was the first affiliate of the Smithsonian Institution. The company’s innovative proposal was well-received by the community (especially the plan for the Museum), however, the company had failed to provide the financial support necessary to implement the plans it had carefully outlined.⁴⁸ When the Steel went bankrupt, the Bethlehem Works plans hung in limbo along with the fate of the entire site. Company leadership could have made a final investment in the community and their legacy through an endowment to NMIH for the needed financial support to realize the vision of the museum, or at least the transfer of ownership of the real estate to NMIH. This would have allowed NMIH to move forward with its plans for the museum, insulated from the bankruptcy and collapse of the company. Nearly a decade after its

⁴⁷ International Steel Group, Inc. (“ISG”), Richfield, Ohio. In April 2005, ISG merged with Mittal Steel, Rotterdam, Netherlands.

⁴⁸ The City of Bethlehem lost 20% of its tax base when Bethlehem Steel filed for bankruptcy.

creation, NMIH's plan is yet to be realized as it struggles to raise the funds needed to execute its mission.

Today, the furnaces, now cold and rusting, still stand 20 stories above the City of Bethlehem as poignant reminders of its, and America's, industrial past. While the end of steelmaking and the loss of thousands of high-paying jobs has created serious difficulties for the community, there is reason for optimism. An influx of investment and a commitment to industry, technology and innovation, are enduring legacies from the industrious Moravians and the mighty Bethlehem Steel Corporation. These traditions continue as new capital continues to flow into Bethlehem. In 1993, a technology center to nurture high-tech startup companies opened in new buildings on former Steel Company land. OraSure Technologies, Inc., CDG Technology, Inc., IQE Inc. and Surface Chemistry Discoveries, Inc., have successfully grown in this center, providing diverse new jobs to help fill the void left by the collapse of heavy manufacturing.⁴⁹

This success paved the way for the creation of a second center for technology companies that have graduated from the initial incubator stage.⁵⁰ In addition, Ben Franklin Technology Partners has refurbished 62,000 square feet in the former Bethlehem Steel Homer Research Labs. Known as "Ben Franklin TechVentures," this state-of-the-art space is helping to meet the growing demand for incubator space and laboratory facilities where companies such as Ciclon Semiconductor Device Corporation can rent

⁴⁹ OraSure Technologies, Inc. supplies oral fluid collection devices and in vitro diagnostics. CDG Technology, Inc. develops proprietary process technology for the on-site generation and use of chlorine dioxide. IQE Inc. makes metals and other compounds applied to silicon wafers during microchip manufacturing and is the world-leading merchant supplier of Molecular Beam Epitaxy (MBE) epitaxial wafers. Surface Chemistry Discoveries, Inc. makes equipment and processes for advanced surface cleaning systems for industries such as semiconductor and LCD manufacture.

⁵⁰ The Morning Call, "High Tech Blooms: Bethlehem to Build Another Center to House Startup Companies" Jeanne Bonner, June 6, 2007.

low-cost office and lab space.⁵¹ Originate Ventures, a venture capital startup and latest project of former OraSure CEO Mike Gausling, is temporarily being housed at TechVentures while they complete renovations of the former Bethlehem Steel firehouse on the south side, a commitment made by the company to grow its business on the Steel's brownfields. Gausling and his business partner, Eric Arnson, provided \$4 million of their own money to launch Originate Ventures and Gausling gave \$100,000 to Ben Franklin to fund the new TechVentures facility continuing a pattern of investment in the community. Once again, inspired by collaboration among entrepreneurs, universities and local government, Bethlehem's south side has become a hub for innovative thinking and capital investment.

Over 260 years of Bethlehem's history has demonstrated that investment, innovation and an ability to adapt equals success, and the new firms growing in the incubators continue this pattern. Currently, the largest investment in Bethlehem history is taking place, but the success of this project and its impact on this community remains to be seen. The most historic 124 acres of the Steel site were sold to developers in September 2004 and within months the owners announced plans to seek one of Pennsylvania's new gambling licenses. The venture, Sands BethWorks,⁵² plans to, ". . . convert the Bethlehem Steel plant and turn it into one of the greatest local attractions anyone can have" according to Sheldon Adelson, CEO of Las Vegas Sands Corp.

⁵¹ Ciclon Semiconductor Device Corporation is a leader in the design, development and sale of high-frequency, high-efficiency RF LDMOS and power MOSFET semiconductor solutions for high-performance information technology applications.

⁵² BethWorks Now and Las Vegas Sands Corp.

(principal partner in Sands BethWorks).⁵³ The Sands' vision entails a casino complex with 5,000 slot machines, a 300-room hotel, 200,000 square feet of upscale retail shopping space, 50,000 square foot multi-purpose events center and residential units.

This plan was predicated upon the award of one of the eleven Pennsylvania casino licenses awarded by the Pennsylvania Gaming Control Board. In December 2006, Sands BethWorks did indeed win a coveted gaming license, in part because of its pledge to preserve Bethlehem Steel's legacy, including the preservation and adaptive reuse of over twenty Steel buildings. Initial investment in this plan was projected at \$525 million but quickly grew to \$600 million and current estimates put the price tag on the project at well over \$800 million, giving it the distinction of the largest casino and hotel project in the state.⁵⁴ The 140,000 square foot casino building is under construction, with the first 90,000 square feet slated to open in spring 2009, with the remaining space expected to open six months later when state officials approve the addition of another 2,000 slot machines (granting them 5,000 in total).⁵⁵

Anticipation and apprehension surround this massive endeavor that will undoubtedly impact the community of Bethlehem in unseen ways. While the city has been a supportive partner (partly because they stand to gain a multi-million dollar annual host fee from casino revenues) others in the community worry about the negative affects it may have on local life and cultural resources.

⁵³ The Morning Call "Sands CEO takes first trip to Bethlehem: Sheldon Adelson is guest of honor for luncheon held at Lehigh University" Matthew Assad, May 23, 2007.

⁵⁴ The Morning Call "Steel Yourself: Sands BethWorks too nice for Wall Street? Analysts say \$800 million cost is too high for such a project" Matthew Assad, February 28, 2008.

⁵⁵ The Morning Call "Casino Plays Waiting Game: Construction may start next week if approved permits come through" Matthew Assad, October 24, 2007.

Bethlehem's experience with large dominating entities should provide a cautionary tale. Sands BethWorks may learn from the previous examples, thereby finding a way to remain viable for more 100 years, but whether they have learned from history or are bound to repeat it remains to be seen. Sands' track record indicates a willingness to be innovative and if they embrace these principles in their plan for the redevelopment of the Steel site, thoughtful interpretation and unique public history practices can provide wide-spread appeal and a means of boosting return on private investment.

Las Vegas Sands Corporation has become the world's largest real estate developer and Adelson, the genius behind the transformation of Las Vegas, created the enormously successful Venetian Casino Resort and Sands Convention Center in Vegas following his motto, "If you take care of the customer, the profits will follow you like a shadow."⁵⁶ Current ventures include three new casino complexes in Singapore and Macau, China on the Cotai Strip with investment in these facilities to be in the billions, dwarfing the Bethlehem project.⁵⁷

While Sands has made a name for itself with upscale amenities in extravagant facilities, such as the Italian-themed Venetian with indoor canals and gondola rides, Bethlehem comes with an intact history so there is no need to fabricate a sense of place. The activities that took place there are the essence of its character and authenticity,

⁵⁶ The Morning Call "Sands CEO takes first trip to Bethlehem: Sheldon Adelson is guest of honor for luncheon held at Lehigh University" Matthew Assad, May 23, 2007.

⁵⁷ " . . . at \$800 million, the Bethlehem project is actually too small to affect Las Vegas Sands' stock price," said Adam Steinberg, a former analyst and current investment banker with Morgan Joseph Investment Banking. 'Eight hundred million dollars may sound like a lot, but it's too insignificant to matter,' Steinberg said. 'Macau matters, Singapore matters, but no matter what happens in Bethlehem, their stock price won't be affected. Bethlehem couldn't possibly bankrupt this company.'" Source: The Morning Call "Steel Yourself: Sands BethWorks too nice for Wall Street? Analysts say \$800 million cost is too high for such a project," Matthew Assad, February 28, 2008.

distinctly defining the space. Rather than investing in the creation of atmosphere, investment could be redirected into existing storylines that can be told through innovative public history. The Steel site is a living resource, its historic and cultural value are what drew Sands BethWorks to this location and they understand that it will continue to draw visitors on its own merit. If Sands embraces innovative public history technology to honor the historic and cultural resources and enliven the site, Bethlehem could tower above their other projects in character and repeat visitation appeal. By harnessing the plethora of stories to be told, a foundation will be laid for the future success and long-term viability of the site.

The interpretation of investment, innovation and industrial themes at the Bethlehem Steel site is important because of the parallels between the national and local stories during America's industrialization and beyond. The local stories that tie into these themes will personalize the larger national trends, adding depth and substance to the narrative. Bethlehem provides a truly unique opportunity to interpret four centuries of industrial innovation and technology, beginning with the Moravians in the mid-eighteenth century and extending to the current technology industries such as OraSure Technologies, Inc., CDG, IQE Inc. and Surface Chemistry Discoveries, Inc. and B. Braun Medical Inc.⁵⁸ The Bethlehem Steel site also offers an exceptional opportunity to interpret and explore the political, social and economic consequences, on both the human and cultural landscape, of technological and innovative decline and the deindustrialization that followed. In this way, the study of the site has much to offer parallel industries in America by examining, for example, the current state of the

⁵⁸ B. Braun Medical Inc. makes a broad range of bio-medical equipment for the healthcare industry.

automobile industry and overall decline in our manufacturing base. Interpretation of innovation, technology and industrial themes on the Bethlehem Steel site can have a profound impact on visitors and the local community because the site encourages a comprehensive understanding of past events as well as the opportunity to think critically about current and future actions.

Outside investment, technology and innovation, along with the community's human resources, were driving forces behind the city's rise to prominence, but Bethlehem also reflected national trends as it struggled to cope with rapid growth and, eventually, stagnation and deindustrialization. Opportunity to research and study these themes are present at the Steel and throughout the community as the effects of investment, innovation and technological change are dramatically represented in significant extant resources from four centuries of industrialization. Through innovative interpretation, Bethlehem can become the nexus of American industrial history and a center for the study of its deindustrialization and beyond.

Community

Investment, innovation and the growth of industry touched all aspects of society, and an examination and interpretation of the community life that surrounded these changes is a vital piece of the story that needs to be told. Equally important, and just as powerful, this major theme explores the direct influence that industry had upon the larger community and the interrelated roles that existed between the two. Narratives of community connection provide additional opportunities for public history interpretation throughout the area. Bethlehem's community histories have repeating storylines, such as how each arriving group developed patterns of support that helped them survive and cope in an ever-changing environment. For example, successive immigrant groups established close-knit neighborhoods and networks to help ease their transition, later developing into immigrant ethnic communities.⁵⁹

The establishment and maintenance of these networks is a vital part of understanding the larger story of the social and economic implications of industrialization nationally. Highlighted in the local settings of the Lehigh Valley, such patterns provide opportunities for research to compare past communities with current ones. The examination of these patterns through the existing evidence of community life is an integral part of the story of Bethlehem, connecting people and places to its industrial history and growth.

As immigrants adjusted during the move to a capitalistic world, familial and communal networks abounded.⁶⁰ Kinships provided a stable core for immigrants as they

⁵⁹ Gary Jones, Immigrant South Bethlehem: 1880-1910, Thesis, Lehigh University, 1989, 30.

⁶⁰ John Bodnar, The Transplanted: A History of Immigrants in Urban America (Indiana University Press, Bloomington, 1985), 71, 84.

filled the openings available to them in particular times and places. These associations also assisted newcomers in their organization and movement into the economy while providing a buffer of support and comfortable familiarity. It is within this context that kinship associations functioned and flourished, reinforcing traditions while accommodating changes. Much like their corporate counterparts, innovation and an ability to adapt were crucial to an immigrant group's survival. The communities surrounding the Steel contain a multitude of such stories that should be identified, researched and shared to provide a glimpse into the complex tapestry of this compelling history.

The distinctive communities of Bethlehem demonstrate the prevalence, importance and tradition of familial and community ties found within the larger context of immigration and evidenced in the creation of various support agencies such as clubs and social halls that helped ease difficulties caused by a rapidly industrializing community. In Bethlehem, the foundation for strong community support systems again began with the Moravians. As a closed, communal society, Moravians relied heavily upon a strong kinship network. Members of their society lived segregated in "choirs" where they lived and worked according to age, sex and marital status. Choirs worked together in the craft industries that formed the basis of their economy, simultaneously benefiting the community and the church.

The dissolution of their communal system by 1762 led to a wage-system cash economy, more private ownership of businesses and establishment of single-family houses for nuclear families. In this adapted form, Moravian communities began to

encourage entrepreneurship, build factories and create rapid economic growth.⁶¹

Nevertheless, a strong presence of familial and community support remained, as “households in Bethlehem appear to have been based on social values that extended beyond economic necessity. . . . the systems of support and religious ties developed during Bethlehem’s communal phase were still present after the town was opened to non-Moravians.”⁶² As they adapted to changes in the larger community, the Moravians maintained social and economic support systems as they combined the old with the new. By 1850, an expanding Bethlehem contained a Female Seminary for Moravian Girls, a waterworks, three inns, tanneries, foundries, specialized craft shops, several mercantile stores, Lutheran and Methodist congregations and secular support organizations, such as the Masons and the Odd Fellows.⁶³

As the community opened up, Bethlehem attracted new immigrants who relied upon their own established patterns of kinship and community support. Asa Packer and his close colleagues, Sayre, Linderman, Wilbur and Cleaver, transplanted their traditions and way of life from Mauch Chunk to Bethlehem. By 1854, they had purchased thirty-five acres of land in South Bethlehem for a main railroad terminus. In the late 1850s, these prominent men migrated with their families forty miles down the Lehigh River from Mauch Chunk to operate the Lehigh Valley Railroad. Their investment and involvement in this venture resulted in great personal wealth, allowing them to build mansions in close proximity to one another on Fountain Hill, adjacent to South

⁶¹ Burton W. Folsom, Jr., Urban Capitalists, Entrepreneurs and City Growth in Pennsylvania’s Lackawanna and Lehigh Regions 1800-1920 (Baltimore: John Hopkins, 1981) 126.

⁶² Meredith R. Gee, Household Structure in 1850 Bethlehem, Pennsylvania, Thesis, Lehigh University, 2002, 4.

⁶³ Meredith R. Gee, Household Structure in 1850 Bethlehem, Pennsylvania, Thesis, Lehigh University, 2002, 15-16.

Bethlehem. This tight-knit group, whose children intermarried, also transferred their Episcopalian faith and Democratic Party allegiance, making them distinctly different from the predominant population of Moravians in Bethlehem, the Germans in Allentown and the Scots-Irish in Easton.

Despite structural similarities in their experiences, most of ethno-religious groups preferred to live, socialize and marry among themselves. Such divisions inevitably resulted in duplication of local institutions and services such as fire departments, political bureaucracies, water works, road building crews, banks and the creation of five colleges and three academies within eight miles of each other. This divisiveness represents a commonality among the various groups that relied upon familiarity and displayed a strong desire to preserve their culture and pass on its values to succeeding generations through a strong set of social institutions.⁶⁴

The Steel company executives continued this pattern, with segregation based largely upon socio-economic status. Schwab, like his predecessors, chose to reside in a Fountain Hill neighborhood created by railroad and steel executives, where he purchased and renovated a home previously owned by Garrett B. Linderman, General Manager of Bethlehem Iron.⁶⁵ However, Schwab's neighborhood fell out of vogue as the number of Steel executives rapidly expanded. Schwab's successors carved out their own

⁶⁴ Burton W. Folsom, Jr., Urban Capitalists, Entrepreneurs and City Growth in Pennsylvania's Lackawanna and Lehigh Regions 1800-1920 (Baltimore: John Hopkins, 1981), 128-133.

⁶⁵ "Schwab's house sits near the city's border with Fountain Hill and is in a National Historic District known for the ornate homes built by steel and railroad executives between 1857 and 1925. . . . Schwab lived at the [557] W. Third Street home for six years, pouring about \$500,000 into remodeling the building. He added a glass-domed flower conservatory with stamped copper moldings, large bay window and other features, according to newspaper articles. It held Schwab's paintings, antiques, library holdings and a collection of statues. While also having estates in New York and Loretto, Cambria County, Schwab is reported to have called the one in Bethlehem the 'little house.'" Source: The Morning Call, "Honors for Steel leader: Marker at mansion will recognize Charles Schwab's place in Bethlehem's history," Nicole Radziewich, September 13, 2007.

neighborhood on the other side of the river in west Bethlehem's Mount Airy neighborhood. Nicknamed "Bonus Hill," this exclusive neighborhood was comprised of well-compensated Steel executives, including Eugene Grace, who purchased his home at 1317 Prospect Avenue in 1923 christening it "Uwchlan" (Welsh for "the land over the valley.") Over a five year renovation and expansion effort, Grace turned the mansion into a castle with 23 bedrooms, 15 bathrooms, landscaped grounds the size of a city block, a driving range, putting green, three greenhouses, four-car garage, security guards, servants, maids, butlers and cooks, all for the five-member Grace family.⁶⁶

By the late 1950s, a new exclusive enclave for Steel executives was being established in Saucon Valley. This move outside of the city was consistent with the larger national trend of "white flight" to the suburbs away from the city's commercial and industrial core. As elsewhere, flight broadened the social and economic gap within the community.

The farther away the Steel executives lived, the more insular and out of touch they became with the general workforce. The immigrants that supplied the Steel and related industries with labor were initially bound economically to their ethnic communities within the city, but as the Steel prospered and wages improved, more established workers were often able to move to the outer rings of the city, leaving the most recent immigrants to the community in the core. Across the board, Bethlehem's trend indicates that the longer people stayed, the more likely they were to segregate themselves by economic status at the expense of ethnic identity.

⁶⁶ The Morning Call, "Forging America: The Story of Bethlehem Steel" 2003, 44.

These complex patterns of community life are a central theme for interpretation, as they reveal how multiple, varied ethnic groups settled here and learned to cope with new and challenging surroundings. In this way, Bethlehem provides the opportunity to examine the patterns and changes of such groups over time. Interpretation can then connect these narratives with a comprehensive study of the current communities and potential residents who will yet arrive seeking investment, employment or educational opportunities. Focused attention could also be given to the implications of gentrification associated with the Steel site redevelopment and the environmental impact of increased tourism (car pollution, etc.).

With so many local community symbols still intact throughout Bethlehem and the region, public history interpretation has enormous potential to tell these stories. Visitors, for example, can experience community life first-hand through the vernacular architecture that includes housing, social, cultural, industrial, educational and religious institutions. Architectural styles provide clues that help to tell a community's story and connect it to larger national trends. For example, Victorian-era homes rich with surface ornamentation and decorative moldings were born out of the industrial revolution as automated machinery allowed elaborate ornamentation to be mass-produced faster and more cheaply than by hand, putting a once exclusive emblem of wealth within reach of wage earners.⁶⁷ Therefore, the architecture of the community has much to tell not only

⁶⁷ The Philadelphia Inquirer, "Victorian architecture's history may repeat itself" Arrol Gellner, April 2, 2006.

about the individuals who lived here, but also about societal and technological trends that connect Bethlehem to the larger national story.⁶⁸

Preservation and adaptive reuse are key elements of a public history plan that will allow these stories to be told. Bethlehem's already has a reputation as a state leader in adaptive reuse. The City of Bethlehem created the first Historic District Ordinance in the Commonwealth in 1962.⁶⁹ This innovative vision has allowed Bethlehem to show how adaptive reuse of historic structures can help revitalize communities and increase property values. Following the successful example of the north side's Moravian district which contains an extensive cluster of preserved historic resources, the south side could reap the same benefits by comparing and contrasting its own stories of the succeeding generations of industrial workers in Bethlehem. Largely ignored in recent decades in favor of the north side, south Bethlehem is now at a crucial point that will determine how much of its history will be preserved and interpreted for posterity. Right now, a valuable cluster remains, featuring mills, industrial sites, neighborhoods, churches, cemeteries, etc., but it is in serious danger and its existence may be threatened as changes and unforeseen events from the current development play out. These important pieces of the cultural landscape are crucial to being able to tell stories about industrial communities beyond the Steel site itself.

⁶⁸ In deliberate response to the popularity of the Victorian-era homes, the American arts and crafts movement evolved as a reaction against the excessive eclecticism of the late nineteenth century, a romantic revival of the arts and crafts of an idealized past, a step backwards into a simpler age. Source: American House Styles: A Concise Guide, John Milnes Baker, W. W. Norton & Co., New York, 1994, 70, 117. In the early twentieth century, many architects focusing on worker housing in company towns embraced the craftsman style, part of the art and crafts movement, as a way to counteract industrial images, with some asserting that such designs improved industrial efficiency. Source: Building the Workingman's Paradise: The Design of American Company Towns, Margaret Crawford, Verso, New York, 1995, 83-89.

⁶⁹ This decision allowed Bethlehem's downtown to remain virtually untouched by urban renewal practices that were prevalent at that time, allowing the historic core to remain intact.

The south side industrial cluster is just as valuable as the Moravian cluster and warrants just as much attention. Indeed, the stories are entwined and maintaining the south side would allow for a truly unique chance to view communities and industries from the eighteenth century to twenty-first century. Thorough and thoughtful interpretation would invite visitors to experience different points in time through authentic architecture and in different locations, each with its own unique "sense of place." However, if the south side is slowly dismantled, it loses its identity, cultural heritage and landscape one structure at a time.⁷⁰ Removing what makes the community unique ultimately decreases its value reducing the quality of life for residents and reducing the appeal to visitors. If the wealth of history and stories are embraced, however, this "brand" can help unify the community and increase its value in real economic terms.⁷¹

Current Sands BethWorks' Phase I plans include painting the one remaining historic ore bridge to function as the gateway to the casino complex, surrounding an 1885 forging press with a traffic circle and displaying a 60-foot gun from a U.S. battleship. Another option that has been discussed is painting and lighting the five blast furnaces in

⁷⁰ For example, an important historical resource on the south side is currently slated for demolition by the Bethlehem Area School District (BASD). Broughal Middle School, 125 W. Packer Avenue, was built in 1916-1917 as the South Bethlehem High School by prominent Bethlehem architect A. W. Leh. This well-built, attractive tan brick and sandstone building was constructed at a time when civic buildings were designed and built to inspire and beautify our public spaces while providing solid anchors in our neighborhoods. Broughal is an important historic landmark in the community and received a determination of eligibility for the National Register of Historic Places by the Pennsylvania Historical and Museum Commission Bureau for Historic Preservation (PHMC BHP) on April 4, 2005. In addition, the PHMC BHP also strongly recommended that the BASD consider rehabilitation and reuse of the existing Broughal Middle School (June 5, 2006) as opposed to demolition. See PHMC# 140903-Bethlehem City-South Bethlehem High School – http://www.phmc.state.pa.us/bhp/Inventories/NR_Reports/Northampton.pdf.

⁷¹ The economics of preservation has been well documented. For every \$1 spent on historic preservation, \$15 to \$25 of private investment follows. Also, property values, and therefore tax revenues, in historic districts increase at a greater rate than all other real estate. In addition, for every \$1 million spent on a construction project, average of 3.72 more jobs are created by rehabilitation versus new construction. Source: Appendix G.

an artistic style with neon colors. But authenticity in preservation of these Bethlehem icons would better serve the community as part of its already established respect of its heritage. Instead, the furnaces could be lit and the lighting could replicate the look of an operating blast furnace or perhaps special lighting might mark when each furnace went into operation or when each was shut down. In addition, the casting floor of one furnace should be stabilized to allow visitors to experience the inner workings, where tapping the furnace could be duplicated through sound, light, smell and heat with hologram-like visuals projecting steelworkers going about their routines as the furnace is tapped (Appendix H). There is no need to cheapen the story, prettify the surroundings or fabricate identity to attract tourists and local visitors; this is a community where truth solidly trumps fiction.⁷²

In Bethlehem, there is a chance to connect to the authentic history of industrial production in the midst of the glitz of the modern leisure economy exemplified by the impending casino complex. With the aid of proper interpretation and innovative public history methods, these items can be understood in their proper context rather than just as pieces of “themed” decoration. Educating residents and visitors will create sustained

⁷² For an excellent example, see the Museo del Acero Horno in Monterrey, Mexico. This new steel museum was built in and around a decommissioned blast furnace that has emerged as a new focal point for the region. It is one component of the city’s larger transformation of the surrounding 275-acre industrial campus into a public park, Parque Fundidora, which includes the renovation of numerous industrial structures. The project is part adaptive-reuse and part new construction. A museum was created in a 230-foot-high blast furnace, which operated from 1968–1986, that had sat abandoned since the company went bankrupt. Architects adapted the cast hall, the furnace and its workings, and its surrounding infrastructure, and added 34,000 square feet of new space for additional exhibitions, workshops, education and archives. With the furnace as the central organizing hub, the museum consists of a collection of elements: entry wing, circular Steel Gallery, massive Cast Hall and offices and a café located in the former hoist room and control room, respectively. Soaring into the sky is an iron-ore elevator, retrofitted with an funicular cab, which rises 140 feet up to a network of original exterior catwalks that weave around the furnace, its pipes and its stoves, offering visitors a vertiginous tour and views out to the city, nearby Saddle Mountain, the Sierra Madre Oriental mountain range and down the furnace into its belly.
http://www.exhibitfiles.org/museo_del_acero

interest in these historical artifacts and the multitude of stories connected to each item (technological, economic, social, human), thereby opening visitors and residents to multiple experiences and understanding which will be far more valuable, memorable and repeatable than static visual encounters with objects taken out-of-context. There are many places to view art, but very few chances to experience the enormity, grandeur and scope of a fully-integrated steel mill.

In the long run, investment in proper interpretation will generate greater repeat visitation through the process of education and understanding, which will lead to appreciation and encourage long-term stewardship through the power of authenticity. In this way, the community and respect for its history is best served with the structures remaining compelling and thought-provoking.

Thoughtful preservation can create a vibrant, revitalized community attracting not only visitors but also new residents, capital and intellectual investment. For instance, maintaining the varied and well-constructed building stock that survives in the thriving south side local business district is an essential part of the potential for pervasive interpretation beyond the Steel site. The attractive architectural styles found there (Federal, Greek Revival, Beaux-Arts, Italianate and Sullivanesque) have helped since the 1980s draw new entrepreneurs willing to invest in the south side, creating a vibrant and successful eclectic business district along Third and Fourth Streets. Most of these structures, built between 1890 and 1930, with their overall quality of construction and craftsmanship, echo the varied ethnic groups that lived and worked in this area. Most have wonderful architectural detailing and ornamentation such as stamped-metal cornices, relief panels, corner quoins, lintels, cornice dentils and bow windows. These

buildings are representative of the old-world craftsman who lived nearby in small but sturdy row homes in various ethnic enclaves.

In contrast, the newer modern structures are rather bland, uninspired boxes of monotonous unadorned brick and speak of modern mass production. Unfortunately, some older buildings have been stuccoed in an attempt to “modernize” their facades, sadly covering up the original craftsmanship and detailing underneath. Façade grants and funding to remove these outer layers could be pursued to restore their historic appearance.⁷³ Such renovations not only increase property values but they also encourage community members to take care of their neighborhoods. Overall, the remaining building stock enhances the area and provides a comfortable feeling giving the neighborhood a strong sense of place.

The mammoth Bethlehem Steel Corporation required abundant labor for its operations, which attracted successive waves of immigrants who formed the south side’s diverse neighborhoods; their rich working class culture is reflected in the architecture. These distinctly different nationalities started churches and social clubs to create familiar, comfortable and supportive environments. The legacy of these vibrant ethnic enclaves survives today in an abundance of fascinating residential and commercial districts. This permanence translates into a feeling of solidity of place. With the demise of steelmaking, the south side struggled through the 1980s with high commercial vacancy rates and declining property values, but its trademark tenacity and prevailing sense of community

⁷³ Evidence of this can be seen in Bethlehem’s five-points area on Wyandotte Street where façade grants have led to the improvement of several structures, driving economic development that has led to the opening of some new businesses within the last year.

proved to be as strong as the steelworkers of old and the community hung on, struggling to redefine itself in the post-industrial era.

In the 1990s, the south side's sense of community, aesthetic beauty and diverse cultures, along with low-cost real estate, started to generate an influx of creative newcomers. The community became a destination for artists. The history of diversity of the south side promotes the acceptance of nonconformity, which nurtures various art forms and provides the fuel for artistic creativity. Much of the south side architecture, with its solid craftsmanship of masonry and wood, provides a sense of place on a scale that humans naturally respond to. Therefore, the intricate craftsmanship of the nineteenth century combined with dynamic neighborhood diversity has created an inviting and inspiring environment that attracts and welcomes artists and creative thinkers to the community.

Today that essence remains, with an extra emphasis on independent businesses, education, culture and the arts that continues to draw new "immigrants" to the community. The people shopping, living and working in the area are as varied as the architecture and stores themselves. The area currently has a strong Latino presence, but a surprising variety of people from different ethnicities and income brackets live, work and shop on the south side. This varied mix adds to the appeal and contributes to its vitality and eclectic charm. A major reason this neighborhood remains vibrant is because it offers everything a community member might need, including stores, restaurants, churches, recreation, cultural venues, health care and educational facilities, including a well-respected private university.

Just as thousands of immigrants were drawn from around the world seeking employment at the Steel, the well-constructed industrial buildings are now drawing artists and “hipsters” who appreciate their aesthetic value, seeking inspiration from them. Through a careful redevelopment that includes a prevalent interpretation of local heritage, future generations will also be drawn to the area as the structures are reborn as commercial and residential space. The history of a community grounds its members in the present by conveying an omnipresent and comforting link to the past. Bonded to others through common experiences gives strength to survive by binding together common memories.⁷⁴ Interpreted local history can serve as a bridge to the larger national historical scenes. A community that cares for its past is a community that is dedicated to being responsible for its own future.⁷⁵

⁷⁴ Steve Mellon, After the Smoke Clears: Struggling to Get By in Rustbelt America (University of Pittsburgh Press, 2002), 132, 134.

⁷⁵ William E. Schmickle, The Politics of Historic Districts: A Primer for Grassroots Preservation (AltaMira Press, 2007), 215.

Education

While the Moravians and Bethlehem Steel dominated the community of Bethlehem for nearly 100 years each, their greatest legacy, while possibly unintentional, has proven to be the most durable. An underlying commitment of both the Moravians and Bethlehem Steel continues to nurture the community today. Education, a form of innovation in itself, has proved to be key to Bethlehem's ability to sustain itself in the wake of major changes and economic upheavals as it has provided continuing investment in human and economic capital. Perhaps the Moravians and later the Steel were simply continuing a path begun by the Puritans, one of America's earliest settlers, whose belief in the benefits of education and dedication to higher learning indicated a desire to construct a sense of permanence in their harsh new world. As early as the 1640s, the Puritans describe the founding of Harvard College in the Massachusetts Bay colony as a way to "advance learning and perpetuate it to posterity" indicating a revolutionary urge to construct from nothing a society for the moment and forever.⁷⁶ Like the Puritans, the eighteenth-century Moravians embraced schooling early on, establishing in 1742 the first school for girls in the American colonies.⁷⁷ Then 123 years later, Bethlehem's leading industrialists formed Lehigh University, which also continues to provide high-quality education to thousands of students every year.

The Moravian leaders viewed education as a sacred responsibility embracing a rational and loving pedagogy allowing the free development of the individual by fostering a child's good qualities. Moravian schools outlined appropriate methods for

⁷⁶ Andrew Sinclair, A Concise History of The United States (Sutton Publishing, 1999), 16.

⁷⁷ Moravian Seminary for Girls merged with Moravian Preparatory School in 1971 creating Moravian Academy, which is still in operation today.

physical, intellectual and spiritual growth. In the eighteenth century, at a time of rigid social separation, Moravians offered equal-opportunity education where black, white and Native American children learned fundamental skills, cultural appreciation, vocational training, civic and social instruction and spiritual development side by side.⁷⁸ Through the years, the Moravian schools adapted to outside change as they enrolled children of other faiths. The schools became more secular and created the Lehigh Valley's first coeducational institution of higher education, Moravian College.⁷⁹ The Moravian's views on education made them socially innovative for their time and their ardent commitment to learning set a precedent for the community.

The industrialists of Bethlehem also believed in the power and importance of education. Asa Packer envisioned an institute that would create gentlemen engineers through a liberal arts education. In 1865, he donated \$500,000 to found Lehigh University in South Bethlehem. At a ceremony held at the opening of the school, Packer explained that the nondenominational University would instruct youth to play intelligent roles in developing the nation's resources and in controlling its various means of transportation and interchange. Education was to be both technical and liberal. By 1890, the student body had grown to 414 with over half of these students coming from outside of Pennsylvania: 216 students had permanent homes in 28 different states, the District of Columbia, Indian Territory and eight foreign countries.⁸⁰ Rigorous entrance standards forged a connection between the University and Moravian Preparatory School, which had

⁷⁸ Susan M. Swasta & Richard D. Krohn, Mind, Body & Spirit: Moravian Academy 1742-1992 (Moravian Academy, 1991), 4-5.

⁷⁹ In 1954, Moravian Seminary and College for Women and Moravian College and Theological Seminary for men merged into the coeducational Moravian College, which is still in existence today.

⁸⁰ W. Ross Yates, Bethlehem of Pennsylvania: The Golden Years 1841-1920 (Bethlehem Chamber of Commerce, Lehigh Litho Inc., 1976), 86-87.

strong coursework in the classics and related fields. Fifteen of the sixty graduates from Moravian Preparatory between 1883 and 1892 entered Lehigh, as education in public schools lagged behind in the standards required for entrance in the University.⁸¹

Bethlehem Steel's famous engineer, John Fritz, who had little formal schooling himself, wanted to provide an opportunity for students to learn more about engineering. As one of Lehigh University's original trustees, he was dedicated to providing leadership and vision for the improvement of the University. In 1909, he informed University President Henry Drinker that he would design, fund and supervise the building of a modern engineering laboratory based on his shop buildings at Bethlehem Steel. Opened in 1910, the facility was named Fritz Engineering Laboratory by the University's Board of Trustees and included the best and largest equipment available for teaching and testing. In 1953, the tradition of improving upon existing ideas continued as a groundbreaking ceremony was held to begin an addition to Fritz's original lab. The new facility combined a building of four stories containing classrooms, offices and assorted smaller laboratories with a seven story testing bay.⁸²

The dedication to education in Bethlehem spawned a culture of commitment to continuous improvement that permeates many aspects of the community. Education helped to form and maintain a lasting identity for the region and a strong foundation to withstand the successive economic upheavals that were to follow. While technology and innovation often replaced obsolete labor, education in turn helped create new avenues for employment and investment. And in the twentieth century, many steelworkers used their

⁸¹ W. Ross Yates, 88.

⁸² <http://www.asme.org/history/2002annivhigh.html>.

good union wages to get college educations for their children, equipping them to do the work of the new economy.⁸³

Education also shaped the rise of the engineer and middle managers at Bethlehem Steel, with equally far-reaching consequences. In the late nineteenth century, individual foreman and skilled machinists created decentralized control over work process even within industrial plants. Frederick Winslow Taylor, a Philadelphia Quaker, who believed factories should be in the hands of trained engineers and managers rather than workers, attacked this work system. Taylor was obsessed with efficiency and searched for the best way to perform a task. In 1898, he was brought to Bethlehem as a consultant for the Bethlehem Iron Company, later Bethlehem Steel, and here he conducted his famous time and motion studies. Taylor believed he could determine how fast a job could reasonably be performed and identify inefficient practices. He promised substantial cost reductions for the company.⁸⁴

Taylor was searching for the science of work, known as the Principles of Scientific Management, through his time and motion studies. Labor unions opposed Taylor relentlessly, objecting that he meant to turn men into machines. Although his particular system was rejected, the idea that engineers should run factories caught on. Numerous engineers studying at Lehigh University filled the newly-created hierarchy of specialists required to manage a steel mill. Some existing managers at The Steel

⁸³ This same trend repeated itself in steel's companion industries, such as the silk mills, where many women followed their mothers into the factories, but through education found a different route to self-determination as education opened up opportunities for employment outside the factory. Source: Bonnie Stepenoff, *Their Father's Daughters: Silk Mill Workers in Northeastern Pennsylvania 1880-1960* (Susquehanna University Press, 1999), 156-158.

⁸⁴ During his time in Bethlehem, along with Maunsel White, he also codeveloped the Taylor-White system for heat treating chrome-tungsten tool steel. This innovation earned him a gold medal at the 1900 Paris Exposition and the Elliott Cresson award in Philadelphia 1902.

company who also rented out worker's housing in South Bethlehem, were alarmed by his achievements, such as the reduction in yard workers, afraid his practices would depopulate South Bethlehem.⁸⁵ In May 1901, after continuing disputes with both workers and upper management, Taylor was fired. Nonetheless, his ideology that workers should work and managers should manage became an entrenched doctrine of the company, evidenced in its dedication to the Loop Course program.⁸⁶ In fact, this belief dominated corporate culture throughout the twentieth century, influencing production methods to this day.

The long-term results of the work of the engineers enabled new machines and technologies to do the work of the common laborer. In this way, smaller numbers of engineers displaced massive numbers of unskilled, and some skilled, workers. However, a dedication to education helped the community to survive and adapt to employment fluctuations, offering numerous learning opportunities at the colleges and an atmosphere open to students and enterprising artists seeking a place rich in culture.

In the recent past, education has proved to be the ultimate form of innovation as it perpetuates itself, keeping Bethlehem viable and avoiding the depths of despair experienced in many other steel towns that lacked the benefits of strong educational institutions. In Homestead, PA, former headquarters of Andrew Carnegie's flagship

⁸⁵ Through the science of shoveling, at the end of three years one hundred and forty shovelers were doing the work formerly done by five hundred. Even after taking into account a 60 percent pay increase for shovelers and a sharp rise in overhead costs – the payroll now included shoveling instructors, as well as work planners whose jobs included seeing to it that the right shovels were on hand at the right phases. Taylor succeeded in reducing by 50 percent Bethlehem's cost of handling materials. Source: Spencer Klaw, "Frederick Winslow Taylor: The Messiah of Time and Motion," http://www.americanheritage.com/articles/magazine/ah/1979/5/1979_5_26.shtml

⁸⁶ Bethlehem Steel's Loop Course, a management development program for graduates with bachelors or advanced degrees, allowed the company to pick the best new candidates for employment and indoctrinate them into the Bethlehem Steel corporate culture.

plant, once similar in size and scope to Bethlehem, even casual observation reveals dire economic straits, even though Homestead has had a decade more to recover from the shuttering of the steel plant. Relative to Bethlehem, Homestead's business district is devastated. Carnegie made his investment in higher education in Pittsburgh, ten miles down river from the Homestead mill, and the economic and social impact of this separation from the working community is still felt today.⁸⁷ The community tried to replace its former large economic supporter with a big-box shopping mall complex on the site of the former mill. But the mall has not lived up to the developer's promises or the hopes of local political leaders (Appendix I). By contrast, education has kept the investment of human and economic capital fresh in Bethlehem and the Lehigh Valley. With respected institutions of higher learning, including not just Lehigh University and Moravian College, but also Lafayette, Muhlenberg and Cedar Crest Colleges, the Lehigh Valley stayed vital and visible, attracting new residents, maintaining an identity and sustaining a positive outlook for the future. In the end, interest in, dedication to, and benevolence toward education may be the most enduring legacy left by the Moravians and Bethlehem Steel.

Sands BethWorks may be following its predecessors' lead, as they have formed a close relationship with the Northampton Community College's South Side Campus (NCCSSC), which is located in a renovated former Steel building in South Bethlehem. This groundbreaking union between a college and a casino might make some people uncomfortable, but with Bethlehem's past economic giants so closely entwined with local

⁸⁷ In 1900, Andrew Carnegie gave \$1 million to the City of Pittsburgh for the creation of Carnegie Technical School, renamed Carnegie Institute of Technology in 1912 and in 1967 merged with the Mellon Institute creating Carnegie Mellon University. Source: Encyclopædia Britannica. 2008. Encyclopædia Britannica Premium Service.

educational institutions, it does not seem unusual. Dr. Paul Pierpoint, Dean of NCCSSC, believes the partnership “will raise Northampton Community College to a whole new level.”⁸⁸ Both institutions stand to gain from the relationship. For the most part, NCCSSC will serve as a training grounds for students seeking employment at the Sands casino. Course offerings will concentrate on culinary training and hotel and restaurant management, including an area of the College outfitted with a replica hotel lobby and room. Once the casino is open, the college hopes to fill needs as they arise and offer training for degree students who hope to move into management level positions in the casino.⁸⁹ This relationship may be the community’s modern-day loop course, reflecting current societal trends. Upon opening, the casino is expected to need upwards of 1,800 employees, far fewer than the Bethlehem Steel of old, but big enough to make Sands BethWorks one of the largest employers in the area.

The public history portion of impending redevelopment of the Steel site has also created new opportunities for educational community collaboration. In March 2004, community groups interested in the Steel site were approached by the Mid-Atlantic Regional Center for the Humanities (MARCH) from Rutgers University in Camden, NJ. MARCH, working with the Historic Bethlehem Partnership, helped to gather a multi-organizational coalition dedicated to promoting a community-based vision for the site’s future. This enthusiastic meeting embraced redevelopment through adaptive reuse of approximately 124 acres of the former Bethlehem Steel site, outlined projected goals and set the foundation for a permanent coalition of cultural and historic groups around the

⁸⁸ The Morning Call, “NCC and Sands BethWorks have forged a relationship, with new college courses that have students ... betting on their futures” Matt Assad, February 24, 2008.

⁸⁹ The Morning Call, “NCC and Sands BethWorks have forged a relationship, with new college courses that have students ... betting on their futures” Matt Assad, February 24, 2008.

Lehigh Valley. When the owners of the site, BethWorks Now, LLC, asked for a report outlining how Lehigh Valley organizations can work together to share the story of local industrial heritage with visitors to the Bethlehem Steel site, the cultural groups responded with a report from that meeting, a document called, “Vision and Vitality: Bethlehem after The Steel” (Appendix J).

Support and enthusiasm of the participants demonstrated that a permanent coalition would be an asset to the redevelopment efforts. The result was the formation in 2006 of the Lehigh Valley Industrial Heritage Coalition (“LVIHC”) (Appendix K) for those groups that have an interest and stake in preserving and interpreting the heritage and history of the area while encouraging cooperation with the site owners. The LVIHC is comprised of local, regional and national historic, cultural and educational organizations and is dedicated to utilizing and coordinating the resources of its partners to tell the story of their shared industrial legacy through the arts, history and culture. The coalition supports the full realization of the power of the Steel site to encourage exploration of all of Bethlehem’s industrial history, including the pre-industrial period, and the social and cultural legacies of surrounding communities. Full development of the unique, varied cultural and historical resources can provide for long-term stewardship while encouraging a diverse audience and return visitation. The Bethlehem Steel site, an impressive centerpiece of the industrial story and focal point for interpretation, is of international significance, standing as one of the most striking monuments to America’s industrial might.

LVIHC is committed to a community-based process for developing interpretation, that blends nationally-respected scholarship with the experiences of the Lehigh Valley

people themselves. In June 2007, MARCH, LVIHC and the City of Bethlehem hosted a conference in Bethlehem entitled “Remember, Respect, Revitalize,” to seek input on the best way to bring stories of industrial history to life at the former Bethlehem Steel site and beyond. A grant from the National Endowment from the Humanities brought a dozen industrial and cultural history scholars and experienced public historians from around the country to interact with and learn from the local community. During the conference, the public shared hopes and dreams for the site with local and visiting scholars and museum professionals. The combination of local knowledge and enthusiasm with the ideas and experience of nationally-recognized industrial historians produced valuable insights. This information was used to develop a draft interpretation plan for broad historic interpretation using local and regional history to tell the story of America’s industrial heritage (Appendix H).

This plan frames a core story that illuminates and links the many narrative threads relevant to understanding the Steel, while providing a framework that can create and sustain vitality for Bethlehem and the Lehigh Valley. The draft plan situates the Steel site at the center of a wide circle of historic and community resources, inspiring growth of local awareness and creating a major destination for heritage tourism. A follow up meeting on November 15, 2007 to discuss the findings from the June 2007 conference with guest speaker, Bob Rathburn, Executive Director of Sloss Furnaces National Historic Landmark in Birmingham, Alabama, provided insight from his experience and discussed what an interpretation plan can do for the community and how LVIHC can move forward.

The work the LVIHC has done and continues to do is non-binding. It is meant to be a valuable tool for ideas and guidance, complementing and benefiting existing and future work. The LVIHC efforts represent an inclusive broad-based initiative that engages the strengths of not only the individual coalition members, but also of regional and national experts. The scope and potential international importance of this project warrants input from the widest range of professionals in the nation. In addition, the LVIHC's inclusiveness itself helps produce a more successful final product by fostering buy-in from various groups and organizations drawn from the local community. Bringing together numerous diverse institutions and individuals who believe in these goals, but have never worked together before, will help sow the seeds of future cooperation among the various groups. A unilateral "top-down" approach might alienate or marginalize many vital supporters who could contribute to the multi-layered interpretation. The strength of the LVIHC organization is that its members understand the concomitant need for preservation, interpretation and economic development. Based upon the community's enthusiasm and support for the project, the LVIHC can promote and encourage the preservation of the community's heritage as it combines with and complements new growth. This exciting effort should spark new interest in the community, drawing residents and commerce to Bethlehem while adding to the vibrant arts and cultural community in the shadows of its once-glorious industrial past. The LVIHC can help mobilize the community's support as its strong ties in the business community provide an excellent foundation upon which to build. The coalition also has a larger purpose – acting as a liaison between its members and the Steel site's developers,

channeling member organizations' ideas and supporting programs while offering help with the preservation and interpretation of this important historical resource.

Two members of the LVIHC are currently conducting complementary initiatives, adding additional value to the redevelopment effort, while continuing Lehigh University's long-standing relationship with the Steel site. The South Side Initiative seeks to bring Lehigh University's community and the people of Bethlehem together to learn about the redevelopment of the Bethlehem Steel site and, through constructive dialogue, to help shape the future of the city. Their mission is three fold: 1) an academic initiative, including courses, student and faculty research projects, a visiting speaker series and programming and a history conference on Bethlehem and the "City as Utopia;" 2) public forums and community dialogue initiated through public meetings; and 3) disseminating information to the community, including the use of a website.

"Beyond Steel: An Archive of Lehigh Valley Industry and Culture" is a website resource created by Lehigh University's Digital Library. Universities near other industrial history sites have played a key role in supporting the collecting and research work without which key stories and vital archival resources are lost and the site's vivid reality diminished. Materials related to the Steel site, and to other Lehigh Valley industries, have been dispersed to major collecting institutions over the years. In addition, many of these industries operated, and left historical records, in far-flung communities across the world. This digital project offers one important way to restore local access to these scattered materials. In addition, documentary video and Geographic Information Systems (GIS) are also being utilized to complement this project in achieving the best use of archival records and personal memories of the Steel (see:

<http://digital.lib.lehigh.edu/beyondsteel/>). Academic discussions, community involvement and access to archival resource materials are key elements that will help to create a successful, community-connected redevelopment of the Steel site.

Properly done, the industrial backdrop provided by the Steel site will draw a wide-range of visitors to the area, where they will find inspiration in the unique and extensive industrial landscapes from the eighteenth century to a fully-integrated steel mill and dependent neighborhoods from bygone eras. Blending the fundamental elements of the city's past to the vibrancy of its future will help to define and enrich the community. Redevelopment has only just begun, but lessons learned from the industrial past will help forge a new identity for the community based on the strength of its unique past.

Health Care

The health care system in Bethlehem is another interpretive theme that provides additional public history opportunities while it embodies the other major storylines already established in this thesis: Investment, Innovation and Industry, Community and Education. Similar to the narratives already discussed, the story of Bethlehem's health care began with the Moravians, was well-established by the early industrialists and remains an important part of the community today. Health care is not only vital to residents' well-being, it is a significant part of the city's overall economic health as one of the community's leading employers. The well-established hospital and related health care facilities continue to encourage new capital investment while attracting human resources, allowing Bethlehem to remain vibrant and viable.

The story of health care in Bethlehem begins with the Moravians who established an apothecary in the Gemein Haus in 1742 (it moved to its own building on Main Street in 1752), where compounds were prepared for medicinal purposes. An herb garden, from which some of these products were made, was established behind the Moravian's Single Brethren's House in 1747.⁹⁰ The Moravians strived to live at peace with all men, but circumstances beyond their control would thrust them into the spotlight of a larger stage, compelling them to provide medical care for wounded and sick enlisted men during the American Revolution. The pacifist Moravians would not bear arms or swear oaths of allegiance during the Revolution; however, some Moravian men did take up arms for the cause of Independence. For the most part, the Moravian Brethren treated patients at the Single Brethren's House, which the Continental Army had turned into a

⁹⁰ W. Ross Yates, Bethlehem of Pennsylvania: The First One Hundred Years 1741-1841 (Bethlehem Chamber of Commerce, Lehigh Litho Inc., 1968), 52.

military hospital. The doctor in charge of the apothecary at the time, John Matthew Otto, who introduced inoculation for smallpox in Bethlehem in 1773, was principally responsible for organizing the hospital.⁹¹ Bethlehem became noisy and crowded with an overflow of sick and wounded patients many of whom had to endure the cold and rain in tents set up behind the Brethren's House. Officers and troops filled the remaining vacant spaces, being quartered at the Sun Inn, residents' apartments and homes and even the water works.⁹² The medical care provided by the Moravians did not go unnoticed or unappreciated. On September 22, 1777, sixteen members of Congress, who had stayed in Bethlehem at varying times, signed an order that stated, "Having here observed a humane and diligent attention to the sick and wounded, and a benevolent desire to make the necessary provision for the relief of the distressed, as far as the powers of the Brethren enable them we desire that all Continental Officers may refrain from disturbing the person or property of the Moravians in Bethlehem, and particularly that they do not disturb or molest the Houses where the women are assembled."⁹³ The Moravians skills and innovation in health care were also noted and respected by others outside the realm of war time. In 1783, Dr. John David Schoepf, a surgeon from Bayruth in Bavaria, visited Bethlehem to enlarge his collection of medicinal plants, noting, "I observed kalmia [mountain laurel], rhododendron, cephalanthus [button bush], sassafras, azaia, liriodendron [tulip tree], magnolia, and other, such as we in Germany long to have in our gardens and parks." He also notes another visitor seeking the Moravian's skill in health care explaining that Dr. Otto, Moravian physician, surgeon and apothecary, was sought

⁹¹ W. Ross Yates, Bethlehem of Pennsylvania: The First One Hundred Years 1741-1841 (Bethlehem Chamber of Commerce, Lehigh Litho Inc., 1968), 120.

⁹² Yates, Bethlehem of Pennsylvania: The First One Hundred Years 109-110.

⁹³ Yates, Bethlehem of Pennsylvania: The First One Hundred Years 115.

out by a Swedish mineralogist, Baron Hermelin, who came to America to examine mines, fell ill and was advised to seek Dr. Otto's skillful treatment in Bethlehem.⁹⁴

The Moravians also displayed an early embrace of homeopathic medicine, a new medical system of treatment founded in the late eighteenth century by German physician Samuel Hahnemann (1755-1843).⁹⁵ This "new school" of medicine was introduced to America in part by Dr. George Henry Bute (1792-1876), former Moravian missionary and eminent German homoeopathist who is considered one of America's original homeopathic doctors.⁹⁶ Dr. Bute, who established a home and practice in Nazareth, became a friend and mentor to a fellow Moravian, Joseph Hark, who was born and educated in Niesky, Saxony, Germany and attended the Theological Seminary at Gnadenfeld, near Herrnhut, in preparation for the ministry. Upon graduating, he taught in Moravian schools in Germany and Europe and in 1846 received an appointment as a teacher at the Moravian's Nazareth Hall in the United States. Dr. Bute encouraged Hark to study homeopathic medicine eventually persuading him to forgo a career in the ministry and study medicine under his guidance.⁹⁷ Dr. Hark became a member of the

⁹⁴ Yates, Bethlehem of Pennsylvania: The First One Hundred Years 128-130.

⁹⁵ Homeopathic medicine is a holistic system of treatment based on the idea that substances that produce symptoms of sickness in healthy people will have a curative effect when given in very dilute quantities to sick people who exhibit those same symptoms. Homeopathic remedies are believed to stimulate the body's own healing processes. This thinking provided the basis for vaccinations, such as Louis Pasteur, that provoke a reaction in the individual that protects against the actual disease, and allergy treatments that expose a person to minute quantities of the allergen to elevate their tolerance levels.

⁹⁶ Moravian Academy Archives, Hark Collection, 4-1.1 Correspondence/Family Information/Miscellaneous.

⁹⁷ Joseph Hark (1819-1910) married Dr. Bute's daughter, Maria Louisa Bute (1827-1879), in 1848. They had five children, including Rev. J. Max Hark, D.D. (1849-1930), President of the Moravian Seminary and College for Women in Bethlehem from 1892-1909.

American Institute of Homeopathy in 1849 and was a successful medical practitioner for many years.⁹⁸

The community's next major foray into health care came from another devotee of homeopathic medicine and native of Herrnhut, Germany. Francis H. Oppelt came to Bethlehem in 1843 and, noting the presence of several large springs which he believed to be comprised of chemically pure spring water, persuaded the Moravians to grant him six acres of land in South Bethlehem to construct a facility to practice hydrotherapy, also known as the water-cure system. With the Moravians' permission, he constructed a three-story wooden building to serve as a recuperating resort for those who sought the healing powers of the spring water. In 1846 he opened for business. Spas were popular at this time and Oppelt's hydropathic institute became a popular sanitarium and summer resort. The water-cure enjoyed an excellent reputation among Bethlehem's upper classes who could afford the seven dollar per week charge for room and board, but its treatments were out of reach for most of the working-class residents. After the Civil War, Oppelt's decision to expand the facility proved to be its undoing. He underestimated the costs of renovation, overextending himself, and in 1871 was forced to declare bankruptcy.

Around the same time, Reverend Cortand Whitehead, rector of the Episcopalian Cathedral Church of the Nativity in South Bethlehem, called together several of his parishioners and other prominent residents to discuss the founding of a hospital. They established a board of trustees to manage the institution and a charter was granted for the establishment of St. Luke's Hospital by the Pennsylvania State Legislature and signed by

⁹⁸ Birnstill, Joseph and B. De Gersdorf. "Proceedings of the Sixth Annual Meeting of the American Institute of Homeopathy." Quarterly Homeopathic Journal 1 (1849): 386.

Dr. Hark died in Bethlehem on June 18, 1910 at the home of his grandson, Hugo C. Hark, and is buried in the Moravian cemetery in Bethlehem.

Governor John White Geary on March 29, 1872. By 1873, sufficient funds had been raised to begin work. The Trustees purchased a nearly completed double building on Carpenter Street (present day Broad Street) from Abraham Yost for \$8,000. Over the summer, changes were made to the building to fit the needs of a hospital, and on October 17, 1873, St. Luke's Hospital received its first patient.⁹⁹ As Bethlehem's population continued to grow, the small cottage hospital was soon feeling the constraints of its location, and the vacancy of the water-cure property allowed the trustees to think in terms of a general hospital, with an agreement of sale being finalized by the end of 1874. The establishment of St. Luke's was a necessity in a community where industrial mishaps were a common occurrence. Work in the local industries was hazardous and the need for a centrally located, well-equipped and professionally staffed hospital was critical. With the nearest hospital over 40 miles away in Philadelphia, sick and injured workers often died en route to treatment.

While it was not unusual for hospitals to be founded as the result of industrial growth, St. Luke's was set apart from other hospitals early on by its lack of religious affiliation. Many hospitals in American were associated with one particular denomination, but St. Luke's founders had taken steps to establish a non-denominational institution, perhaps following Asa Packer's lead in founding the secular Lehigh University. While the original charter designated St. Luke's as an Episcopalian hospital, the founders were not satisfied with this arrangement because it granted too much power and control to the Episcopal diocese and they petitioned to have the charter amended. Several non-Nativity members were incorporated on the board, including the Moravian

⁹⁹ Kelli Oliver, Towards the Modern Hospital: An Early History of St. Luke's Hospital 1873-1908, Thesis, Lehigh University, 2008, 7-9.

Bishop, Rt. Reverend Edmund DeSchweinitz, and, with many donations coming from other denominations, the founders got their wish in late 1872, making St. Luke's a non-denominational institution. The practice of welcoming patients of all religious faiths was unique among hospitals of the day and it reflected the growing diversity of the community. After 1880, Bethlehem's burgeoning industries drew immigrants from eastern and southern Europe, and St. Luke's early commitment to treating all who came to its doors determined that the institution would play a significant role in the lives of the newly arrived workers.¹⁰⁰

St. Luke's became the region's first hospital and was a pioneer in establishing the modern system of hospital management, placing the whole care and responsibility of the management and treatment of patients under one head and direction, a system that would be replicated at the nation's best hospitals. In 1881, the hospital took its first step towards becoming a modern institution, appointing William L. Estes, a twenty-five year old doctor, to the newly-created position of Superintendent and Physician and Surgeon-in-Chief. Estes controlled all of the hospital's daily operations, including the admittance of patients, the purchase of supplies and equipment, the oversight and management of grounds, wards and apothecary, surgical operations and the treatment of patients. In addition, he was charged with staying abreast of new developments in medicine and surgery and improving the hospital's patient care. Estes was born in 1855 on a plantation in Brownsville, Tennessee. He hoped to establish a residence in New York, but found himself touring the hospital in Bethlehem in 1881. Impressed by the "dire need and a very large field for a surgeon with organizing ability and a willingness to work hard,"

¹⁰⁰ Kelli Oliver, Towards the Modern Hospital: An Early History of St. Luke's Hospital 1873-1908, Thesis, Lehigh University, 2008, 10-12.

Estes found the “temptation to accept the job was . . . overpowering,” accepting the position soon afterwards.¹⁰¹ Estes, like many others before him, moved his family to Bethlehem where his name remains closely identified with the hospital and community he served.

As head of the hospital, Estes introduced new programs, ideas and instruments to initiate more advanced health care. One such program was the St. Luke’s Training School for Nurses. Familiar with the ideas and work of British nurse Florence Nightingale, founder of the pioneering Nightingale School for Nurses, Estes sought the establishment of a nursing school under the control and direction of the hospital. Nursing schools could provide multiple benefits to hospitals, providing a source of cheap labor that became the mainstay of the hospital’s workforce. Also, hospitals hired out nurses to private practices and those requiring in-home care with the financial compensation for their services going to the hospital. Patients also benefited from the care received at hospital-affiliated nursing schools. The increased numbers of trained nurses brought quicker and more efficient attention to patients’ needs and complaints. St. Luke’s Nursing School opened on December 1, 1884 with the acceptance of nine students, establishing it as one of the nation’s first fifteen nursing schools. Adding to this importance, the school established a prominent and influential position for women on the hospital’s medical staff, as the nursing school was controlled by a female principal, subordinate only to the hospital’s superintendent and board of trustees. Accordingly, upon the school’s opening, Estes hired Miss M. J. Merritt, a graduate of the Bellevue

¹⁰¹ Kelli Oliver, Towards the Modern Hospital: An Early History of St. Luke’s Hospital 1873-1908, Thesis, Lehigh University, 2008, 27-29.

Hospital Nursing School in New York, as the school's first principal.¹⁰² From its inception to today, the school has drawn students from all over the nation, providing a continual reinvestment in the human resources of the community.

The hospital would be noted for other advances such as the introduction of aseptic surgical procedures, appointment of a permanent pathologist and biologist, introduction of diagnosing tools such as the x-ray and microscope, along with a pathological laboratory, all of which elevated the hospital's level of patient care.¹⁰³ The hospital continues to stay at the forefront of medical technology, being noted for its nationally-recognized clinical excellence in heart and Intensive Care Unit care, its preeminence as a teaching institution, the excellence of its professional staff and its superior customer service. In 2002, St. Luke's invested in the community's heritage by purchasing and renovating Bethlehem's Union Station. The former rail depot received a new lease on life through a \$4.5 million adaptive reuse of the historic building that houses St. Luke's-Union Station Health and Wellness Center.¹⁰⁴ Initial reports indicated that the building would house a small museum dedicated to railroad history (in the main hall and finished basement). Sadly, this never came to fruition. The facility does, however, contain a substantial number of historic photographic prints of the building and surrounding area and the renovation has allowed this landmark property to remain a visual key for the area, serving as an example of the power of preservation. On the hospital's main campus, the historic Coxe Pavilion, built in 1914, currently houses the

¹⁰² Kelli Oliver, Towards the Modern Hospital: An Early History of St. Luke's Hospital 1873-1908, Thesis, Lehigh University, 2008, 29-31.

¹⁰³ Oliver, Towards the Modern Hospital 31-36.

¹⁰⁴ The Morning Call, "Union Station on the Operating Table: South Bethlehem Site will be Renovated as Medical Building" Kathy Lauer-Williams, August 22, 2002.

Fowler Family Museum, which contains photos, artifacts and information documenting the hospital's history.¹⁰⁵ This facility, originally built for obstetrical cases and later used for medical/surgical patients and as an isolation ward, is one of the early pavilions built at St. Luke's and is the only original hospital building that remains. Renovation of the building to its original look began in 1998 and was completed in 1999. The hospital also maintains the W. L. Estes Memorial Library at the Bethlehem campus that contains a collection of general and specialty reference materials such as: medical textbooks, nursing, pastoral and management materials, journals, audiovisual materials and computer software. The maintenance of these resources solidifies St. Luke's commitment to the community and its historic and cultural resources, providing an excellent example for current and future business establishments in the community.

As the community and region continue to grow, (Lehigh and Northampton Counties combined are averaging 9,000 new residents annually) health care provides many economic benefits to the community.¹⁰⁶ The region's largest employers, by far, are St. Luke's Hospital and Health Network and Lehigh Valley Hospital and Health Network.¹⁰⁷ As jobs in manufacturing continue to shrink locally and nationally (the Lehigh Valley currently has fewer than 4,000 manufacturing jobs, down about 1,000 from the year before) service sector jobs in health care and education remain vital to the

¹⁰⁵ The museum's collection is divided into seven areas: 1) Legacy of Caring and the Community (1760-1874); 2) Hospital (1873-1973); 3) Estes Era/Auxiliary and Volunteer Services; 4) Education; 5) Nursing; 6) Medical/Surgical Development; and 7) Modern Era (1972-Present).

¹⁰⁶ The Morning Call, "Outlook 2008: St. Luke's Hospital" March 9, 2008.

¹⁰⁷ The Morning Call, "2008 Lehigh Valley Outlook: At Your Service" Gregory Karp, March 9, 2008.

region providing employment opportunities for both skilled and unskilled workers and services for the community's residents.¹⁰⁸

Bethlehem's tradition of dedication to health care can provide further opportunities for interpretation. Connections can be made and parallels drawn between the early Moravian health care practices to the advanced innovations of the bio-medical activities at Bethlehem's OraSure Technologies and B. Braun Medical as an indication that investment in health care technology and innovation continues to draw capital and human resources to the community.

¹⁰⁸ The Morning Call, "2008 Lehigh Valley Outlook: At Your Service" Gregory Karp, March 9, 2008.

Conclusion

Thoughtful and pervasive interpretation of the former Bethlehem Steel site, using broad-based public history practices to convey the rich heritage of the community, will improve the quality of life for residents and visitors by generating new investment and encouraging economic growth. In addition, the preservation and interpretation of its historic and cultural resources can stimulate local support and involvement by providing the touchstone that allows the community to rally around a unifying identity.

The key themes outlined in this paper connect four centuries of the community's history, with correlations to national storylines that can provide the basis for meaningful public history interpretation on the Steel site and throughout the community. Embracing public history as a vital part of the redevelopment of the Steel site honors the community's past while creating a strong foundation upon which a solid, meaningful future can be built. Bethlehem's unique historic and cultural landscape can become its most valuable asset. Chronological connectivity lends meaning and dignity to our lives, charging the present with a more vividly conscious validation of our own aliveness and suggesting that we are part of a larger and more significant organism, creating a sense of respect for those who came before us and those who will come after us in time. It is at once humbling and exhilarating.¹⁰⁹ The level of Bethlehem's future successes will be determined largely by its willingness to embrace its rich past.

¹⁰⁹ James Howard Kunstler, Home From Nowhere: Remaking Our Everyday World for the 21st Century (Simon & Schuster, 1996), 89.

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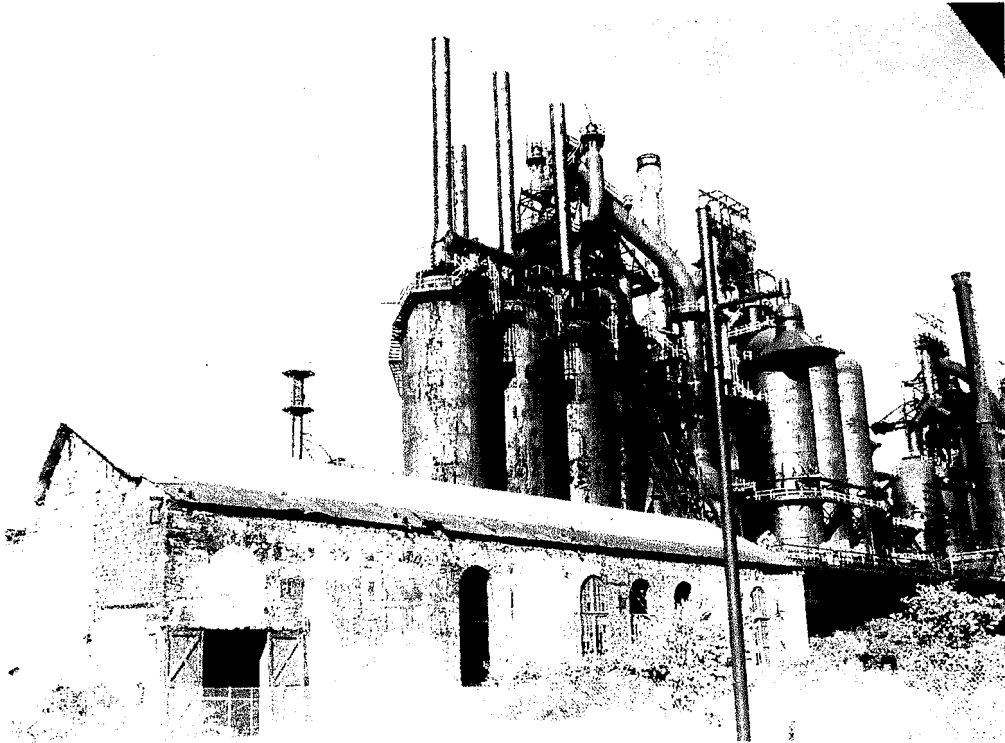
Appendix B

Stock House



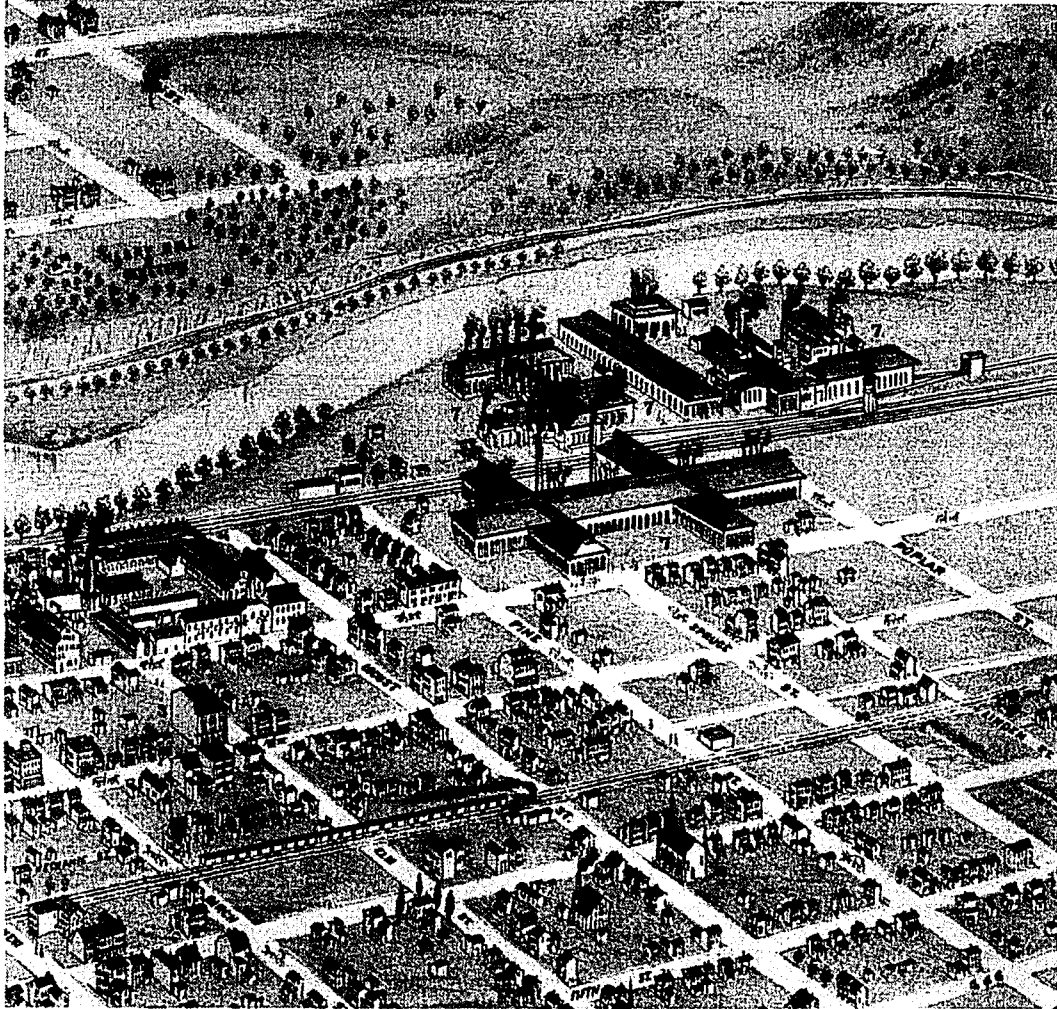
Appendix B

Stock House



Appendix C

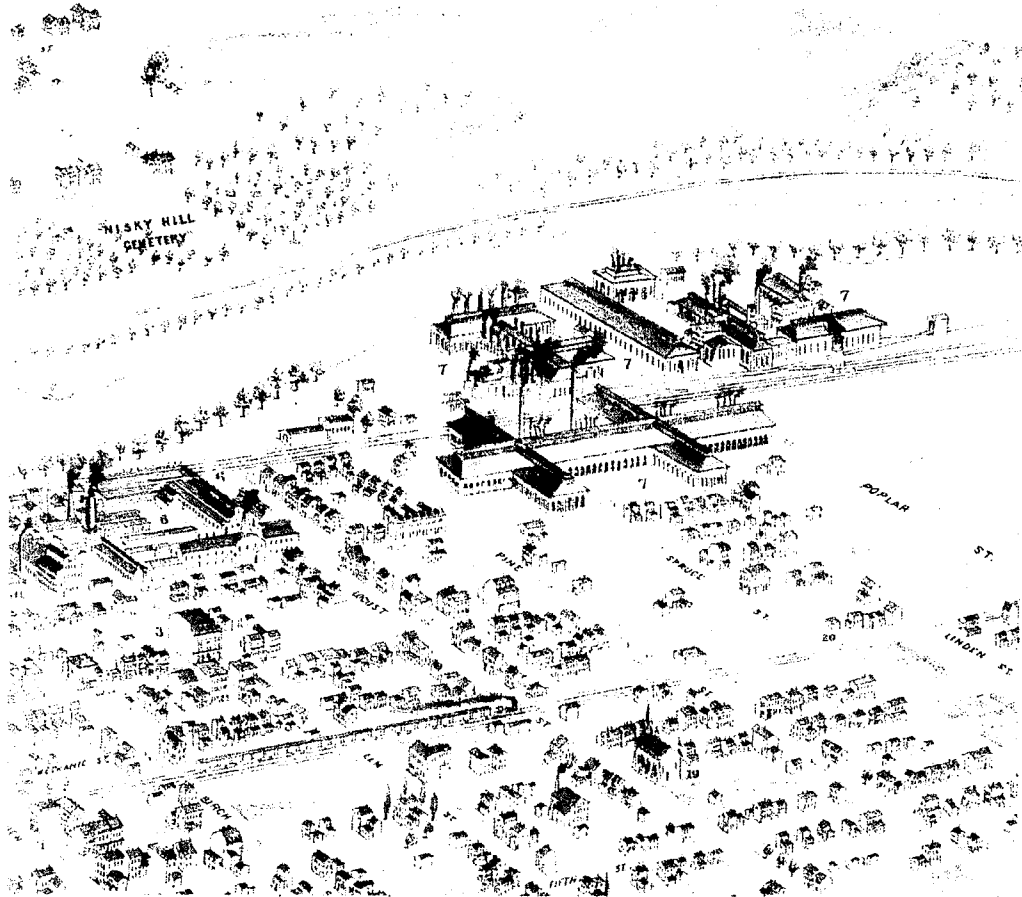
Bethlehem Iron Company – circa 1878



An 1878 bird's-eye view of the Bethlehem Iron Company; the tracks of the Lehigh Valley Railroad divide the steelmaking building from the rest of the plant.

Appendix C

Bethlehem Iron Company – circa 1878



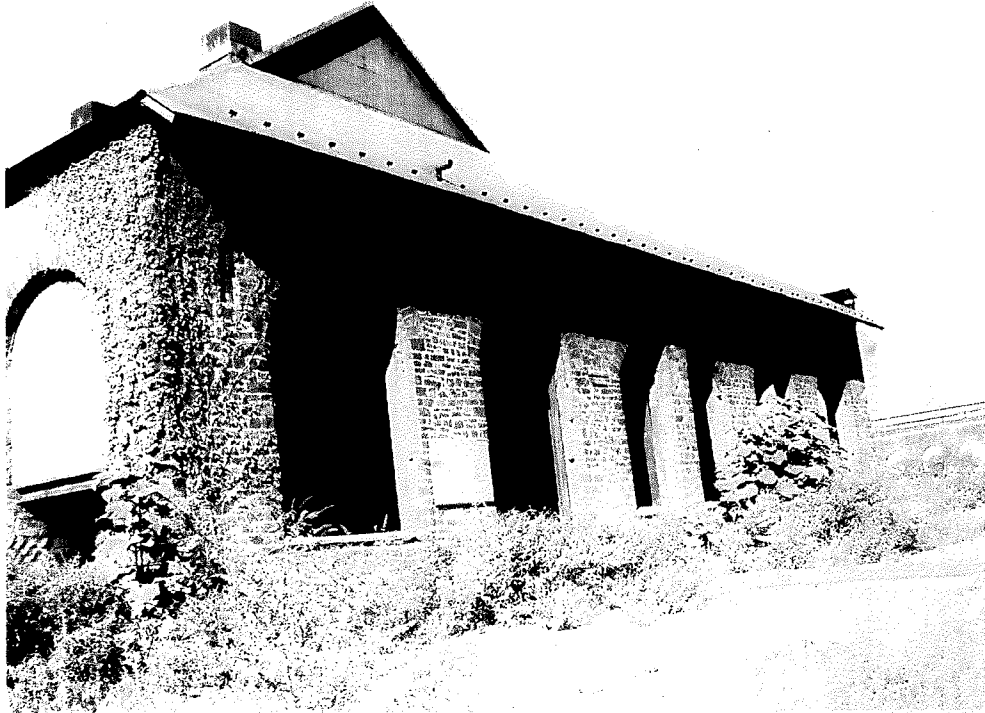
Appendix D

Bessemer Building



Appendix D

Bessemer Building



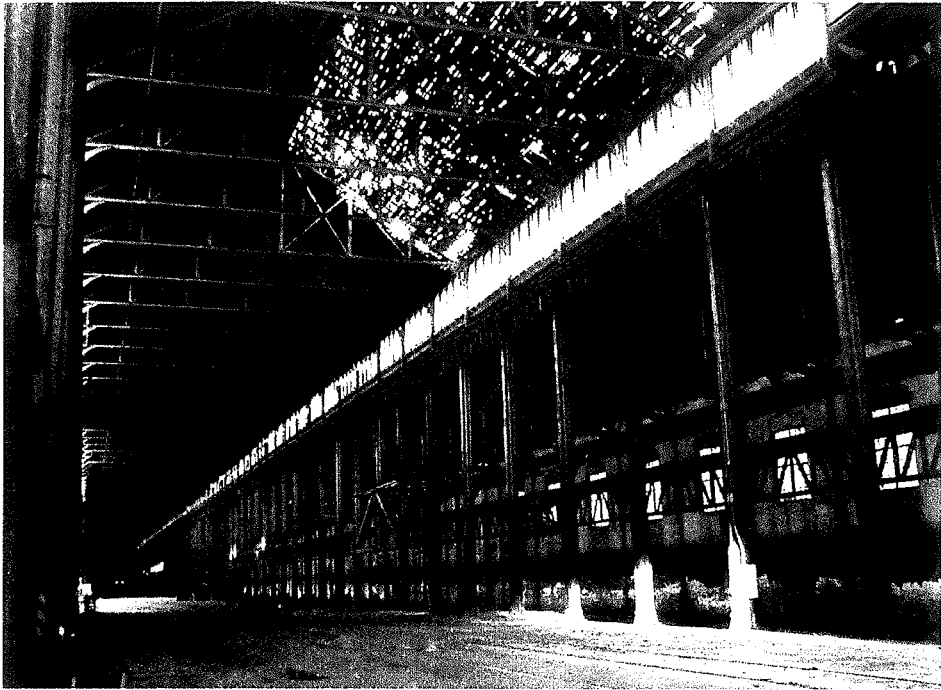
Appendix E

Machine Shop No. 2



Appendix E

Machine Shop No. 2



Appendix F

Bethlehem Steel Logo



Summary of Selected Data

Rutgers University Center for Urban Policy Research PEIM (Preservation Economic Impact Model)
Study of Economic Impacts of Preservation in the State of Missouri (2001)

All data per \$1,000,000 investment, rehabilitation of historic structure vs. new construction

Data Projected on a National Basis:

Characteristic Evaluated	Rehabilitation	New Single Family	New Multi Family	New Nonresidential	New Highway	New Institutional	Additional Generated by Preservation per \$1M Investment
Jobs Created	40	36.6	36.3	36.8	34.1	37.6	3.72
Personal Income	\$1,325,000	\$1,125,000	\$1,122,000	\$1,150,000	\$1,082,000	\$1,166,000	\$196,000
Gross Domestic Product (GDP)	\$1,959,000	\$1,906,000	\$1,919,000	\$1,931,000	\$1,879,000	\$1,938,000	\$44,400
Income Tax Revenue (Federal)	\$187,000	\$187,000	\$187,000	\$187,000	\$176,000	\$187,000	\$2,200

Data for the State of Missouri:

Characteristic Evaluated	Rehabilitation	New Single Family	New Multi Family	New Nonresidential	New Highway	New Institutional	Additional Generated by Preservation per \$1M Investment
Jobs Created	23.3	22.4	21.9	22.5	20.4	24.4	0.98
Personal Income	\$719,000	\$632,000	\$625,000	\$655,000	\$644,000	\$705,000	\$66,800
Gross State Product	\$961,000	\$882,000	\$872,000	\$917,000	\$934,000	\$980,000	\$44,000
Income Tax Revenue (State + Local)	\$86,000	\$73,000	\$71,000	\$74,000	\$75,000	\$79,000	\$11,600

NOTE: The 5 "New Construction" categories are averaged for comparison.

Appendix H

Lehigh Valley Industrial Heritage Coalition Interpretive Plan

Designing Interpretation for the Bethlehem Steel Site . . . and Beyond Report from the June 2007 public conference

Working document prepared by the Mid-Atlantic Regional Center for the Humanities,
September 11, 2007

Project supported by a planning grant from the National Endowment for the Humanities, with
additional support from the City of Bethlehem and the Lehigh Valley Industrial Heritage
Coalition.

THE Bethlehem Steel works can and should become a destination site of national and inter-
national significance, the must-
see place for understanding the
modern industrial era.

Industrial work, family labor,
corporate organization, global
trade, ethnic community life,
and the traumas of
deindustrialization all marked
this community. Making
Bethlehem and the Lehigh
Valley a hub for understanding
the American industrial past
will support economic and
civic revival locally,
regionally, and nationally.

Three distinct areas of activity must be engaged simultaneously
in order to achieve interpretive excellence.

- First, the plan must articulate the site's core story, a story that will connect vitally and directly to the wide range of crucial supporting narratives.
- Second, the plan must include a workable research strategy that will bring about the collection and/or digitization of scattered archival and artifact materials, the recording and preserving of necessary oral histories, and fresh scholarly engagement.
- Third, the plan must offer both immediate and long-term plans for shepherding interpretation on the site.

Excellent interpretive planning will help realize the potential of the Bethlehem site to anchor industrial history development for the Mid-Atlantic region. Planning will also empower Lehigh Valley communities to build strong and profitable partnerships with on-going commercial development. MARCH is committed to articulating a structure for interpretive work on the Bethlehem Steel site that includes generous public input and contributions from scholars and public history professionals.

The process began with a conference held in Bethlehem on June 14 and 15, 2007. This report presents the results of two months of post-conference work collating suggestions, strategizing about the obvious challenges of the site, assessing available resources, identifying partners, and determining next steps.

Part I: Interpreting around a core story

SUMMARY: Interpretation at the Steel site will proceed from two premises: first, that the superhuman scale of the plant, buildings, products, and geographic range dramatizes the insignificance of any one individual; and second, that the story of the place, how it was built, sustained, and destroyed is irreducibly a story of people.

This seeming contradiction is the narrative heart of both the particular Steel story and the larger story of American industry. The Steel grew through human agency into a behemoth of almost mythic stature, anchoring the regional economy and powering both individual identity and community life. Like industry generally, the Steel, once built, seemed unassailable and permanent, impervious to human influence. But it was both built and brought down by human choices. Visitors experiencing the interpretation of industrial history at the Steel will come away richly aware of and informed about how individual actions in a community of production can make and unmake even something so powerful that it seemed to define reality itself.

Interpretation will occur both at key community sites and on the Steel site. At community sites, interpretation will highlight the human scale, the lives lived around and because of the Steel: how the community was built and sustained, the importance of other industrial resources and other employers to the economy and community life, and the impact of the Steel's ability to draw workers from around the world. On the Steel site, interpretation will occur as close as possible to the surviving industrial buildings themselves, and will be accessible both by organized tours and self-guided visitors. Methods of delivering interpretation will vary widely, but site-specific stories will be linked by a many-faceted but consistent focus on juxtaposing scale and agency.

HOW and where interpretation occurs:

People will encounter the history and significance of the Steel long before they actually reach the site. Interpretation off the site but within Bethlehem and the immediate area will point toward the Steel by highlighting community experiences related to industrial life. Interpretation will be encouraged regionally, by connecting awareness of the Steel site to many iconic products of the Steel, including bridges, skyscrapers, highways, and other well-known structures. One goal of regional and national interpretation is to foster interest in understanding how Bethlehem Steel, and American industry generally, definitively shaped twentieth-century life even where its shaping hand was largely invisible.

A. OFF-site interpretation

- Bethlehem and Lehigh Valley community sites: Interpretation at sites within the community will cover family and community life for both worker communities in South Side neighborhoods and management neighborhoods elsewhere. Leisure sites, the homes of families connected to the Steel, ethnic identities and ethnicity-based institutions, and important civic institutions like churches, schools, and cemeteries can be marked and selectively interpreted. Interpretation will include examination of racial and ethnic tensions, how communities survived during strikes and economic downturn, the experience of multi-generation "Steel" families, and what happened to the communities, and to particular individuals, during the years of the Steel's decline and since its demise. Interpretation also needs to include key management figures like Schwab, Fritz, Grace, and Taylor, as well as the various community roles of white-collar and female service workers employed at the Steel. This part of the effort also includes creating Steel-related and industrial history curriculum materials for K-12 classrooms use. As far as possible, interpretation will extend to Allentown, Easton, and other towns with large Steel-connected populations.
- Lehigh Valley industrial sites: The Steel both depended upon and attracted other industrial endeavors, which need to be interpreted as part of the overall story. The Moravian industrial quarter is already in position to support interpretation, but other sites related to iron-making, charcoal and coking, coal and mineral mining will be recruited to participate

in pointing people toward the Steel site. Ancillary industries (e.g. silk, cigars) that came to tap the labor pool of steelworker families are also key to this part of the story. The critical story of canal and railroad development, linked to Bethlehem Steel's access to the ports of New York, Philadelphia, Wilmington, and Baltimore are also part of the regional industrial story. Interpretation at these sites will focus on their unique stories, while also examining the role of the Steel as an anchoring industrial presence.

- Out of area sites: This is a key aspect of interpretation and outreach, but will develop best after the Steel site itself is open to public view. Interpretation at places like the Golden Gate Bridge, Madison Square Garden, Interstate 83, Naval shipyards, etc., will begin with ways of indicating to everyday users that the structure was built with Bethlehem Steel. Collaborative relationships with heritage and tourism promotion enterprises in other cities and states will be developed over time to increase the depth and dimension of this interpretation.

B. ON-site interpretation

Once on the Steel site, visitors will be able to explore the site's history along a number of different paths, starting from entry points at the Stock House, the High House, or the Iron Foundry. All three sites have nearby parking. The Stock House will serve primarily the audience coming specifically to see the

<u>Basic structural requirements for on-site interpretation</u>	
✓	Renovation of the Stock House, in consultation with Coalition members and in light of the interpretive plan.
✓	Stabilization of one blast furnace (C?), the casting floor, and associated catwalks along the ore car railway
✓	Stabilization of the Blowing Engine House, possible restoration of one engine to occasional operability.
✓	Stabilization of one of the Welfare Rooms, partial restoration to working look and condition, (perhaps circa 1970).
✓	Stabilization of the High House, engineering/architectural assessment of the possibility of connecting directly to the casino/hotel complex at the top.

historic area. The High House, if it can be made accessible from the casino area, will be a major entry point to the historic area for visitors to the casino, hotel, and convention center. The Iron Foundry, slated to be a major community gathering place and a farmer's market, will be a primary entry point for local residents. Interpretation will be customized to each audience at each of the three entry points, offering orientation and guidance/transport to the central interpretive sites. See Figure 1 for a diagrammatic presentation of the primary historic area.

ENTERING THE SITE:

- Stock House: To support the site's function as a visitor center and orientation point, interpretation at the Stock House has to connect Bethlehem Steel to the surrounding community and link the story of steel in general to American history, especially of the 20th century. Orientation needs to include the corporate structure and management history of Bethlehem Steel Corporation. Taking a product-centered approach to interpretation will effectively alert people to the geographic reach of the Steel's impact, both through glamorous products like Madison Square Garden and the Golden Gate Bridge and invisible but essential products like re-bar, and structural steel for water towers and power lines. Interpretation here will also include spatial orientation to the Steel site itself, and access to a viewing platform on the Hoover-Mason trestle, so that visitors can get an overview of the

site. A model of steelmaking would help visitors understand the steelmaking process before they went out onto the site. Interpretation on the viewing platform will include labeling each visible landmark building.

Inside, the Stock House should provide spatial orientation to the industrial history and natural features of the Lehigh Valley more generally. An interactive scale model of the resource flows of the Lehigh Valley would both illustrate the magnitude of resources used at the Steel and point people toward the larger industrial history, and outdoor recreational opportunities, of the area.

The Stock House should also link to or include a flexible, open commons that could host performances and other kinds of programming. Interpretive offerings there could take visitors deeper into certain aspects of the human experience of the site.

- **High House:** The central reality of this building is its incredible vertical scale. Entry will be available from the ground-level parking lots or from the top via the casino, and interpretation will focus on naval armaments made at Bethlehem Steel, and danger and death, capped by the story of the workers who died in one of the pits. The large naval gun salvaged from the formerly attached buildings should be displayed vertically in the center of the High House. Surviving pieces of armor plate could also be included. Film may be used for interpretation, or a Guggenheim Museum-like spiral from top to bottom of interpretation on the walls. The site will certainly include a scheduled program (hourly?) evoking the explosion of steam from tempering a gun and the incident of the deaths in the pit. This site will also include an external glass elevator that may include interpretation as it rises but will certainly provide an overview of the site analogous to that available at the Stock House. Shuttles/trolleys will run from the east side of the High House to the trestle to connect with the other historic buildings.
- **Iron Foundry:** The Foundry is part of the site where the redevelopment design calls for integration with the South Bethlehem streetscape. Interpretation here, therefore, focuses on the Steel site's connection to the community, both in creating neighborhoods, supporting institutions like schools and churches, and supporting the creation of Lehigh University. It will also include an introduction to Asa Packer, Robert Sayre, and the development of railroads in Bethlehem and the Lehigh corridor, and gesture toward the Moravian industrial quarter on Bethlehem's north side. Interpretation will be delivered vintage photographs and text panels explaining how the Iron Foundry was used throughout the life of the Steel. Its goal will be to increase awareness of, curiosity about, and pride in the industrial heritage of the Lehigh Valley.

THE HISTORIC CORE:

- **Hoover-Mason Trestle:** Traveling the trestle, either on foot, in rail cars, or via trolley will introduce the scale of the blast furnaces, and cover the process of feeding and servicing the furnaces. Building on the Trestle's unparalleled view over the whole site, statistics about size, weight, amount of iron per blast, total iron produced, etc. will appear here. At the same time, on the catwalks on the south side of the furnaces highlight the names of individual workers. Particularly epic kinds of work occurred outside the furnaces, and those stories will be told on the trestle.
- **Blast Furnaces:** At night, the five remaining furnaces should be lit, and the lighting should be designed to vary so that it signals information of various kinds to the whole community. That could include themed lighting tied to the region's festival schedule or to holiday seasons. It would be very important perhaps once a month to do a special event that

duplicates with light the look of discharging a blast furnace at night. Even more important will be observing an annual darkening of the furnaces on the anniversary of the last cast, which could become a landmark annual ritual event for the whole community. One of the five furnaces will be stabilized to make it safe to take visitors onto the casting floor. Interpretation there will focus on making iron, and on the drama, heat, and scale of tending a blast furnace. A multi-sensory evocation of the sound, light, smell, and heat of the blast would be supported by narrations from former steelworkers projected onto transparent screens. The effect would be to reanimate the space while maintaining its ghostly quality. Access to this one furnace from the trestle would be supported for ADA and safety evacuation purposes by creating elevator access from the north side as well. Footpaths would be available for occasional guided tours, led by former steelworkers, along walkways under all five furnaces, with interpretation there focusing on the work processes that took place in different parts of the furnace area.

- **Blowing Engine House:** Because this building has such a rich machine and engineering exhibit already in place with the blowing engines, this site would host interpretation of the engineering and techniques of steelmaking, and the other industrial processes involved in making and maintaining machinery on the scale needed at the Steel. The site would be restored to the pristine cleanliness for which it was famous, and would include interpretation of the racial segregation that relegated black workers almost exclusively to the labor gangs. The story of Frederick Winslow Taylor's early experiments with industrial engineering would be part of the larger story of management and corporate strategies. Interpretation would be projected onto transparent panels raised above the blowing engines, and available in the spaces at each end of the building and along the walls. One important theme of this work is that more and more visitors will be themselves knowledge workers of various kinds, and they should see the central role, for better and worse, that knowledge workers play in industrial history. It might be desirable to create an eatery at the east end of the building, and use the eatery as an interpretive space as well. Finally, one engine would be restored to operation, and at timed intervals would be set briefly at work, an event preceded by the blowing of an original whistle, perhaps the one that remains at the Drop Forge site, or perhaps the *Normandie* ship whistle if that is still extant. If neither, then the sound would be electronically reproduced.
- **Machine Shop #2:** This area will be a principal area of contact between the historic core of the site and people coming for leisure activities like shopping, strolling, etc. It must therefore use what is visible about the building, including its size, its architecture, and specific quality items like the flared columns, to pique interest in the history of the Steel. Enormous artifacts salvaged from other places, like the press and the columns from the Weldment building, should be displayed here in ways that minimize the distance between visitors and artifacts. The cranes that traveled the length of the Shop should be preserved and restored as mobile, or at least immobile, viewing stations. The interpretation will focus on the Machine Shop as the site where "the Steel built itself," where anything could be repaired or made from scratch. Interpretation should include both the skill required to do such a variety of work, and the ways that self-sufficiency enabled Bethlehem Steel to postpone modernization until it was way too late. The work of Frederick Winslow Taylor is a key lens for viewing the economy-wide struggle over skill and work process. To connect the site to the experiences people have at the casino, a recurrent theme could be the role of risk, and evocations of industrial enterprise as a series of gambles for workers and for management.

- Welfare Rooms: These rooms will tell the stories of worker camaraderie and competition, hierarchy and solidarity. Stories of passing the hat for individuals or families in trouble, celebrating birthdays, selling goods, and the social and strength games that steelworkers played to define themselves and their team members, will all find a place here. The emphasis will be on how heavily production at the Steel relied on these teams of men, and how deeply they identified their future with the future of the company. This interpretation will also address issues of solidarity and division during labor/management struggles, including the famous strikes. Restoration will be targeted and limited to create a mixed environment that shows how the site worked for the steelworkers, how it looks in the present, and what restoration can and cannot do at a historic site. Comparison and contrast will be made between the work environment of industrial and post-industrial work teams, including those of the historians and others working on restoring and interpreting the site. Some areas could be renovated to house artifacts and host oral history collecting (e.g., Steelworkers' Archives). Interpretation will be available through self-guided tours, object theatre installations on-site, and the scheduled presence of live interpreters, principally former steelworkers or members of steelworker families. Interpretation will include story telling, evocations of past activities like showers and the underground economy, and participatory conversation.

Interpretation for the Steel site needs to serve a number of distinct audiences, both in content and location, and through sequencing. Key audiences include residents of the Lehigh and Lackawanna Valleys and the New York to Philadelphia metropolis, former steelworkers, industrial history enthusiasts, curious tourists, and people who come to the site principally for non-historic leisure purposes, including gamblers and conventioners.

The interpretation we propose here requires targeted restoration and stabilization of key structures, supported by additional research into both industrial processes and the specific use of buildings on the Steel site. The overall experience mixes cultural and educational experiences with shopping and eating, offers both drama and insight, while supporting encounters with both recreated experiences and authenticity of both place and voice. By connecting the flow of people and raw materials into and through plant and the use of Bethlehem Steel products around the world, this interpretive scheme tells stories of both management and labor, and links the Steel site to larger narratives of twentieth century American industrial and social history.

Most important, the interpretation we propose carries people back and forth between the awesome scale of the surviving physical plant and the presence and impact of individual and collective choices. In this way, experiencing the Bethlehem Steel site will strengthen visitors' grasp of how they too are shaping the world, even when it seems way beyond their influence.

Part II: Supporting interpretation of the Steel site

<u>Critical initial research tasks</u>	
✓	Conduct a survey of repositories in the United States and internationally to identify where Bethlehem Steel materials are being held.
✓	Secure archival processing grants for known materials, especially those at the National Canal Museum
✓	Create a multi-year industrial history research seminar that will draw graduate and post-doctoral researchers to begin to use the materials that become available to generate fresh questions and new insights into the process, meaning, and impact of industrial manufacturing in shaping many different dimensions of 20 th century life.

SUMMARY: Interpretation can begin at any time at off-site locations, and as soon as the site owners approve of interpretive plans for the historic area on-site. Information currently available in public and private memory and in available secondary research can support an initial stage of interpretative programming. However, developing the full potential of this cultural resource to anchor Bethlehem's next century requires three concurrent efforts. The first is to broaden and deepen understanding of the meanings of the Steel site in regional, national, and international contexts through scholarly research and publication. The second is to find ways to create programming, manage maintenance, and coordinate research and conservation of collections relevant to the site starting right away. The third is exploring ways to endow those functions over the long-term.

A. The research effort

Because the site's power grows from its authenticity and the visitor experience will be essentially educational, interpretation has to be supported by on-going scholarly research. Currently, archival and artifact collections in Bethlehem are insufficient to support the full range of research needed for fresh scholarship on industrial and community history. A key component of successful interpretive planning, therefore, must be the development of a comprehensive archival base and center of research activity.

Major collections of Bethlehem Steel related materials exist locally at the Hagley Museum and Library in Wilmington, Delaware and at the National Canal Museum in Easton, PA. Various small collections also exist locally, including at Historic Bethlehem Partnership. The Hagley collection is well-catalogued and accessible to researchers, and one aspect of the interpretive plan should be to achieve a matching quality of cataloguing and access at the National Canal Museum. Further important collections of Bethlehem Steel materials are available at the Baltimore Museum of Industry, through the State of Delaware's Historic and Cultural Affairs office, and at New Jersey Historical Society, New-York Historical Society, the Museum of the City of New York, and South Street Seaport Museum. Collections relevant to Pacific coast operations are available at the San Francisco State University, San Francisco Public Library, and the SF National Maritime Historical Park. Substantial collections on the corporation's New England operations exist at MIT and the Quincy (MA) Historical Society. Finally, substantial records related to labor history are available at San Francisco State University, Pier70 San Francisco, and for the Sparrows Point shipyard in Baltimore, MD. This is only a partial list of important collections that need to be identified and assessed as research resources.

These known records, few of which have been extensively used by scholars, could support only a fraction of the interpretive potential of the Bethlehem Steel site. Just telling the story of this one organization, itself only a part of the larger industrial history narrative, would stretch the currently available research resources. Bethlehem Steel predicated its business strategy on international markets for raw materials and for steel products, which means that important records of corporate operations probably exist across the United States and the world. Mines in Cuba, Venezuela and Chile sent ore and minerals, and products went out to Panama, Argentina, Imperial Russia, Great Britain and elsewhere. Workers also came to Bethlehem from many points of origin, principally in Europe, the Caribbean, and the American South. Operations took place in Canada as well as on the Atlantic, Gulf, and Pacific coasts of the United States, and Bethlehem also acquired interests around the Great Lakes. From the New York skyline to US Navy shipyards to the Golden Gate Bridge, Bethlehem Steel products are scattered widely as well. This global map of Bethlehem Steel's impact creates a significant research challenge, since relevant materials will be

in multiple languages and an almost infinite number of private, corporate, and government holdings.

The model of Lowell National Historic Park suggests that the collection of material will accelerate as the questions about the site broaden and deepen. So the problem of creating a reasonably comprehensive locally-accessible research base is one aspect of a larger challenge to encourage Bethlehem's development as a place that fosters cutting edge research in industrial history. These twin challenges can be met fully only over time, so the interpretive plan includes initial steps and five year goals. The anchoring institution will be tasked with reevaluating those goals as appropriate and setting new ones based on what has been achieved.

An initial survey of available resources was conducted in July and August by a MARCH intern, Ann Halbert-Brooks, a sophomore engineering and history major at New York's Alfred University. A file of her findings is available on the MARCH website. Further research is urgently needed to identify international archival holdings, to explore known holdings to assess their value, and to process inaccessible materials to make them available to researchers. Discussions with the National Endowment for the Humanities Preservation and Access Division personnel indicated a willingness on their part to entertain a grant proposal designed to begin that process.

The Hagley Museum and Library in Wilmington, DE has agreed in principle to explore the possibility of hosting a multi-year research seminar to spur fresh analysis of 20th century industrial history, in partnership with Lehigh University and with MARCH. Phil Scranton and Roger Horowitz, co-chairs of the Hagley's Center for the History of Business and Society, propose creating a two-day planning meeting to develop the structure for a multi-year research and archival development effort before soliciting major funding for this part of the project. The National Endowment for the Humanities and the Andrew Mellon Foundation are both possible sources of major funding for these efforts.

Lehigh University is currently developing digital resources and teaching opportunities that could form the basis for a permanent research collection and institution. Over time, the Bethlehem community must meet the challenge of storing materials that can be acquired and digitizing collections that are identified but not acquired. The digitization project at Lehigh University, run by Julia Maserjian, is a key resource for the latter effort. Seth Moglen and John Pettigrew, also on the Lehigh faculty, are building curriculum, teaching plans, and public outreach efforts that would be essential to distilling materials relevant to interpretation from the on-going scholarly research project.

A partnership between Hagley and Lehigh, supplemented by a funded effort at archival processing and discovery, seems the most promising strategy to begin meeting the research needs of the Steel site.

B. Long-term support of interpretation

Ultimately, the site will require coordinated management of programming and research, Coalition activity, and maintenance for both the industrial buildings and a growing collection of artifacts and oral histories. Three critical functions will have to be fulfilled:

- Anyone interested in the Steel site, for tourism, film-making, research, school groups, performance, meeting space, etc. will need to have a clear contact point from which to

begin. The site will not be able to mobilize support if inquiries meet with frustration or non-response. The “first phone call” should lead directly to answers on how to collect and distribute site-related information, schedule and manage activities on-site, and orient visitors both on and beyond the Steel site.

- Nurture the strength and collaborative practice of the LVIHC
The LVIHC will require meeting and headquarters space for its own operations. In order to support member activities, the LVIHC will need storage for research materials and collections, and access to flexible programming space for events organized by Coalition members.
- Generate the intellectual energy and funding to drive development of the industrial history resources of the region.
The Lehigh Valley has the potential to be a must-see national center for steel and industrial history. To drive the development of the industrial history of the region toward that goal, the coalition would have to support the establishment of industrial history curriculum projects within K-16 education, especially in the Lehigh Valley, invest in outreach and capacity development for smaller sites and organizations, create a fund of start-up money to support engineering, preservation, and interpretive studies, and collaborate in marketing other sites within a regional industrial history narrative.

Interpretation of the Steel and its larger story requires coordination and focused effort, sustained over many years. Several institutions currently involved with the planning stages have important contributions to make. The mid-term and long-term challenge remains that interpreting the Steel and all its implications is too large and important a project to be pursued as a sideline or secondary interest.

STAGING ORGANIZATIONAL DEVELOPMENT: Securing the essential long-term interpretation will require coordinated investment from the site owners, the city, and coalition members. The result of that investment will be the full realization of the potential of this site for both local community development and attracting first-time and repeat tourism.

Stage One: Creating a bridge organization

The Stock House, if appropriately renovated and managed by the local convention and visitor’s bureau, could fulfill information, orientation, and direct services responsibilities, along with providing meeting and programming space. Supporting but smaller versions of these services would have to be provided at the High House and the Iron Foundry, the two other key entry points to the historic area. Meanwhile, Lehigh University, led by its new president, is re-positioning itself strongly as a support for research, curriculum development, and public education about the Steel.

The first stage of interpretation should be built using a hub and spoke approach, diffusing as much interpretive work as possible around the site and into the community rather than concentrating it at either a visitor’s center or a museum location.

A visitor’s center at the Stock House would be the hub, providing basic services (Restrooms, Gift Shop, information distribution, etc.) and helping visitors quickly assess all the available attractions and activities in order to customize their experience. Information and orientation resources at the hub would both explain steelmaking and the site and carry visitors and interpretation out along numerous interpretive spokes into the community and the region. The orientation experiences should be designed to take no more than half an hour.

Stage Two: sustaining interpretation & maintenance of historic buildings over the long term:

The interim model just described – an orientation center coordinating and marketing interpretation that is actually delivered in diffuse ways throughout the site and city – offers the most effective place to begin interpretation. It takes maximum advantage of the existing richness of story telling interests and resources, while not requiring immediate amelioration of specific locations. It also minimizes the impact of the poor existing research base and the start-up challenges faced by any new project.

However, over the next five years, site owners, the city, and coalition members must commit to the collaborative development of a sustainable plan for long-term support of interpretation, preferably by substantially increasing the capacity of an existing institution. We should approach this process by encouraging groups to invest in developing greater capacity to:

- Host a research archive and research process
- Stabilize and maintain historic Steel structures
- Create exhibits and curriculum to interpret industrial history broadly and innovatively

Stage Three: endowing interpretation and maintenance:

It will also be essential that all stakeholders commit to building a permanent endowment for interpretation and maintenance. The demands of maintaining these historic structures are both large and unpredictable, and unless securely endowed, it will be difficult to deliver on the necessary maintenance over the coming years. Funders approached to support programs might therefore become wary, substantially depressing the ability of coalition members to raise programming funds. The best next step toward securing the future is to commission a business plan for the interpretive approach proposed here. The Delaware and Lehigh National Heritage Corridor has funds in hand to support the business planning process, and is preparing an RFP to begin that work.

The business plan needs to address the costs of achieving the basic parameters for stabilizing and using the historic buildings noted in Section I.B. above. The plan should include options for short- and medium-term foundation and other support for programming. Finally, the business plan needs to explore various structures for stakeholders to collaborate in developing sufficient endowment for interpretive operations and the long-term capital costs of industrial preservation. Business planning should begin no later than December 2007 and be completed by June 2008.

CONCLUSION: Realizing the full potential of the Bethlehem Steel site will require sustained collaboration among many stakeholders to multiply and coordinate the impacts of programming, research, preservation, and outreach. Attracting regional, national, and global audiences, the Bethlehem Steel site can become both a cultural and economic anchor for the Lehigh Valley and an innovative international model of preservation-based community revitalization.

Appendix I

“Homestead: From Mill to Mall” DVD Documentary Produced by Save Our Steel

“Homestead: From Mill to Mall”

Produced by Save Our Steel

16 Minutes

2004

This documentary explores the consequences of uncontrolled commercial redevelopment of U.S. Steel’s former flagship plant, the Homestead Works, and offers suggestions to Bethlehem for its steel plant redevelopment. After the Homestead plant shut down in the 1980s, the towns of Homestead, West Homestead and Munhall were devastated by the loss of jobs and income. When a large developer came to town in the 1990s promising a return of both through the development of The Waterfront, a huge commercial and retail complex, the towns’ future seemed bright. But four years later, while 85,000 shoppers per week visit The Waterfront, the downtowns are still depressed, most of the jobs created are low-paying retail positions, and the municipalities are struggling to pay for the burdens of providing services to the massive mall next door.

Copy of DVD to be filed with this thesis in the History Department.

For more details, please see: www.saveoursteel.org



Appendix J

“Vision and Vitality: Bethlehem After the Steel”

Vision and Vitality: Bethlehem after The Steel

A vision of community development based on adaptive reuse of historic portions of Bethlehem Steel Corporation’s industrial plant
April 13, 2004

Developed March 27, 2004 at a workshop sponsored jointly by the Mid-Atlantic Regional Center for the Humanities (MARCH) at Rutgers University/Camden, and the Historic Bethlehem Partnership (HBP), affiliated with the Smithsonian Institution.

In addition to the sponsoring partners, participating organizations included: the City of Bethlehem, SaveOurSteel Foundation, Steelworkers’ Archives Project, South Bethlehem Historical Society, the National Museum of Industrial History project, Delaware and Lehigh National Heritage Corridor, National Canal Museum, South Street Seaport Museum, and Sloss Furnaces National Historic Landmark.

Executive Summary

MARCH and Historic Bethlehem Partnership convened a day long workshop on March 27, 2004 in Bethlehem, inviting a wide range of stakeholders to formulate a shared plan for the adaptive reuse of 160 acres of the old Bethlehem Steel plant site. As a result of our deliberations, the group agreed as follows:

1. The workshop group constitutes the first core of a multi-organizational coalition dedicated to seeing the successful community-based redevelopment of the site. One of our first tasks is to broaden the coalition to include more groups and organizations that have a significant stake in the outcomes.
2. A strengthened public role in deciding the future of the 160-acre historic area should be assured so that the re-use of the site meets Bethlehem’s community development goals.
3. Interpretation of the industrial heritage of Bethlehem can begin at once, even before the site is secured. Interpretation should address the fullness of industrial history, involve residents, visitors and local institutions in interpretive activities, and take place throughout Bethlehem and the Delaware and Lehigh National Heritage Corridor as well as on the plant site.
4. The interpretive project can be pursued by multiple partners in stages over time, with all activity guided by a shared approach toward the collective vision. The organizing principles of the shared approach include building on the authenticity of places, including regional and national interpretive content, developing socially-oriented education at all levels, and promoting pervasive community involvement. Existing resources for interpretation, signage, programming, and education currently held by various members of the coalition, including the NMIH (in affiliation with the Smithsonian Institution), should be used to the extent that they address the project’s organizing principles.

The renewal of the plant site is a celebration of this community’s future, built upon the honoring of its past. Bethlehem can continue to build a sustainable economy and offer satisfying lives to its citizens through a rational, future-oriented embrace of adaptive re-use. Adaptive reuse has

proven itself over and over, and we can demonstrate its effectiveness with peculiar power in Bethlehem's high-visibility setting. By embracing the centrality of industrial history to the city and region and adopting a strategic approach to adaptive reuse of the site, Bethlehem can multiply its sources of economic and cultural enterprise, strengthen its schools and neighborhoods, embrace its diverse population, and preserve its unique identity. Community development based upon adaptive reuse will replace the vulnerability of depending on a single major employer (whether a mill or a mall) with an innovative, resilient, educated community of enterprise.

Goals

Goal 1: Group Structure

The diverse coalition of groups promoting this vision of the future of the site can fill several functions. As a group, we can advise public officials on the evolving vision, including but not limited to having a presence at the planned charrette. We can also advocate for the project with political and philanthropic leaders and keep relevant issues before the press and the wider public. Individually, members of the coalition offer significant existing resources in curriculum, programming, collections, membership, and organizational strength. Coalition members have distinct interests and strengths relevant to particular parts of the overall plan, which they will pursue directly in specific partnerships with other groups in or beyond the coalition. The coalition as a whole will stay informed about separate projects through regular internal communication and provide information to the media and others through a special interactive Bethlehem project page on the website www.march.rutgers.edu hosted and maintained by MARCH.

We encourage every member of the coalition to articulate its own vision of how the Steel plant site can help further its mission. MARCH's specific responsibility within the coalition will be to continue, as we did for the workshop itself, to tap the best resources in the region on behalf of the shared effort.

Goal 2: Securing Public Control of the Site's Future

A. The city of Bethlehem should seek to gain control of the disposition of the site from its current owner, International Steel Group, in order to assure that the re-use of the site meets Bethlehem's community development goals. Public control of the site's future can be achieved through the transfer of ownership, appropriate easements, or in other ways. One promising strategy that has worked elsewhere involves the city creating a quasi-governmental for-profit economic development arm, and then eliciting ISG's interest in transferring the site for no more than a nominal fee, in return for tax write-offs and/or as part of a steel subsidy package negotiated with the United States Congress. ISG has profited substantially on sales of more than 1500 acres of Bethlehem Steel holdings. The company might be amenable to donating the remaining site, especially given the structural challenges of clearing the site and the popular acclaim the Company would reap by empowering the city in this manner. ISG also might choose to remain a partner in the redevelopment of the site, especially by identifying forms of industrial production (e.g. scrap processing, machinist work) that could be added to the mix of uses on the site.

Success in securing public control depends upon:

- making a compelling case for the site's importance to the future of both city and region,
- exploring available options for public control, perhaps through the economic and community development offices of city government, and
- mobilizing local political leadership and the region's state and federal congressional delegations as part of the lobbying effort.

The coalition can help develop the case for the site and provide access to elected officials throughout the Lehigh and Delaware Valleys to build a strong political voice.

B. With public control secured, the coalition seeks, over time, to convert every remaining building on the old Bethlehem Steel site, and the open spaces as well, to community development uses. The five blast furnaces are and should be iconic for the city and central to adaptive reuse strategies, but the scale and arrangement of the entire complex speaks volumes both about the United States as an industrial power and about the industrial work experiences of the thousands of men and women who labored there and the families who depended upon them.

The site is big enough to house museums, office and residential development, industrial arts or production facilities, business incubators, educational uses, arts and recreation, and historic preservation. The coalition's approach challenges the cultural institutions of Bethlehem to go beyond traditional museum practices and create interpretation that thrives outside museum walls. It challenges the business community to innovate 21st-century industrial uses that can be built on the foundations laid by three previous centuries of Lehigh Valley industry.

As on-going redevelopment proceeds, some portions of the site will, at any given moment, not yet be restored or adapted. These should be understood as positive resources, places that can speak eloquently to the experiences of deindustrialization and the fear, pain and anger it produces. Indeed, some portions of the site might best be simply stabilized and left permanently unpolished, as settings for that chapter of the community's history.

Goal 3: Pervasive Interpretation

A. The Stories: Industrial production by a multi-cultural community of industrial workers defined Bethlehem's identity as early as the 18th century. As early as the 1740s, many languages could be heard on the streets of Bethlehem. The Moravian community laid the foundations of Lehigh Valley industry with its smithies, tanneries, saw mills, oil mills, grain mills, and carpentry shops. The Moravians laid the foundations of education deep and early of equal education for both boys and girls and they set an exceptionally enlightened standard for cross-cultural understanding among Europeans, Africans, and Native Americans. Bethlehem Steel built its works here because the area already boasted a skilled industrial labor force, proximity to coal, iron, and major markets, and the canal and railroad network to carry people and products in and out.

The Mid Atlantic region today hosts a string of industrial history museums, sites, and potential sites, with the Bethlehem Steel works at its heart. By telling the whole story of the region's industrial growth and decline, Bethlehem can become a major focus of activity, an interpretive beacon that makes the city as central to sharing regional and national industrial history as it was to shaping it.

Immigrants began arriving in Bethlehem in the nineteenth century. Canals and railroads brought their own service needs and personnel into the community, adding new elements of language and culture, and widening the geographic reach of Bethlehem's industrial life. The growth of the steelworks drew further waves of immigration through the nineteenth and twentieth centuries, adding Italians, Poles, Czechs, Russians, Puerto Ricans, Mexicans, and others to the population. As the population grew larger, so it also grew more densely connected, as families, neighborhoods, churches, and charitable societies emerged to serve the working population.

All the while, steel was reshaping American life. While miners cleared away mountains and forests in search of coal and iron, steel railroad tracks crisscrossed the continent, permitting people, goods and information to travel coast to coast, and bringing American settlers onto the lands of the Plains Indians. Then twentieth century steel-frame skyscrapers rose in New York and elsewhere, held up by Bethlehem's famous I-beams. Steel shipyards all over the United States built faster and bigger steamships, freighters, tankers, and ocean liners, and eventually several classes of warships, including destroyers, transports, and aircraft carriers. Cars and trucks traveled over roadways and highways strengthened by beams of steel, while bridges from San Francisco's Golden Gate to New York's George Washington and Philadelphia's Walt Whitman proclaimed the strength of steel to knit the nation together.

The modern industrial corporation also created a whole new class of white collar workers, as the management class burgeoned after World War I. Labor unions struggled to establish safe working conditions and living wages for legions of industrial workers. Women went to work in the mill during World War II. Especially after World War II, union strength meant steady wages, pensions, homeownership, and community stability in America's industrial cities.

As postwar competition from rebuilt Asian and European economies pressured American industrial giants, corporations fell behind in reinvestment, relying more and more on the ingenuity of production line workers to wrest production from aging machines. The decline and ultimate loss of industrial employment created anger and suffering in whole communities of workers, managers, families, and their local institutions. Now the postindustrial community seeks to work together again to expand, diversify and strengthen its economic base for the future.

B. Delivering the stories: Interpretation and education will involve the community most effectively if it makes visible connections between industry and daily life all over the community, in neighborhoods, along highways, in schools, churches, hotels, etc. Building a community-based approach to interpretation of industrial history should involve the chamber of commerce, especially, in order to set up encounters with history that link the downtown with the Steel site, that surprise people who might not come looking for a museum, and that help with job retraining and placement for displaced workers.

Signage that promotes and connects sites, supplemented perhaps by a looping radio broadcast in both Spanish and English could connect the history visible in Bethlehem with travelers on the region's highways and interstates. Illuminating the furnaces at night would restore, in a transformed way, Bethlehem's 'round the clock connection to the working furnaces. Eye-catching coordinated industrial heritage signage throughout the region, along with lighting the furnaces, would make the connected texture of industrial history in the Mid Atlantic visible even to people only passing through along the freeways.

Education about regional industrial history could proceed most effectively at all levels from primary school to trade school to graduate programs throughout the region. It can begin at once and operate alongside efforts to acquire and adapt the Steel plant site. Spreading a coherent educational message through the schools, universities, historical societies, oral historians, libraries, websites, and other parts of the coalition, will expand the community of people who understand and treasure the gritty authentic majesty of the site itself. The driving purpose of the educational and programmatic efforts is to make tangible and moving the dense fabric of practical, cultural, economic, and personal connections that weave together communities here and many miles or many years distant from industrial Bethlehem. As the adaptive reuse of the site moves forward, the site will become increasingly the theatre for these activities, a place where

people find both practical and cultural ways to relate Bethlehem's industrial history to their own lives.

Building the education components together with the educational institutions and business leaders also means mobilizing the skills in the community to create educational materials. As we accumulate the story of steelworkers, for instance, interviewees could have the chance to learn interviewing and recording skills, which would both create new employment opportunities and a workforce large enough to complete the task of interviewing the thousands of former steelworkers and steelworking families in the area. Signs and posted placards might be made by new job printing businesses or metal workers located on the Steel site. Radio broadcasts that tell the stories of industrial history could be narrated by steelworkers, staffed by college and high school interns, researched by faculty and graduate students, etc. so that each encounter not only evokes the past but also actively stimulates the recovery of the community and enhances its prospects for the future. One interesting model is Bethlehem Works' use of old gears to decorate the walkways on the site.

Goal 4: Project Partnerships

A. Political mobilization:

1. Secure relevant legal information and assess city's willingness to create quasi-governmental economic development agency.
2. Contact and recruit state and federal elected officials to support adaptive re-use of the site, including with appropriations through ISTEA (Intermodal Surface Transportation, Efficiency Act) Urban Development Grants, steel subsidies, etc.
3. Secure permission and funding (ISG maybe?) to light the blast furnaces at night, to make them more visible on the night sky. Vary color for seasons etc. to emphasize furnaces as iconic.
4. Create multi-constituency advisory board for this effort.

B. Funding:

1. NEH (National Endowment for the Humanities) is interested in encouraging teaching about industrial boom, decline, and readjustment nationally. Might be a source of funding through Historic Bethlehem Partnership to develop educational and interpretive programs and outreach. Also could seek Teaching America's History grants for schools and curriculum development and Summer Institutes from NEH to spread the message of the new curriculum around the Lehigh Valley.
2. Contact NHPRC (National Historic Publications and Records Commission) as possible funding source for archival projects.
3. Seek opportunities to present the project to broadly interested constituencies, like the American Institute of Architects based on the impact of structural steel on architecture, WWII veterans, especially naval veterans, whose ships and gunnery were provided by Bethlehem Steel, ethnic history societies and electrical workers and machinists unions, as well as USW. Assemble specific projects or identify buildings specifically related to these interests and seek multiple small donations to support developing programs.
4. Seek support from companies that had profitable business-to-business relationships with Bethlehem Steel Corporation.
5. Contact and begin cultivating foundations and donors for the effort, regionally and nationally.

6. Explore securing Federal ISTEAs, enterprise zone, or community development funds to support the city in undertaking the management of economic development on the site.
7. Examine efficacy of TIFs (Tax Increment Financing), earmarks, and easements to generate consistent funds to support group's work.

C. Community involvement:

1. Secure ISG permission for hard-hat tours of the site, with appropriate safety precautions. Eastern State Penitentiary is model here. Charge enough to generate useful revenue for projects and compensate tour guides. Hire steelworkers as tour guides. Market regionally.
2. Reach out to Bethlehem Spanish-speaking communities and solicit their ideas about the future of the site, curriculum focus, educational and job training needs, etc. Have the plan translated into Spanish and submit for publication in Spanish-language newspaper. Partner here could be South Bethlehem Historical Society and Spanish-language newspaper.
3. Create radio piece or radio show to talk about life at the Steel. Broadcast English and Spanish versions. Advertise on signs encouraging passers-through to tune in and hear the history of the sights they are seeing. Partners here could be South Bethlehem Historical Society again and the university/college radio stations.
4. Explore delivering message in an arts medium. Existing resources include ArtsQuest artists in residence, Touchstone Theatre program,- many ways to deliver the story. Uses organizing principle of layering of the interpretation. Partner here could be ArtsQuest and Touchstone Theatre group, along with historical societies, the Steelworker's Archives project, and the SaveOurSteel Foundation.

D. Education:

1. The site should include a place for the Smithsonian industrial artifacts, which could either be a setting like the one planned for NMIH or, with Smithsonian approval, one based on a newly-conceived approach. The museum should be developed as one resource of the overall education plan.
2. Integrate signage in Moravian areas, Delaware and Lehigh Corridor signage design, and Bethlehem Steel site themes to create integrated mobile and diffused industrial history signage throughout Delaware & Lehigh corridor. Possible tie-in to walking tours led by steelworkers, a project now under discussion between HBP and South Bethlehem Historical Society. The Delaware and Lehigh National Heritage Corridor Commission and PHMC would be central to a collaborative integrated signage initiative.
3. Integrate Lehigh University website, Steelworkers' Archives speaker's bureau programs in schools and senior centers, and HBP pre-K through college hands-on school programs into core of pervasive curriculum. Add college and high school internships in site and program projects. Having education as an organizing principle does not mean just linking together good beginnings. Building on models used at the textile mills in Lowell, Massachusetts, the goal would be that every year, every student, in every discipline, should come into contact with the plan. Serving all the superintendents up and down the corridor, as well as the colleges, the hospitality programs at the community colleges and similar educational service groups would also build allies for the site and project.

Appendix K

Lehigh Valley Industrial Heritage Coalition Member List

Lehigh Valley Industrial Heritage Coalition

- **VOTING PARTNERS:**
- Allentown Art Museum
- America On Wheels Museum
- ArtsQuest
- Cedar Crest College: Social Sciences Dept.
- City of Allentown
- City of Bethlehem
- Delaware & Lehigh National Heritage Corridor
- DeSales University: History Dept.
- Historic Bethlehem Partnership
- Lehigh County Historical Society
- Lehigh University: ArtsLehigh
- Lehigh University: History Department
- Lehigh University: South Side Initiative
- Lehigh Valley Convention & Visitors Bureau
- Lehigh Valley Public TV, WLVT Chan 39
- Mid-Atlantic Regional Center for the Humanities
- Mock Turtle Marionettes Theater
- Moravian College: History Dept.
- Muhlenberg College: History Dept.
- National Canal Museum & Hugh Moore Park
- National Museum of Industrial History
- Northampton Community College
- Northampton County Historical Society/Museum
- Pennsylvania Downtown Center
- Pennsylvania Youth Theater
- Preservation Pennsylvania
- Save Our Steel
- South Bethlehem Historical Society
- Southside Film Institute
- Steelworkers' Archives
- Touchstone Theatre
- Wildlands Conservancy
- **EX-OFFICIO MEMBERS (non-voting):**
- Department of Conservation & Natural Resources
- Hagley Museum & Library
- Lehigh County Executive
- National Park Service
- Northampton County Executive
- Pennsylvania Historical & Museum Commission
- **COALITION ADVISORS (non-voting):**
- Lehigh Valley Arts Council
- Li/Saltzman Architects
- RBH Media
- Thinc Design
- HDR/LMS - Environmental Science & Engineering Consultants

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Appendix L

Interpretation Recommendations - Suggested Goals and Tasks

The Bethlehem Steel site encourages a comprehensive understanding of past events as well as the opportunity to think critically about current events. Thoughtful interpretation of the themes discussed in this thesis, among others, can have a profound impact on visitors and the local community. A broad and thorough public history plan will allow for interpretation of the complex patterns and intersections of relationships that existed on this site, within the larger community and beyond, providing an opportunity for visitors to connect with the rich patterns of those who came before while raising their own level of understanding and creating awareness of their connection and participation in similar patterns today. These shared events and experiences are what gives a place its identity, therefore, it is vital for the redevelopment effort to embrace and utilize the area's unique cultural heritage.

For example:

- Understanding that current changes are just a continuation of growth and adaptation that started in their own community over 260 years ago. Learning how to embrace and guide this change for the betterment of the entire community is a lesson to be learned will help re-establish strong community ties throughout the Lehigh Valley.
- Reinforcing the lesson that embracing your heritage creates a strong foundation upon which the community can redefine itself – proud of the past confident of the future.
- A direct comparison to other local, regional and national areas with a strong sense of place and how this definition of an area can be used to revitalize the community.
- As the redevelopment takes shape, local leaders must be aware of the traps of relying on a myopic economy and the potential decline of their relevance and power over a single, strong presence within the community. Lessons to be learned abound at this time and local leadership has much to learn from similar projects while their actions can teach others for future projects.

- Opportunity for cross-curricular activities that introduce students to a variety of people and place in the community they may be unfamiliar to them. For example, a photography class could be combined with a history class. Cameras could be given to students with an assignment of documenting their community with an eye towards what they have learned in their history lessons. Students could also be asked to write about their experiences during the assignment. This allows students to experience and learn about their community through a hands-on approach. Students work could then be displayed at local museum or used as a basis for a traveling exhibit where students accompany their work for interactive showing with the public.
- Foster apprenticeship programs with new technology companies. Students could be matched with organizations that suit their strong points as they intern to learn and complete their community service time requirements.
- Companies could be encouraged to establish scholarship funds in a variety of scholastic areas (science, math, history, art).

Suggested Goals and Tasks

To help tell this story, various local organizations such as South Bethlehem Historical Society, Steelworkers' Archives, Historic Bethlehem Partnership & Lehigh University are excellent resources for further investigating the following issues:

- Visitors may have a sense that technology is something that started with the internet, or maybe computers in the 1970s. It is one of the most pervasive themes of our present society - "e-everything" and "dot-coms" are in practically every media message. Interpretation of innovation and technology on the Bethlehem Steel site will demonstrate that the "current" technology-driven world really started in the 1840s. The benefit of this will be to counteract our ever-shortening attention span by showing that we are only part of a continuing expansion of technology and innovation, thus broadening one's viewpoint. This expanded understanding will help visitors make sense of the present. It is a basic human need to feel that one is not alone, and we all feel great comfort in learning that we

are not the first to ever experience a certain situation. The Steel's history could demonstrate, much like the Moravians, an early pattern of change and adaptation. For example, a modern visitor could be shown parallels between current uncertainties over mega-business mergers and the succession of technological upheaval at the Steel. The skilled mid-nineteenth century Pennsylvania German craftsmen, unskilled late nineteenth century Slovak immigrants female or African-American workers at the end of World War II, obsolete rust-belt workers of the 1970-1980s and the rapidly disappearing middle managers of today all experienced much of the same uncertainty due to changes caused by technology or innovation. Learning about this experience can help visitors put the growing pressures of their lives into an historical context, reducing their anxiety level and leading to a greater sense of comfort . On a broader scale, a comparison could be made to the Luddites, an English social movement of the early nineteenth century that protested by destroying the textile machines that were displacing them and threatening their jobs. Today, the terms Luddite, Luddism or Neo-Luddism are broadly used to signify those who oppose technological change.¹¹⁰

- Understanding the current technological world as really just a continuation of something that started in their own community over 260 years ago will help rebuild the self-esteem of the Lehigh Valley community. The community needs an in-depth analysis of why Bethlehem failed to follow its well-established pattern of innovation and change at a crucial time and how it can be prevented in the future. There is a palpable sense that our era is over, epitomized by the “rust-belt” moniker. Demonstrating a connection to technology and innovation could help the area collectively by bringing back the pride once felt here. Perhaps a connection to the advanced bio-medical activities at OraSure Technologies, Inc. and B. Braun Medical Inc. (both located in Bethlehem) can be used as an indication of current technological and innovative companies that are continuing Bethlehem's tradition of dedication to health care.

¹¹⁰ “Luddite.” Encyclopædia Britannica. 2006. Encyclopædia Britannica Premium Service. 12 April 2006 <<http://www.britannica.com/eb/article-9049263>>.

- Reinforcing the lesson that innovation equals success could be valuable in maintaining America's edge in future generations. Young people can be shown very graphically what happens when investments in innovation are curtailed. This lesson, of course, also applies to the dangers of declining R&D budgets in modern businesses pursuing next quarter's results.
- Visitors, learning from Bethlehem Steel's reactions to Japanese and European competition, will be more prepared to form opinions and make decisions on the tough issues of world trade, protectionism and Chinese economic expansion.
- A direct comparison to the U.S. auto industry could be investigated. Of course, there are competitive and labor issues as well (also like Bethlehem Steel), but a focus could be on technology and innovation. For example, a parallel could be drawn to the auto industry's current delay in embracing hybrid technology as they continue to produce massive numbers of gas guzzlers. While the industry started with innovators like Henry Ford, James Packard and Alfred P. Sloan, they have grown reactive instead of proactive. Our two most significant industries are following the same path - learning from this could help avoid future missteps.
- As America's industrial base declines, are we compromising our defense capabilities as a nation? A round-table conference of scholars could be hosted in Bethlehem to discuss this issue.
- As the average steelworker ascended through the ranks, increased personal wealth and the eventual rise of the middle class, removes many workers from the south side's ethnic enclaves to the suburbs. This flight to the suburbs parallels national trends and the proliferation of the car, like the canal and railroads before it, helps change the community as it removes large amounts of the working class out of the community. America on Wheels could help facilitate discussion and research on this topic.

To accomplish these goals, interpretation can utilize the wealth of local and regional historical organizations, educational institutions and active community members who can all contribute to the successful interpretation of this site.

Short-Term Goals: Could Be Accomplished Within One Year:

- Northampton Community College, Moravian College, Lehigh University, Muhlenberg College, Cedar Crest College and Lafayette College students could take history of technology courses that draw heavily on lessons from Bethlehem Steel. Interdisciplinary classes could be established combining history, math, science and art to give a broad understanding of the affects of technology and innovation in Bethlehem and the world.
- Students, who often are the most technologically savvy, could be drawn into the interpretation through cooperative internships between NMIH and Historic Bethlehem Partnership (“HBP”) and the local colleges.
- Local historical organizations, students and community members could be brought together to brainstorm and record ideas and suggestions for interpretation on the site. In this way, it can be determined what stories the local community feels should be told on the site and how these messages can best be conveyed to visitors.
- High School students required to complete community service could partner with community organizations or local colleges to explore the effects of technology and innovation on their local community through research and oral history projects. Students could generate creative reports and projects that demonstrate their findings while comparing the local and national stories.
- The National Canal Museum could focus on drawing parallels between the technology of the canal (how it helped form Bethlehem Steel beginnings, etc.) and our current transportation situation (Route 22 debate, etc.).
- Delaware and Lehigh National Heritage Corridor (“D&L”) could focus on the regional perspective of the transportation innovations and how the advances allowed Bethlehem Steel to flourish and reach such massive proportions.
- Partner with the Community Action Development Corporation (CADC)¹¹¹ to encourage Sands BethWorks to consider special privileges for local and/or

¹¹¹ Community Action Development Corporation of Bethlehem, Ellen Larmer, Project Director, 705 East Fourth Street, Bethlehem, PA 18015, 610-807-9337.

minority owned businesses that wish to relocate to the former Bethlehem Steel site.

Pursuing these short-term goals could immediately tap into existing, established organizations to both increase public interest and focus the interpretive plan. The National Canal Museum and Delaware and Lehigh National Heritage Corridor could produce exhibits to engage the public while college courses could be quickly implemented raising awareness among younger students. This has the added benefit that many students are from outside the Valley, thereby drawing people from other areas into the story. Projects involving student interns and brainstorming sessions involving the community can be used to help focus the interpretation plan.

Mid-Range Goals: Could Be Accomplished In Five Years:

- The National Museum of Industrial History (“NMIH”) could gear some of its exhibits and programs to technology and innovation while utilizing the latest innovations and technology to convey the story.
- Educational guidelines geared towards K-12 schools and focused on innovation and technology themes could be developed in cooperation with local college education programs and historical organizations to be made available to schools. Interdisciplinary approaches could also be utilized.
- School debate teams can use the issues of technology and innovation to discuss its positive and negative aspects.
- Local schools could host a “Science Fair” examining local technology and innovation and how new technology could be utilized on the Steel site.
- The Steelworkers’ Archives (“SA”) could develop a special walking tour or presentation focused on how technology and innovation affected the workers.
- The South Bethlehem Historical Society (“SBHS”) could develop a special walking tour or presentation focused on how technology and innovation affected the community. This could be used in conjunction with the SA presentation/tour.
- HBP could focus on drawing parallels between Moravian technology (such as the waterworks) and Bethlehem Steel which resulted from this spirit of innovation.

The advanced medical practices/facilities of the Moravians could also be used to draw current parallels – perhaps with sponsorship from OraSure and B. Braun.

- The Mid-Atlantic Regional Center for the Humanities (“MARCH”) can help regionalize these messages by organizing and hosting a conference focused on technology and innovation. The organization can also help attract scholarly interest through regional promotion.
- Historic preservation technology could be explored in the procedures in rehabilitating the historic structures. Student interns from local colleges with preservation programs such as Bucks County College and the University of Pennsylvania could be encouraged to participate in the renovations.
- Cutting-edge technology could be used to convey the interpretive message wherever possible and parallels drawn to it’s historical counterpart. For example, use wireless hotspots to allow visitors to connect to a presentation on the amazing “new” Bessemer process of steelmaking.

Pursuing these mid-range goals will build upon the momentum of the short-term goals. Public involvement can be increased as the site is redeveloped. Programs could be geared for public school curriculums that would engage people of all ages. A variety of focused walking tours through the site could be implemented while technology itself can be used to convey the interpretations. Historic preservation students could be drawn into the redevelopment project. In addition, the industrial technology subject could begin to be regionalized.

Long-Term Goals: Could Be Accomplished In Ten Years:

- The National Canal Museum’s document archives should be leveraged to encourage scholarly study, which will generate interest and increase the profile of the community. A partnership with the Hagley archives could be developed creating a chance for students from different areas to work together on projects.
- NMIH, with its larger scope, could broaden technology and innovation messages to the national level, demonstrating how Bethlehem Steel is a microcosm of America’s manufacturing rise and decline.

- Preserved industrial buildings on the site will allow visitors an opportunity to examine, study and appreciate the scale and complexity of the former industrial giant. Workshops and lectures could be held to discuss industrial architecture design and how the plant grew and changed over time. Emphasis could be placed on how innovation and technology impacted architecture and art. This could be done in conjunction with local art programs and organizations.
- City of Bethlehem could host an “Industrial Heritage/Technology & Innovation” festival/fair. This could be a week-long celebration incorporating many of the Valley’s historical sites.
- Encourage local colleges and public historians to undergo a large-scale study of deindustrialization and how a community can move ahead successfully. Part of this study could compare Bethlehem and the Lehigh Valley with other former rust-belt areas searching for commonalities and differences in their experiences. These efforts could be part of a permanent display and exhibition on BS site that chronicle the story and its continuing changes.
- Encourage negotiations with Arcelor/Mittal Steel (current owners of Bethlehem Steel assets) to access the mini-steel mill currently housed in a research building located on Lehigh University’s Mountaintop Campus. Possible donation and relocation of this equipment to a former Steel building on the redeveloped site to be used for educational and interpretive purposes. For example, periodic demonstrations of steelmaking could be performed for the public, students and researchers.

Pursuing these long-term goals will expand public recognition of the importance of industrial history to a national level while encouraging scholarly involvement in the study of Bethlehem Steel, industrialization and deindustrialization.

Site Maps

SITE PLAN- DEMOLISH VS. RETAIN



DEMOLISH

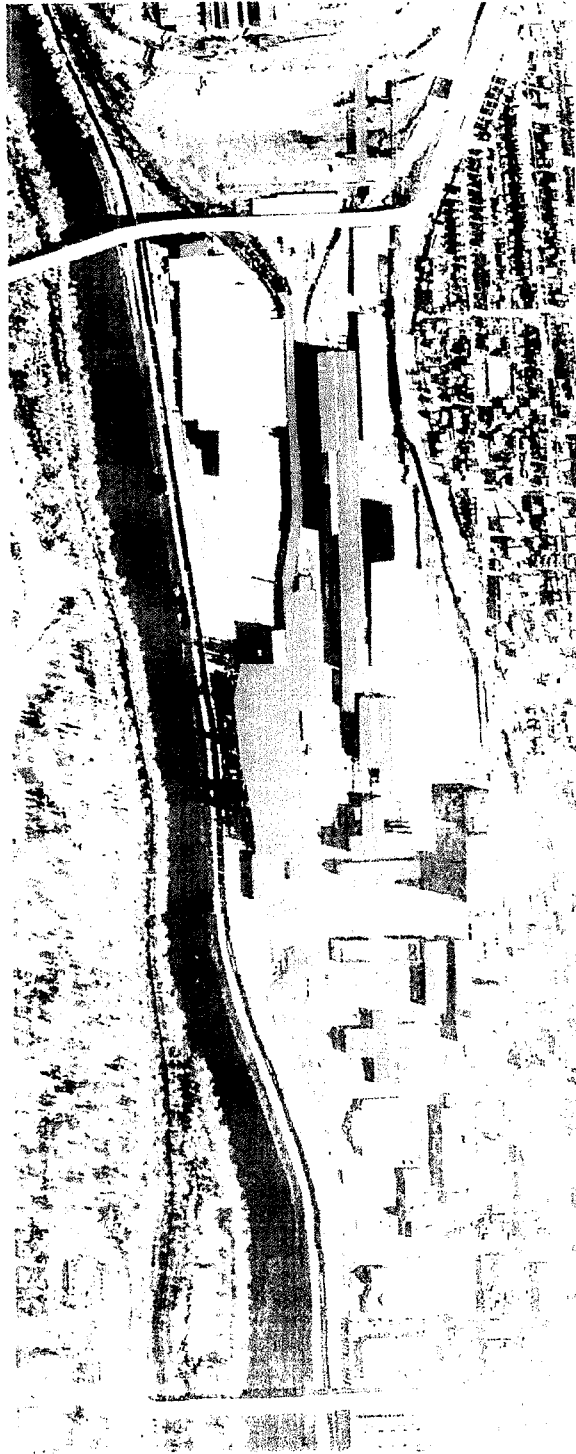
RETAIN



FOR

EDAW
Koslow & Fenwick
SPURMAN &...

Site Maps



INTENTIONAL SECOND EXPOSURE

BETHLEHEM STEELWORKS SITE PLAN

RESIDENTIAL AND NEIGHBORHOOD RETAIL

A continuation of new and existing buildings, the west end of the site will provide a mix of residential, retail, and office space. This urban redevelopment zone will provide a mix of uses to revitalize and protect the surrounding South Hill neighborhoods. The plan includes a mix of residential, retail, and office space, as well as a mix of building heights and styles. The plan also includes a mix of building heights and styles.

CULTURE AND RECREATION

This new district will provide a mix of uses to revitalize and protect the surrounding South Hill neighborhoods. The plan includes a mix of residential, retail, and office space, as well as a mix of building heights and styles. The plan also includes a mix of building heights and styles.

FAMILY ENTERTAINMENT AND DINING

This new district will provide a mix of uses to revitalize and protect the surrounding South Hill neighborhoods. The plan includes a mix of residential, retail, and office space, as well as a mix of building heights and styles. The plan also includes a mix of building heights and styles.

SUNBELT DISTRICT

This new district will provide a mix of uses to revitalize and protect the surrounding South Hill neighborhoods. The plan includes a mix of residential, retail, and office space, as well as a mix of building heights and styles. The plan also includes a mix of building heights and styles.

CAVING DISTRICT

This new district will provide a mix of uses to revitalize and protect the surrounding South Hill neighborhoods. The plan includes a mix of residential, retail, and office space, as well as a mix of building heights and styles. The plan also includes a mix of building heights and styles.



BETHLEHEM STEELWORKS SITE PLAN

By redeveloping the Bethlehem Steel Site, BenZions Now and Las Vegas Savos Corp. will protect its unique character while capturing its rich heritage. Bringing new life to it will further enhance the dynamic energy of Bethlehem and offer something for everyone to enjoy through a mixed-use redevelopment.

CULTURE AND HERITAGE

An indoor/outdoor museum and Exposition with an outdoor events space will be located at the midpoint of the development and adjacent to the original buildings and blast furnaces.

SHOPPING DISTRICT

A retail district has been created within the heart of the plan, featuring buildings and landscaping. In addition, this area is great for year-round strolling, browsing, and shopping, and has plenty of convenient parking.

STREET

A new street, **W. BETHLEHEM AVENUE**, will be created to provide a new thoroughfare through the development.



Vita

Date of Birth: September 11, 1968.

Place of Birth: Allentown, Pennsylvania.

Parent's Names: James A. Senape and Ellen A. Senape.

Undergraduate Degree: B.A. History, magna cum laude, Muhlenberg College, Allentown, Pennsylvania, May 2000. Dr. George A. Frounfelker Award, April 2000.

Professional Certificate: Commonwealth of Pennsylvania, Teaching Certificate, Secondary Education, Social Studies, 2000.

Graduate Degree: M.A. History, concentrating in Public History, Lehigh University, Bethlehem, Pennsylvania, May 2008. Vice Provost Award for Service, April 2006. Alumni Association Graduate Merit Award, April 2006. Certificate of Recognition, Exhibition of Student Research and Scholarship, Inauguration Symposium: A Celebration of Research and Its Global Impact, April 2007.

**END OF
TITLE**