HISTORIC SITE SURVEY OF THE GREATER MONONGAHELA RIVER VALLEY

William Keyes, Editor
with contributions by
Terry Necciai, Brian Butko,
Carolyn Stremple, and Carrie Stanny

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Cover illustration: Vignette used on bonds issued by Jones and Laughlin Steel Company, c1936. Archives of the Historical Society of Western Pennsylvania.

EXECUTIVE SUMMARY

At the beginning of the nineteenth century, southwestern Pennsylvania was already nationally important for its iron production. The western foothills of the Chestnut Ridge in Fayette County had iron plantations by the 1790s which smelted iron for the early settlers. In the first decades of the nineteenth century rolling mills were established in Fayette County and Pittsburgh to roll the crude iron into bars. The bars were hammered into finished products at forges and blacksmith shops. These simple iron products, along with locally-made nails, were critical for the westward expansion of the newly-formed nation.

Agricultural and wood-working tools, building hardware, boat fittings, horse shoes, wheel rims and numerous other products were available from the region's forges and smiths. With only over-land routes from the eastern seaboard to the interior, these products were too expensive to transport. Local production made the goods affordable and encouraged more migration west.

The rivers were the primary route from the region into the western frontier. The local iron production made boat building flourish. The steam engine transformed river transportation over the first half of the nineteenth century, and the region hosted pivotal innovations. With a burgeoning iron industry already in place, steam engine fabrication was a logical expansion. By the Civil War era half the boats afloat in the Mississippi River system had been built in the Study Area.

Coal has been exported from the region since the 1810s, although local use dates back another sixty years. With the advent of the steam engine, coal took on a new industrial importance. Local coal fueled steam-powered boats within the greater Mississippi River system. It also fueled stationary engines in shops and small factories. By 1840 Allegheny County was the foremost producer of bituminous coal in the United States and an important steam engine producer.

Other industries grew in the region to supply both the westward expansion and the growing local economy. Pottery and glass were necessary to transport and store agricultural products. Foundries expanded to fill more complex industrial and domestic needs. Steam engines ran grist mills and processed wool.

The early white settlers were primarily immigrants from the British Isles or second-generation migrants from the eastern colonies. The overwhelming majority were Protestant, including Quakers and Scots-Irish Presbyterians. Local investors advertized for skilled labor in Philadelphia and the east as early as the 1790s. Carpenters, boat builders, iron workers, wheelwrights, glass and pottery makers were all needed to transform the region's raw materials into finished products to supply both the traveler and the settler. Pittsburgh was known as the "Iron City" by the time of the Civil War, Allegheny County having become the nation's foremost iron-producing county by 1840. By the end of the War, steel was supplanting iron as the primary metal and the region became the internationally recognized heart of the industry in the United States.

In the mid-nineteenth century German miners and metal workers came to the region along with Irish Catholics who also worked in the mines. African Americans, who had been in the Study Area in small numbers since the earliest white settlements, came during the Civil War in greater numbers. Many of these immigrants and migrants were skilled craftsmen. The first trade unions date from this period.

The arrival of the railroads in 1852 sped the rate of population growth and connected the region both internally and externally, superseding the canals that had been built less than twenty years earlier. While the western states had been within the market of products made in the Study Area prior to the railroads, the new transportation links vastly expanded the demand. The railroad itself was a huge consumer of coal, iron, machined and finished parts, and of skilled labor. At the beginning of the steel era, the region had in place a skilled work force, fuel, raw materials, an expanding market, and an excellent transportation system linking them all.

The adoption of the Bessemer steel-making process transformed the steel industry, the region, and the nation. In ten years (1880-1890) Allegheny County steel production increased by 348 percent, an output three times its nearest rival. To man the furnaces thousands of new workers were needed, mostly for unskilled jobs. By 1890 nearly 30 percent of Pittsburgh's inhabitants were foreign-born, adding those with foreign-born parents made over 65 percent.

These new immigrants were mostly from eastern and southern Europe. Many had been recruited in their home village to come to America and work in the region's mills and mines. Many were illiterate, and almost all were poor. Culturally, the region became a center for Catholic and Orthodox Christians and for Judaism. Publishing houses issued newspapers and books in every European language. Ethnic fraternal and beneficial organizations that started in the Study Area became national cultural institutions, offering the only insurance available to the immigrant workers. They built churches, schools, and fraternal halls as centers of worship and culture.

Between 1860 and 1920 these workers produced more steel in this region than any other in the United States. In 1900 Allegheny County alone produced over four times the tonnage of steel of its nearest rival. When United States Steel was established in 1901, it was the largest corporation in the world. It employed over half of all the steel workers in the country. The local confrontations between management and labor had national ramifications, deterring unionization until the 1930s.

US Steel became the corporate model for modern business. It governed an increasingly complex industrial system which included ore mines, coal mines, rail lines, barge lines, steel mills, and rolling mills. The capital accumulation and investment in the second half of the nineteenth century in the region were unprecedented.

Most of the components of the US Steel conglomerate were fueled by either coal or coke: from steam-powered boats and trains to steel mills. By 1880 Allegheny, Fayette, Washington and Westmoreland Counties together produced more than twenty-five percent of the

nation's bituminous coal. Connellsville coke was the national standard, and the Study Area produced seventy-seven percent of the national coke output in 1880.

Between 1890 and 1920 hundreds of small coal mining and coking towns were built in the rural areas of the Study Area that were underlain by coal. These company-built towns consisted of the coal mine and/or coke works, simple wood-frame houses, a company office and a company store. They were strictly controlled social environments where housing was conditional on worker production and compliance. Pro-union activities were sufficient cause for dismissal from work and eviction from the housing. Segregation by race, ethnicity, and work strata were the norm.

By-product coke oven technology was introduced to the region before the end of the nineteenth century, but its full impact only occurred during World War I. The world's largest by-product oven was built by US Steel at Clairton, setting a trend that would close most of the coke field operations by 1925. The shift to by-product ovens at the mill sites gradually led to the decline of the coal patches and company towns. Since the by-product ovens could use lower-grade coal, the region's proximity to the Connellsville coal beds became less of an advantage and the national center of steel production gradually shifted further west.

During the sixty years when the Study Area was the national center of steel production (1860-1920), the United States emerged as a world economic and military power, based on the might of steel, coal, and a dynamic innovative workforce. Locally-made steel was used to make skyscrapers, battleships, automobiles, appliances, bridges, high-precision tools, and countless other products that transformed America. Coal by-products made dyes, chemicals, explosives, medicines, food preservatives, refrigerants, and other products that ushered in the modern age.

With the exception of a resurgence during World War II, the region's steel and coal related industries have been in a slow but steady decline, relative to national production, since the Great Depression. This was first visible in the coal/coke region. Prior to the first steel-mill closing of the mid-1960s, most local mills were in operation but with out-dated equipment. Steel increasingly faced competition from aluminum, plastics, glass and concrete, and it faced overseas competition from foreign producers.

The recent closings of the region's industries has put a great number of the industrial sites and working-class communities in jeopardy. Many mills have been razed to make way for economic revitalization. Many towns and neighborhoods have fallen to renewal projects or neglect. The region has suffered significant population decline.

Ultimately, the information gathered in this survey will be used to evaluate the remaining industry-related communities and structures in the region as a component of a new regional economy. The pivotal role of the region in the nation's history is of interest not only to the people of the region. It is part of the international story of the on-going industrial revolution that shapes our lives today.

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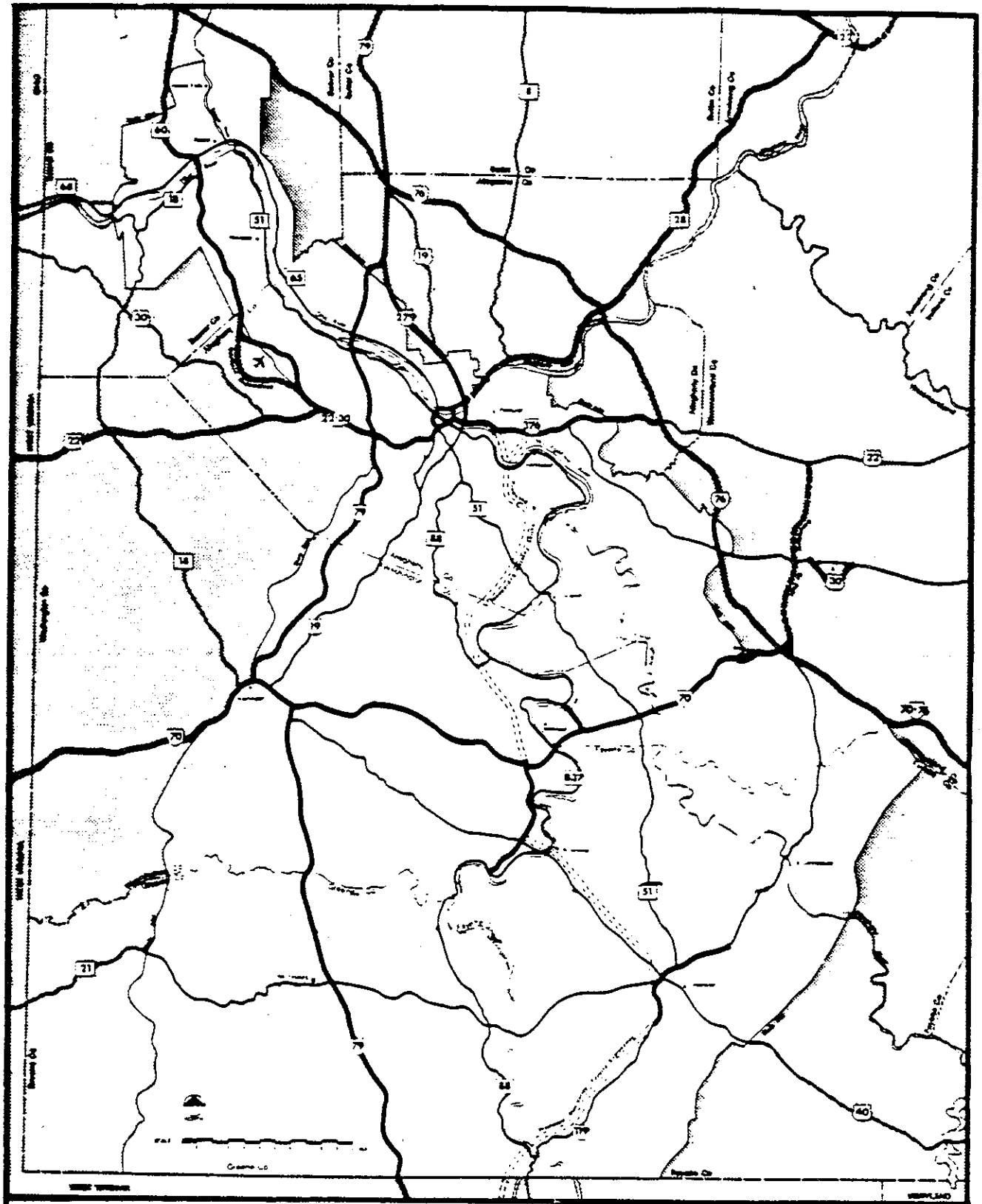

MAP 1

HISTORIC & ETHNOGRAPHIC SURVEY
STUDY AREA

HISTORICAL SOCIETY
OF WESTERN PA

EXPRESSWAYS
Existing
Under Construction
Proposed

MAJOR REGIONAL ARTERIALS
Existing

SITES
STUDY AREA

STEEL
HERITAGE
MON VALLEY STEEL
HERITAGE PROJECT

DATA SOURCE: USGS TOPOGRAPHIC MAPS AND THE MID-ATLANTIC REGIONAL OFFICE, NATIONAL PARK SERVICE

1.00 Introduction

THE SURVEY

The Historic Survey of the Greater Monongahela River Valley (or Mon-Valley Survey) was commissioned to "identify through documentary research and reconnaissance field survey the industrial...and related historic resources which tell the story of the Monongahela River Valley's complex industrial history and ethnic heritage from the late 18th century to the present. The study will also evaluate and assess the significance of the identified historic...resources."[1]

This project was funded by the National Park Service (NPS), and administered through a cooperative agreement with the Pennsylvania Historic and Museum Commission (PHMC), in consultation with the Pennsylvania Heritage Affairs Commission (PHAC), and the Steel Industry Heritage Task Force (SIHTF). The Historical Society of Western Pennsylvania (HSWP), a member of the Steering Committee of SIHFT, was contracted to conduct the survey. The survey began on January 7, 1991 and this document represents the Final Report.

The information gathered in this survey will have several overlapping uses:

1) The Study Area is under consideration by federal and state agencies for the development of an Industrial Heritage Park which would use important historic resources for preservation and economic development focal points.

2) PHMC and PHAC are involved in state-wide preservation of industrial and cultural sites and living cultural traditions. This survey will help them to locate, evaluate and preserve these resources.

3) SIHTF operates as a liaison between local and state government agencies, educational and research institutions, labor unions, other organizations, and interested citizens. This survey will help local governments and local organizations to locate and evaluate resources within their jurisdictions for future cultural and economic development.

THE STUDY AREA

The boundaries of the Mon-Valley Study Area were determined by members of SIHTF, PHMC, PHAC, NPS. Their intention was to include all of the communities that were directly linked to the selected industries in southwestern Pennsylvania over the past two hundred years. The subsequent field work has verified both the appropriateness of those boundaries and the need for some revisions. [see Part 8.1, Recommendations: "Boundary Revision"]

As originally set, the Study Area consisted of portions of the six

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[1] Pennsylvania Historic and Museum Commission Performance Agreement with the Historical Society of Western Pennsylvania, No. CA-14-1, "Project Description," October 17, 1990.

counties of southwestern Pennsylvania (Allegheny, Beaver, Fayette, Greene, Washington, and Westmoreland), amounting to over 2,000 square miles. The Study Area straddles all of the Monongahela River Valley within Pennsylvania, the Youghiogheny River as far east as Connellsville in Fayette County, the Allegheny River as far north as the limits of the City of Pittsburgh, the Ohio River as far west as Midland in Beaver County, and the Beaver River as far north as Beaver Falls Borough in Beaver County.

1.01 INDUSTRIES OF THE SURVEY

The Study Area is a large and complex region. This survey was limited to examining the following industries: iron and steel, coal and coke, transportation, and related industries. They were selected because of their central importance to the region and their national significance when considered as an integrated system. Historically, in the course of one hundred and thirty years, these industries were instrumental in transforming the United States from a frontier colony to a world economic and military power. The region's industrial output was based upon the dynamic interaction of all of the industries included in this survey.

The interaction between the industries of the survey can be described by a "systems approach," starting with the assumption that iron and steel were of central importance to the region. Industrial historian Jack Bergstresser has outlined a model for the systems approach:

> The systems approach assumes that iron and steel making sites should not be considered in isolation. Instead they are only components of an extractive, processing and shipping system ....An idealized example of such a system is a hypothetical late-18th century iron making plantation. The nucleus of this system was the charcoal blast furnace. The surrounding forest, where the charcoal was made and fluxing stone was quarried, was one end of the system. The foundry and forge where raw pig iron from the blast furnace was refined into cast iron ware and wrought iron items was the other end of the system.[2]

Bergstresser's idealized iron plantation system includes the extraction of the raw materials for making pig iron at the blast furnace, the extraction and transport of the fuel for firing the furnace, the transportation of the pig iron to the foundry, and the foundry where the pig iron is shaped into a finished product. If the entire Study Area is considered as a similar, single system, then each industry can be considered for its role in the system. Industries were included or excluded based upon this model.

For iron and steel production all known sites were included in the inventory lists, in keeping with the premier role of the furnace in the model. The site inventory includes furnaces, foundries,

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[2] Jack Bergstresser, Sr., "General Chronology of the Iron, Steel and Coal Industry of Western Pennsylvania," [unpublished: 1991]

rolling mills, blooming mills, and all other large-scale steel producing facilities.

The coal and coke industry, which represent the fuel of the regional system, was spread out over four counties. Hundreds of coal and coking towns extracted coal and coked it before shipping the fuel to the mills. Extensive underground mining linked to massive transport systems has eliminated the need for small company towns, as has the declining demand for coal.

The transportation industry has been limited to two principal types: river and rail, they being the chief means of transport for the Study Area's industrial system. The principal extant river-related sites are relatively new: post-World War II. The exceptions are locks and dams, some of which are older. Rail sites are, for the most part, passenger and freight stations, repairs shops, and yards.

The category of "related industries" was less precise than the others. Early-industrial sites were included in this category if they could be linked to future industries or craft traditions, especially in connection with metal working. Similarly, sites with direct connections to the iron and steel production were also included in this category.

In addition to the industrial components of the regional system, as defined above, there are the people who made the system work. Western Pennsylvania is populated by a variety of ethnic groups, many of which immigrated there to work in the industries, and ethnic religious and fraternal organizations serve as indicators of where certain groups initially settled and where they remain.

1.02 THEMES OF THE SURVEY

The Study Area represents a rich resource for the examination of industrial development from the late-eighteenth century to the present. In collaboration with the NPS and SIHTF members, the survey team identified eight inter-related characteristics of the region's industrial development, which constitute the themes of this study:

The regional processing system
Technology and innovation
Management and organization
Capital formation
Cyclical nature of industrialization
Labor and the labor movement
Community structure
Immigration and migration

These themes, when considered jointly, form what might be called a regional "industrial culture." For the purposes of this survey, "industrial culture" means a shared acceptance that industry is an integral part of the region's life, and a belief that, within limits variously defined and expressed, the goals of industry (e.g., increased productivity, efficiency, and profits) are worthy pursuits for the community because of the economic benefits for the region as a whole. The "limits" (e.g., child labor laws, wages rates, pollution regulations) have been the focus of continuous debate between labor, management and the community.

Where possible, within the limitations of a reconnaissance survey, important thematic developments are presented in the individual district reports (Sections 4.11 through 4.25). The themes are presented below in a general form.

The regional processing system: following the idealized iron furnace model and its needs (detailed above in Section 1.01), much of the industry in the region served directly or indirectly to feed the steel furnaces. The coal or coke fuel, the raw materials, the river and rail transportation system, the labor force, and the mills and furnaces themselves all played an integral role in the production process. This theme also illustrates the relationship between industries and the role of capital formation in its move toward the vertical integration of the United States Steel corporate system. Industries that pre-date the iron and steel era, such as glass or boat-building, form the roots of the later steel-oriented regional processing system. The roots are visible in the expanding transportation systems, imported skilled and semi-skilled labor, the effects of technological innovations, and the gradual emergence of a regional "industrial culture."

Technology and innovation: this theme spans the full two hundred years of industry in the Study Area. It reflects the fact that industries in the Study Area gave rise to numerous advances in the technology of iron and steel, coal and coke, transportation, and related industry. Some technological advances are significant because they increased efficiency and productivity in more than one industry or because of their impact on the region as a whole. Technology and innovation are a vital component of capital

formation. The drive for ever-increasing productivity is an essential component in the local "industrial culture."

Management and organization: refers to the corporate ownership and management patterns that grew in the Study Area to operate the increasingly complex production system, especially over the second half of the nineteenth century. The vertically integrated corporate structure of United States Steel in 1901 is an internationally significant result of these evolving patterns. In the twentieth century the management systems continued to evolve along with the production technology. While the complex corporate inter-relationship between sites is not detailed in the Final Report because of the level of research required, there are individual sites that represent the evolving production system. The North-Mon mills of USS were arranged to operate as a combined "super mill." The management of this complex is the most formidable example of this theme. If considered within the context of the entire regional processing system, they reveal the complexity of the managing task. Some individual mills, for example Monessen, represent a fully integrated mill that contains most of the steel making process. The offices of the corporations that are in the site inventories do not present a sufficient opportunity to clarify the complex evolving nature of this theme. However, further research on this theme could translate site information into a dramatic part of the region's corporate history. The distinctly innovative corporate management and organization systems form an important part of the regional "industrial culture."

Capital formation: in a pattern similar to that of management and organization, the evolving capital requirements of the iron and steel industry necessitated an unprecedented investment and capital accumulation cycle that occurred within the Study Area in the years between the Civil War and World War I. In this cycle massive funds were used to upgrade, expand and purchase industrial components throughout the whole regional processing system. The coal mines, coke fields, railroads and mills listed in the inventory lists represent this phenomena, but the survey results only sketch the theme in the broadest way. The investment in technological innovations and components of the regional processing system are two aspects of this theme, making it part of the regional "industrial culture."

Cyclical nature of industrialization: while all industry must deal with this phenomenon, the region's cycles have had national implications. The decline of the local extraction, production and fabrication industries has led to the rise of new producers outside of the region and outside the country. On a smaller scale, the boom-bust cycle is clearly visible in the communities of the Study Area. Boom and bust cycles are evident particularly in the construction dates and period architecture of buildings in many communities, with construction increasing during periods of prosperity and declining greatly with economic depression. Broad changes within the region, like the movement of coal/coke fields in Fayette County from the centrally located Connellsville District to the river-front Klondike District, are also evident in the construction dates of buildings and their period architecture. The region's cycles of industrialization have influenced the region's shifting definition of "industrial culture."

Labor and the labor movement: the region was the birthplace of several of America's most important unions. As part of the "industrial culture" of the Study Area, labor movements have attempted to limit the excesses of industry in its drive for increased productivity, efficiency and profits. At times labor was the only voice against dangerous working conditions and other problems that reached far beyond the work place. Changes in technology also brought drastic adjustments to the relationship between labor and management. There have been numerous important events in labor history in the Study Area. Yet few have been precisely connected with a physical site, except in the case of some particularly brutal strikes (e.g., 1877 Railroad Strike and the Homestead Strike of 1892). Consequently, more detailed research is required to identify pivotal labor events and locate the exact sites. The strike sites that are included in the inventories are those with acknowledged national significance. Some strikes, for example, extended throughout the district, but it is difficult to assign a single site to represent them. As a result, this theme is not fully represented in the Final Report.

Community structure: the relationship between management and the work force as expressed in the built environment is the focus of this theme. In particular, it relates to the housing, cultural institutions, churches, commercial sections of communities, and the ethnic and social hierarchies of communities. Of all the themes, community structure can be most easily developed based upon the extant resources in the Study Area. These resources illustrate in very subtle detail the various relationships between management and labor that have existed within the Study Area. The relationships have included an early industrial religious commune, a coal mine with slave labor, and the virtual peonage of some company-built coal towns. The numerous philanthropic cultural institutions like libraries and public museums are another well-represented resource within this theme. The wide array of mean barracks, rubber-stamp housing, and later attempts to mitigate the harsh coal-town conditions are among the most significant resources of the Study Area. To a lesser extent, similar patterns are visible in urban settings. The community structure theme examines the region's shifting definition of the acceptable limits of the region's "industrial culture" in terms of living conditions and social arrangements.

Immigration and migration: the Study Area has one of the most ethnically diverse populations in the county.[3] The region's history is one of nearly continuous immigration and migration. Nationally

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[3] The word "ethnic" has been used throughout this report. As used here, the word assumes the existence of a "dominant" culture, so defined as a result of historical depth and sheer strength of numbers. This group is white, Anglo-Saxon and Protestant. In this formulation, the term "ethnic" denotes a "minority" culture composed especially of more recent, non-English speaking people. The writers of this report recognize the problematic nature of this designation. In keeping with the usage of this word in the Contract, it is used here to parallel colloquial usage of the term in such phrases as "ethnic neighborhood" or "ethnic food." It does not imply approval or disapproval of any group.

significant concentrations of some ethnic populations reside within the Study Area and many of them maintain ties to their ancestral homelands through religion, language, crafts, and foodways.[4] These groups have also built churches, social halls, and businesses that serve as focal points for ethnic activities. To a considerable extent, local industry brought these peoples to the Study Area. Consequently, assimilation, by and large, meant acceptance of the local "industrial culture."

[4] An ethnographic report on intangible cultural heritage associated with living cultural traditions in the heritage region Study Area will be published separately.

1.10 INDUSTRIES: SIGNIFICANCE

The Study Area has had international, national, state, and regional industrial significance. Numerous individual innovations and production quantities detailed below under the specific industries tell a detailed story of the region's industries, but general statements are in order here.

In its day, the iron and steel industry in the Study Area was the greatest industrial and economic force in the United States. It was the most highly capitalized. It employed the greatest number of workers and it produced the iron and steel that built America. This would have been reason enough to consider the region to be the industrial heart of the nation.

But iron and steel are only part of the story of southwestern Pennsylvania. Its coal and coke fueled steel production in the region and in most of the other steel mills of the northeast and north-central United States. Local coal also fueled steam-powered boats, trains, and stationary engines that brought America into the twentieth century. Iron and steel could not have succeeded in the region as they did without local coal and coke.

The region's river and rail transportation system linked the coal and coke fields to the iron and steel mills. They also linked the region to the markets for raw and finished materials. Westward expansion of the nation was dependent upon the local transportation system. The local system grew as the nation expanded and it served as a vital link. Iron and steel could not have succeeded in the region without the local river and rail transportation system.

The related industries, such as foundries and forges in the early years and the electrical and chemical industries that matured along side steel and iron, ushered in the twentieth century with new technology and products. The region was the home of many of these industries. They developed sophisticated uses for the raw products of the mills, mines, and coke ovens. They have contributed to the success of local iron and steel.

Combined, these industries clearly placed the region at the forefront of American industry. The people of the region have shared the pride that this recognition brought: it is a cornerstone of the region's "industrial culture." They have also endured the price of their success. Unhealthful, dangerous conditions extended beyond the mills and mines into the steel mill towns and the coal patches. The awesome economic power of the industry's corporations ruled over the lives of workers both on and off the job; at times workers were little more than another "fuel" that fed the furnaces.

Iron and steel are no longer the driving force of the region or the nation. The decline of the industry has reduced the region from its former position. But the contribution that the region made to transforming America from a wilderness colony to an industrial continent can still be seen. It is in the unique combination of natural resources of coal and the rivers, in the mills and mines, in the towns that grew in the region, and in the ethnic mixture of the people.

1.11 IRON AND STEEL

For the purpose of this survey, the history of iron and steel production in the Study Area has been divided into four general periods. These periods serve as a guidelines for discussion and evaluation.[5] They should not be considered rigid or without exceptions.

Iron Plantation	1790 -1850s
Iron City	1850s-1880s
Steel	1870s-1970s
increasing capitalization	1880 -1930s
decreasing capitalization	1930s-1970s
De-industrialization	1970s-1990s

Iron and steel are synonymous with Pittsburgh. The international reputation of this industry defined the city for nearly one hundred and fifty years, beginning in the 1850s. Yet as early as 1811 Pittsburgh began to play a nationally important role with the construction of the Pittsburgh Rolling Mills. The City was the site of the first sheet-rolling mill in the US, built by the Pittsburgh Steam Engine Company in 1818. In 1819 the Union Rolling Mill rolled the first angle iron in the US, and it possibly was the first to roll iron bar. By the Civil War Pittsburgh had become the "Iron City," a name which was eclipsed by "Steel City" in the 1880s. From then until the 1920s Pittsburgh remained the nation's production center. Through the gradual national and regional decline of the industry between the end of World War II and the 1980s, the city maintained a central but not dominant position as a production and corporate center.

However, equating "Pittsburgh" with iron omits the important iron works that predate the city's gradual rise to prominence in the second half of the nineteenth century. Before Pittsburgh became the "Iron City," Fayette County figured nationally in iron production with Alliance Furnace (1790), the first furnace west of the Alleghenies. In 1795 Bowman's Nail Factory in Brownsville was the first of its kind west of the Alleghenies. By 1810 Fayette County had more blast furnaces than any other county in the US. The early importance of Fayette County was assured in 1816 by Isaac Meason's Plumsock Rolling Mill near Uniontown, the first puddling and rolling mill in the United States. The "Pittsburgh" success story is incomplete without the earlier enterprises in Fayette County.

The name "Pittsburgh" also excludes the **steel mill towns** that line the Monongahela, Allegheny, Beaver and Ohio River banks outside the city limits and outside Allegheny County. There are river-front mills as far south as Monessen (Westmoreland County) and as far west as Midland (Beaver County) that are part of the "Pittsburgh"

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[5] The over-arching time frame for this survey was based upon the Iron and Steel Industry Eras. However, the other industries considered in this survey do not follow the same chronology. While the eras for the other industries do occasionally coincide with the iron and steel industry eras, more often they were out of synchronization. The narratives for each industry provide more information on the relationship between industries.

phenomenon as are the specialty steel works of the Chartiers Creek area. While the mills outside Allegheny County cannot compare with the production quantities formerly enjoyed by those within the county, some of the smaller mills have continued to produce now that Pittsburgh is silent. The mills outside Pittsburgh continue to sustain the reputation of the Study Area as a steel-producing region.

The region's importance to the national iron and steel industry can be broadly sketched by using national statistics. As early as 1810, the year of the first US Census statistics on manufacturing, the Study Area included nationally significant production in the iron industry. In 1810 Fayette County had 11 blast furnaces, the greatest concentration of any county in the US.[6]

Thirty years later, in 1840, the national center of iron production was Allegheny County. It was the nation's leader in terms of capital investment (nearly $2 million), tonnage of bar iron produced (1/3 of Pennsylvania's output), and in the number of furnaces (28).[7]

By 1860, nine of the thirteen steel producing establishments in the United States were in Pennsylvania. Six of them were in Allegheny County. In terms of bar, sheet and railroad iron, Pennsylvania was the largest producer and Allegheny County produced nearly one-tenth of the US total. The steel industry and the iron products already accounted for 22 percent of the county's invested capital.[8]

This period also witnessed the birth of the iron-workers unions. The first recorded organized union in the Study Area dates to 1799, among shoemakers. By 1850 there were twenty-three separate unions for such trades as carpenters and printers. In 1858 skilled iron workers, "puddlers," formed the Sons of Vulcan in Pittsburgh. They organized to protest the lowering of wages. By 1867 they had signed the first sliding wage scale agreement tied to the selling price of bar iron. It gave the iron workers limited security in that they were given a two-month notice prior to any new wage rate.

Within the iron industry, skilled workers came to be represented by several unions. It resembled a guild system in that the unions were created based on job status, and they excluded low-status workers. The unionized iron workers determined that this was not as effective for negotiations as a united front could be. In 1876 they formed the Amalgamated Association of Iron and Steel Workers. In the decade of 1880-1890 practically all of the mills in Allegheny County were unionized with the Amalgamated, accounting for 24,000 members. It has been called "the period of most effective agreement between the employers and [workers] that the

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[6] **US Census of Manufactures**, 1810

[7] **US Census of Manufactures**, 1840

[8] **US Census of Manufactures**, 1860

association ever experienced."[9] The Homestead Strike of 1892 ended the era of cooperation.

Steel-making technology played an important role in the make up of the work force. The Bessemer process required fewer skilled workers than the puddling process. The union's elitist outlook on semi-skilled and unskilled labor excluded the fastest growing sector of the steel work force. Soon the skilled workers were vastly outnumbered. In 1892 the Homestead Works of Carnegie Steel had 800 skilled workers who were Amalgamated members and more than 3,000 workers who were not unionized. Furthermore, with low skill requirements to do most mill jobs, workmen lost their bargaining leverage: an unskilled worker could be easily replaced.

The new technology brought greater productivity and efficiency. It also increased profits for the mill owners without a parallel increase for workers. The walk out in early 1892 at the Homestead Works centered on wages.

The Homestead Strike was a watershed event for the iron and steel industry in the United States. Its impact extended to unionization in other industries as well. (For a detailed description of the strike see North-Mon District, Section 4.20)

Table 1 shows the iron and steel output of Allegheny County for the years 1880, 1890, and 1900 in tonnage. It also indicates the increase in tonnage over the decade and compares the Allegheny County tonnage to its nearest rival.

	Alleg Co. tonnage	% increase in 10 years	x nearest rival
1880	757,273	--	2.6 (Lehigh Co., PA)
1890	3,389,329	348%	3.3 (Cook Co., IL)
1900	8,203,715	142%	4.1 (Cook Co., IL)

Table 1. Iron & Steel output of Allegheny County, 1880-1900
Source: **US Census of Manufactures**, 1900

From a national perspective, the iron and steel industry in the Study Area represented the greatest capital investment in the country by the beginning of this century. It was central to the emergence of the United States as an international economic force and as a world power. A sense of the scale of the region's steel industry can be gotten from just its most prominent producer, Carnegie Steel. In 1900, when J.P. Morgan was about to buy Carnegie Steel, the company already controlled "twenty-five to thirty-five per cent of the nation's mounting steel production."[10]

When Morgan created United States Steel in 1901, the largest

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[9] John A. Fitch, **The Steel Workers**, [Pittsburgh: University of Pittsburgh Press, 1989], 87.

[10] Bruce Bomberger and William Sisson, **Made in Pennsylvania: An Overview History of the Major Industries of the Commonwealth**, [Harrisburg: PHMC, Bureau of Historic Preservation, 1989], 19.

corporation in the world was established. It became the organizational model for the modern corporate world, controlling much of the regional processing system. United States Steel owned or had controlling interest in (for a complete list see Appendix, Section 6.40):

-the Great Mesabi Range, the source of the raw iron
-the rail lines between the iron ore and their steel mills
-hundreds of coal mines and thousands of coke ovens for fuel
-the rail lines and barges that brought the fuel to their mills
-the steel furnaces, rolling mills, and tubing works that turned the raw materials into steel shapes

In 1901 US Steel controlled 60 percent of the nation's iron and steel output. At that time the majority of its plants were located in the Study Area and its corporate headquarters was moved to Pittsburgh.

Most importantly, USS was the single largest employer in the United States, employing over fifty percent of the nation's steel workers. In April of 1901 the Executive Committee of USS adopted a mandatory non-union policy for all its plants. Only under Roosevelt's "New Deal" of the 1930s did a steel union reemerge.

	Total Work Force		Skilled Workers		Semi-skilled Workers		Unskilled Workers	
	#	%	#	%	#	%	#	%
Native-Born Whites	5,795	25	2,316	58	1,879	38	1,510	11
Native-Born Blacks	331	1	66	2	76	1	189	1
North & West European Immigrants	3,221	14	1,188	30	992	20	1,021	8
South & East European Immigrants	13,003	56	359	9	1,946	39	10,698	74
Others	1,007	4	59	1	96	2	922	6
Total	23,337	100	3,988	100	4,989	100	14,360	100

Table 2. Ethnic Composition of Work Force at Allegheny County Plants of the Carnegie Steel Company, 1907. Source: Bruce Bomberger, William Sisson, Diane Reed, "Iron and Steel Resources of Pennsylvania, 1716-1945," National Register of Historic Places Multiple Property Documentation Form, [Harrisburg: 1991], 103.

The working conditions of steel workers at the turn-of-the-century were harsh. In 1912 fifty to sixty percent of mill workers worked six days a week (72 hour work week). Most mills were run on two twelve-hour shifts, with each worker shifting every two weeks from the day to the night shift. On the days that workers transferred from one shift to the other they worked the twenty-four hour "turnaround." With these conditions, there was little time for anything other than work. Workers had become little more than another kind of "fuel" to feed the furnaces. This is one example of the living and working conditions tolerated by the regional "industrial culture."

In the steel mills there was a direct correlation between job status and ethnicity. The figures above (in Table 2) show the distribution in 1907 at Carnegie Steel Company, a subsidiary of USS, in Allegheny County.

The steel industry in the Study Area, concentrated on a corridor stretching from Monessen to Midland, maintained its premier role until the Great Depression. Part of the reason for the continued growth of the region's steel industry up to the 1930s was

> that a number of companies such as Jones & Laughlin and Pittsburgh Steel had their entire operations there and it was more reasonable to supplement this at the existing location than it was to establish new plants elsewhere.[11]

United States Steel chose the latter course when it expanded in the Chicago and Birmingham areas in the 1920s and 1930s.

The gradual geographical shift of the industry further west can be principally attributed to the change in fuel that occurred with the installation of large by-product coke ovens at the mill sites and the ability to use lower-grade coal or alternative power sources. The Clairton Coke Works, still the largest in the world, opened in 1918. It provide on-site coking and the by-product gases were piped to the local US Steel furnaces, increasing steel productivity without increasing fuel. Furthermore, the newer more efficient ovens ended sole reliance on Connellsville coke, which was the best and the industry's standard. The introduction of electric furnaces began in this era, allowing production with less or no coke at all.

The Depression Era also saw the revival of the steel unions with the new NIRA Codes. In 1936 Pittsburgh was selected as the international headquarters for the union drive by the Steel Workers' Organizing Committee (SWOC). Nine months later the United Steel Workers of America (USW) and United States Steel had signed a contract guaranteeing a minimum wage of $5.00 per hour, a 40 hour work week, paid vacations, seniority rights, and grievance procedures.

As with all US industries, full recovery from the Great Depression came only with the World War II Era production upsurge. In answer to the need for dramatically increased production, US Steel expanded its works in Braddock and in Homestead, uprooting in the process large sections of the **steel mill town** community fabric near the mills.

After the War the pre-war pattern returned with greater investment in plants outside the Study Area. By 1971 38 out of 50 states had basic steel production facilities.[12] In the period 1945-1970, of 36 new furnaces constructed in the United States, only four were built

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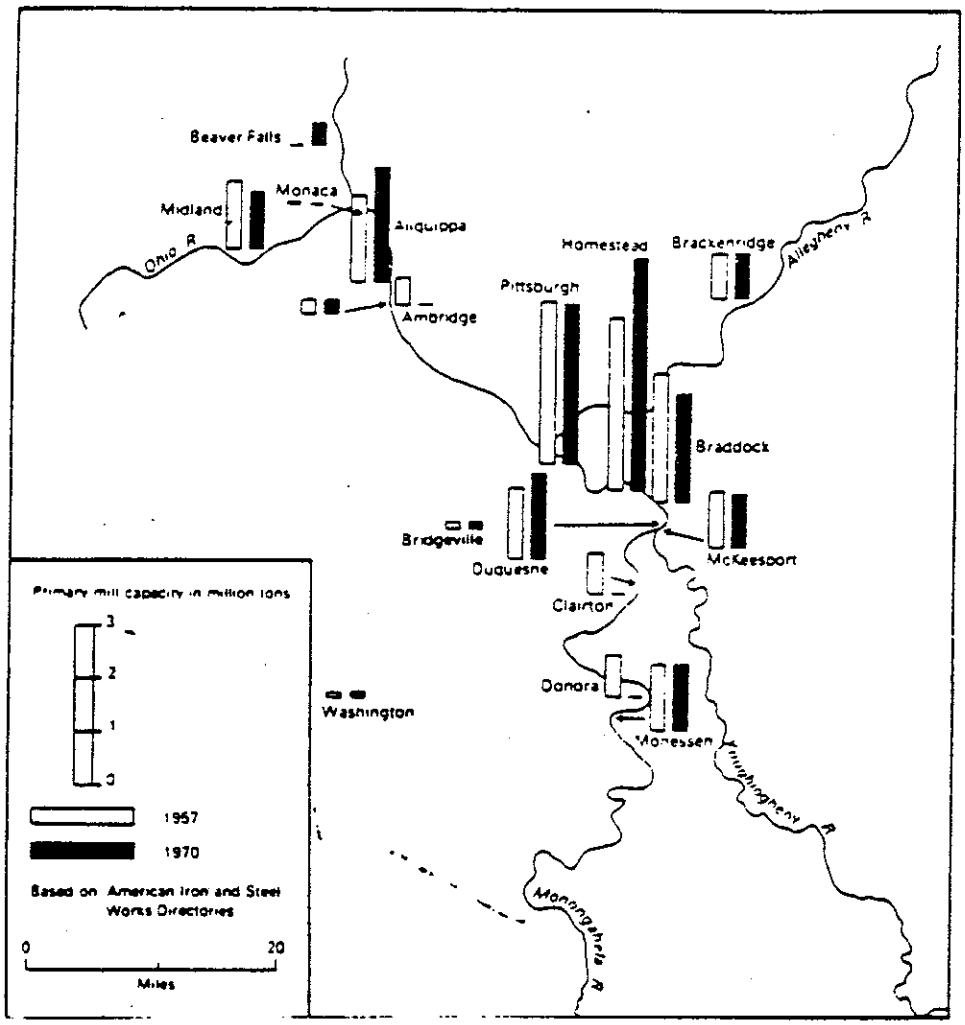
[11] William T. Hogan, **Economic History of the Iron and Steel Industry in the United States**, [Part 1, [Lexington, MA: DC Heath & Co., 1971], 813.

[12] Hogan, 2095.

in the Study Area (built by USS at Duquesne, by Crucible Inc. at Midland, by Pittsburgh Steel Co. at Monessen, and by Shenango Inc. at Neville Island). During the same period J&L Steel Corp rebuilt five of its local furnaces in Pittsburgh and Aliquippa.[13] For the most part, the new furnaces represented a shift from open-hearth to basic oxygen furnaces. In general, though, the majority of capital investment in the post-war years did not increase productivity as measured in tonnage. Instead, "a large percentage of the investments has been for equipment to solve water and air pollution problems."[14]



Map 2. Mill capacity in the Pittsburgh area, 1957-1970. Source: Kenneth Warren, **The American Steel Industry, 1850-1970: A Geographical Interpretation**, [Pittsburgh: 1973]

[13] Hogan, 1518-19.

[14] Ibid, 2091.

During the same period, not only did the center of steel production continue to shift away from the Study Area, but there was also a general decline of United States production as a percentage of world steel production. In 1946 54.3 percent of world steel production was made in the United States. By 1969 the US share had declined to 22.5 percent. Simultaneously, the ratio of exported US-made steel to imported foreign-made steel reversed. In 1957 the US exported 4.6 times the tonnage imported; by 1969 the US imported 2.7 times the tonnage exported.[15] It should be noted that the competition from substitute materials such as aluminum, plastics, glass and cement have also been instrumental in the decline of national and regional steel production.[16]

It took a little more than thirty years from the creation of the United Steel Workers to see the demise of union power and of the region's steel industry. The reason for the decline has been variously attributed: foreign competition, high labor rates and benefit packages, and outdated production equipment and techniques, to name a few. With the majority of steel plants in the Study Area closed by 1980, the USW lost its membership and its voice. Today, the USW has only 650,000 rank-and-file members nationally as compared to its height of 1.3 million members in 1975.

The general decline of the national steel industry has had tremendous regional repercussions. Mill closings in the region have greatly affected employment. Regional employment in the iron and steel labor force stood at 20,000 in 1989, down from 120,000 in the late 1940s and 82,000 in 1978.[17]

Number of jobs (in thousands)			
	1979	1983	1988
Region	1,064	970	1,032
Mill towns	75.7	47.8	28.7
Aliquippa	14.5	7.8	3.3
Duquesne	6.1	3.9	1.8
McKeesport	16.3	12.2	9.4

Table 3. Employment trends for the region and selected mill towns, 1979-1988. Source: Roger S. Ahlbrant, "Mill Town Decline Ten Years Later: The Limits of Corporate Civic Leadership," Journal of the American Planning Association, Vol. 57, No. 2, Spring 1991, 195. (In this table, "Region" includes Allegheny, Beaver, Butler, Fayette, Washington, and Westmoreland Counties. "Mill towns" includes Aliquippa, Ambridge, Braddock, Clairton, Duquesne , E. Pittsburgh, Homestead, McKeesport, Munhall, N. Braddock, Rankin, Turtle Creek, West Homestead.

[15] Hogan, 2034-35.

[16] Ibid, 2095.

[17] David Houston, "When Will We Ever Learn: The Lesson of Steel," Pittsburgh History, Winter 1989, 52.

Many of the formerly bustling **steel mill towns** are in dire economic straits. Table 3, above, shows that a representative sample of mill towns in the region experienced a 62 percent decline in employment during the period 1979-88. Forty percent of the decline occurred between 1983 and 1988. The massive unemployment has led to significant population flight.

Three examples show the general population trend in **steel mill towns**. Aliquippa, the largest municipality in Beaver County, now has a population of 15,000, down from 25,000 in 1960. Duquesne currently has a population of almost 9,200, down by a third from 15,000 in 1960. McKeesport, the second largest city in Allegheny County, dropped from over 45,000 in 1960 to 25,000 today.[18] In all three cases the population decline can be traced to mill closings and the direct and devastating effect they have had on the local economy.

Taken collectively, the remaining iron and steel production facilities in the Study Area are an unrivaled collection of historic sites which shaped the landscape of the region. They have also affected the economic, social, and cultural life of everyone in the region.

Another measure of the importance of the Study Area's national significance to the iron and steel industry are its "firsts." These are listed in the Appendix, Section 6.40.

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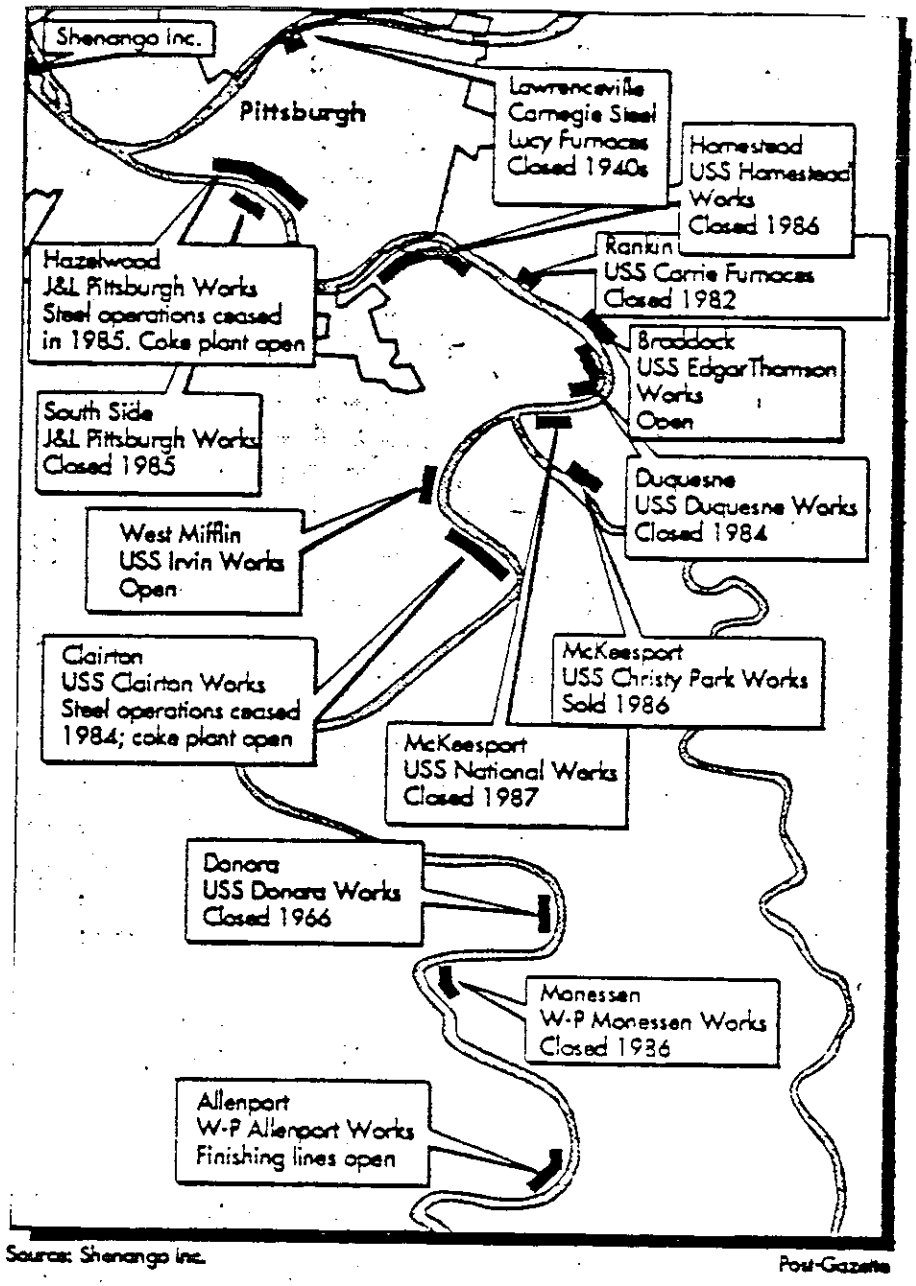
[18] Roger S. Ahlbrandt, "Mill Town Decline Ten Years Later: The Limits of Corporate Civic Leadership," Journal of the American Planning Association, Vol. 57, No. 2, Spring 1991, 195



Map 3. Mill Closings in the Greater Mon Valley, 1966-1990. Source: Pittsburgh Post Gazette, December 5, 1990.

1.12 COAL AND COKE

Coal and coke production in the Study Area has been divided into three general periods:

Pre-coke Coal	1760s-1850s
Early Coke	1850s-1920s
By-Product Coke	1895 -1990s

The region's coal and coke industries were instrumental to the regional rise of the primary metals industry. To a certain extent, though, the massive scale of the steel industry has obscured the importance of this industry, at least in the public's eye. While the overwhelming majority of the extracted coal in the last two hundred years has fed the voracious mill furnaces, coal-use predates the area's steel era. Portions of the region's bituminous coal fields, extending from the West Virginia border to beyond the northern boundary of the Study Area, have been mined commercially since the 1810s although coal usage dates back another sixty years. Coal was the primary fuel of steam-powered engines used by industry, steamboats, and trains through the first quarter of the twentieth century. It was also the primary domestic fuel until about World War II.

In terms of national significance, Allegheny County was the nation's largest producer of bituminous coal by 1840. By 1880 Allegheny remained first in production with Westmoreland second and Fayette third. Washington County was sixth in the nation. Combined, these four counties produced slightly more than twenty-five percent of the nation's bituminous coal in 1880.[19]

The region's first coal strike was in 1859, when "Monongahela Valley miners struck for the installation of scales at the mines to determine the amount of coal each miner produced."[20] Although the strike spread to much of western Pennsylvania, it was not successful. Subsequent unionization efforts of the American Miners Association (1861-67) and the National Miners Union (1873-76) met with similar fates nationally, but some locals survived in the region.

A renewed attempt to nationalize local union power took place in Pittsburgh in 1885. The locals formed a new association for mutual aid during strikes, for joint political action, and for education of miners. They called it the National Federation of Miners and Mine Laborers. By 1889 it had collapsed as company owners ignored the agreed upon wage rate.[21]

Meanwhile, the Knights of Labor had been trying to unionize miners. Officials of the Knights and the National Federation created the

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[19] **US Census of Manufactures**, 1840, 1850, 1880

[20] Keith Dix, **What's A Coal Miner To Do? The Mechanization of Coal Mining**, [Pittsburgh: University of Pittsburgh Press, 1988], 108.

[21] Dix, 114-116.

United Mine Workers of America (UMWA) in 1890.[22] It subsequently received an industrial union charter from the American Federation of Labor.[23]

The UMWA constitution laid out its objectives for wages, the end to payment in company script, an eight-hour day, health and safety regulations, education for their children, and a system of arbitration.[24] They were eventually granted the eight-hour day in 1897 and a standard wage rate in the "Central Field," but most of the remaining objectives, as was the case with the steel unions, waited decades for realization.[25]

While coal continued to be an important part of the region's economy, coke became more important to the industries under consideration here. Coke can be called a "coal concentrate" since it is the solid substance left after mineral coal has been burned to remove its volatile constituents. (The coking process reduces the tonnage by 35-40%.) Although the coking process had been known for some time, only in the 1870s did its use begin to transform the iron and steel industries in the United States.[26]

The 1850 **US Census of Manufactures**, the earliest Census reference to coke, listed Allegheny County as the only coke producer in the United States. But other sources add Fayette, Beaver (both within the Study Area), Cambria, Mercer, and Lawrence Counties, all within Pennsylvania. By the 1860 Census, four counties in the United States that produced coke were listed. Two of them--Allegheny and Fayette--are within the Study Area. (The other two were Cambria and Clarion Cos.) It should be noted that the Clinton furnace on Pittsburgh's Southside began using coke as its only fuel in 1859. By 1870 there were estimated to be 1,300 coke ovens in the United States. All of them were beehive ovens and all were in Western Pennsylvania, 1,063 in the Connellsville region alone.[27]

Of the 2,752,475 tons of coke produced in the US in 1880, Fayette Co. produced more than 45%. Westmoreland followed with 27%, and Allegheny (the #4 US producer) contributed 3.5%. Combined, the three counties yielded almost 77% of the nation's total. In 1880

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[22] Dix, 116.

[23] Gary M. Fink (ed), **Labor Unions**, [Westport, Ct: Greenwood Press, 1977], 228. The Knights of Labor had negotiated with coke workers, and some locals were formed, but they never were successfully organized.

[24] Dix, 116.

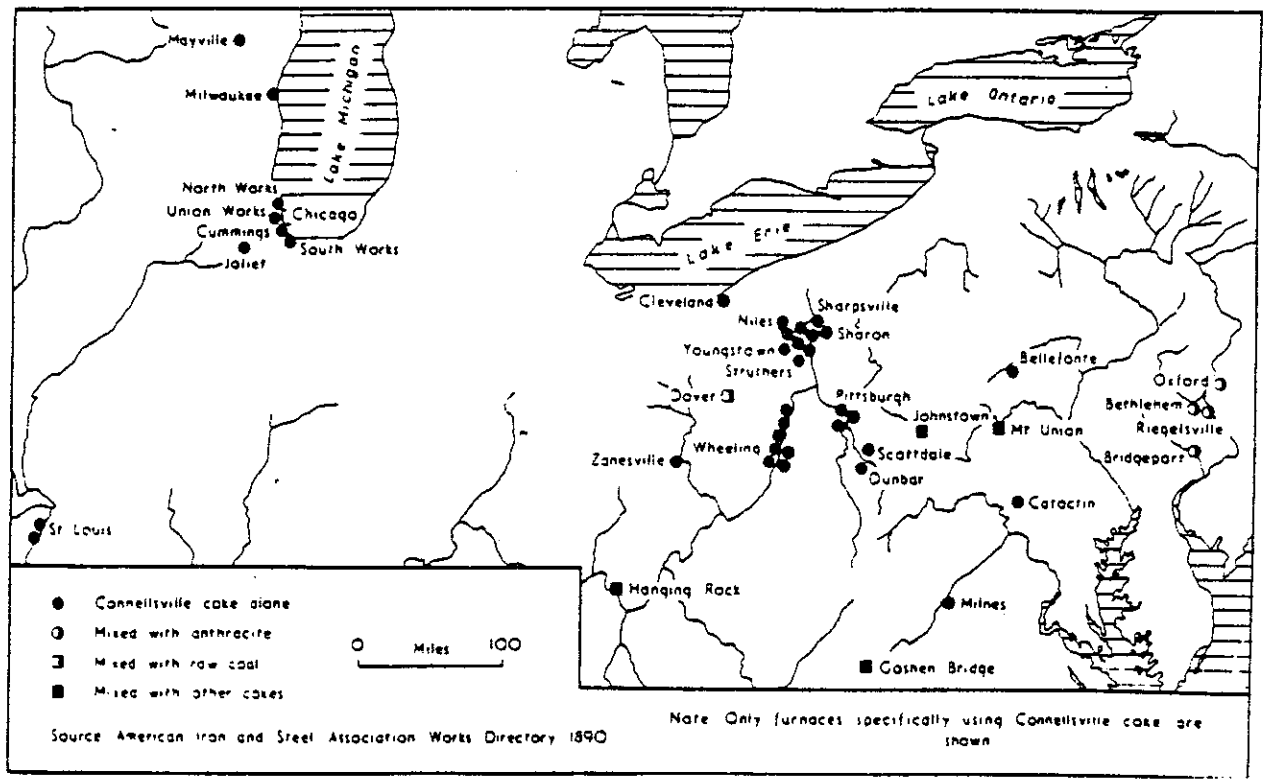
[25] Fink, 229. The Central Fields include western Pennsylvania, Ohio, Indiana, and Illinois.

[26] One source (Douglas Alan Fisher, **The Epic of Steel**, [New York: Harper and Row, 1963], 110), asserts that "the first enclosed coke oven was built at or near Connellsville, Pennsylvania, in 1833," but no independent verification has been found.

[27] **US Census of Manufactures**, 1880

seventy-two percent of the nation's beehive ovens were within the same three counties.[28]

Connellsville coke was the unequaled fuel of preference for the iron and steel industry by 1890. Map 4 shows the location of blast furnaces that used Connellsville coke exclusively or mixed with other fuels. Between 1871 and 1919 "about 88% of all iron produced in the US was made with beehive coke as fuel."[29] The vast majority of that fuel came from the region's coke ovens.



Map 4. Blast furnaces using Connellsville coke, 1890. Source: Kenneth Warren, **The American Steel Industry, 1850-1970: A Geographical Interpretation** [Pittsburgh: 1973]

By-product ovens were introduced to the Study Area in 1895 with the construction of 50 Semet-Solvay ovens at the American Manganese Manufacturing Company in Dunbar, Fayette County. This was the second by-product oven installation in the United States. By-product ovens captured the escaping gases that were formed when coal was burned in an enclosed oven. Two years later the second by-product chemical recovery plant in the US was set up by Pittsburgh

[28] **US Census of Manufactures**, 1880.

[29] Fisher, 110.

Coke and Gas Company in McKeesport.[30] The chemical recovery plant was a more sophisticated transfer and storage facility. Figure 1, below, shows the by-products and their uses.

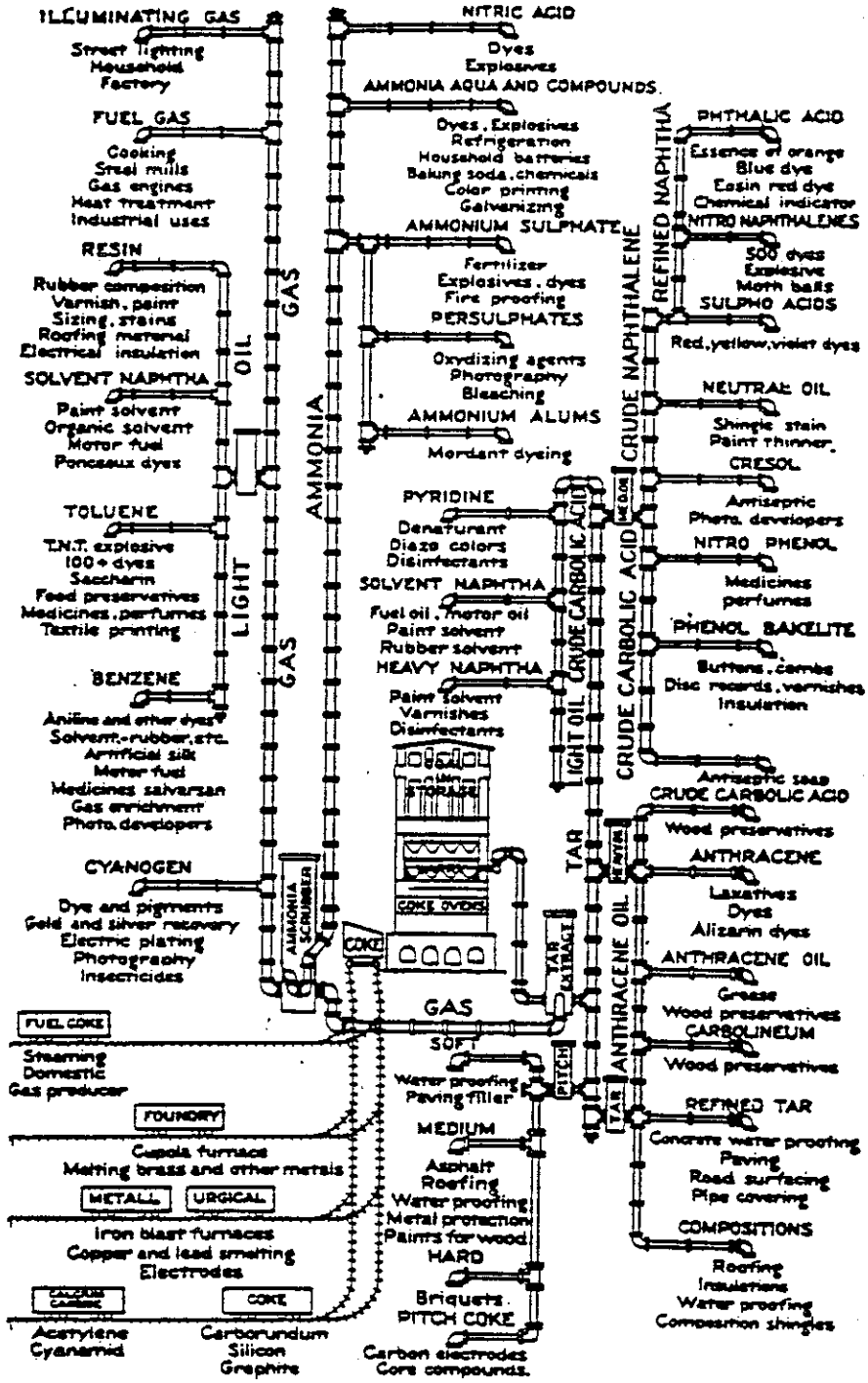


Figure 1. Chart of uses of coal distillation products. Source: George H. Ashley, **A Syllabus of Pennsylvania Geology and Mineral Resources**, [Harrisburg, 1931], 99.

[30] Fisher, 200.

By-product coke ovens set a new trend, locally pioneered, that gradually shifted coke production from the coal fields closer to the steel production sites. In 1913 United States Steel concluded that by using by-product tar in the melting shops, "steel output was in some cases as much as 24 percent higher than with producer gas, coal or other fuels."[31] The following year several Pittsburgh businessmen bought H. Koppers Company, a German coke-oven manufacturer which had installed 280 ovens at US Steel's Joliet (Illinois) Works in 1908. The firm was subsequently moved to Pittsburgh and renamed Koppers Company, Inc. "It grew into the largest designer and builder of chemical recovery coke ovens in the United States."[32]

Nationally, the output of the by-product ovens more than doubled between 1914 and the end of 1918, during peak War-time production.[33] The military uses of by-products, in making explosives, gave added impetus to the conversion to the new ovens.[34] The installation of US Steel's Clairton Coke Works in 1918 began to shift coke production from the coal fields to the steel-mill sites in the Study Area. As noted above in the description of the region's steel industry, the shift to mill-site coke production and by-product fuel gradually diminished the need for quality Connellsville coke. The peak of Connellsville coke production was in 1916, when there were more than 40,000 active ovens.[35] By-product ovens out-paced bee-hive ovens by 1919 and eventually replaced the bee-hive ovens in the region by 1925, although some operated as late as 1960.[36]

During the First World War the UMWA membership had grown beyond a half million. "Faced with overproduction and falling prices in the postwar years, the coal operators sought to reduce costs, especially those of labor."[37] The Mellon-controlled Pittsburgh Coal Company was the nation's largest. It repudiated prior wage concessions and instituted the "Pittsburgh Plan" in 1924. Under the plan, Pittsburgh Coal and other companies closed their mines and then reopened them using workers willing to work at the earlier,

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[31] Kenneth Warren, **The American Steel Industry, 1850-1970: A Geographical Interpretation**, [Pittsburgh: University of Pittsburgh Press, 1973], 113.

[32] Fisher, 201.

[33] Fisher, 201.

[34] E.F. Burchard (ed), **Mineral Resources of the United States, 1915, Part II--Monmetals**, [Washington: US Government Printing House, 1917], 375.

[35] Bomberger and Sisson, 34.

[36] Bomberg and Sisson, 31.

[37] Fink, 230.

lower wages. It also forced them to sign a so-called "yellowdog" contract which made working non-union a condition for employment.[38]

By the end of World War I, few new **coal patches** or **company towns** were being built in the Study Area's southern coal and coke region. The period of greatest prosperity, 1890-1920, had seen the construction of over one hundred small communities that extracted coal, coked it, and shipped it north to the steel mills. Coal extraction suffered a similar fate to the steel industry in the Great Depression. Bituminous coal extraction in Pennsylvania, of which the region was the chief component, had reached a peak in 1918 of 177 million tons. By 1929 it had slid to 144 million tons. Simultaneously, state-wide employment of miners dropped from a peak in 1923 of 200,500 to 135,000 in 1929.[39]

In 1933 the NIRA Codes set the federal government as a labor policy arbiter and workers flocked back to the UMWA. The coal operators acquiesced, perhaps because they hoped that the stability of the NIRA and the union could resurrect the declining industry, and lead to greater mechanization. Local miners became impatient with the length of the hearings and called a strike in September of 1933, taking 75,000 miners out. Negotiations were concluded in late September and the "Bituminous Coal Code" was created.[40]

Coal and coke followed steel in the World War II boom. But by the end of World War II the coal industry all but disappeared, "with a [statewide] total of 3,400 workers laboring in mines in 1982, or only 2% of the 1939 work force."[41] To a greater extent this was due to drastically reduced use of coal as a fuel, but it was also partly due to technological changes in extraction.

Local mining had begun with primitive digs at coal-seam outcroppings, usually operated by a few individuals. By the 1820s coal production was "firmly established" in the region.[42] As the market for industrial, transportation, and domestic uses grew so did the coal industry. With increased capitalization, second only to iron and steel by 1860, more sophisticated extraction equipment was in place. In addition to rail lines servicing the coal fields, tipples and underground track sped the extraction process and increased productivity. But well into the early twentieth century the three primary tools of the coal miner were the pick, star drill, and blasting powder.

Some mechanized drilling equipment was introduced in the 1920s, but the real production change came with the introduction of "longwall" mining in the 1930s. The older systems, called room and pillar, left posts of coal in place to support the mine roof. In

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[38] Dix, 168-9.

[39] Bomberger and Sisson, 22.

[40] Dix, 190.

[41] Bomberger and Sisson, 25.

[42] Bomberg and Sisson, 13.

long-wall mining the coal was cut from a long, lateral face of the seam. The roof was supported by self-advancing, hydraulic units. The cut coal was conveyed out of the excavation area. As the equipment advanced the roof over the extracted areas was permitted to collapse.[43] Long-wall mining has been used at Gateway Mine near Clarksville, Greene County, and at Jones & Laughlin's Vesta #5 Mine near Vestaburg, Washington County.[44] Since long-wall mining allows the mine to collapse after excavation, this technique can only be employed in rural areas.

Continuous mining, which was introduced in 1948, uses a room and pillar system. Like long-wall mining, the continuous mining system conveys the extracted coal during excavation, but leaves pillars for roof support. Joy Manufacturing of Pittsburgh and Lee-Norse of Charleroi were two of the three most important fabricators of continuous mining machinery.[45]

This new technology also changed the landscape of mining in the region. Previously **coal patches** and **company towns** were established in what had been rural areas, close to the mine entrance. Long-wall and continuous mining, due to the expansiveness of the underground works, was no longer tied to a single portal. Huge complexes, miles in length, were entered at former or new portals where miners boarded underground transports which carried them to the work point. (Strip mining, which was not addressed by this survey, has also significantly altered the mining industry and the region's landscape.) The private automobile has also significantly changed the relationship of the miner to the work place.

In the **coal patch** and **company town** period (1890s-1920s), the company controlled not only the work place. To a considerable extent, they controlled the economic and social life of their employees. The use of company housing, the only alternative in the **patches** and **company towns**, was conditional. Striking miners were frequently evicted as were union activists. In **coal patches** the company store was the only place to buy food, clothing or tools, often at inflated prices. Some companies invoked strict curfews and discouraged fraternization between workers and management.

Unhealthful, dangerous working conditions were the industry standard. Fatal accidents were not uncommon and seem to have been an accepted part of the industry. For example, a 1917 US government publication on the mining industry included detailed figures on coal and coke production along with a calculation of "Coal produced per man killed." (For the Pennsylvania bituminous fields in 1915 to produce 157,955,137 tons of coal 438 men died, yielding 360,628

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[43] Ivan Given (ed), **Underground Mining Systems and Equipment**, [New York: Society of Mining Engineers, 1973], 12-39.

[44] W.A. Hustrulid (ed), **Underground Mining Methods Handbook**, [New York: Society of Mining Engineers, 1982], 817.

[45] R.V. Ramani (ed), **Longwall-Shortwall Mining: State of the Art**, [New York: Society of Mining Engineers, 1981], 204.

tons of coal produced per man killed.)[46] Such calculations of human life as production variables were part of the "industrial culture."

While the influence of the UMWA has diminished along with the importance of coal and the size of the work force, they have still effected the region. John L. Lewis, who had been union president since 1920, resigned in 1960. Two years later W.A. (Tony) Boyle assumed the presidency. A rank-and-file opposition formed to unseat Boyle, protesting his disregard for the miners and the law. Joseph A. Yablonski of Clarksville, Washington County challenged Boyle in the 1969 union election. Boyle won by a two-to-one margin. "Shortly thereafter Yablonski, his wife and daughter were murdered. Five years later Boyle, among others, was convicted of conspiring to murder Yablonski."[47] The 1969 election was invalidated and Arthur Miller was elected in a new vote in 1972.

Judging by the numerous ethnic churches and fraternal halls in the Study Area's coal mining and coking districts, a large percentage of the workers were foreign-born or the offspring of foreign-born parents. The state of Pennsylvania as a whole was second only to New York state in attracting immigrants between 1860 and the 1920s, when US immigration limitations were put into effect. In 1920 16% of Pennsylvania's population was foreign born.[48]

Slovaks, for example, still make up 4.8% of the population in Fayette County, the second highest county percentage in the US.[49] During the height of the coal/coke production (1890-1920) in the Connellsville District, Slovaks established no less than thirteen fraternal clubs in the district, including six in Uniontown alone. They built one Slovak Lutheran church in Uniontown and a Roman Catholic church in Dawson. Their Roman Catholic church in Connellsville, St. John the Evangelist, is referred to on its cornerstone as the "Slovak Roman Catholic Cathedral," clearly indicating its importance to the Slovak community. The stained glass windows were donated by some of the Slovak fraternal halls mentioned above. The Klondike District, in the western half of Fayette County, also had thirteen Slovak fraternals and four Roman Catholic Slovak parishes and one parish with a large Slovak contingent.

In more recent years, the southern counties of the Study Area have hoped for the return of coal mining, especially in eastern Greene County. In 1974 Jesse Core, vice president of coal operations for US Steel, predicted that "Greene County can't miss being the biggest coal producing area in the world."[50] Coal gasification was to be the impetus for the revival of the local coal industry. In the early 1980s US Steel opened two mines in Cumberland and Rices

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[46] Burchard, 375.

[47] Fink, 232.

[48] Bomberger and Sisson, 8.

[49] **US Census of Population**, 1980

[50] Steve Hamm, "The Second Coming of Coal: Recession and Boom in Greene County," Pittsburgh Renaissance Magazine, March 1975, 19.

Landing to supply one of Canada's major power suppliers. A few additional projects seemed about to start, but the expected boom has not materialized.

By 1987 John Cole, Greene County's coal and mineral assessor, reported that only 11 or 12 mines were active. Since 1981 the county had lost 2,000 mining jobs and was down to 1,600 miners. Yet, in Cole's estimation, production was just as high as it was with 3,600 miners due to modern machinery.[51]

[51] Clarke Thomas, "Greene looks warily at growth," Pittsburgh Post Gazette, November 26, 1987.

1.13 TRANSPORTATION BY RIVER AND RAIL

The region's transportation industry has been divided into the following eras:

Flatboat and Sailing Vessel	1790s-1810s
Early Steamboat/National Road	1810s-1830s
National Pike/Pennsylvania Canal	1830s-1850s
Steamboat/Railroad Dominance	1850s-1930s
Diversified Transportation	1930s-1990s

This survey concentrated on river and rail transportation systems because of their fully integrated relationship with the other industries covered by the survey. The significance of the region's transportation systems, unlike that of either the iron and steel industry or the coal and coke industry, is principally as a subordinate part of the regional processing system. But it is a critical component of the regional processing system. In the course of the survey several sites were noted for their importance to the development of the region or because of an influential innovative technique.

The first successful steamboat in the western waters, the "New Orleans," was launched in Pittsburgh in 1811. The first steamboat to make a round trip voyage from the Study Area to New Orleans was the "Enterprise," launched at Brownsville in 1814. Westinghouse air brakes, which became the international standard for railroads in 1869, moved from Pittsburgh to Wilmerding in 1889. George Westinghouse also established Union Switch and Signal Company in Swissvale in 1887, and in 1917 merged the two operations.[52] The Pressed Steel Car Company, begun in McKees Rocks in 1899, fabricated the first all-steel rail car. In 1936 Dravo Corp. on Neville Island "launched a greater tonnage of vessels than any other shipbuilder in the United States, including the builders of deep sea vessels. In 1937 this company stood second in tonnage."[53]

Western Pennsylvania was important to the nation's transportation system as a conjunction of overland and water-transportation routes. At the beginning of the nineteenth century Pittsburgh was already the "most important port west of the Alleghenies and north of New Orleans."[54] Much of its importance was due to the role of the rivers, the principal route into the western frontier via the greater Mississippi River system. The system stretched from the Appalachian Mountains to the Rockies, from Montana to Louisiana.

The Study Area became an important boatbuilding center for early flatboats, which became the means of transporting early settlers, agricultural products, and basic fabricated products such as pottery, glass and wrought iron goods. Brownsville, where the

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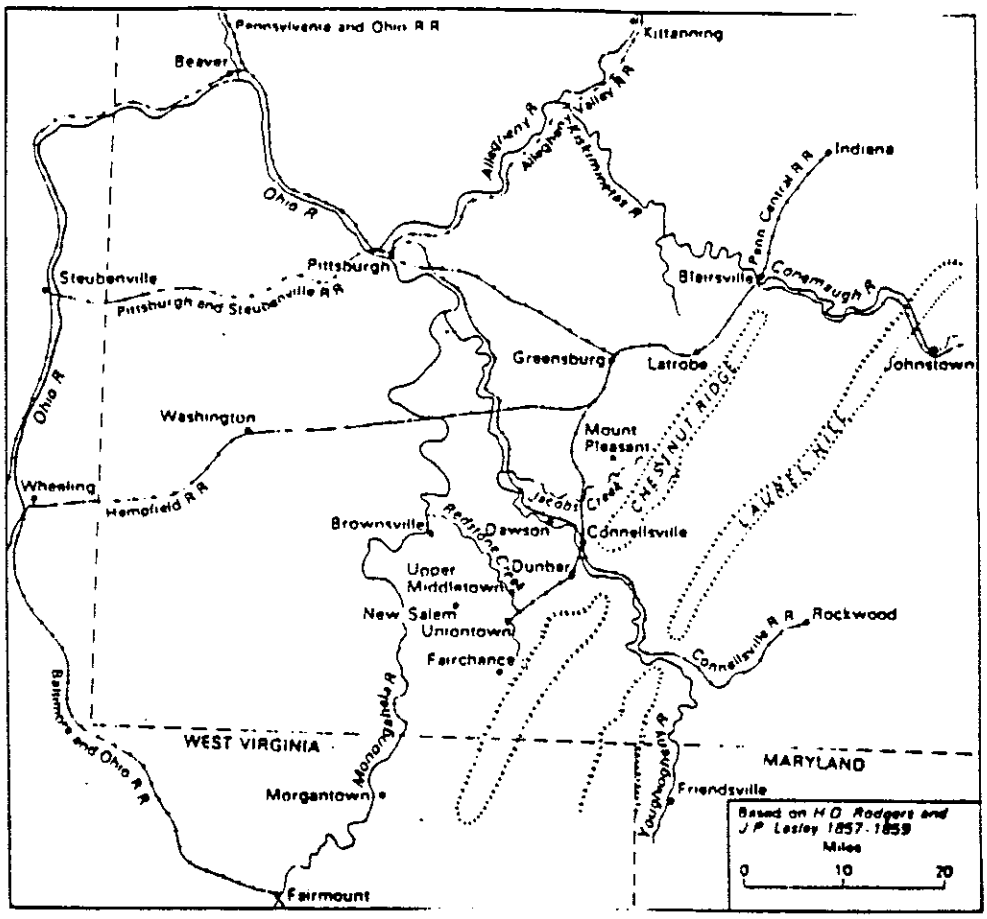
[52] Bomberger and Sisson, 67.

[53] George E. Kelly (ed), **Allegheny County: A Sesqui-Centennial Review**, [Pittsburgh: Allegheny County Sesqui-Centennial Committee, 1938], 152.

[54] Bomberger and Sisson, 46.

National Road crossed the Monongahela River, became one such center. The **early industry town** of Elizabeth, which had some company-built housing, also was an important boatbuilding town.



Map 5. Railroads of southwestern Pennsylvania in 1858. Source: Kenneth Warren, **The American Steel Industry, 1850-1970: A Geographical Interpretation**, [Pittsburgh: 1973]

With the launching of the "New Orleans" in 1811 and the successful round-trip voyage of the "Enterprise" three years later, steam-engine fabrication became an important addition to the local boat-building industry. Boatyards were constructed at about a dozen locations along the rivers, and boatbuilding became one of the region's dominant industries. By the Civil War Era, half the boats afloat in the Mississippi River system had been constructed in the Study Area.

Construction of locks and dams on the region's rivers began on the Monongahela in 1838. "Canalization" of the Mon continued for the next 22 years, when it was interrupted by the Civil War. These first locks and dams were owned and operated by the Monongahela Navigation Company. In 1871 work resumed under federal government sponsorship, it eventually bought the older locks and dams and built additional ones. There are currently nine locks on the Mon River, and the US Army Corps of Engineers is anticipating upgrades

at several locations.[55] Coal continues to account for over 80 percent of the tonnage shipped on the Monongahela River.[56]

Two sets of locks and dams were built on the Youghiogheny River in 1850-51. These were both destroyed by high water and ice in 1866 and they were never rebuilt.

In 1824 Congress passed the first Inland Waterways Improvement Act, giving responsibility for keeping the Ohio River navigable to the Army Corps of Engineers. The lock and dam at Davis Island was the first completed in 1885.[57] The grand construction campaign, though, was from 1910 until 1929.[58] By 1923 seven sets of locks and dams were in place on the Ohio River within the Study Area: West Bellevue, Emsworth, Coraopolis, Glenosborne, Freedom, Beaver, and Midland.[59]

The locks and dams allowed year-round shipping on the rivers. Prior to "canalization," the Ohio, for instance, was as shallow as ten-feet deep in low periods. Much of the impetus to improve the rivers came from the coal industry which used the rivers more than any other.

The short-lived Philadelphia-Pittsburgh Canal was completed in 1834. Its most far-reaching effect was to shift a large portion of the ever-increasing westward traffic through Pittsburgh and away from its former land route through Brownsville. Until this period, Brownsville seemed to be Pittsburgh's chief rival. But the advent of the railroads pushed Pittsburgh to the forefront.[60]

The versatility and dependability of the railroad soon became evident. Coupled with speed and efficiency, it brought a decisive competitive edge to Pittsburgh, both as a transportation hub and as an industrial center. Within a few years of the railroad's arrival in Pittsburgh in 1852, a second rail line was under construction through Connellsville. After its completion a new

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[55] US Army Corps of Engineers Pittsburgh District, **Lower Monongahela River Navigation System Feasibility Study: Interum Report**, Volume 1: "Main Report and Environmental Impact Statement," [Pittsburgh: 1991], Draft, 2-1 through 3-1.

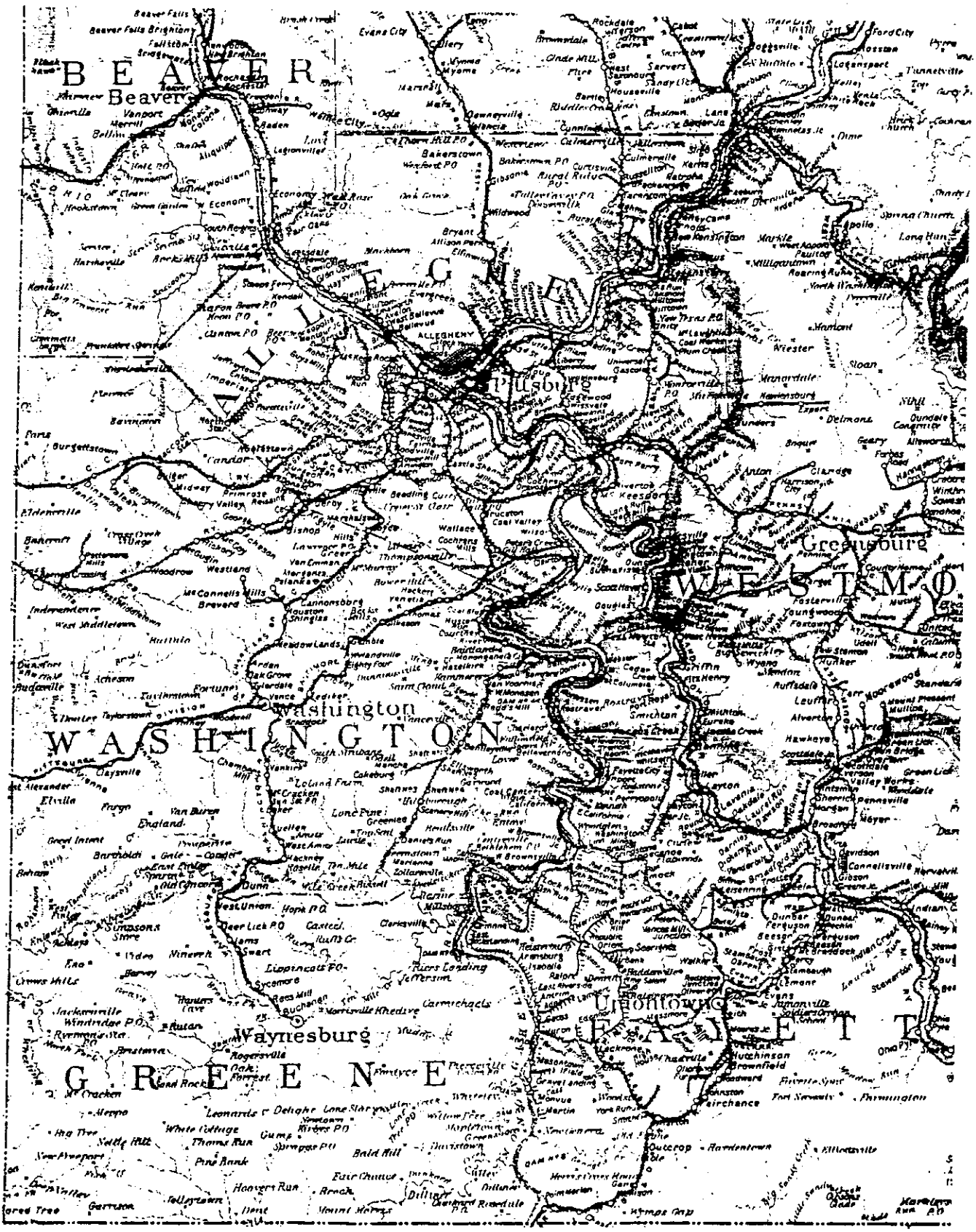
[56] US Army Corps of Engineers, 3-5.

[57] Walter C. Kidney, **The Three Rivers**, Pittsburgh: PH&LF, 1982], 38-9.

[58] Kidney, 39.

[59] The American Rolling Mill Company, **River Shipping and Industry**, [Middletown, OH: ARMCo, 1923], 80.

[60] Fisher, 221. The canal was important to the steel and transportation industry for another reason: John A. Roebling, who later designed the Brooklyn Bridge, designed the canal's first cable-suspended aqueduct in 1844. It crossed the Allegheny River in Pittsburgh and influenced his design of later suspension bridges.



Map 6. Railroads of southwestern Pennsylvania, 1911.
Source: Department of Internal Affairs, Harrisburg

new rail-based coal industry began to spread gradually into the expansive coal fields between the rivers. Combined, the coal fuel, the iron and steel industry, and the railroads made Pittsburgh the center of the region's industrial processing system and the unrivaled center of America's heavy industry.

With each spur extension of the rail lines into the coal regions of Fayette, Washington and Greene Counties new **coal patches** and **company towns** were established from the 1880s through the 1920s. The construction of the Ellsworth branch about 1900, for example, which runs from Monongahela to Marianna in Washington County, spawned numerous **patches** and **company towns** along its route. The rail line not only transported coal and coke, it was also the primary passenger carrier and delivered all other goods to the stops along the way.

Between 1850 and 1920 Pennsylvania was "among the top four states in term of miles of track."[61] The Study Area accounted for a very significant proportion of the state's track mileage and tonnage shipped. At the turn of the twentieth century Pittsburgh was purported to be "far and away the world's leading originating and terminating point in tonnage terms."[62] One indicator of the role of the region's rail system is that of the 1,708 coke rail cars in the US in 1880, 1,327 (78%) were in use in the Study Area.[63]

The Pennsylvania Railroad, the nation's largest, linked the Study Area to the Northest and the Midwest. The Pennsylvania Mainline entered the Study Area just west of Irwin and exited north of Beaver Falls. The Study Area was also serviced by the Baltimore & Ohio Mainline, entering the Study Area at Connellsville and following the Youghiogheny River to McKeesport. These two to railroads combined carried the bulk of local coal and coke to the steel mills. Other important rail lines include Allegheny Railroad, Pittsburgh & Lake Erie RR, Monongahela RR, Pidgeon Creek RR, and the Chartiers RR. (See Map 6 above)

The Great Depression hit the railroads as it did every other industry in the Study Area. In the last year before its onset, 1929, about 25% of the Pennsylvania Railroads's revenues came from transporting bituminous coal and coke. The line carried more than any other in the US.[64]

In conjunction with the economic recovery spurred by World War II, railroads did experience some renewed prosperity. But by then alternate transportation was making important headway, particularly in highway expansion. The Pennsylvania Turnpike opened in 1940 and expanded over the next two decades, and the Interstate Highway

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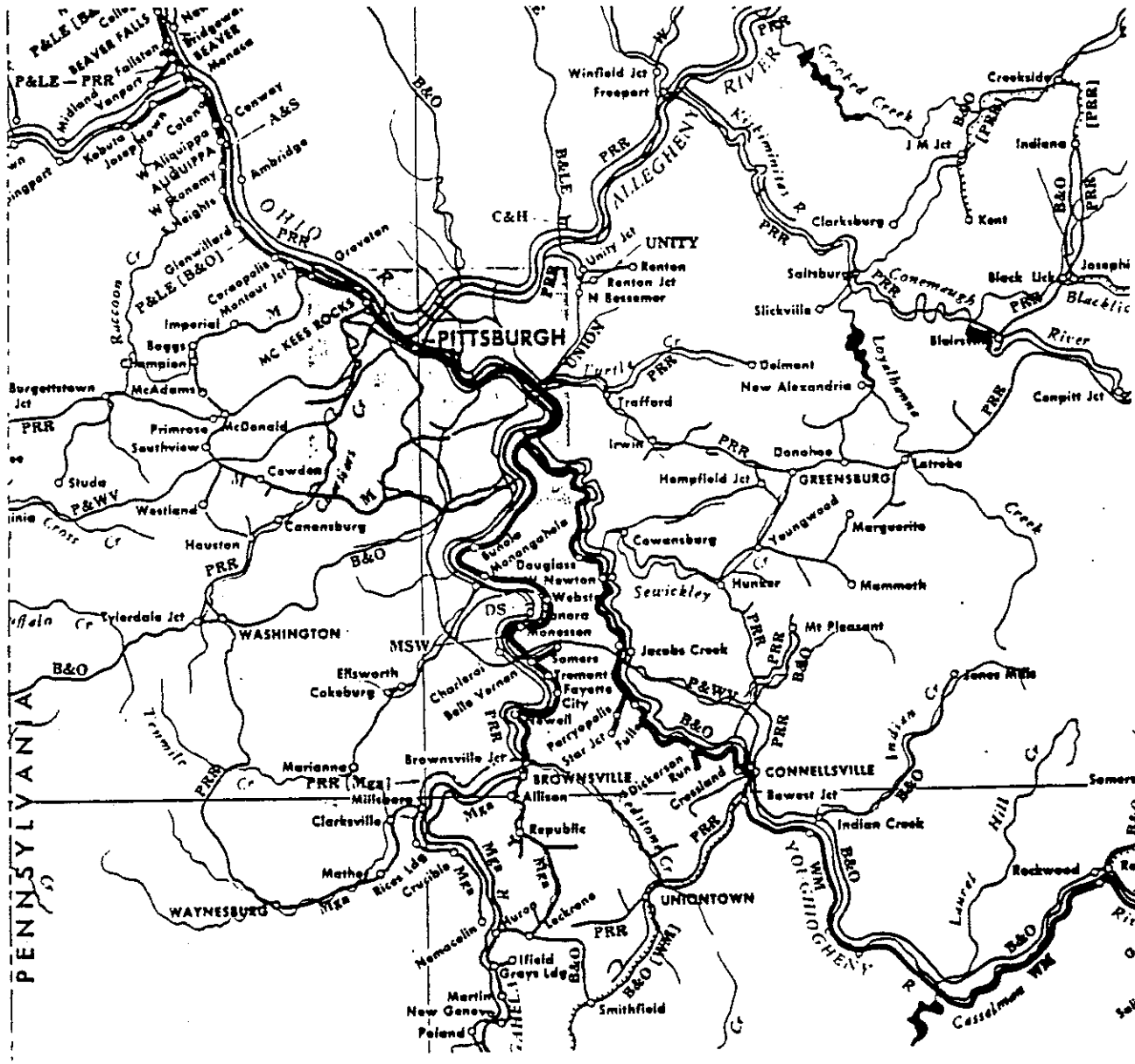
[61] Bomberger and Sisson, 7.

[62] Warren, 137.

[63] **US Census of Manufactures**, 1880.

[64] **US Census of Manufactures**, 1930. State-wide figures.

system, begun in 1956, have had the greatest effect.[65]



Map 7. Railroads of southwestern Pennsylvania, 1960. Source: **Economic Atlas of the Pittsburgh-Youngstown Economic Area**, [Pittsburgh: Lake Erie RR Co., 1960]

From a labor perspective, the 1877 Railroad Strike in Pittsburgh was "one of the most violent labor clashes in US history."[66] After wage cuts and a lay-off the railroad workers, who had unionized

[65] Dan Cupper, **The Pennsylvania Turnpike: A History**, [Lebanon, PA: Applied Arts Publishers, 1990], 16, 26-32.

[66] Bomberg and Sisson, 49.

only weeks earlier, went on strike. The state militia was brought in and a riot ensued on July 21. Called the "Battle of 28th Street," it resulted in the destruction of 104 locomotives and 2,152 cars. Property damage exceeded $5 million. Apart from the damage, the strike was important because of the sympathetic treatment of the workers received in the press and the criticism directed toward the railroad.[67]

[67] Kelly, 132-34.

1.14 RELATED INDUSTRIES

Related industries have been divided into three general periods, following the pattern of division in the iron and steel industries:

Early Industry	1790s-1850s
Heavy Industry Support	1850s-1930s
Diversification	1920s-1990s

Related industries were divided into two general categories. "Early industry" includes facilities that preceded the rise of the iron and steel industry. Most often they were part of an **early industry town**, but some other examples were found that do not fit this pattern. The early industries include grist mills and fulling mills, pottery and glassware, and early boat building. In the second category are the majority of "related industries" which were linked directly to iron and steel production. They include: blacksmith shops, forges, foundries, machine shops, tool manufactures, specialty steel works, electrical equipment, and refractories. This category also includes non-industrial "related" sites which are important to the region. (The inventories include a few banks, mill-workers' taverns, and three breweries.)

Early industry in the Study Area centered around agricultural products or supplying westward travelers. By 1810 Pittsburgh, Beaver, and Brownsville were all exporting flour and there were 110 grist mills in Washington county alone.[68] In that same year 389 tons of boats originated in Fayette County, presumably on the Monongahela River at Brownsville. Nine forges operated in Beaver and Fayette Counties, producing over 8 percent of the state's output. Fayette County also had five trip hammers, three rolling and slitting mills, and twelve nail factories. Of all 220 articles of manufacture considered in the 1810 census, the six counties of the Study Area produced slightly over 10 percent of the state total.[69]

Although not reflected in the 1810 census, steam power had begun to spread. In 1808 Oliver Evans installed in his mill in Pittsburgh the small-cylinder, long-stroke engine he had invented. The high-powered engine came into wide-spread use throughout the Middle Atlantic Region.[70] By 1860 the six counties of the Study Area had 29 steam engine and machinery-producing shops; all but three were in Allegheny County.[71]

Perhaps the most simple metal-working facilities were blacksmith shops. Although many shops did deal with horse-shoeing, a major part of their trade was in the repair and fabrication of tools and equipment. In 1860 there were 151 in the six counties of the Study Area. In that same year the Study Area had 19 ship and boat

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[68] Bomberger and Sisson, 60.

[69] **US Census of Manufactures**, 1810.

[70] Bomberger and Sisson, 61.

[71] **US Census of Manufactures**, 1860.

building facilities and 59 tin, copper, and sheetware shops.[72]

On the other end of the scale, foundry and machine shops were a vital component of industrial growth in the Study Area. The Makintosh-Hemphill Company of Birmingham (Southside Pittsburgh), for example, was founded in 1803 and remained a nationally-important machine maker for the iron and steel industry well into the twentieth century.[73] Shops of this kind often spread new technological innovations between the various industries they served.

Between 1861 and 1919 "the foundry and machine shop industry grew enormously," in the process evolving from small shops to large-scale operations.[74] In Pittsburgh in 1910, for example, foundry and machine shop employment (22,118) was second to only primary iron and steel works. With the additional employees of railroad-car construction and repair workers (10,374) and electrical machinery employees (10,867), these three related industries alone accounted for over 25 percent of Allegheny County's industrial employment.[75] During this period, when "Pennsylvania was the machine shop of the nation," the Study Area was a major contributor.[76]

The same period saw the advent of practical electrical-power develop in the region. In 1886 Westinghouse, working closely with Serbian immigrant Nikolai Tesla, developed a system of alternating current and founded the Westinghouse Electric and Manufacturing Company in Pittsburgh. In 1893 at the Chicago World's Fair, his illumination system showed the nation the myriad uses of electrical power. By 1905 Westinghouse had installed electric turbines in his own factories and brought the first electricity to steel mills, and a year later he electrified a rail line. Electrical power replaced steam-powered engines in factories throughout the country, and electric trollies set the stage for the first mass transit systems. "In 1920 his company created the world's first radio station, KDKA, in Pittsburgh."[77]

By 1937, with the nation still under the shadow of the Great Depression, Allegheny County had ten percent fewer industrial jobs than in 1919. Related industries had become much more diversified and it is difficult to make precise production comparisons with 1919; however, it is clear that the rate of growth had slowed

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[72] **US Census of Manufactures**, 1860.

[73] Bomberger and Sisson, 42.

[74] Ibid.

[75] **US Census of Manufactures**, 1910.

[76] Bomberger and Sisson, 44.

[77] Ibid, 75. And The American Society of Mechanical Engineers, **George Westinghouse Commemoration, Conducted by the American Society of Engineers**, [New York: 1937], 21-32.

significantly and in some case declined since 1919.[78]

Because of the symbiotic relationship between the related industries and the primary metals industry, the former followed the fate of the latter from the 1940s through the 1960s. The World War II boom led the related industries to a similar upsurge and the post-War decline pulled it down. Seemingly, the prosperity of the related industries depended on their ability to diversify and survive without steel.

Diversification included chemical plants that were spin-off industries from coal by-products, small plastics firms, aluminum paper products, and other small operations. Many of these small-scale firms set up at former mill sites that had been converted to industrial parks. More recent additions are high-tech and software companies.

One important related industry deserves special mention because of its survival into the late twentieth century: specialty steels. Vanadium Steel in Bridgeport opened about 1911. It manufactured high-strength parts for locomotives and the locks for the Panama Canal. As early as 1916 molybdenum steel was made in Washington County by a company now called Molybdenum Corporation of America ("Molycorp"). Heppinstall Forge and Knife Company of Lawrenceville installed the first coreless high-frequency induction furnace in the United States in 1928, one year after the world's first in Sheffield, England.[79] From these and other small specialty-steel works came high-strength, light-weight, corrosion-resistant and other special-property steel that made modern armaments, cutting tools, vehicles, and turbine blades. As smaller-scale plants, they were more readily adaptable to technological and product changes, unlike the large steel mills.

Lastly, steel tubing has been an important related industry in the region. McKeesport, once known as "Tube City," has been home to National Tube Works since the 1870s. By 1889 the company had 5,000 employees. Other mills opened in Beaver Falls in 1899 and Monaca about 1910. The A.M. Byers Company of Pittsburgh, the largest producer of wrought-iron pipe in the world, perfected the "Aston" process which replaced the old method of puddling by hand.[80] The tubing industry has followed the major steel industry into recent decline, but a few firms have survived in a similar fashion to the specialty steel works.

Refractories are another important industry with ties to iron and steel. The refractory industry in Pennsylvania began in 1836. "By 1928 it was estimated that five or six counties in of western Pennsylvania produced two-thirds of all the refractories made in

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[78] **US Census of Manufactures**, 1940.

[79] Fisher, 298.

[80] Kelly, 157.

the U.S."[81] The best sources for the clay were often found below veins of coal.[82]

Before the introduction of the Bessemer converter in 1857, most of the refractory brick, or fire brick as it was called, was locally used in the glass industry. As more steel mills were built in the region, demand for refractories increased. A material was needed that could withstand the intense heat of the furnaces. The combination of flint and high-quality clay provided the answer.[83]

Prior to 1890, the majority of furnaces could operate eighteen to thirty months before relining with new refractories. Harbison and Walker of Pittsburgh lined Carnegie Steel's Lucy Furnace in 1875 with a material that withstood three years use. By 1890 four years between relinings became possible.[84]

Harbison-Walker Company was formed from a merger with fourteen other refractories to meet the demands of the USS mills nationally. The refractory industry saw its greatest growth during the First World War and the industry peaked in 1926.[85]

1.15 PEOPLE OF THE STUDY AREA

The following eras were determined to divide immigration and migration into five periods. As with the industrial periods, the immigration and migration periods mark general trends and should not be construed as exclusionary.

British Isles (Protestant)	1760s-1860s
Northern European (Catholic & Protestant)	1860s-1880s
Eastern and Southern European	1880s-1910s
Immigration Restrictions	1920s-1990s
African American Migration from Rural South	1920s-1960s

Before the arrival of the French and English in the eighteenth century, Western Pennsylvania was inhabited by a succession of Native American groups. The so-called "mound builders"--probably of Algonquin stock--appear to have been the earliest of these (Buck 19). Within historic time Western Pennsylvania experienced two periods of Native American occupation. In the seventeenth century much of the northern portion of the region was inhabited by the Eries, a part of Iroquoian tribes. By 1656 the Erie had been overrun by the confederated tribes of the Iroquois, which

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[81] Corinne Azen Krause, **Refractories, the Hidden Industry: A History of Refractories in the United States, 1860-1985**, [Westerville, OH: American Ceramic Society, 1987], 7.

[82] Krause, 12.

[83] Ibid, 16.

[84] Ibid, 16, 22.

[85] Ibid, 52-55.

subsequently claimed the land as a hunting ground.[86]

Around the beginning of the eighteenth century, Native Americans began to move west in the face of growing European settlement on the east coast of the continent. Delawares and Shawnees established themselves along the banks of the Allegheny while bands of Seneca and other Iroquois settled on the Ohio and Beaver rivers.[87] Various sites appear to have been more populated than others: the area near McKees Rocks was occupied by a group of Seneca ruled by Queen Allaquippa; Logstown (located near Ambridge) was an important village where many of the treaties between Europeans and Native Americans were signed in the middle of the century.[88] It is apparent that, apart from two settlements on the Youghiogheny River, there were few Native American villages on the southern tributaries of the Ohio River.

Eventually the French and British moved into the area, displacing the native inhabitants and struggling amongst each other for control of the region. Ultimately the British prevailed, and for the third quarter of the eighteenth century British settlers dominated the sparse population of Western Pennsylvania. Following the Revolution, settlement increased, with immigrants from Ireland and Scotland forming the largest groups.[89] Welsh, Scots-Irish and Germans were also among the groups to move into the region, while native-born easterners also contributed to the population.

Located at the meeting of the Monongahela and Allegheny rivers, Pittsburgh had early become a focal point of settlement. The growing influx of immigrants and emigrants caused the town to grow from a frontier outpost of several hundred residents in 1790 to a city of over 12,000 by 1830.[90] As the city made the transition from a trading to a manufacturing center in the 1830s, the first major wave of immigration began. Mostly from the same groups who had already arrived--Welsh, Scots-Irish, Irish, Germans--the population of Pittsburgh swelled to 47,000 by 1850 and 156,000 by 1880.[91]

The decades between 1880 and 1930 illustrate the most dramatic shift in Pittsburgh and the surrounding region's population. Nora Faires has noted that "Of Pittsburgh's more than 340,000 inhabitants in 1890 nearly one hundred thousand were immigrants

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[86] Solon J. Buck and Elizabeth Hawthorn Buck. **The Planting of Civilization in Western Pennsylvania**, [Pittsburgh: University of Pittsburgh Press, 1968], 25.

[87] Buck, 27.

[88] Ibid, 29.

[89] Ibid, 204.

[90] Nora Faires, "Immigrants and Industry: Peopling the 'Iron City'," in **City at the Point: Essays on the Social History of Pittsburgh**, Samuel P. Hays (ed), [Pittsburgh: University of Pittsburgh Press, 1989], 4-5.

[91] Faires, 5.

(28.9 per cent). Adding those of 'foreign stock' (American-born persons of foreign parentage) to this number indicates more clearly the impact of immigration on the city's growth: 65.9 per cent of Pittsburgh's residents were either immigrants themselves or the sons and daughters of immigrants."[92] Lured to Pittsburgh because of the massive growth of industry and the need for skilled and unskilled workers, these workers--most of them from eastern and southern Europe along with African Americans from the South--transformed the city's population into "an ethnic mosaic."[93]

During the second half of the nineteenth and early twentieth century, Pennsylvania was second only to the state of New York as a destination for immigrants. The dramatically increased need for labor from 1880 until World War I brought many eastern and southern Europeans to the Study Area to work in the mills, mines, coke ovens, transportation and related industries. Their numbers are reflected in the current concentrations of certain ethnic groups within the Study Area.

Census data from 1980 indicates that people of eastern-European descent form nationally significant concentrations within the Study Area. (For more detailed information about these and other ethnic groups in the Study Area see the district reports Sections 4.11 through 4.25).[94] Allegheny County has nationally significant populations of Slovaks, Croatians, Serbs, Slovenes, and Carpatho-Rusyns. The following figures represent persons who claimed "single ancestry," meaning both parents are of that nationality.[95]

Of all the counties in the United States, Allegheny County had the second greatest number of persons who listed **Slovak** as their single nationality (nationally 361,384; Allegheny County 33,735). Fayette County, on the other hand, had the second highest percent-age of its total population claim Slovak ancestry at 4.80%.[96]

The second most numerous **Croatian** population is also in Allegheny County (national 107,855; Allegheny County 9,823), while Beaver County has the nation's fourth highest percentage of Croatians at 1.30%.[97]

Allegheny County is also second highest for its **Serbian** population (49,621 nationally; 3,487 Allegheny County). Beaver County placed

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[92] Faires, 10.

[93] Ibid.

[94] The forthcoming Ethnographic Report for the Greater Monongahela Valley Study Area will address this and other issues relating to living cultural heritage.

[95] James Paul Allen and Eugene James Turner, **We the People: An Atlas of American Ethnic Diversity**, [New York: Macmillan, 1988], 1-2.

[96] Allan, 87.

[97] Ibid, 93.

fifth for the number of Serbs and first for percentage of total county population at 1.01%.[98]

The **Slovene** population in Allegheny County is the fourth highest county population in the country (63,587 nationally; 3,015 Allegheny County).[99]

Although the **Carpatho-Rusyns** are not listed on the census records as a distinct group, they are known to be well represented in the Study Area. One indication is the location of churches. Of the 296 parishes in the Byzantine Ruthenian Catholic Church and the American Carpatho Russian Orthodox Greek Catholic Church, 80 percent are located in four states: Pennsylvania (50%), Ohio (13%), New Jersey (11%), and New York (6%). At least one-third of Pennsylvania's 150 Carpatho-Rusyn churches are located in the Study Area. Moreover, the Primal See for all Byzantine Ruthenian Catholics in the United States is located in Pittsburgh.[100]

Another indication of the importance of ethnicity in the culture of the Study Area is the number of ethnic fraternal organizations that have their United States headquarters within the Study Area. The list includes:

Croatian Fraternal Union of America (formerly National Croatian Society)
Greater Beneficial Union (formerly German Beneficial Union of Pittsburgh, name changed in 1941)
Greek Catholic Union of the USA [Ruthenian or Carpatho-Rusyn]
ISDA Fraternal Association (Italian Sons and Daughters of America)
National Slovak Society of the USA
Polish Falcons of America
Russian Orthodox Catholic Women's Mutual Aid Society [Pan Slavic]
Serb National Federation (includes former Serb Federation Sloboda and Srbobran Sloga both of Pittsburgh)
Serbian Orthodox Society (formerly of Pittsburgh)
United Lutheran Society (now in Ligonier, PA, formerly Slovak Evangelical Union of Pittsburgh and Evangelical Slovak Women's Union)
United Russian Orthodox Brotherhood of America [Ruthenian or Carpatho-Rusyn]
United Societies of USA (formerly United Societies of the Greek Catholic Religion of USA [Byzantine Rite Catholic])
William Penn Association [Hungarian or Magyar] (includes former Verhovay Aid Association of Pittsburgh)

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[98] Allen, 95.

[99] Ibid, 96-7.

[100] Paul Robert Magosci, **Our People: Carpatho-Rusyns and Their Descendants in North America**, [Toronto, Ontario: Multicultural Historical Society of Ontario, 1984], 19. "Rusyn" or "Carpatho-Rusyn" is the favored term for this ethnic group. However, as can be seen in the titles of their two principal churches, "Carpatho-Russian" and "Ruthenian" have also been used.

2.00 METHODOLOGY

The field-work portion of the survey presented unique conditions that, to a considerable extent, determined the methodology. The unique conditions can be described as "field conditions" and "evaluation conditions."

2.10 FIELD CONDITIONS

Field conditions limited the thoroughness of the field work and research. The guiding intention for the field work was to collect information to augment previously-completed surveys and make the survey coverage for the Study Area uniform. The limiting factors for thoroughness were: a Study Area of over 2,000 square miles (the largest single Study Area of any NPS-sponsored survey), a nine-month deadline, four major industries, a two-hundred-year study period, and eight themes. These conditions required a reconnaissance survey.

The field-work portion of the reconnaissance survey consisted of three parts: research, the composition of field-work lists, and site visits. Research included examination of previous surveys that had been conducted within the Study Area. The previous surveys were NPS/BHP funded surveys in Allegheny, Fayette, and Westmoreland Counties; NPS/BHP funded surveys conducted for special topics or historical themes (iron and steel, coal mining sites); HABS/HAER surveys conducted in Fayette and Westmoreland Counties; and, the BHP list of all surveyed sites in the six-county region.

In addition to examining the previously-conducted surveys, USGS quad maps (1:24,000) were carefully checked to locate unsurveyed sites and to locate topographic configurations that indicated potential site locations. Research was also conducted in primary and secondary historic literature. (See Bibliography for complete list of sources.) Prior to each section of field work, USGS quad maps were marked with all of the sites found in the examination of previous surveys and from research. These maps were used in the field. Field-work lists consisted of the name, date, resource type, and location of known and potential sites, arranged by municipality.

Each of the known and potential sites were visited by the field workers. Over the six-month field-work portion of the survey, the survey team visited over 540 industrial sites and over 630 religious, fraternal, and union sites in 190 communities, logging over 20,000 miles.

In the process of conducting the field work, many additional undocumented sites were found. In the field, previously undocumented industrial sites were relatively easy to locate. Identification, dating and determining property type was more difficult. Current use did not always indicate original use. Abandoned structures were sometimes not successfully identified, but for the majority of sites the survey team was successful.

Previously undocumented religious, fraternal, and union sites presented a different set of conditions than industrial sites. Previous surveys, for the most part, had only recorded religious,

fraternal, and union sites that met either the architectural or historic requirements for NR evaluation. Since this survey was concerned specifically with immigration and migration, and with the labor movement, the search for sites was more inclusive.

Primary and secondary sources were consulted to locate these sites, and the mapping and recording methods were similar to the procedure for the other types of sites. Religious sites were quite different from union and fraternal sites, it was discovered, and the Survey results revealed the difference.

Ethnic religious structures abound within the Study Area. The vast majority of these structures within the Study Area were architecturally distinguishable from their secular neighbors. Because of this it was possible during the field work to find religious structures that had not been found through research. The problem was identifying their ethnic affiliation. Denominations that have a hierarchical, central administration, such as the Roman Catholic Church, presented much less of a problem than the unaffiliated or congregational religious structures. Library and archival research was supplemented by in-person and telephone interviews.

There are also a considerable number of religious structures that have housed more than one congregation since construction. Where this was known, the previous congregation has been noted. In some cases the transfer of a structure from one denomination to another was the only outward indication of the arrival of a new population in a community or neighborhood. Thematically, this was an important indicator for immigration and migration. The resulting lists are quite thorough, except that some formerly-ethnic religious structures may not have been identified as such.

Ethnic clubs and fraternal and union halls presented a unique set of problems, and not all of them were successfully overcome. Unlike industrial or religious sites, these sites were not often architecturally distinguishable from other storefronts or halls in either rural and urban settings. Many ethnic organizations do not own a permanent structure: they have and continue to meet in private homes, churches, or other public buildings. Often ethnic organizations were quite small. They often only required as few as a dozen members to receive a charter from their parent organizations. As a result of these conditions, the lists of ethnic fraternal sites is uneven.

Research on the ethnic organizations did not provide sufficient information to conduct thorough field work. As was the case with some religious denominations, some fraternal organizations have kept good records, while others have not. But the biggest single problem has been that of the 42 ethnic fraternal organizations that are currently licenced in Pennsylvania, representing hundreds of former ethnic sites, only five of them responded to our request for information. For the most part, it seems that the organizations do not have a staff that could answer our questions. Furthermore, some ethnic organizations are not affiliated with larger, national networks and little is known of their histories. Therefore, the inventories that were prepared for this Final Report are an uneven listing. The inventories include ethnic organizations that responded to written and telephone requests, those that were listed

in telephone directories, or those that were found during the field work.

Similarly, former union halls, unlike religious or industrial structures, are not architecturally recognizable in the landscape. Many were storefronts or offices in business districts. During the field work some union halls were discovered, but they are few in number. Both current and historic directories and telephone books were consulted, but with thin results. The scope of work did not allow this important part of regional labor history to get its full due.

The survey did not cover all communities in the Study Area. Suburban areas were not covered, nor were entirely residential urban areas. The survey focused on industry and the people of industry. Certainly, industrial workers did live in residential areas, but it was not possible in a reconnaissance survey to determine precisely where. Instead, the survey carefully examined urban and rural communities that were either known to have an industrial component or ones that, by their location or layout, had a high probability to have industrial roots. No doubt, some sites were missed. In general, every important community has been located, visited, and included in this survey.

2.20 EVALUATION CONDITIONS

The same conditions that guided the field work portion of the survey guided the evaluation portion of the survey. The evaluation system was devised to accommodate the scale of the Study Area, the limited time for evaluation of the sites, six property types, thirty-five individual buildings and structures within the property types, and the multiple themes and industries. The objective was to create an evaluation system that was useful for its intended purpose.

The evaluation had four purposes and four corresponding audiences. The first purpose of the evaluation process was to prepare a list of potential sites for consideration as part of a proposed Industrial Heritage Park (IHP). The survey was needed to present concise information on the relative historical importance, industrial significance, and ethnic significance of sites to the design consultants. For this purpose, evaluation of the relative significance of the more than one thousand sites visited by the survey team was critical.

The second purpose was to provide SIHTF--in conjunction with the NPS, PHMC and PHAC--required information for future, more detailed surveys and planning. This survey will serve as a principal source for their future work. For the federal, state and local planning organizations, an inventory and context statement will be essential to proceed with funding and development projects.

The third purpose was to provide local municipalities, historical organizations, and concerned citizens with a context document to help them to see how their community fits into the region's historic, industrial and ethnic picture. They too need a basis for future planning and preservation efforts.

The fourth purpose was to evaluate sites for National Register status. Following guidelines established by NPS and BHP, nearly two hundred individual sites were documented with BHP Historic Resource Survey Forms. The guidelines stipulate that evaluation is based upon historic, architectural or cultural merits. The criteria limit eligibility to structures over fifty years old, and only judge the exterior of the structures. Addenda to previously-survey sites were also completed to add newly-discovered information on sites.

2.30 EVALUATION CRITERIA

The survey evaluated sites for several different purposes. Previously-surveyed sites were evaluated to determine if an addendum to the original form was necessary, based on current research. New sites were evaluated to determine if a BHP form was warranted, and to determine National Register (NR) eligibility. All sites were evaluated by a five-point ratings system for the inventory included this survey. "Recommended communities" were selected as notable collections of sites.

Forms for previously-surveyed sites were checked for their accuracy and inclusiveness. Some forms for coal mines, for example, did not include the company-built housing that accompanied them. In such cases an addendum was prepared.

BHP forms were completed for newly-surveyed sites if they met BHP eligibility requirements.[1] The majority of surveyed sites did not meet these requirements. Less than 200 new BHP forms were completed. Newly-surveyed sites were considered NR eligible if they met NR criteria. National significance was determined by using NR standards. All surveyed sites were included in the inventory (for a complete list of surveyed sites see the Appendix, Section 6.10).[2] National comparisons were made using **US Census of Manufactures** statistics and other primary and secondary sources.

All previously-surveyed and newly-surveyed sites were rated using a five point system. In general the system used NR criteria, but the eight themes of the survey were also considered. (For the eight themes see Section 1.03) A site's ability to illustrate the themes was taken into consideration. Some sites, for example, illustrated several themes well; these sites were accorded higher ratings. Other sites were rare examples of important property types and were accorded a higher rating.

In order to understand the rating procedure it is critical that the following considerations be taken into account:

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[1] For eligibility requirements see "How To Complete the Pennsylvania Historic Resource Survey Form" and "How To Complete the Pennsylvania Industrial Resource Survey Form." Both are published by the Pennsylvania Historic and Museum Commission.

[2] In the inventory of sites =MVS indicates that a new BHP form was completed for the site.

-the research was not exhaustive, this was a reconnaissance survey
-there are many sites in the Study Area that are significant for their historic, industrial, or ethnic role that do not fit the themes of the survey and consequently are not highly rated
-a site may have greater significance in a smaller Study Area, with fewer resources to compete with, than when compared with their type across a Study Area of this size

There are five marks for inventory ratings:

# indicates a site of unusually high integrity, an unusually high ability to illustrate the themes, rarity, or a combined number of themes represented

* indicates a site of above average integrity, above average ability to illustrate the themes, rarity, or a combined number of themes represented

+ indicates a site of average integrity, average ability to illustrate the themes, rarity, or a combined number of themes represented

@ indicates a site of below average integrity, below average ability to illustrate the themes, rarity, or a combined number of themes represented

/ indicates a site of low integrity, poor ability to illustrate the themes, rarity, or a combined number of themes represented

The purpose of the "recommended communities" was to locate clusters of premier sites for planning and design strategies for the design consultant hired by SIHTF. Recommended communities were selected primarily upon the density of sites rated # and * within a property type, such as an **early industrial town**, and within a five-mile radius of the property type. These clusters of sites do not necessarily reflect a single theme or represent a single industry, although at times they do one or both of these. The lists of recommended communities appears after the site descriptions in each district report (Sections 4.11 through 4.25).

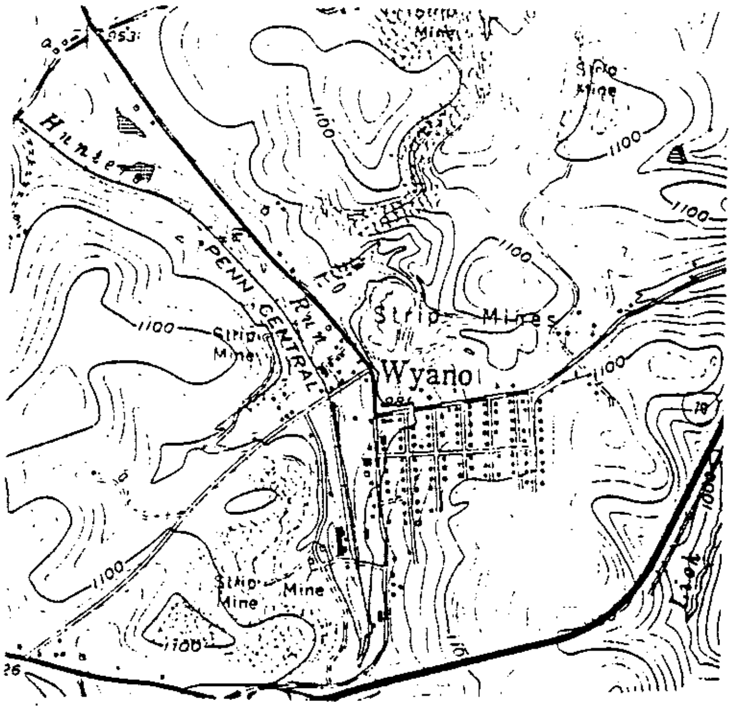
3.00 PROPERTY TYPES

A property type is a group of individual properties defined by a set of shared physical or associative characteristics. Physical characteristics may relate to the general appearance, layout, construction materials, and construction dates. Associative characteristics may relate to one or more themes defined in the "Themes" section of the Final Report (see Section 1.03). Two broad categories of property types are found in the Study Area: 1) concentrations of buildings called coal patch, company town, capital town, early industry town, steel mill town, other mill town; and, 2) individual buildings and structures called coke ovens, coal mines, iron works and steel mills, foundries, blacksmith shops, marineways, churches and synagogues, ethnic halls, libraries, etc.

The following portion of the Report describes the property types. The descriptions are of the typical aspects of a property type in regard to overall size, layout, construction materials, construction dates, general appearance and integrity. The examples provided at the end of each type are random.

It should be noted that a diverse range of historic properties were identified during the field work and the descriptions below are general. The property types listed here are limited to the major types. Additional types could be added after further research. (Within each community-level property type description below, references to other property types are in bold print.)

3.10 Coal patch: [company-built housing, located near mine and/or coke ovens, with or without company store] District locations: Greene, Klondike, Connellsville, Mid-Yough, Mid-Mon, Ellsworth, Daisytown, Chartiers, Peters Creek, Saw Mill Run, North-Mon, North-Yough, and Pittsburgh.



Map 8. Coal Patch. Example: Wyano. Important components: company-built housing, rail lines and mine. Source: US Geological Survey, Smithton Quad, 1954.

General location: Most coal patches were in what had previously been rural land. They were adjacent to rail lines.

Size: less than thirty houses.

General appearance: As a rule, coal patches were constructed with the greatest economy possible. The houses were architecturally undifferentiated from each other and were often painted alike. The mine structures, while of more durable materials than the housing, were also strictly utilitarian. The streets in most cases were "paved" with mine refuse.

Layout: Since the railroad lines often followed creeks through narrow steep valleys, the coal patches were often situated on hilly terrain. Along the tracks were the facilities for loading the coal or coke in railroad cars. Other coal extraction and processing structures include a tipple, hoist, washer, and coke ovens. In most cases the railroad track separated the extraction and processing structures from the domestic structures. The company store was often located between the "work" and domestic structures. The housing was arranged along parallel streets following the contour of the

terrain. The houses were usually within 15 feet of each other with a set back of 15 to 20 feet. Since most coal patches predate private automobile ownership, there were no garages, although there were frequently rows of identical outhouses along the alleys at the back of each house lot. Mule stables (long wooden structures, with fifteen to twenty garage-size stalls) are still standing at a few mines, and these now serve as community garages in some of the towns.

Construction materials: The tipple was usually a steel structure, frequently with corrugated metal siding. It contained an inclined railroad (usually over the main rail line) where mine cars were lifted out of the mine and dumped into railroad cars or, in a few cases along the river, into barges. The mine buildings were usually of brick or structural clay tile with shingle or corrugated metal roofs. The houses were most frequently two-story frame duplexes. There were a few notable exceptions: wood-frame barracks (Daisytown, Daisytown District), single-family frame houses (Minersville/ Granville, Daisytown District), one-and-a-half-story single-family houses (Crescent Heights, Daisytown District).

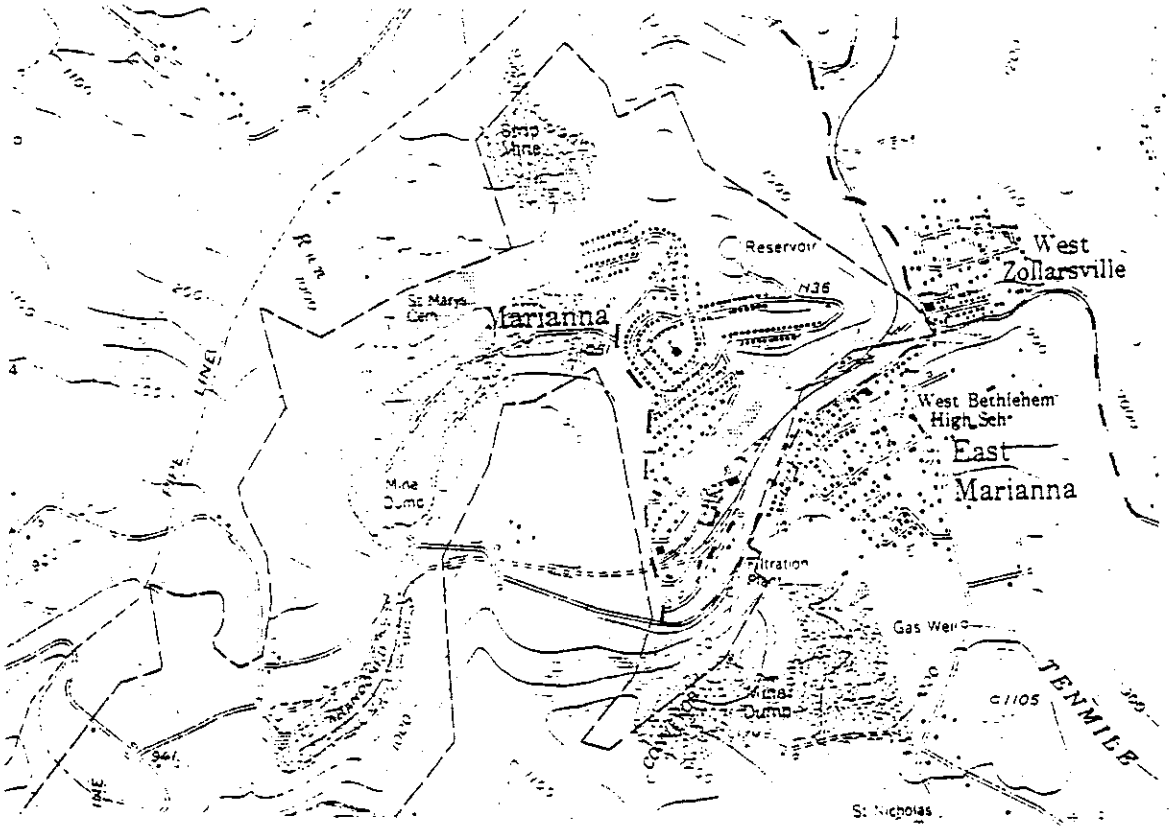
Construction dates: 1890-1920.

Integrity: Mine reclamation, industrial and suburban development, and strip mining have removed many of the tipples, coke ovens, and processing plants and some of the housing. Most mines and coking operations have been closed since WWII, and the remaining industrial structures are in poor condition or missing altogether. In general the extant housing has been "modernized" with additions, aluminum or vinyl siding, and new fenestration. There have been efforts made by the owners to individualize the housing with aluminum awnings, yard ornamentation, and paint selection. Driveways and garages have been added, where possible. Intact coal patch communities are rare.

Themes: Coal patches are the smallest inhabited unit of the fuel-supply sector of the regional processing system. Some represent typical examples of the extraction and/or coking technology of their era. Many of the coal patches are units of the capital-formation efforts of the early twentieth century. The cyclical nature of industrialization can be seen in the rapid development and subsequent abandonment of these local works. While region-wide labor efforts have included the workers in coal patches, this survey did not uncover sites of known significance. Community structure is probably the single-most important theme relating to the coal patches. Because the coal patches were built to house new populations, immigration and migration are closely tied to this property type.

Examples: Thompson #2, Fayette County, Klondike District; Shoaf, Fayette County, Connellsville District; Buffington, Fayette County, Klondike District

3.20 Company town: [company-built housing near a mine or coke ovens with a company store, other social institutions, and an adjacent free-enterprise zone] District locations: same as coal patch.



Map 9. Company Town. Example: Marianna. Important components: company-built housing, rail lines, mine, and free-enterprise zone (East Marianna). Source: US Geological Survey, Ellsworth Quad, 1954.

General location: Like **coal patches**, company towns were mostly built in rural areas, along rail lines.

Size: Twenty to two-hundred-and-fifty housing units.

General appearance: The company towns more nearly approximate small privately-built southwestern Pennsylvania towns from the beginning of the century than the **coal patches** do. The strict segregation of company and non-company structures, though, continue to accentuate former ownership patterns. Some company towns, like Marianna, reflect a conscious effort by operations owners to address some of the more onerous conditions of the **coal patches** by offering, for example, a less rudimentary approach to construction materials and flexibility in details.

Layout: Company towns were similar to **coal patches**, except that they were on a larger scale and had more commercial and institutional components. They frequently followed the same general configuration, stretching out along a steep valley, or running further up the slopes of a broader valley. In

several cases (particularly in the Klondike District), the town had housing on hills to both sides of the railroad/ industrial corridor, forming a sort of "butterfly" plan (in some of these cases, the two housing area had separate names and were thought of as two separate towns, though built by one company; e.g. Allison #1 and Allison #2). The mine or coking operations were on a larger scale than the **coal patches**, including more batteries of coke ovens or a more developed coal operation. The larger operations required more sophisticated structures and more extensive rail lines. Company offices often occupied a prominent position in the town, near the principal entrance to the mine complex or along the principal transportation access. Because of the larger work force there was a need for more social and commercial structures. Some towns had company-built schools, social halls, theaters, jail, bank, train station, and churches. In others there was a mixture of company-built and privately-built social structures.

In addition to these other structures, company towns had free-enterprise zones just beyond the property boundaries. Essentially, if the size of the captive market could sustain the privately-owned businesses, substantial districts grew along-side the company town. The private businesses sat outside the company's property line because the companies attempted to control commerce by providing a company store. The rigid plan of structures within the company property lines contrasted sharply with that of the free enterprise zone. The visual appearance of these zones was complicated by piecemeal development, often consisting of highly individualized buildings arranged along a winding road. Marianna, in the Ellsworth District is a good example. Pigeon Creek separates the free enterprise zone from the company zone. The mine complex with its overshadowing gob pile sits low in the valley with housing arranged in contour rows up the slopes. Across the creek the free-enterprise zone has numerous stores, bars, fraternal (some ethnic) clubs, and small businesses.

Construction materials: Wood-frame dwellings were the rule in company towns, but brick was also common. In the company zone in Marianna, for example, are detached yellow-brick houses with ashlar foundations and shingle roofs. The houses were spaced similarly to the patch housing but there was some attempt at architectural differentiation, in the form of brick detailing. Marianna's Sts. Mary and Ann Roman Catholic Church is within the company zone and built of the same brick as the housing. Management housing was usually arranged together as a discrete "row" of larger, freestanding houses, at times with a commanding view of the mine complex and worker housing.

The architecture of the company zone was monochromatic, while in the free-enterprise zone there is a variety of materials (brick, terra cotta, wood siding) and styles (in Marianna: pseudo-Spanish, vernacular false-front commercial, and parapeted brick). The company towns represented a greater financial investment on the part of the owners than the **coal patch**. This was reflected in the scale of the coal operations, the greater number of operations structures, in the more

durable housing materials, and in the greater number of social structures. The free enterprise zone likewise demonstrated a more permanent and substantial private financial commitment.

Construction dates: 1900-1920. The most substantial company towns date from this period, the peak of the company system in the coal and coke industry.

Integrity: For the most part, the company towns, especially those with substantial free zones, seem to have remained more intact than the humbler **coal patches**. The brick structures, especially, are less prone to some of the later embellishments like aluminum and vinyl siding than their wood-frame counterparts in the **coal patches**.

Themes: Much like the **coal patches**, the company towns are part of the regional processing system in the fuel extraction and production sector. Their technology, management and organization, and role in capital formation differs principally from the **coal patches** in the scale and complexity of operations or degree of capital investment. Industrializations' cyclical nature may well be more readily apparent because of the company's greater financial investment. The overwhelming presence of the company in these towns precludes any sites relating to the labor movement, but the property type illustrates many of the conditions that the movement sought to combat. Like the **coal patch**, the company towns were populated by newcomers. Often the combined concentration of one group in the company town and the surrounding **coal patches** was sufficient to support a church or ethnic hall.

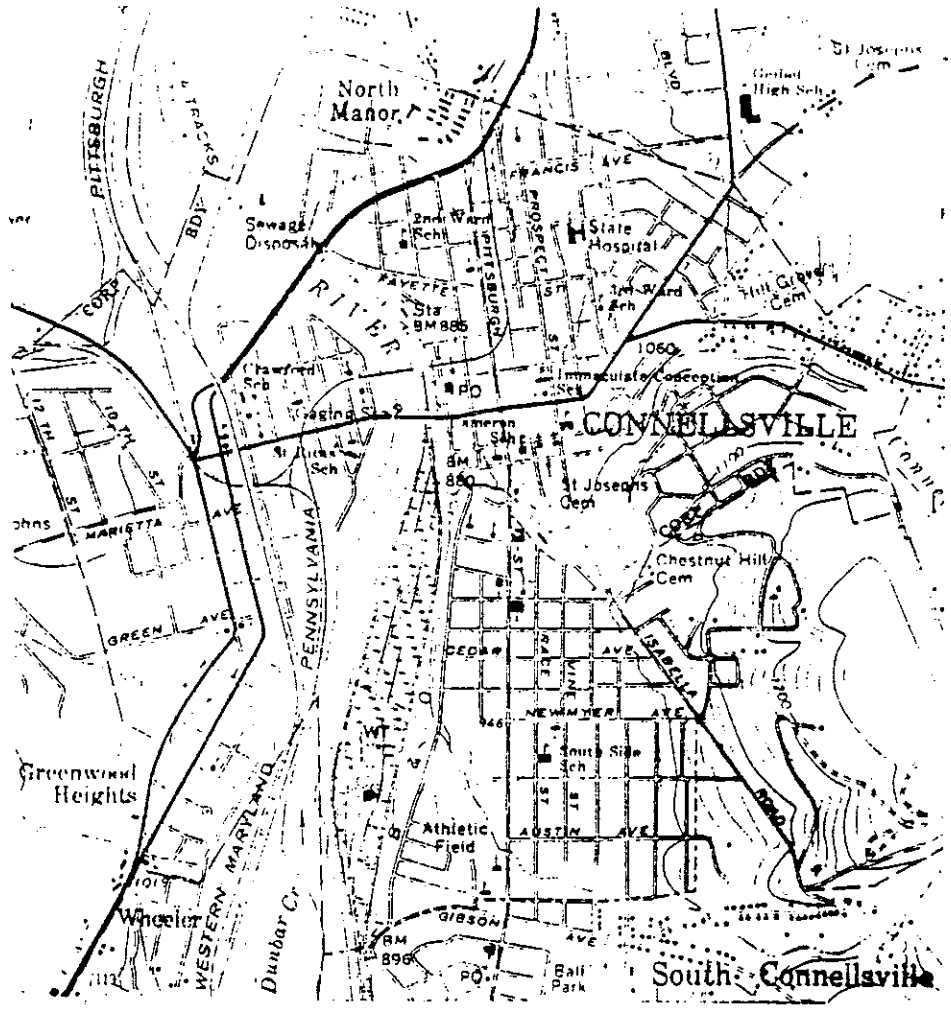
Examples: Marianna, Washington Co., Ellsworth District; Ellsworth, Washington Co., Ellsworth District; Richeyville, Washington Co., Daisytown District; Bobtown, Greene Co., Greene District; Coverdale, Allegheny Co., Peters Creek District.

3.30 Capital towns: [Capital towns were usually entirely free-enterprise towns that served as capitals for surrounding clusters of coal patches and company towns.] District locations: same as **coal patches** and **company towns**.

General location: Most often, the capital towns lie on primary or secondary transportation lines.

Size: Capital towns range in size from 5,000 to 35,000 inhabitants.

General appearance: The capital towns were often indistinguishable from other towns of similar size in the Study Area which primarily serve agricultural areas, and they perform many of the same commercial and cultural functions. As such, they include commercial, religious, government, cultural, and financial buildings. However, the capital towns were often built very quickly with boom fortunes at the disposal of businessmen and upper-end homeowners. Uniontown, for example, had two lavish though small-scale opera houses in 1910, indicative of its cultural ambitions and the available funds for construction.



Map 10. Capital Town. Example: Connellsville. Important components: major transportation route (Youghiogheny River), central business and cultural districts. Source: US Geological Survey, Connellsville Quad, 1964.

Layout: In the coal and coke Districts, capital towns had standard small urban setting, often grew from non-industry related town on primary and secondary transportation routes, as **early industry towns**, or as county seat towns. Some had company housing within their borders. These towns were important to the coal-related communities, as they served as the commercial and cultural centers of the various districts. As such, they included department stores, furniture stores, steamship company offices (which served as foreign currency banks), etc. The capital towns also served as cultural centers. While **company towns** might have, for example, one Roman Catholic church serving all of the Catholics of the **company town** and the surrounding **coal patches**, in the capital there might be an Irish RC church, a Slovak parish and a German parish. The placement of the ethnic churches more closely follows the **steel mill town** in this regard. (See Section 3.78 below in this regard.)

In the steel producing Districts, capital towns were often integral with the **steel mill** or **other mill towns**, serving both urban and suburban housing areas (until the construction of shopping malls, beginning in the 1960s). Pittsburgh's Oakland and Downtown sections functioned as greater cultural capitals for the entire Study Area.

Construction materials: varied, but within the usual range of materials for turn-of-the-century southwestern Pennsylvania urban structures such as brick and cut stone for commercial structures, and the same or wood-frame for housing.

Construction dates: While many of the capital towns pre-date the industry-related boom of the turn of the century, many structures within the capital towns represent the days of greatest prosperity: 1890-1920.

Integrity: The capital towns often include commercial historic districts, homes and offices of important industrialists, and institutions that served the outlying industrial communities (such as cathedrals and "regional" churches to which members of the less numerous ethnic groups commute from outlying communities). These categories of buildings often retain a very high degree of integrity and are often kept in good repair. Some industrialists' homes, for instance, are maintained as well-endowed museums. Churches and cathedrals tend to be among the best-preserved and most frequently used structures in the communities. The business districts, however, have suffered from storefront remodelling fads, urban renewal, and selective demolition for parking areas. As the impact of recent economic decline has been felt, the business districts in the capital towns have become some of the most fragile elements (in terms of integrity) in the Study Area.

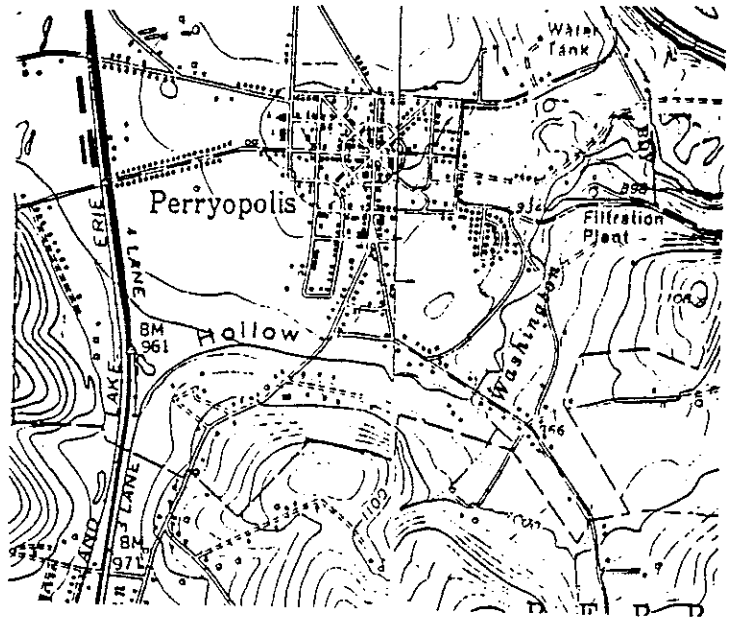
Themes: The role of the capital towns in the regional processing system is not as direct as the **coal patch** or **company town**. However, the capital towns did supply the rural fuel-extraction communities with goods and services that made their operations possible. The capital towns might also serve as local financial centers, at least prior to the full-scale expansion of integrated corporate ownership. The cyclical nature of industrialization is often most visible in these towns because they operated as commercial and cultural centers for the outlining extraction sites. Here the local owners would purchase impressive homes, build expansive churches or public libraries.

Examples: Connellsville and Uniontown, Fayette County, Scottdale, Westmoreland County, Connellsville District; Brownsville and Masontown, Fayette County, Klondike District; Monongahela City, Charleroi, and California, Washington County, Mid Mon District; McKeesport, Allegheny County, North Mon District; Washington, Washington County, Chartiers District; Waynesburg, Greene County, Greene District; West Newton, Westmoreland County, Mid Yough District.

3.40 Early industrial towns: [pre-Civil War towns where land owners laid out speculative town plans; these towns were part of conscious efforts to industrialize the region, foreshadowing capital-intensive industrialization patterns of the post-1880 period]
District locations: Greene, Klondike, Connellsville, Mid Mon, Mid Yough, Ellsworth, Daisytown, Chartiers, Beaver/Ohio.

General locations: Frequently on river-front sites where overland routes cross.

Size: These were usually small towns, laid-out originally as a plat of four to twelve small blocks of lots, often with later additions; most have populations today of 200-3,000.



Map 11. Early Industry Town. Example: Perryopolis. Important components: frequently with a formal town plan (radial), early industry structures (water-powered grist mill and fulling mill), and early commercial structures (1816 bank). Source: US Geological Survey, Fayette City Quad, 1954 and Dawson Quad, 1964.

General appearance: Today, many of these towns are indistinguishable from agricultural centers and other small towns. The plan and component developments (an early local bank, ruins of water-powered industries, etc.) are the only distinguishing features. They contain the usual commercial, religious, government, cultural, and financial structures.

Layout: Frequently, early industrial communities had creative town plans. Although the town plans were small and confined, they often contained elements that suggest overly optimistic hopes on the part of the planner. Perryopolis, for example, had the Study Area's only purely-radial town plan, a plan type usually reserved for grand expansive cities. It centered on a circular town square, with an 1816 bank and several industrial sites within a few blocks of the square. Water-powered industries played an important role in the early industrial towns. Clarksville (Greene District) was built in a small oxbow on Ten Mile Creek, which surrounded the central town square on three sides, facilitating construction of numerous water-powered factories and leaving the square at the center for privately-built homes and businesses. Fallston (Beaver/ Ohio District) was laid out with industries along a shared mill race at the upriver end of town and a grid of lots at the downriver end. These town plans tended to emphasize the cooperative relationship between the community and industry.

Construction materials: Since the structures of these towns were built on a one-by-one basis, the housing and commercial structures vary widely in materials. The seemingly high percentage of surviving brick structures may just reflect the greater durability of the material rather than the original proportion of brick structures to wooden structures.

Construction dates: 1785-1860 (particularly 1785-1795 and 1810s).

Integrity: Most of these communities have only a half-dozen or fewer pre-Civil War buildings, which together with the plan itself, are the remaining elements. However, these remaining early structures often have a high integrity.

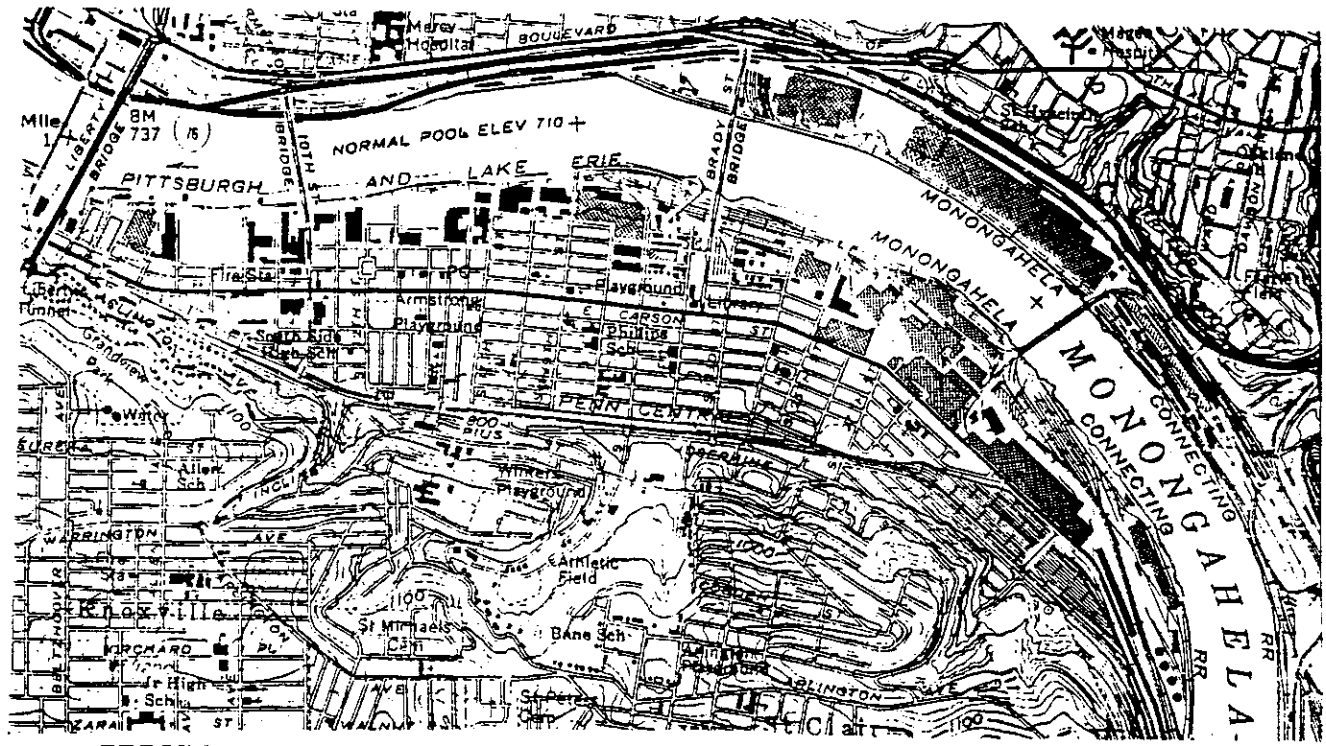
Themes: The early industrial towns represent the embryonic stage of the regional processing system. Community specialization, that may have been dictated by location or available materials, was an early development towards a regional, interdependent economy. Many of the early industrial towns were conceived with a new industrial technology as their spark. The comparatively simple technology of the era had a correspondingly simple management and organization system with capital formation from a small group of share holders. The cyclical nature of industrialization is evident in the archaic town plans and early architecture, often more suited to a rural economy than an industrial one. Most of the early industrial towns pre-date any real local labor movement. Some of the towns were founded with cooperative relations between workers and management, often through joint ownership. This ownership arrangement, for example, fostered a different kind of community structure than the more common paternalistic employer/employee relationship of the late-nineteenth early-twentieth century. As for immigration and migration, most of the early industrial towns were originally populated by people of first or second generation British Isles or German heritage.

Examples: Dunbar, Fayette County, Connellsville District; New Geneva and Brownsville, Fayette County, Klondike District; Greensboro, Rices Landing, Greene County, Greene District; Elizabeth, Allegheny County, Mid Mon District

3.50 Steel mill towns: District locations: Connellsville, Mid Mon, North Mon, Pittsburgh, and Beaver/Ohio Districts.

General location: River-front sites.

Size: These were generally sizable towns, most having had between 10,000 and 30,000 population in the period between World War I and World War II (4,000 to 20,000 today). Several had as many as twenty churches, and sometimes hundreds of commercial buildings. In general the community boundaries contained between one and two square miles of land. At least five of these communities were chartered as cities, and several of the largest were neighborhoods within the City of Pittsburgh.



Map 12. Steel Mill Town. Example: South Side of Pittsburgh. Important components: river-side mill, rail lines and yards, commercial and residential district on alluvial plain, and residential district extending up "slopes." Source: US Geological Survey, Pittsburgh East Quad, 1960.

General appearance: Although most of the buildings were built by private individuals, there is a quality of "sameness" in these towns, primarily due to the short period during which most were constructed. In addition to the expected commercial, residential, religious, cultural and financial structures, these towns have steel mills, usually with attendant rail yards, barge facilities, and scrap yards.

Layout: Topography and industrial priorities dictated the layout of most of the Study Area's mill towns. In general, they were located where crescent-shaped parcels of level alluvial plain (approximately a quarter of a square mile in area is usual) were available along the rivers. In such places, the railroad lines could be placed closer to the hillside, allowing a generous open area for the mill to be built between the river and another river-front rail line. With this arrangement, the mills enjoyed transportation on both sides and ready access to water needed in washing and cooling operations. Within the mill complex, generally there were several tall blast furnaces and several long monitor-roofed structures housing open hearths, rolling mills, and other equipment.

There were usually large open areas at the ends of the site for coal, coke, ore, scrap, and other stock-piled materials. In some cases, there were cranes extending out over the river for moving materials onto and from barges or rail cars. Above-ground pipe lines transferred gas from nearby coke ovens over

distances as long as ten miles (only five of the mills--Clairton, Monessen, Hazelwood, Aliquippa, and Midland--have by-product coke ovens within the mill complex, the remainder of the mills were served from these five.) In cases where the blast furnaces were on one side of the river and the rolling mills on the other, there was sometimes a special "hot metal" railroad bridge. Most of the plants have multi-story red brick office buildings near the gate. Clustered around the larger buildings were smaller buildings containing machine shops, locker rooms, offices, etc.

In several cases, the mill did not occupy the entire alluvial plain, and a neighborhood developed alongside the mill (as is still visible in Braddock, Hazelwood, Pittsburgh's Southside and West Aliquippa). In some cases (e.g. Duquesne and Homestead), World War II era mill expansions resulted in the clearance of residential neighborhoods for industrial uses. Like the **capital towns**, the commercial districts in steel mill towns were not connected with the industry, but company-built housing is not unusual. Across the railroad tracks from the mill, the business districts have developed in most of the mill towns as long, linear districts with one street (or two parallel streets) of tightly packed commercial row buildings. The Main Street also served as the main vehicular access, parallelling the course of the river in and out of the town. Beyond this street, the terrain is usually hilly, with the uphill streets located in the natural swales in the hillsides, and with terraced streets parallelling the river. Along the terraced streets and the uphill streets were the homes, churches, and corner stores.

The oldest Protestant churches were usually the ones closest to the main street as was any company-built housing. Ethnic churches were most frequently closer to the hilltops. Some of the "latecomers" of the World War I period (including most of the Byzantine, onion-domed churches of the Rusyns and other Eastern European groups) purchased dramatic sites at the crests of small hills overlooking the business districts. Beyond the crest of the hillsides were suburban neighborhoods, usually outside the municipal limits, where mill workers built suburban homes when wages and job security were at their peak (between World War II and 1970). This suburbanization frequently resulted in a cessation of new construction in the mill towns themselves and an ever-poorer "in-town" population. Urban renewal attempted to clear "blighted" buildings from many of the towns in the sixties and seventies and has removed much of this fabric in many steel mill towns.

Construction materials: Brick and metal-clad steel frame on the mill site, brick (frequently yellow brick), terra cotta, etc. in the business districts, and frame or brick in the residential districts--with brick churches (frequently yellow brick).

Construction dates: 1880-1940

Integrity: The integrity of the steel mill towns is high in various ways, especially since physical development of the towns was generally arrested around the World War II era, but urban renewal has removed large sections of business and residential districts from a few towns. Surface alterations such as aluminum siding are common in residential districts. Many of the industrial plants have been undergoing systematic demolition, over a phased schedule of several years, since major closings occurred in the 1980s. Many significant examples of early-twentieth century technological developments are still intact, though threatened by planned demolition.

Themes: All of the themes come into full play in the steel mill towns. The industries of these towns were the centers of the regional processing system. River and rail transportation systems brought the coal or coke fuel and raw materials to the furnaces. The evolving technology of production necessitated an equally complex system of management and organization, leading to the vertically integrated system. The enormous capital formation efforts required to open and operate the steel mills led to corporate conglomerations previously unknown. As the steel mill towns became the centers of production for the regional processing system, the regional economy became increasingly dependent upon the steel industry. Shifts in production needs at the steel mills sent seismic waves throughout the region.[1] The same kind of ripple effect was true for labor movement efforts in the steel mill towns. Attempts to adjust the relationship between management and labor in the steel industry can be seen in parallel regional-wide labor efforts to adjust the "limits" in other industries.

Examples: Monessen, Westmoreland County, Mid Mon District; Clairton and Duquesne, Allegheny County, North Mon District; Midland, Beaver County, Beaver/Ohio District.

3.60 Other mill towns: [These are several kinds of communities and individual plants that do not fit the above model, primarily due to function. Although these towns closely resemble the steel mill towns in various ways, in most cases, the layout or components are different because the mills are more specialized or have a different physical relationship with the community.] District locations: North Mon, Pittsburgh, Chartiers, and Beaver/Ohio Districts.

General locations: Like **steel mill towns**, the other mill towns most often were at river-front sites. At times the size of the alluvial plain did not allow frontage and they sit further back from the water's edge but were serviced by a spur rail line.

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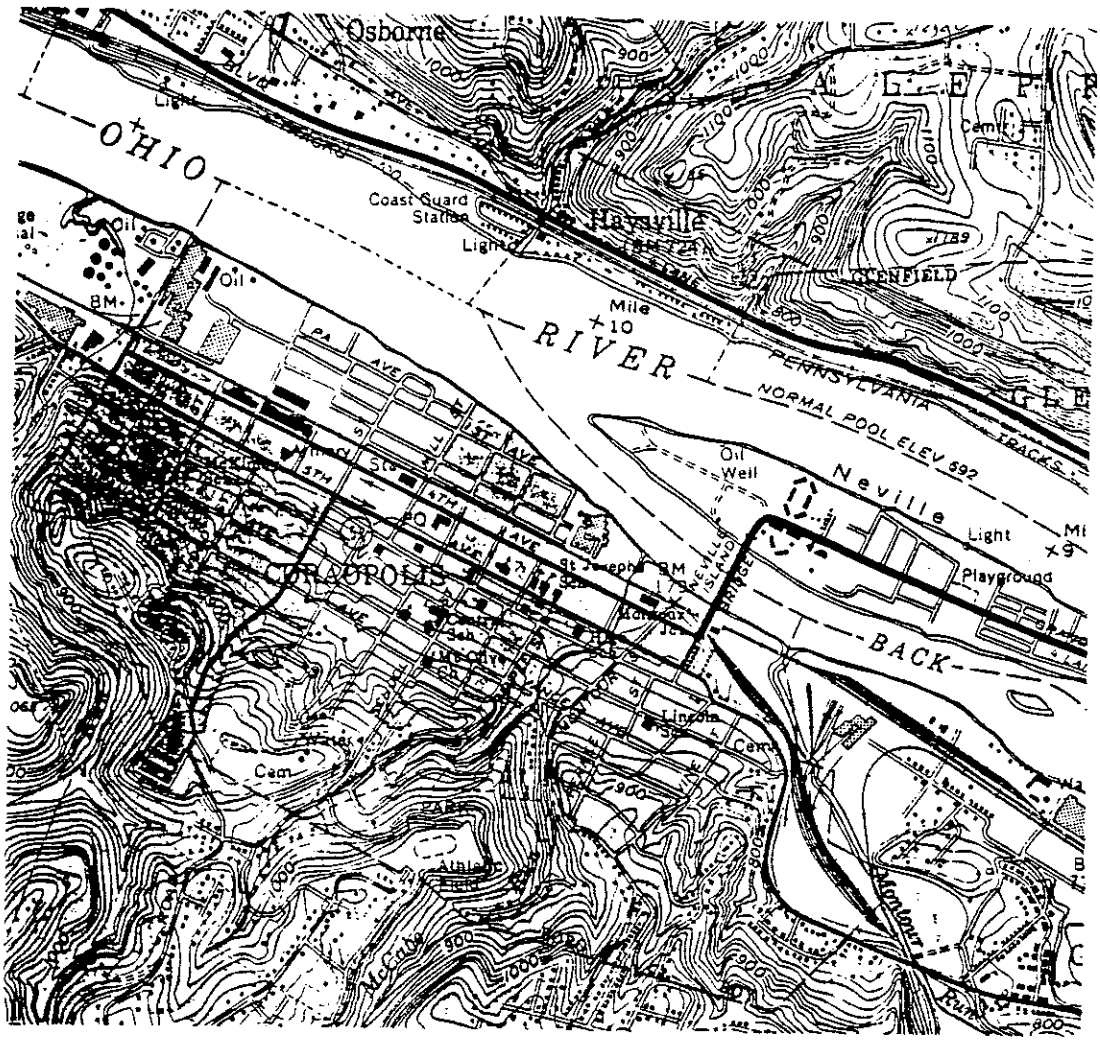
[1] For example, in terms of fuel: the shift from coal to coke or the shift from coke production at the mine site to giant coke plants near the mill site. For labor: the shift from a small skilled mill work force to a large semi- or unskilled mill work force.



Map 13. Other Mill Town. Example: Coraopolis. Important components: similar to steel mill town but with partial use of river-front by industry, smaller-scale industrial sites and rail facilities. Source: US Geological Survey, Ambridge Quad, 1960.

Size: These communities and individual plants vary in size, from small towns of a half square mile and only a few hundred people, to large plants with only tangential connections to surrounding residential sections.

General appearance: Less cohesive than the **steel mill town** described above, but usually with similar non-industrial components.

Layout: These communities vary greatly in layout. In some cases the plants were later additions to large, established towns where the mill sits on the town's periphery without any real effect on the original layout. These communities were the least like the typical **steel mill town**. In this first case, they resembled **capital towns** (Washington, Chartiers District). Alternately, in towns with large-scale fabrication plants the location and scale of the plant dictated a layout very similar

to the **steel mill town** (Ambridge, Beaver/Ohio District). A third general layout for the other mill towns was a combination of the first two with a medium-sized works that did not fully dictate a **steel mill town** type because either there was not a substantial alluvial plain or the works post-dated the town (Leetsdale, Beaver/Ohio District). The final alternate for other mill towns included communities that, due to the nature of the works, did not require a river-front site. In these cases the layout was much less predictable than in the other cases, following the particular needs of the individual industry and the terrain (Turtle Creek, Turtle Creek District).

Construction materials: Mostly steel-clad steel-frame industrial buildings, although earlier examples are monitor-roofed brick structures as in the steel mill sites.

Construction dates: 1880-1940.

Integrity: Generally the same as **steel mill towns** above.

Themes: Other mill towns were ancillary parts of the regional processing system. Most often they produced a finished product from iron or steel, fabricated equipment used in the production of steel, or produced related products from the by-products of steel production. As such, they were usually a spin-off of the region's iron and steel industry. These secondary plants included foundries and forges, fabricating plants like bridge works, machine and tool plants, specialty steel mills as well as electrical and chemical sites. Some were minor parts of the regional processing system that grew along with other steel-industry needs like refractories.

Steel mill expansion and new innovations in the primary industry caused these secondary industries to flourish. In some cases, such as specialty steel and chemical industries, the secondary industries have survived the post-steel industrialization cycle better than the older, primary industries. This survey did not address the management and organization or capital formation in the secondary industries, nor did it address issues relating to labor or immigration and migration. In some cases, especially in the large-scale enterprises, the community structure in the other mill towns seems to echo that of the **steel mill towns.**

Examples: Washington, Washington County, Chartiers District; McKeesport, Allegheny County, North-Mon District; Lawrenceville, Allegheny County, City of Pittsburgh District; Monaca, Beaver County, Beaver/Ohio District.

3.70 Individual buildings and structures of note within the Property Types:

Within the communities property types are individual resources that form the industrial and cultural touchstones for evaluation. They are listed and defined below.

3.71 IRON WORKS AND STEEL MILLS--the Study Area has had all of the following types of works and mills. They are listed below with typical setting, general dates of operation, and a random example of the type.

CHARCOAL IRON FURNACE--1780s-1860s, [forest setting] Union Furnace, near Uniontown, Fayette County, Connellsville District

ROLLING MILL--1810s-1860s, [rural, early industrial town or steel mill town] Plumsock, near Uniontown, Fayette County, Connellsville District (integrated in larger mills after 1860s)

PUDDLING FURNACE--1810s-1900s, [rural, early industrial town or steel mill town] Plumsock, near Uniontown, Fayette County, Connellsville District

HOT BLAST FURNACE--1850s-1900s, [steel mill town] Clinton Furnace, Southside, Allegheny County, City of Pittsburgh District

BESSEMER FURNACE--1860s-1910s, [steel mill town] Edgar Thomson Works, North Braddock, Allegheny County, North-Mon District

OPEN-HEARTH FURNACE--1890s-1950s, [steel mill town] Singer, Nimick & Co, Pittsburgh, Allegheny County, City of Pittsburgh District

ELECTRIC FURNACE--1920s-1990s, [steel mill or other mill town] Firth-Sterling Steel, McKeesport, Allegheny County, North-Mon District

3.72 SECONDARY METALS INDUSTRIES: They are listed below with brief descriptions of the type, their approximate dates and an example.

BLACKSMITH SHOPS--1790s-1930s, [rural setting, early industrial town, capital town, company town, steel mill or other mill town] Independent or company-owned small-scale metal-work shops. Sometimes connected with other facilities, like mines, to do repairs or small piece-work. Entailed a small forge for working wrought iron. Merrittstown Blacksmith Shop (c1820), Redstone Twp., Fayette County, Klondike District.

FOUNDRIES/MACHINE SHOPS--1790s-1930s, [early industrial town, steel mill or other mill towns] These were usually smaller than the large steel complexes found in the region, but similar architec-turally. Since foundries were often built by smaller specialty companies whose operations were sometimes confined to one plant, they were often housed in substantial brick structures. Foundries can be found adjacent to larger mills, but more often seem to be in clusters consisting of separately-owned enterprises. Some **other mill towns** functioned as foundry centers. RJ Meyers Building (former Crucible Foundry) (c1900), Lawrenceville, Allegheny County, City of Pittsburgh District. Young Foundry and Machine Shop (c1880), Rices Landing Borough, Greene County, Greene District.

FABRICATION SHOPS--1860s-1980s, [steel mill or other mill towns] Ranging from small assembly shops to large-scale operations like bridge works. American Bridge Works, Ambridge, Beaver County, Beaver/Ohio District.

3.73 COAL-RELATED FACILITIES:
COAL MINE--local mines have been of four basic types: early mines, wagon mines, tipple mines, and mechanized mines.

EARLY MINE--1790s-1860s, [rural setting or early industrial town] excavation at outcroppings, for domestic and industrial use. No known example, but a "farmer mine" in Jefferson Twp., Greene County, Greene District approximates the type.

WAGON MINE--1820s-1920s, [rural setting or early industrial town] timber portal and interior supports with external wooden loading platform. Privately or company-owned. Hilldale Wagon Mine, Forward Twp., Allegheny County, Mid-Mon District

TIPPLE MINE--1860s-1940s, [rural setting, coal patch or company town] company-operated mine with track to move coal cars. With either metal and/or wood railroad loading hoppers or tipples. Later examples had elaborate barge or rail car loading stations. Nearly always adjacent to **coal patch** or **company town**. Often affiliated with coke ovens after 1890. Ellsworth Mine, 1900, Ellsworth Borough, Washington County, Ellsworth District.

MECHANIZED MINE--1930s-1990s, [rural setting, former coal patch or former company town] extensive coal extraction operation, using either long-wall or continuous mining technology. Often owned and operated by steel mill companies. Some have fully underground transportation systems to river-front loading facilities. Some incorporate former, less extensive mines. Rarely accompanied by a **coal patch** or **company town**, although some continue to use portals of older mines. Robena Mine (c1940), portals in Monongahela and Cumberland Twps., Greene County, Greene District.

COKE OVENS--The Study Area contains four main kinds of coke ovens:

BEEHIVE OVENS--1860s-1920s, [coal patch or company town] These were rows of domed ovens, modelled after traditional bread ovens, with rail lines on top of the ovens and alongside them, sometimes with more than a hundred ovens in each of several rows. These are found in literally hundreds of **coal patch** and **company towns**, particularly in the Connellsville and Klondike Districts, but also in smaller numbers in the Ellsworth and Mid Mon Districts. As a rule, the ovens were located on a railroad spur accessible to the mine and apart from the domestic and commercial structures. Although not verified in the field work, it is assumed that they were placed downwind from the town. Smock (c1900), Franklin Twp., Fayette County, Klondike District.

RECTANGULAR OVENS--1900s-1920s, [coal patch or company town] The rectangular ovens were a variation on beehive ovens invented in Belgium in the late nineteenth century. They were not introduced to the Study Area until after 1900, and even then, never completed eclipsed the beehives, which were apparently favored by Henry Clay Frick. They were mechanically loaded, levelled, and unloaded from the side. Most of the rectangular ovens were built by the W.J. Rainey Company, mostly in the Klondike District, with a few in the Connellsville District. Similar **coal patch** and **company town** setting to the beehive ovens. Revere (c1900), South Union Twp., Fayette County, Connellsville District.

SEMET-SOLVAY--1893-1920s, [company town or early industry town] The first set of by-product coke ovens built in the Study Area (the second set in the United States) was at Dunbar. The name "Semet-Solvay" refers to the company that made them. The Dunbar ovens were built in 1893, more than twenty years before the five large by-product plants along the Monongahela and Ohio rivers. Closed for several decades, the Semet-Solvay ovens at Dunbar are now only foundation ruins. Similar location in the landscape to the other two types of localized coke ovens. Dunbar (1893), Dunbar Borough, Fayette County, Connellsville District.

BY-PRODUCT OVENS--1918-1990s, [steel mill and other towns] During World War I, five large by-product coking plants were built along the Monongahela and Ohio Rivers, in the **steel mill towns** of Clairton (the largest coking plant in the world), Monessen, Hazelwood, Aliquippa, and Midland. They consist of masonry walls separating the rectangular oven spaces, which are packed tightly together in a row. Pipes connected to the ovens carry off gases and other substances which are used in manufacturing various chemical by-products and in fueling furnaces at nearby steel plants. Clairton Coke Works, Clairton Borough, Allegheny County, North-Mon District.

3.74 TRANSPORTATION FACILITIES:

RAILROAD YARDS--1852-1950s, [capital towns, steel mill and other mill towns] large freight transfer yards, usually with river-front sites because rail lines tended to follow water courses, often affiliated with repair shops. Conway Yards (c1910), Conway Boro, Beaver County, Beaver/Ohio District.

RAILROAD REPAIR SHOPS--1850s-1940s, [capital towns, steel mill and other mill towns] usually large brick structures where locomotives were serviced. Sometimes referred to as roundhouses. Monongahela Railway Co. Shops (c1920), Brownsville Borough, Fayette County, Klondike District.

RAIL CAR FABRICATION SHOPS--1850s-1950s, [other mill town] only the Pressed Steel Car Company and the adjacent **company town** of Presston is known to remain within the Study Area, near McKees Rocks. Several long monitor-roofed brick structures housed the company, the first all-steel rail car fabrication site in the United States. Pressed Steel Car Company (1899), Stowe Twp, Allegheny County, Chartiers District.

RAILROAD STATIONS--1850s-1950s, [every town type] many small and large communities had both passenger and freight stations. The passenger stations were often architecturally outstanding. Pittsburgh and Connellsville Railroad Station (c1900), West Newton Borough, Westmoreland County, Mid-Yough District.

MARINEWAYS--1900s-1980s, [other mill towns] The Study Area has marineways at Brownsville, Elizabeth, Clairton, Dravosburg, Neville Island, Leetsdale, Ambridge, and possibly a few other places. These were basically boatyards that specialized in building and repairing large steel barges and tows boats. They consisted of a few medium-size masonry or steel-frame structures housing machine shops and other facilities, and sets of tracks descending into the river, where boats are pulled out for dry-docking and repairs. Ingram Barge (c1950), Dravosburg Borough, Allegheny County, North-Mon District.

FERRY--1900s-1950s, [rural setting] only one remains of this once-important means of river-crossing. The Fredricktown ferry is a barge towed and guided by an over-head cable that stretches from bank to bank. Fredricktown Ferry (1948), Luzerne Twp., Fayette County, Klondike District.

BRIDGE: The survey only recorded two types of bridges

CAST IRON BRIDGE--the first cast-iron bridge in the United States, the use of materials in this case was more important than the transportation-related aspect. Dunlaps Creek Bridge (1839), Brownsville Borough, Fayette County, Klondike District.

HOT METAL BRIDGE--1910s-1960s, [steel mill town] used to transport hot steel between furnaces and rolling mills. Sometimes combined with railroad bridge. Homestead Works of USS (c1900), Homestead, Allegheny County, North-Mon District.

LOCKS AND DAMS--1830s-1950s, The installation of locks and dams on the Study Area's rivers were critical to the year-round shipment of fuel and steel. Davis Island Lock and Dam (1878), Avalon Borough on the Ohio River, Allegheny County, Beaver/Ohio District

3.75 OTHER EARLY INDUSTRIAL FACILITIES:

GRIST MILL--1790s-1900s, [rural setting or early industrial town] mill for grinding grain, earliest were water-powered, later examples were steam-powered. Important as early use of mechanized power. Old Zollarsville (c1835), West Bethlehem Twp., Washington County, Ellsworth District.

FULLING MILL--1790s-1860s, [rural setting or early industrial town] water-powered mills for processing wool, some later mills were steam powered. Like later grist mills, important as early use of mechanized power and gradual shift towards a regional processing system. Searights Mill (1816), Perryopolis Borough, Fayette County, Mid-Yough District.

3.76 HOUSING TYPES: The Study Area includes housing types that are directly related to industry. Each of the general types are described below.

COMPANY-BUILT HOUSING--1860s-1940s, generally falls into two categories: workers' housing and supervisors' housing.

WORKERS' HOUSING--In rural settings (most often coal related) are wood-frame housing and brick housing. Wood-frame two-story duplex housing was the most common type in **coal patches** and in **company towns**. In **steel mill towns** and in **other mill towns** company-built housing occasionally resembles coal-related housing, but more often they were rowhouses. The rowhouses were usually two-story with or without wooden front porches.

SUPERVISORS' HOUSING--In rural settings these houses tended to be in a separate row and were often larger versions of workers' housing. In urban settings, they tended to resemble other middle-class private dwellings. They were often situated further from the mill sites than the workers' housing in the **steel mill** or **other mill towns**.

OWNERS' HOUSING--1790s-1920s, appear in a wide variety of materials and architectural styles. In coal-related areas these houses had hill-top settings overlooking the industrial works, but in urban settings they were more often in fashionable neighbor-hoods. Some of these houses represent the most high-style architecture in the community.

DEFENSE HOUSING--1940s, built to accommodate workers during World War II mill expansion. Tended to more closely resemble brick or wood-frame urban working-class private dwellings.

OTHER HOUSING--Much of the current housing stock in the Study Area is of post-World War II vintage. While many of these houses have been owned or occupied by industrial workers, they are indistinguishable from those that were not. As such, they were not considered as part of this survey.

3.77 ETHNIC SITES:

RELIGIOUS STRUCTURES--[rural setting and all town types] During the two-hundred-year period covered by this survey, thousands of churches and synagogues were constructed in the Study Area. While there is no consistency in materials, there are discernable patterns of location. Rural churches tend to be divided along denominational lines. Churches that were established by main-stream denominations early in the life of an **early industrial town** or what later became a **capital town** often are the most architecturally substantial and occupy the most central positions within the towns. Early congregationalist churches, on the other hand, are more often found in what had been rural settings and many have retained that distinction. Others became part of later **company towns** or were engulfed by spreading suburbs. In the southern-most counties of the Study Area are some pristine examples of the early congregationalist churches complete with churchyards in both rural and urban settings.

Ethnic parishes, mostly eastern and southern European, of the late-nineteenth and early-twentieth centuries that served the coal and coke fields tend to follow the "congregationalist" pattern in rural settings, but differ from the "main-stream"

setting in an urban environment. In the **capital towns** the ethnic churches were late-comers and rarely occupy central locations. Land prices were no doubt an important consideration. In the **company towns** the pattern varies. Some churches were company-built as a "civilizing" influence on the work force and they sit within the company zone. Others occupy land in the free zone. Urban ethnic parishes in the **steel mill** and **other mill towns** seem closer to the **capital town** pattern with the later churches following the spread up the slopes from the alluvial plain. Synagogues, which are primarily located in larger urban communities, tend to follow the **capital town** locational pattern.

This survey not only recorded religious and fraternal structures as architectural sites. It looked to these "ethnic" structures as markers for settlement patterns. While the individual sites do not represent a numerically consistent number of parishioners or fraternal members, the structures are indicative of cohesive groups which were willing to make financial sacrifices to create spaces of their own. In other words, the structures represent a sense of community and a sense of permanence. In many of the **company towns**, where everything is company-built, the ethnic structures were often the only social organizations not directly connected to the work place. Sometimes, in a company-built community, the lodge or church was the only sight on the landscape that could remind the migrant or immigrant worker of his homeland.

The religious structures are intimately connected with the peoples' sense of identity. The churches not only served as ecclesiastical structures, it was also where the immigrants' native tongue was spoken, where they could get news from the homeland, where they could regain their sense of dignity and self-worth together with their fellow countrymen and fellow communicants. The ethnic structures have also been, and in many cases continue to be, the site of continued cultural preservation efforts. Through the churches and fraternal halls current practitioners of the traditions, customs, folkways, and foodways can be found. By locating all of the ethnic churches and fraternal halls in the Study Area, a foundation for future in-depth study has been created.

ETHNIC FRATERNAL HALLS--1880s-1990s, [all town types except coal patch] For the most part, ethnic fraternal halls had their peak in the period 1880 to World War II. Although some new structures of this type were built in the post-war years, particularly in suburban areas, the later halls were quite often consolidations of several older branches that could no longer sustain a site of their own. They were located in **company towns, capital towns, steel mill** and **other mill towns.** Architecturally, the halls are most often brick structures with little indication of their function except their sign. In many cases they were located in store-fronts that are indistinguishable from their neighbors. Unlike churches, for example, which have a recognizable configuration and have retained their original function, former fraternal halls, unless marked by a sign, are difficult to locate in the landscape. Most of the surviving halls now have glass block

infills for fenestration. Usually one floor is a bar with a kitchen and the other floor is a hall that is used for social gatherings, bingo and dances. Their location in the community varies widely.

In many ways the ethnic fraternal halls functioned in similar ways to the churches, both for the communities that built them and for the purposes of this survey. For the communities, they have been and continue to be centers of living culture. They sponsor cultural events to promote and preserve long-held traditions. They are the venue for weddings, parties, banquets, bingo and other social functions. For the purposes of this survey, the ethnic fraternal hall and lodges served as markers of the ethnic communities and as the locus of living cultural activities.

OTHER ETHNIC SITES--[capital towns, steel mill and other mill towns] Many ethnic neighborhoods in urban areas have had specialty stores that dealt in foods for specific ethnic groups. A few of these are included in the inventories. The most important collection of these stores is now in Pittsburgh's Strip District. The inventories also include several stores in **company towns.**

3.78 LABOR-RELATED SITES:

UNION HALLS--1880s-1980s, [capital towns, former company towns, former early industrial towns, steel mill and other mill towns] Much like ethnic fraternal halls, union halls have no distinguishable architectural type. For this reason, like the ethnic halls, they can only be found in the landscape by signage. Unions also frequently met in rented office space that bears no mark of their former function. Of course many unions met surreptitiously in homes, church basements, taverns and other places. Seemingly, few active union halls relating to the industries of this survey remain in the Study Area.

STRIKE SITES--No typology.

4.00 THE SURVEY DISTRICTS

THE PURPOSE OF THE DISTRICTS

The Study Area was divided into fifteen districts based upon historic, industrial, geographic and ethnic factors.[1] The factors were based upon research, field work, discussions with history and ethnographic specialists, and local perceptions about the region. In the process, the Study Area was divided into manageable, roughly-equal parcels.

THE MEANS OF DETERMINING THE DISTRICTS

Early on in the process of analyzing district divisions in the Study Area, it became clear that the biggest division was between the coal mining areas and the steel making areas. Steel mills were found to be fairly-densely clustered along riverfront sites, between Allenport and Monessen, between Clairton and Homestead, in river-front areas in the City of Pittsburgh, and sites along the Beaver and Ohio Rivers. A few exceptions to this rule were smaller steel mills at Washington, Canonsburg, Bridgeville, Carnegie, Scottdale, and Dunbar. There were also dozens of still-smaller metal-related industries which were clustered near the larger plants in the above-mentioned vicinities.

Conversely, two-thirds or more of the Study Area was made up of rural areas with clusters of housing built for coal miners, coke workers, and laborers in coal-related industries. The clusters contrasted sharply with the **steel mill towns** and **other mill towns**. Most often the little clusters of houses were at the mine portals, separated by a vast rural landscape. Usually, these **coal patches** and **company town** were too small to be incorporated as a borough, yet they often had two or three recognized names (the town name, the name of the mining company, or the postal service name). These villages frequently straddled township boundaries. It remained a challenge to find a higher level of community structure among the 200 to 500 company-built **coal patches** and **company towns**, so that the rural areas of the Study Area could be divided into manageable and logical districts.[2]

In the mining areas, several clusters of **coal patches** and **company towns** were identified. Numerous sources, for instance, separated out the mines of the "Connellsville Coking District" of central Fayette and southern Westmoreland Counties because of the high

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[1] "Districts" in this context should not be confused with National Register historic districts; here they are merely geographical subdivisions.

[2] For a complete list of sources for determining district boundaries see Appendix, Section 6.20

quality of the coal in this particular area for coking.[3] Likewise, several references were found to the "Klondike," a boom area in western Fayette County which developed as an extension of the Connellsville district when the metallurgically-superior Connellsville coal was running out. In addition, several other clusters of mines could be identified using other factors, such as ownership (several large companies owned whole inter-connected networks of mines), captive versus non-captive mines, etc.[4]

The most helpful system for dividing up the coal-mining regions proved to be the incrementally-built transportation network that extends throughout the Study Area. Initially, mines were clustered along the Monongahela River, particularly when the locks and dams were built around 1840. As coal was depleted in more accessible areas (adjacent to existing plants or areas with good river transportation access), railroads were built, often as independent ventures, to "open-up" portions of the watershed for coal mining.

The first major railroad crossing through the watershed was the Pennsylvania Railroad, which reached Pittsburgh in 1852. (See Map 5, p28) The second was a local spur railroad connecting Connellsville and Pittsburgh, built in 1855, and later incorporated into the B&O line. This route became the spine of a network of small rail lines that made the Connellsville District accessible. The Pennsylvania Mainline followed Turtle Creek, eventually leading to the development of the Turtle Creek Valley at the turn of the century.

Spurs built along Peters Creek and Sawmill Run in southern Allegheny and north-eastern Washington Counties were singled out in J. Sutton Wall's **Report on the Mines of the Monongahela River Region** (1883) as spines that were then creating new mining districts in the 1880s. The railroad along Pike Run in Washington County made the development of Daisytown and adjoining mining villages possible between the 1880s and 1910s. The construction of the Ellsworth Branch Railroad along Pigeon Creek in 1899 not only made mining possible in a huge section of Washington County, but also became the link that tied several architecturally unique communities together into a somewhat unified community. Likewise, rail lines in the Chartiers Creek watershed, also in Washington County, spawned strings of mining towns, like Morgan, National, Sturgeon, and Cecil, and linked together older communities, such as Washington, Canonsburg, Noblestown, and Bridgeville (previously connected only by winding country roads).

As can be seen, a combination of historic, industrial and geographic factors played a part in the coal-steel division question. These three factors were equally important in other categories such as waterways, raw material location, and smaller

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[3] The Connellsville seam is part of the larger Pittsburgh Seam. It is separated by a break in the Pittsburgh Seam which corresponds to an abrupt shift in the metallurgical quality of the coal.

[4] In general, coal from captive mines was not sold on the open market. Instead, it was only used within that company's operations.

industries. With the addition of ethnic components, these factors led to many of the specific district divisions.

Further divisions of the Study Area came when the Monongahela and Youghiogheny riverfront areas were examined. Greene County proved to be best treated separately for political and historical reasons. Greene County developed its coal resources at a distinc-tively late period. Mechanized mining technology (such as long-wall mining and continuous mining) was used there which was not used extensively in the other counties.

The distinction between the Mid-Mon District and the North-Mon District was based on several sources. The Northern Mon Valley area was confined to Allegheny County, and characterized by the density of heavy industrial plants. The Mid-Mon District was a more heterogeneous area, in terms of the size, scale, and products of its numerous industries. The Mon Valley Progress Council's **The Pride and Guide Book: A Mid-Mon Valley Panorama** served as a guide in determining the outline of this area.[5]

The distinction between North Youghiogheny and Mid Youghiogheny is based on a distinction that J. Sutton Wall used. The distinction is based on the mining boom that followed the construction of locks and dams on the Youghiogheny River in the mid-nineteenth century. Numerous mines were opened in response to the river improvements, even though the locks and dams were washed away in a flood just a few years after they were built. There were only two sets of locks and dams, guaranteeing navigability only as far as Buena Vista. The intensity of mine developments in this district provided such a sharp contrast with older industries (and younger ones such as the extensive coke operations at Star Junction), that the Mid-Yough and North-Yough could clearly be seen as two distinct districts.

There are some distribution patterns in the Study Area among certain ethnic groups and institutions that reinforce the validity of these district boundaries. For instance, the overall boundaries of the Connellsville and Klondike Districts correspond closely with the boundaries of the Youghiogheny Baptist Association (of African American churches). Likewise, the Methodist Coke Mission (a group of foreign-language mission churches, mostly eastern European) followed the combined boundary of the same two districts. Slovene settlements were almost exclusively identified in the Mid-Yough District and the Chartiers District, while Serbians were found mainly in the Beaver/Ohio Valley and the North-Mon Valley.

Another example of ethnic settlement patterns corresponding to the district boundaries was found in the Polish National Catholic parishes in the Study Area , nearly all of which are located in the Chartiers District. Although Canonsburg, Carnegie, and McKees Rocks have very diverse clusters of ethnic churches, the remainder of the Chartiers District has relatively few ethnic parishes. In Washing-on, the southern-most end of the Chartiers District, the Polish

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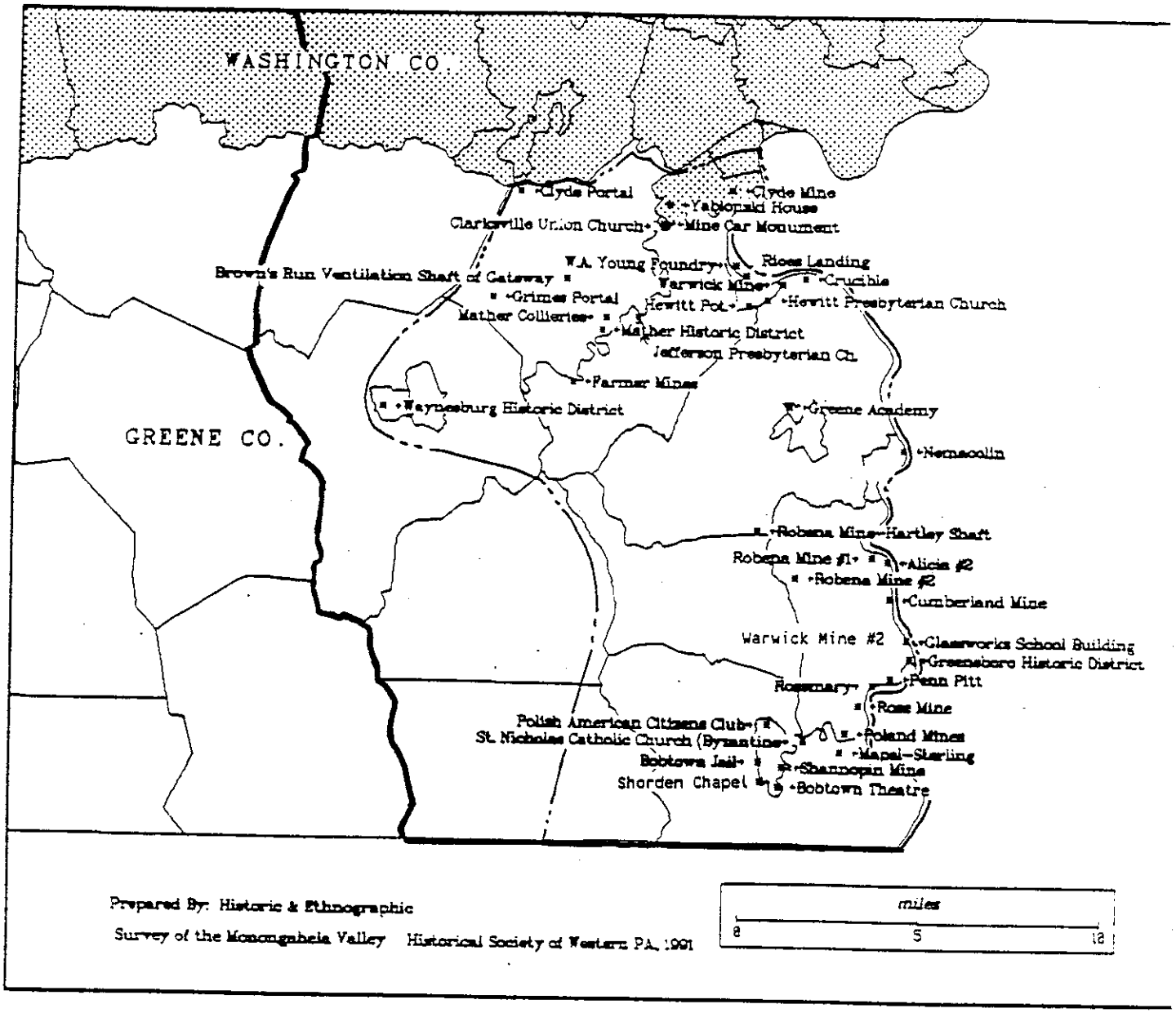
[5] The boundaries of the Mid-Mon District suggested by this source were adjusted to exclude territory better suited to the Mid-Yough, Klondike, Daisytown, Ellsworth, and Peters Creek Districts.

National Catholic Church is the only church with an ethnic group's name associated with it.



MAP 15 GREENE DISTRICT in Greene & Washington Counties

LEGEND

District Boundry

Study Area Boundry

4.11 GREENE DISTRICT

Geology and Topography:

The Greene District comprises most of the eastern portion of Greene County, along the Monongahela River. It also includes the Ten Mile Creek corridor to Waynesburg, and a small slice of Washington County in the Fredericktown area. Geologically, this district is underlain by a portion of the Pittsburgh Coal Seam, undistinguished from rest of the main vein of the seam, which continues north into Pittsburgh, south and west into West Virginia, and east into the Klondike District.

Several other seams are also accessible in Greene County, although not as important as the Pittsburgh Seam due to the quantity and quality of the seams. Before the arrival of railroads and large mines, Greene County was a thriving agricultural community with dozens of small "farmer mines" operated for home fuel at the farmsteads. One dramatic example of farmer mines is still visible a few miles east of Waynesburg on Coal Lick Run. It accesses the Waynesburg coal seam.

Topographically, nearly all of Greene County is in the watersheds of about six streams, flowing west to east into the Monongahela River, including: Ten Mile Creek (about half of the county plus a large portion of Washington County are in its watershed), Dunkard Creek, Whitely Creek, Little Whitely Creek, Muddy Creek, and Pumpkin Run. The land is hilly, particularly along the river, although there are some expansive level areas surrounding some of the towns, such as Carmichaels and Jefferson.

History:

Greene County developed as an agricultural area in the late-eighteenth and early-nineteenth century. Scotch-Irish settlers also developed sheep farming in the area. A few years prior to the Civil War, Greene and Washington Counties had the largest populations of sheep of any counties in the United States. Sheep farming provided not only thriving farmsteads, but also some small industries to process the wool, such as several carding mills. These were mainly water-powered operations, but some may have used coal-fired steam in the mid-nineteenth century, which would help explain the preponderance of small "farmer mines" in the area.

The river spawned activity at the eastern edge of Greene County throughout the nineteenth century. Numerous river ferries connected Greene and Fayette Counties, and at a few ferry locations, thriving river ports began to develop. The **early industrial town** of Greensboro was perhaps the earliest riverfront community of any size in Greene County. Although it existed before 1800, Albert Gallatin's decision to move his glass works there from New Geneva in 1806 provided an impetus for growth at Greensboro. The construction of locks and dams along the river in the mid-nineteenth century also aided Greensboro's growth. For several decades, Greensboro was the furthest navigable point on the river, and the absence of other transportation means to river towns further upriver in West Virginia, made Greensboro an important transfer point where riverboat passengers would catch hackneys to Morgantown.

The river traffic coupled with the availability of the high-quality New Geneva clay led to a thriving pottery industry, which was the primary cause of Greensboro's nineteenth-century growth. Pottery was shipped by river from here to points along the Monongahela, Ohio, and Mississippi Rivers, as far away as New Orleans. The pottery and transportation industries were linked at Greensboro: excursion boats Pittsburghers and others to Greensboro to buy local pottery. Toward the end of the century, the development and cheap production of glass "mason jars" made most stoneware items obsolete, and one by one the Monongahela Valley pottery businesses folded. Coal and the river transportation industry provided new jobs for the area as the new century dawned.

Greene County's second riverport, and Greensboro's main rival, was Rice's Landing. Rice's Landing, also an **early industrial town**, had a slightly more diversified early economy, with only one pottery and several river-related industries. One of the river-related industries was a foundry and machine shop, W.A. Young and Sons, in a building which appears to date from about 1870. The foundry and machine shop cast gears for boats, did machining for boat engines, and made other component's which were essential to operation of the river-based transportation lines. Later, this plant produced and repaired machine parts for coal mines and other local industries. Rice's Landing was also the location of a lock and dam, and has two houses built for the Lockmaster and his employees.

Coal mining history began in the Greene District with Thomas Hughes, a pioneer settler. According to local sources, Hughes used slave labor to build his sawn-stone house, as well as to strip mine coal on the land surrounding the farmhouse. After Thomas Hughes, however, coal mining activity in Greene County seems to have been limited to the small farmer mines still visible in a few places in the countryside, until about 1910.[6]

Apparently, the more famous local coal investors were too busy developing the Klondike and nearby mining areas to pay much attention to Greene County until about 1910. Some of the first companies to open mines in Greene County were outside investors (from Ohio) who came to exploit untapped portions of the Pittsburgh Coal Seam. Mather Collieries was built by an Ohio concern around 1915, and Nemacolin was built in 1918 by the Buckeye Coal Company of Ohio. Other **coal patches** and **company towns** that developed in the county in the early-twentieth century included Crucible, built by Crucible Steel in 1912, Rosemary, Penn Pitt, and Sandy Run in Monongahela Township, and several in Dunkard Township, including Poland Mines, Mapel Sterling, and Rose Mine. One of the largest **company towns** in Greene County is Bobtown, built c1920 for Shannopin Mine, which became part of Jones and Laughlin Steel shortly after it opened. It is now one of the last traditional mine

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[6] Hughes was the first Roman Catholic to settle in Greene County, and a participant in the Western Insurrection (Whiskey Rebellion). His house is now owned by the Pennsylvania Historical and Museum Commission and a potential house museum.

complexes operating in the Study Area.[7]

In the World War II era, the largely untapped coal deposits in Greene County suddenly became very important. Increased mechanization made it possible to reach some of the more remote portions of the coal vein through an extensive underground transportation systems connected to large portals along the river. Several large riverfront complexes were built, including Emerald Mine, Warwick Mine, Cumberland Mine (perhaps the youngest in the county), and United States Steel's gigantic Robena Mine.

Mechanized mining used fewer workers, and this factor coupled with an abundance of older housing and the increased availability of automobiles made construction of a **company town** or **coal patch** at the mine portal unnecessary. Thus, larger and larger complexes appeared for coal processing while the processing plants and portals were built in more and more isolated locations. Robena Mine represents the peak of this transformation, with several portals surrounded only by clusters of industrial structures, each cluster large enough to resemble a village.

Greene County's population still largely reflects the Protestant settlers who came here in the 1700s. Some portions of the county have been mostly Methodist since the Civil War era (mostly the southern half of the county), while others are mostly Presbyterian (perhaps indicating the strength of the Scotch-Irish and Scottish). A large section near the center (centered on Morris Township) of the county was originally made up of Baptists and Presbyterians who came from New Jersey as a distinct settlement in the late 1700s. This section was the first area in Pennsylvania to convert to the Cumberland Presbyterian faith (free-will Presbyterianism), perhaps suggesting a link to Kentucky where the denomination started. In the east-central part of the county one can still see the influence of John Corbly, a pioneer Baptist missionary who was also a Whiskey Rebel, in the large number of Baptist churches. Dunkard Township was originally a German "Dunkard" (German Baptist) settlement, although the Dunkard Church there has long since closed.

Roman Catholic Churches in municipalities along the river date from the 1920s, and many of these parishes have eastern European contingents. There is only one Lutheran Church (fairly new) at Carmichaels, and only one very small Byzantine Catholic Church (St. Nicholas in Newtown, Dunkard Township, near Bobtown). It is perhaps the smallest Byzantine Catholic parish in the Study Area.

THEMES:

The Greene District represents the following themes:

role in a regional processing system: owing to the small-scale development of coal mining in the District prior to the 1920s, Greene County was not a fully integrated component of the regional processing system. As that system evolved beyond local coking to steel-mill-site coking, Greene County took on a greater role with

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[7] Shannopin Mine at Bobtown may be the Study Area's last operating example of a mine intimately connected to a company town.

large-scale coal operations such as Robena and Cumberland.

technology and innovation: this theme can be seen in the massive mining complexes in the county, made possible through continuous-mine and long-wall mine technology. Robena Mine, covering one-fifth of the county, is the largest single mine in the Study Area. It represents the furthest the pendulum has swung away from small **coal patches** and **company towns** to large mines with multiple portals and state-of-the-art equipment. Similar features can be seen at Cumberland Mine, Warwick Mine, Clyde Mine, Emerald Mine, and in a more indirect way, in older mines, such as Shannopin and Crucible. Young's Foundry illustrates early-twentieth century technology in its intact machining and foundry tools.

capital formation: this theme is reflected in the massive Robena mine complexes and other contemporary large mine complexes (Cumberland, Warwick, Clyde, Emerald, and Crucible Mines). It is also demonstrated in the "outside investment" that built Nemacolin and Mather. The large-scale mining developments in Greene County reflect the well-capitalized and seasoned business moves of modern corporations. This contrasts with the earlier ad hoc nature of small mines in the District. The pattern is quite different from those in other several other important mining Districts in the Study Area which were entirely created by corporate capital.

cyclical nature of industrialization: this theme can be seen in the transition from the glass industry to the pottery industry to the coal industry at Greensboro. It is also seen in the declining state of some of the older mining towns, such as Crucible, (where community buildings built as recently as the 1950s are now burned out shells) and in the demolition of Nemacolin Mine.

labor and the labor movement: United Mine Workers President (1991) Richard Trumka is a native of this district. Also labor history was made in this district in the murder of UMW presidential candidate Jock Yablonski, at his home near Clarksville (East Bethlehem Twp., Washington County). Both of these examples point to Greene County's relatively-recent development as a mining area and as a center of the union movement.

community structure: in contrast to most other coal-mining districts in the Study Area, Greene County developed after the era of the **company town** had passed. The relationship between the company and the miner had changed, principally because the mechanized, large-scale extraction operation required fewer miners. However, there are some important examples. While the **coal patches** in Greene County were short-lived and only fragments remain,[8] Bobtown represents a well-designed community which has survived largely intact, probably due to the longevity of the mine. Bobtown has elements that demonstrate the extent of corporate paternalism. The town included company-built social structures: a library, a theater, and churches. The company-built jail at the center of town is an unusual feature.

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[8] Unlike the Klondike, for example, where deteriorating coal patches and company towns are still largely intact, inhabited, and somewhat "alive" at the community level.

Nemacolin and Mather are large **company towns** built by Ohio companies. They differ from towns built by Pittsburgh-area concerns. They show a different attitude toward aesthetics and "public space." Company-built community structures are not merely placed at the center of these two towns to provide a focal point; instead, they have aesthetic qualities in addition to practical aspects. In both of these towns the houses are laid out differently from typical Pennsylvania towns: Mather has larger lots and less concentration of buildings at the center (where the company-built community structures are), while Nemacolin has a plan made up of winding streets, wood-sided "rambling row" houses, and no single center.

immigration and migration: a general historical survey of Greene County will show that early settlements there consisted of groups of English, Scots, and Scots-Irish along with a smaller number of Germans. A survey of churches up to the 1880s also suggests that these were the primary ethnic groups in the area. Since Greene County was not directly on the path of the National Road and it lacked any significant industry until the early 20th century, it has remained a rural county with pockets of industrial sites related primarily to the coal mining industry.

Judging by the dates of the Roman Catholic and one Byzantine Catholic churches in the Greene District, some eastern and southern European immigrants arrived in the 1920s and 1930s. Technological changes soon meant that fewer unskilled workers were needed and this affected the make up of the district. Native-born whites held many of the jobs in the mines, so while there was an immigrant population in Greene County it may never have reached the proportions of that in other districts. The smaller immigrant communities may not have been able to sustain a church or club of their own.

SITES:

The sites listed below represent the most outstanding in the Greene District. For a complete list of all surveyed sites in the district see the Appendix, Section 6.10. The themes that relate to each site are indicated by the following abbreviations:

role in the regional processing system [RPS]
technology and innovation [T&I]
management and organization [M&O]
capital formation [CF]
cyclical nature of industrialization [CNI]
labor and the labor movement [L&LM]
community structure [CS]
immigration and migration [I&M].

Carmichaels "Old Town" (Early Industrial Town, Carmichaels Borough, Greene County), c1790, [CNI, CS, I&M], is a small, one-street "village" near the later town square of Carmichaels, connecting the town square to Muddy Creek where water-powered mills were formerly located. The most individually-distinguished structure is **Greene Academy** (English), 1792, [CNI, CS, I&M], this site exemplifies several themes in the early period: it was part of an early industrial complex, it was built as an Episcopal church, and the early conversion to an academy reflects the emphasis on education

on the frontier, generally attributed to the Scots-Irish.[9]

Clarksville (Early Industrial Town, Clarksville Borough Greene County), 1809, [CNI, CS], this was a planned community, advertised in local papers in 1809, and home to an incorporated industrial cooperative formed six months later. The most individually-distinguished structure is **Clarksville Union Church**, c1820, [CNI, CS]. One of only two or three buildings of this genre remaining in the Study Area. It was built to serve all denominations that came to work in the industrial complex.

Greensboro Borough (Early Industrial Town, Greene County) [RPS, CNI, CS, I&M], laid out in the late-eighteenth century, Greensboro grew when coal was discovered there. Albert Gallatin moved his New Geneva Glass Works there (to the village of "Glassworks," just north of the borough limits) in 1806 to gain access to the coal. Greensboro flourished after stoneware clay was discovered at New Geneva in 1810, spawning several potteries. For several decades, Greensboro was the last navigable point up the Monongahela, and was an active riverport as a result (a destination for excursion boats and the transfer point for travellers going to Morgantown). Around 1900 eight Italian families from Calabria immigrated to Greensboro, including Mr. Perrico, a stone mason who built **Glassworks School,** c1900, [I&M], First Baptist Church, the Perrico home, and several other buildings in the community. The pottery industry died here around 1900, as a result of the invention of the glass "mason" jar, but some early refractories were made here to supply the expanding steel industry at the turn of the century.

Jefferson Presbyterian Church (Scots-Irish, Jefferson Borough, Greene County), c1840, [I&M], the older building of this church (side by side with a c1960 structure) is a very well-preserved example of the simple architectural traditions of the Scotch-Irish in the region in the mid-nineteenth century.

Rices Landing (Early Industrial Town, Rices Landing Borough, Greene County) [RPS, T&I, CNI], this was another riverport, sister town to Greensboro, serving as a transportation link between farmers and the river, and as a stop-over point for river boats. Boats were repaired by **Young Foundry and Machine Shop**, c1870, [RPS, T&I, CNI], which made parts for steamboats and mine machinery. It was abandoned c1960 with numerous belt driven machines, patterns, and other equipment intact. Currently, it is now a museum and one of the most intact historic industrial sites in the Study Area. Adjacent to it is **Hewitt Pottery,** c1850, [CNI], remains of an early pottery works, including ruins of the kiln, plus a small house-like structure, and a long Greek Revival house which may have been either housing for the workers or a shop for turning pots. **Hewitt Presbyterian Church** (Scots-Irish), c1820/c1900, [I&M], stands on the hill overlooking the town in a well-preserved structure, likely named for the pottery family. Another individually-distinguished structure in the community is the **Rices Landing Bank**, c1910, [CF, CS], an intact turn-of-the-century bank which reflects the economic

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[9] As an Episcopal church, it was evidence of either English immigration or the presence of the Virginia church-of-state during the Pennsylvania-Virginia Boundary dispute.

independence of some very small transportation/early industrial towns in the Study Area well into the twentieth century. The bank is now operated as a small museum.

Crucible (Company Town, Cumberland Township, Greene County), 1912, [RPS, M&O, CNI, CS], this town and mining complex was built by Crucible Steel to provide coal for its by-product coke ovens at Midland. It is one of the mining towns where sudden c1970-80 de-industrialization is most evident, in abandoned houses, churches, and mine buildings.

Nemacolin (Company Town, Cumberland Township, Greene County), 1918, [M&O, CNI, L&LM, CS, I&M], built by the Buckeye Coal Co. of Ohio to provide coal for concerns there. The town has cedar-sided houses along winding streets and it is one of the most aesthetically-designed company towns in the Study Area. It has company-built store, church, and school buildings, a union hall, and a commercial area built by Jewish merchants. The extensive mine complex has recently been demolished.

Bobtown (Company Town, Dunkard Township, Greene County), 1924, [RPS, T&I, M&O, CF, CNI, CS, I&M], significant for "community structure" in that it contains: aesthetically-planned streets, uniform single family houses, and company-built structures such as the jail, theater, store, and library. The plan and building types closely resemble those at Vestaburg, Richeyville, and Coverdale. It also is significant as the only remaining traditional mining town with an operating mine (identified in survey) in the Study Area. Individually-distinguished structures include: **Shannopin Mine** [RPS, T&I, CF, CNI], the mine for which the town was built (still operating); **Bobtown Jail** [M&O, L&LM, CS] and **Theatre** [CS], structures built by Jones and Laughlin as part of the town plan. There is also a **Polish-American Club,** c1930, [I&M], situated on the outskirts of town. Founded in the early 1930s, the club now has members from as far away as Morgantown, West Virginia. **St. Nicholas Byzantine Catholic Church** (Rusyn), 1936, [I&M], is near Bobtown. This church was established to accommodate the spiritual needs of Carpatho-Rusyn immigrants who worked in nearby coal mines. It is currently a mission church administered from St. Mary's Byzantine Catholic Church in Morgantown, West Virginia.

Shorden Chapel Methodist Church (Dunkard Township, Greene County), 1895, [CS], is a very small "country church" built next to the site which in 1924 became Bobtown (which has its own Methodist Church). It represents "country culture" preserved in the immediate context of a mining town.

Farmer Mines (Early Mines, Jefferson Township, Greene County), 1920, [T&I, CNI], this is a row of crude openings in a coal outcropping along the South Branch of Ten Mile Creek. They represent what mining was like in the absence of railroads and other technological advances. They are preserved in a pristine glen, and represent a unique opportunity to interpret this era.

Robena Mine (including various portals) (Mechanized Mine, Monongahela and Cumberland Townships, Greene County), c1940, [RPS, T&I, M&O, CF, CNI, CS], once called "the largest mine in the world," Robena Mine represents (in spite of being recently closed) some of

the most up-to-date technology and the most recent phase in mining development in the Study Area. It appears to be extremely significant, as the largest mine from the period after mine machinery was introduced, replacing large workforce and rendering the "company-built mining town" obsolete. Its various portals contain whole "villages" of machine shops, offices, bathhouses, tipples, air shafts, etc., built of brick and poured concrete. This entire, immense resource is currently threatened by demolition.

Warwick Mine, Portal #2 (Mechanized Mine, Monongahela Township, Greene County), c1920, [RPS, T&I, M&O, CF, CS], like Robena Mine, Warwick provides an opportunity to interpret twentieth century mining technology.

Clyde Mine (Modern Mine, East Bethlehem Township, Washington County), 1915, [RPS, T&I, M&O, CNI], 1915, and **Clyde Portal** (Mechanized Mine, Morgan Township, Greene County), c1940, [RPS, T&I, M&O, CNI], the main entrance, tipple, and preparation plant of this mine are on the Monongahela River at Fredericktown (recently reopened). At the Clyde Portal, there is an abandoned, vandalized complex (including bathhouses, machine shops, etc.) that retains enough details to serve as a good site for interpreting twentieth century mining.

Mather (including Mather Collieries) (Company Town, Morgan Township, Greene County), c1915, [M&O, CF, CNI, CS, I&M], a large company town built by an Ohio coal company to supply coal to industrial concerns there. It has the repeated houses and company-built community structures that typify company towns in the Study Area.In contrast to other towns, the town plan has elements apparently influenced by Ohio planning traditions, such as: large lots, varied house types, and a cluster of community structures arranged around a main intersection containing a community band stand (in direct contrast to the linear arrangement of community buildings of the typical Pennsylvania mining town).

Yablonski House (East Bethlehem Township, Greene County), 1968, [[L&LM], a substantial house of dressed sandstone, in a simplified Greek Revival style, probably built c1810; its age, style, and location (adjacent to Ten Mile Creek, on a narrow stretch of level land, across from Clarksville) suggest that its builders were people of more means than ordinary farmers. It may have been part of the iron furnace complex that existed in Clarksville in the c1800 period, or it may have been home to an early industrialist. No conclusive documentation was found. However, it was home to Joseph "Jock" Yablonski, a candidate for the presidency of the United Mine Workers, and threat to W.A. "Tony" Boyle, long-time UMW president. Yablonski and his family were murdered in this house on December 31, 1968. Boyle and numerous accomplices were convicted of ordering and carrying out the murder.

RECOMMENDED COMMUNITIES:

The communities listed below are recommended because of the quantity and quality of their resources. After the name of the recommended community, the individual resources are listed. Other resources of the same quality within a five mile radius of the community are then listed. (For selection criteria see Section 2.30)

Landing & Crucible Mine
includes:
- Crucible mine & town
- Hewitt Pottery
- Hewitt Presbyterian Church
- Rices Landing Bank
- Young Foundry & Machine

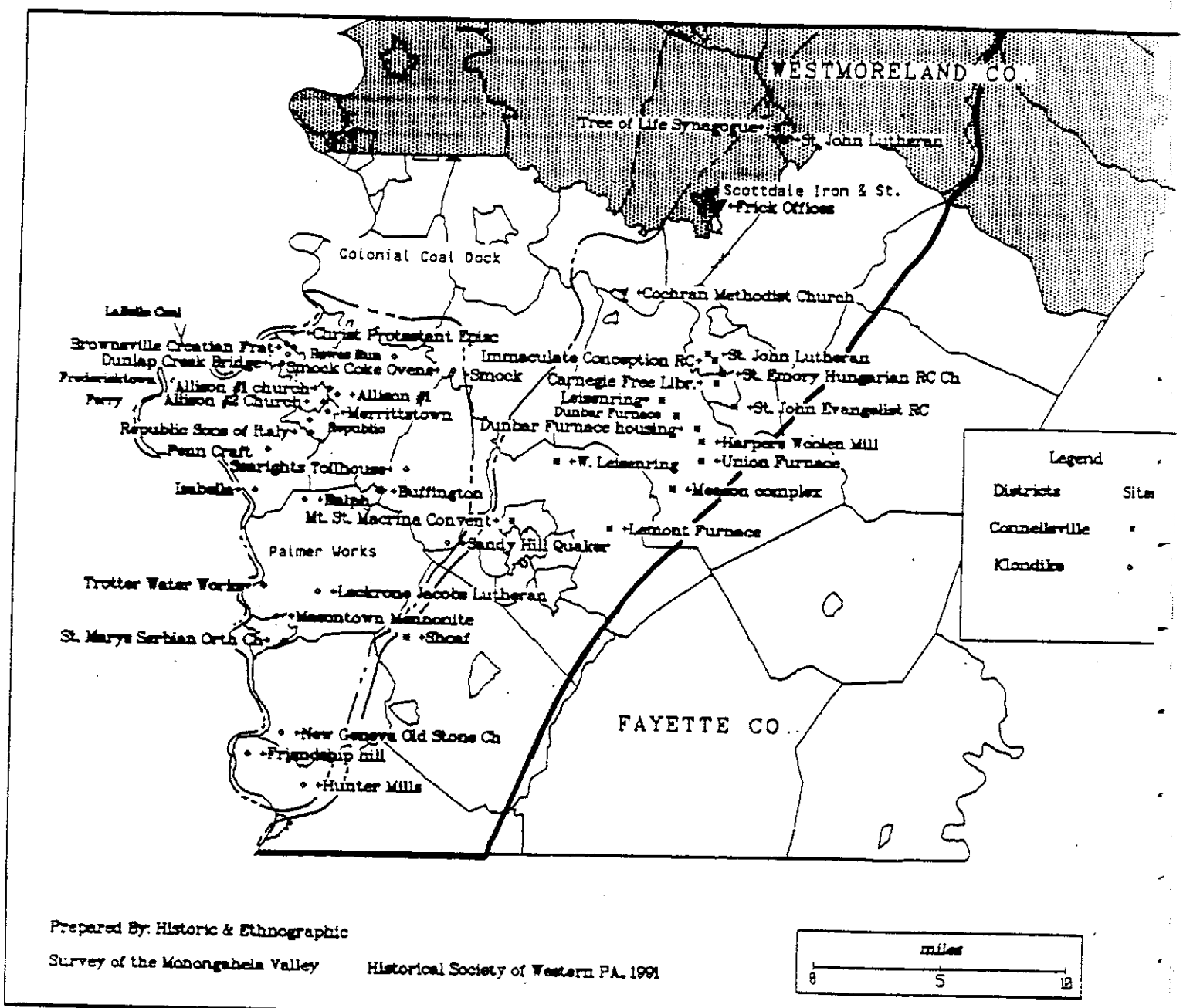
Within 5 miles:
- Clarksville Union Church
- Mather collieries
- Mine Car monument

Bobtown & Shannopin Mine
includes:
- Bobtown Jail
- Bobtown Theater
- Polish American Club
- St Ignatius RC Ch

Within 5 miles:
- First Baptist Ch
- St Nicholas Byzantine Ch
- Warwick Mine #2

Robena Mines
Portal #2

Within 5 miles:
- Greensboro Hist Dist
- Nemacolin Co town
- Warwick Mine #2
- Farmer mines



MAP 16 KLONDIKE & CONNELLSVILLE DISTRICTS

in Fayette & Westmoreland Counties

LEGEND

District Boundry

Study Area Boundry

4.12 THE KLONDIKE DISTRICT

Geology and Topography:

The Klondike District is a roughly triangular area located entirely within Fayette County. To the west it is bounded by the Monongahela River. The eastern boundary of the district runs parallel to the Chestnut Ridge of the Appalachian Mountains, about three miles from the foot of the western slope, from around Point Marion to a point northeast of Smock. The northern side of the triangle runs roughly parallel to Redstone Creek, cutting a line through the central, agricultural part of Jefferson and Franklin Townships (leaving Smock and Grindstone in the Klondike District, but placing Newell and adjoining areas in the Mid Mon District). East of the Klondike District is the network of rail lines and mining towns that were built in the Connellsville District before 1890. Nearly all of the mining activity in the Klondike District occurred after 1890.

The Klondike District contains typical coal of the Pittsburgh Seam. The district's other geological resources are negligible, and have not been used extensively, with one exception: the vein of high quality stoneware clay discovered near the **early industrial town** of New Geneva around 1810. Clay from this vein made a thriving pottery industry possible in a half-dozen towns on both sides of the Monongahela River (New Geneva, Greensboro, Rices Landing, Fredericktown, and others) throughout most of the nineteenth century.

The district's topography also contributed to its development. The district consists of rolling hills, with two major streams (Dunbar Creek and Redstone Creek) and numerous smaller runs flowing into the Monongahela River. The two major streams form valleys, and the runs form short, steep-hilled hollows. The river valley and two creek valleys formed fairly level paths for construction of rail beds after 1889. Most of the area's **coal patches** and **company towns** are along the rail line that follows Dunbar Creek, and on the rolling, low hills that surround the eastern half of the Dunbar Creek valley. Most of the hollows near the river remain isolated areas, only occupied by a few scattered farmsteads. **Coal patches** and **company towns** are located along the river or on ridges overlooking the river.

History:

The Klondike District was a large rural region with a few key manufacturing towns before the "Klondike Coal and Coke Boom" of the first decade of the twentieth century. Early ethnic groups that settled in the district left a distinct mark in the distribution of churches and towns. Masontown (the capital as it were of German Township) was the center of a sizable German Settlement. Jacob's Lutheran Church, a couple of Dunkard churches, and several other churches of German origin are still the dominant rural churches in the area immediately surrounding Masontown. By contrast, Quakers settled the communities of Bridgeport (now southside of Brownsville) and Uniontown (in the Connellsville District). The most visible reminder of this heritage is the Sandy Hill Union Church (no longer a Quaker congregation by name) which is on the line between the Connellsville and Klondike Districts. It was

established by some of the founding families of Uniontown. Several structures relating to the Episcopalians in the Brownsville area attest to the English role in the founding of the town. The various Presbyterian Churches and St. Peter's Roman Catholic are evidence of the role of immigrants from Northern Ireland, Ireland, and Scotland, in the greater Brownsville area.

Industrialization in the New Geneva area began with Albert Gallatin's decision to move "out onto the frontier." His stone house, Friendship Hill, is now maintained and operated by the National Park Service. He founded the adjacent **early industrial town** of New Geneva in the late 1700s, naming it for his native city in Switzerland. According to local tradition, Gallatin met a group of German glass blowers who were passing through the area on their way to Ohio, shortly after he had laid out New Geneva. He convinced them to stay at his newly-founded town and help build a glass works there.

In the same era, Gallatin had started a small gun factory, which some have speculated was an effort to profit from his involvement in the Whiskey Rebellion. The gun factory was short-lived, although there are still Gallatin guns in a few museums in the area.

Geological discoveries around 1800-1810 led to a shift in the area's industrialization pattern. Stoneware clay discovered at New Geneva made the town a logical place for pottery works. At about the same time, Gallatin moved his glass works across the river to the Greensboro area for access to coal for the kilns (coal was visible and accessible on the west side of the river, while the portion of the Pittsburgh seam on the east side of the river was apparently unknown at this time).

Industrialization of the **early industrial town** of Brownsville occurred on a somewhat larger scale. Several boatyards were producing large quantities of flatboats at Brownsville before 1800. Small cottage industries thrived in Brownsville from the days of Fort Burd to the heyday of the National Road.

The iron industry in Brownsville had its start with a nail factory before 1800. In this era, Brownsville was said to be a rival of Pittsburgh. The introduction of iron rolling mills in Pittsburgh (beginning in 1811), coupled with decline of the National Road and growth of the railroads, helped Pittsburgh to surpass Brownsville by the Civil War.

In the middle decades of the nineteenth century, there was a great fear that railroads would render Brownsville's thriving National Pike and the river-shipping industries obsolete. This fear was reinforced when the Pennsylvania Canal was built to Pittsburgh in 1832, and it was fully confirmed after the completion of the Pennsylvania Railroad to Pittsburgh in 1852. There are fewer buildings from the Civil War period here, for instance, than there

are in other parts of the Study Area with similar historic roots.[10] This period of decline in the Klondike District only served to accentuate the boom that came at the end of the nineteenth century.

The depletion of the Connellsville Coal led to a tremendous speculative thrust to open new coalfields nearby. Brownsville was suddenly the center of a great deal of railroad construction activity in the last two decades of the nineteenth century. The main railroad line through the county followed the east bank of the river, while major spurs were built up Redstone Creek and Dunlaps Creek, connecting Brownsville to the existing network of rail lines in the Connellsville District.

By 1920 frenzied speculation had built hundreds of **coal patches** and **company towns** along the river, Dunlaps Creek, Redstone Creek, and many tertiary spurs that followed the numerous hollows and valleys of the western half of Fayette County. By 1920 several huge fortunes had been made and lost, and development had almost completely leveled off.

After 1920 about half of the mining towns were in the control of major corporations, such as W.J. Rainey and H.C. Frick Coke Company. Many of these mines continued to operate through the World War II era. However the rows of beehive coke ovens, an essential component in most of the Fayette County mining complexes, gradually began to disappear after 1918 with the introduction of large by-product ovens near Pittsburgh.

In the 1900-1920 boom period, enough housing was built so that very little new housing has been built in the rural parts of the county since then. Individual mining operations connected by railroads gave way in the World War II era to gigantic underground complexes, incorporating numerous old mines, and feeding into mass-processing plants. Colonial Coal Dock near Newell and the Palmer Coal Dock both prepared coal for shipment by river to large by-product coke ovens nearer to Pittsburgh. A third large processing plant was built by Jones and Laughlin Steel in 1946-48 at LaBelle. It processed coal from J&L's Vesta Mines, located across the river in Washington County. Apparently due to a lack of level land along the river on the Washington County side, the LaBelle plant was built on the Fayette County side, with the coal crossing the river by a conveyor belt.

The shift from smaller, local coke ovens to larger, steel-mill-site coking operations fed a few support industries in the World War II era. Hillman Barge Company, a large boatyard at Brownsville, continued to thrive until the 1980s. Enough coal was still shipped by rail to keep the Monongahela Railway complex (Brownsville, c1920) busy into the 1980s as well. The construction of the LaBelle Processing Plant reinforced the need for a river ferry between Fredericktown and East Fredericktown (near LaBelle). The workers at LaBelle, many of whom lived in or near the J&L-built town of

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[10] Pittsburgh, New Brighton, Monongahela City, Washington, and Pittsburgh's Southside all had their industrial roots in transportation and manufacturing industries that started in the 1790-1810 period.

Vestaburg (directly across from LaBelle) kept the Fredericktown Ferry going, after nearly all other ferries in the area shut down. The Fredericktown Ferry is the last operating commercial river ferry in the Study Area (and possibly the last in Pennsylvania).

Industrial decline came relatively early to the Klondike District, as compared to the rest of the Study Area. Many miners and coke workers were displaced during the Great Depression, and most were not called back as the economy improved because mines mechanized and fewer miners were needed. The Society of Friends (Quakers) decided to address the problem of displaced workers in the 1930s, by building a "self-help" community in Luzerne Township. The community, known as Penncraft, consists of stone cottages, built on large lots by the families that first occupied them (with Quaker assistance), plus a grocery store and a small textile factory (now vacant).

Although there was probably a considerable migration of miners from older mines in the Connellsville District into the Klondike District in the first decades of the twentieth century, several new ethnic groups also came to Fayette County during the Klondike coal boom. One of the first and most distinctive were the Rusyns.[11] The Rusyns established St. Stephen's Church at Leisenring (in the Connellsville District) in 1891, one of the first two Byzantine Catholic parishes in Western Pennsylvania (the other, St. John's, on Pittsburgh's South Side, was founded the same year).

In the Klondike, Rusyns built two large churches at New Salem (one Byzantine Catholic and one Orthodox), and one at Brownsville (Byzantine Catholic). St. Mary's Orthodox Church at Masontown is probably also a reflection of Rusyn culture, although it was founded by Serbs and is now considered pan-Slavic (the name on the cornerstone contains the words "Greek Catholic"--usually found only on Rusyn churches).

The Italian presence in the Klondike District is primarily seen in the legacy left there by masons who came to build the beehive coke ovens. These skilled craftsmen came primarily from the Italian regions of Friuli-Venezia Giulia, Calabria, and Abruzzi. Republic Construction Company (in Republic) was founded by Abruzzese immigrant Domenico DeGregori. He employed many of the masons in building construction after the zenith of the Klondike boom.

One of the last groups to come to the Klondike were the African Americans, whose presence is seen in numerous small churches in several **coal patches** and **company towns**. Most are modest concrete block structures, and most are Baptist of the Youghiogheny Baptist Association.

Slovaks built Roman Catholic Churches in the Smock, Masontown, and Brownsville areas, and took over an existing Italian Roman Catholic at Republic when the Italians were no longer supporting it. Fayette County currently has the second largest concentration of Slovaks of any county in the United States. The majority of extant Slovak ethnic organizations seem to be in the Connellsville District in

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[11] See page 40 for more information on the Rusyns.

central Fayette County.

Numerous other groups came to the Klondike in small numbers. A few Serbians settled in the Masontown area. Jews and Syro-Lebanese came into the area as peddlers, working the mining towns and offering an alternative to the company store. A "Jewish Store" is still standing in Isabella (now operated by a gentile family), and a former synagogue in Brownsville is now a community center. Syrians built St. Elien Church in Brownsville, while Lebanese Maronites attend St. George Maronite Catholic Church in Uniontown (Connellsville District). One Syrian peddlar's business was confined to a single mobile shop in the back of a truck that still worked the **coal patches** as late as the 1960s (Gabriel's), but has since grown into a chain of outlet stores now reaching beyond the limits of Fayette County.

THEMES:

The Klondike District illustrates the following themes:

role in a regional processing system: the Klondike played an important role in the regional processing system, since a very high percentage of the mines were owned by steel companies making steel at sites closer to Pittsburgh, and thus either coke was produced here for use in Pittsburgh blast furnaces, or the coal was mined here for shipment to large by-product ovens near Pittsburgh (as was the rule after World War II). Remnants of abandoned coke ovens can be seen in almost every mining town in the Klondike. The processing plant at LaBelle, described above, was the subsequent phase in the Klondike Districts extractive industry.

technology and innovation: shown in the move to large processing plants along the river in the Klondike District after World War II, at LaBelle and the Colonial Coal Dock. Brownsville also has several individual sites and distinctions of regional and national importance relating to technology and innovation, as the first long-distance-proven steam engine for a steam boat was built here (at the wharf in the Bridgeport, or South Brownsville section of the town), and the first use of cast iron for bridge structures in the United States is still visible and in use at the center of Brownsville's "Neck" business district.

capital formation: the mad rush to build new captive mines and mining towns in the Klondike District around 1900 is one of the best illustrations of capital formation found in the Study Area. This theme is essentially illustrated by the complex network of about fifty company towns, taken as a whole.

However, the whole district area can be seen as about five clusters of **coal patches** and **company towns**. Of these, the Republic cluster is the largest, spanning from Allison #1 and #2 and Superior to the north, to Thompson #1 and #2 and Tower Hill #2 to the west, and a long "tail" including Fairbank, Filbert, Buffington, New Salem, Footedale, Revere, and several other towns to the southeast. Business areas for this cluster are at Republic and Fairbank. This is the single largest concentration of company houses in the project area.

A second cluster is along Redstone Creek, including Grindstone, Rowes Run and Smock. All three are **company towns** built by the

Pittsburgh Coal Company at about the same time, using a uniform style of houses and public buildings. The cluster also includes a few **coal patches**: Upper and Lower Peanut, and Linn.

The company towns near the National Road can be seen as a third cluster including Chestnut Ridge and Keistervile, which are fairly large **coal patches**, and Brier Hill, which is listed in the National Register. Brier Hill retains some significant industrial structures on a remote site, although the company houses nearer to the National Road have mostly been demolished.

A fourth cluster is a ring of **company towns** around Masontown, including Edenborn, Leckrone, Griffin, Mount Sterling, Gray's Landing, Ronco, and Gates.

The remainder are a string of "isolated" towns along the east bank of the river, from Brownsville to Point Marion, including Alicia, Melrose, Maxwell, LaBelle, Isabella, Palmer, Gallatin/ Sunshine, plus a few other towns.

cyclical nature of industrialization: the rapid development of the Klondike District during the coal boom, particularly visible in the numerous and virtually identical **coal patches** and **company towns**, is one of the most vivid illustrations of the cyclical nature of industrialization in the Study Area. Examples of towns that illustrate the industrial boom can be seen in the paragraphs on capital formation above. Examples that illustrate the "bust" end of the cycle can be seen at the company store at Ronco, re-opened by a discount grocer; the conversion of Searights to public housing; and the general state of decay in most of the communities.

The consolidation of mines into several large processing systems also reflects this theme. The numerous rows of coke ovens were phased out by the larger companies as the mines became interconnected underground, and coal was prepared at riverfront plants for shipment by barge to by-product ovens closer to Pittsburgh. Such plants existed at LaBelle, Colonial Coal Dock (near Newell--Mid-Mon District), and Palmer. The remnants of the recently closed massive plant at LaBelle are the best illustration of this. The United States Steel complex at LaBelle includes a conveyor-belt bridge across the river to Jones and Laughlin's Vesta Mines at Vestaburg, apparently built as a joint venture. At Filbert there is a complex where maintenance was performed on the transportation system linking the numerous mines underground to the large riverfront plants.

community structure: some of the most classic examples of **company towns** and **coal patches** are to be found in the Klondike District. Buffington, Isabella, and Searights are good examples of ordinary houses laid out on a rigid grid system. Searights has been made even more uniform when the Fayette County Housing Authority bought the houses, installing aluminum siding and new windows with shutters, making the entire town into public housing.

The contrast between worker houses and management houses can perhaps be seen more clearly at Allison #1 and #2. Efforts to build better communities can be seen at Smock, Rowes Run, and Grindstone, where housing forms were varied, large lot sizes were used, and sidewalks were installed. Company stores can perhaps be best seen at Rowes Run, Smock, Chestnut Ridge, Buffington, Searights, and Ronco. Most of these are very large company stores, mostly brick, but a few are frame, classical-revival structures, which Frick seems to have favored. The large size of these structures reflects

the isolated location of these towns, the overwhelming power of the company (in contrast to the individual worker), and the brief era of prosperity enjoyed primarily by the company in most of these towns.

Also, the model community of Penncraft exhibits a conscious effort to respond to the needs of Fayette County's labor force with innovatively and humanely structured communities. The houses are stone cottages on large lots. The complex has a grocery store and a textile factory (now vacant).

The joint infrastructure provided by the company to serve clusters of towns is another example of community structure. This phenomenon is best illustrated by the Trotter Water Works at Huron, where the company built a beautifully designed plant in an obscure riverfront hollow to service numerous nearby villages.

immigration and migration: the Klondike District contains some very good illustrations of African American migration into the mining towns. Small African American churches can be seen at Allison #1, Allison #2, Braznell, Buffington, Palmer, Maxwell, Edenborn, LaBelle, and Brownsville. Most of these are small, one room, concrete block structures, with metal casement windows, mostly built in the 1940s and 50s, and usually painted white. The church at Maxwell is unusual in that it is frame and affiliated with the African Methodist Episcopal Church, while nearly all of the others are Baptist.[12] The church at Ronco, one of the largest African American communities, is an "A-Frame" from about 1960, and appears to be larger than the others.

The district is also significant for the role played by Italian masons in building the coke ovens during the boom. This is seen in the concentration of Italians at Republic. Many businesses there are owned by Italian families, including Republic Construction Company, founded by an Italian immigrant mason. After the peak of coke-oven construction, Republic Construction Company used its skilled workforce to build numerous large masonry buildings in the area, such as Redstone High School. Republic Construction founder Domenico DeGregori built a cul-de-sac of small houses next to the construction company, with an Italian Hall as the focal point. The hall has a library and an auditorium built to serve the Italian community, an Italian American version of what more famous American capitalists (such as Carnegie) did in larger communities nearer Pittsburgh. Also, the Sons of Italy Lodge in Brownsville appears to be built of the same stone used in facing the beehive ovens. Many of the rows of ovens now in ruin are missing the stone facings, which according to local sources, were removed by masons who built houses and other buildings from the material after the ovens were shut down. The Brownsville Sons of Italy is an illustration of this phenomenon.

Another important immigration phenomenon in the mining towns was the arrival of peddlers, mostly Jewish or Syrian, who walked from town to town often carrying goods on their backs and providing competition for the company-owned stores. Eventually, some of the peddlers built store buildings that resemble company stores in some of the towns. Several "Jewish" stores were identified in the

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[12] A.M.E. members are generally from earlier migrations, while most African Americans that migrated to work in coal mines were Baptist.

survey. The P&J Grocery in Isabella is the best example identified in the Klondike.

SITES:

The sites listed below represent the most outstanding sites in the Klondike District. For a complete list of all surveyed sites in the district see the Appendix, Section 6.10. The themes that relate to each site are indicated by the following abbreviations:

role in the regional processing system [RPS]
technology and innovation [T&I]
management and organization [M&O]
capital formation [CF]
cyclical nature of industrialization [CNI]
labor and the labor movement [L&LM]
community structure [CS]
immigration and migration [I&M].

Brownsville Borough (Early Industrial Town, Capital Town, Fayette County) [RPS, T&I, M&O, CF, CNI, CS, I&M], this is an important community, which was a regional capital before 1790, and continued to develop through several booms and busts. It was a boat-building center (the "Enterprise," first steamboat to go to New Orleans and back on its own power, was built here in 1814) and was a capital of the early iron making concerns in Fayette County. An important stop on early trails, it grew with the completion of the National Road, c1820. It was by-passed by early railroads, and died as the importance of steamboats declined in the late-nineteenth century, to re-emerge (c1895) as the capital of the "Klondike" during the coal and coke boom. Originally "three boroughs," Brownsville and Bridgeport merged (c1900); West Brownsville (Washington County) is listed under the Daisytown District. Individually-distinguished sites include: **Bowman's Castle** (Owner's House), c1790, [RPS, T&I, M&O, CF, CNI, I&M], also known as "Nemacolin Towers," this rambling, exotic house was built in several phases between 1790 and 1850. It was initiated by Jacob Bowman, first post master of Brownsville and builder of a nail factory there c1795. The oldest portion of the house may include portions of a trading post and "Fort Burd," built here during the French and Indian War. Later portions reflect Brownsville's opulence in the pre-Civil war period. One room was built only for use by the Episcopal Bishop, when he was in town. Members of the Bowman family lived here until the 1950s, after which it became a museum. It is the only remnant of Brownsville's pre-1820 industries. **Dunlaps Creek Bridge**, 1836, [T&I], after several earlier bridges were washed away by floods, the cast iron bridge was built. It was the first of its kind in the United States. The bridge, still standing, carried the National Road from what was then Brownsville to Bridgeport. **Hillman Barge Company**, 1940, [RPS, CNI], this is one of the largest marineways along the Monongahela River and one of the last operating (shut down briefly in 1990-91). Coal barges and diesel tows are repaired here. **Christ Protestant Episcopal Church**, 1796/1856, [I&M], this high-style gothic church structure points to the opulence of Brownsville in the pre-Civil war period and to the substantial role played by Episcopalians, most likely Virginians of some standing who came in by way of the National Road, bringing Virginia's "church-of-state" with them. **St. Mary Roman Catholic Church,**

(Slovak) 1906, [I&M], this church reflects one of the important ethnic groups in Fayette Co., and one of the most dense concentrations of Slovak-Americans in the United States. **St. Peters Roman Catholic Church**, (Irish), Brownsville Borough, Fayette County, 1832/1845, founded in 1832 by Irish immigrants in the Brownsville area, who according to local legend, built this structure in 1844-5 to resemble the church from their home village in Ireland. This is the oldest Roman Catholic building in use in the Study Area and is one of the most significant pieces of pre-Civil war architecture in the Study Area.

Masontown Borough (Capital Town, Fayette County) [RPS, CF, CNI, I&M], this is an early farming community and center of a large German settlement, which became the capital town of the southern half of the Klondike District during the Klondike Coal Boom. Several coal patches are clustered around the edges of the town (Griffin, Mt. Sterling), but they have lost their distinctiveness as Masontown has grown. **Masontown Mennonite Church** (German), c1880, [I&M], was one of several Pennsylvania-German churches in the Masontown area, reflecting the German influence in the area before the coal and coke boom. **St. Mary's Orthodox Church** (Serbian/Pan-Slavic), 1914, [I&M], was founded by Serbians, but later became home to other Slavic Orthodox groups, including Rusyns, after a new Serbian Orthodox Church (St. George) was built just across the river in Greene County (near Paisley, linked to Masontown by one of the only two river bridges in Greene County).

Smock, (Company Town and Coke works, Franklin Township, Fayette County), c1900, [RPS, T&I, M&O, CF, CNI, CS], **Grindstone, Colonial #4 Coke Works, Colonial Coal Dock** (Company Town and Coal Dock, Jefferson Township, Fayette County), 1889-1924, [RPS, T&I, M&O, CF, CNI, CS], and **Rowes Run**, (Company Town, Redstone Township, Fayette County), 1907, [RPS, T&I, M&O, CF, CNI, CS]. Three coal and coke towns built along Redstone Creek by Pittsburgh Coal Co., and later sold to H.C. Frick Coke Co. (division of U.S. Steel after 1901). Most of the housing in the three towns is from the same period, utilizing three or four styles (e.g. gable, clipped gable, "T" plan, American foursquare) in alternation along each street. Grindstone and Smock have "butterfly plans" (two patches on facing hillsides with a mine complex in valley at center), while Rowes Run is one large hill-top grid with only one street into the grid. All three towns have large lots and sidewalks, reflecting concern for better living conditions on the part of the company. A water-works serving all three towns and coke works was located at Smock (still standing), and Colonial Coal Dock was built to serve all three mines. These mines represent a transition between the single, self-sufficient individual mining town and mine complex of the pre-1920s period and the "mega-mines" with one large plant and many portals of the post-1920s period. Colonial Coal Dock was one of the two large processing plants/docks that served U.S. Steel's Fayette County mines after 1920s consolidation.

Leckrone #1 and #2 (Company Towns, German Township, Fayette County), 1899, [RPS, CF, CNI, L&LM, CS], founded by Eureka Fuel Co. and acquired by H.C. Frick Coke Co. in 1902-3, who added 99 houses to the two existing patches in 1902, building most in scattered clusters away from the original patches. This may have been an effort to improve living conditions. Leckrone was an

important site in the 1922 coal strike.

Trotter/Huron Water Works (German Township, Fayette County), c1900, [RPS, T&I, M&O, CF, CNI, CS], large quantities of water were needed in the Klondike area mines for washing of coal, quenching of coke ovens, and residential use. H.C. Frick Coke Co. built the Trotter Water Co. (named for a coke town near the Youghiogheny where the first works had been built). This is the last remaining water works of the Trotter Water Co. still in use, and is threatened as the current owner plans to abandon it.

Palmer Coke Works and **Palmer Coal Dock** (Company Town and Coal Dock, German Township, Fayette County), [RPS, T&I, M&O, CF, CNI, CS], the 1908 Palmer Coke Works was the site chosen in 1927 for a coal dock that serviced H.C. Frick Coke Company's various mines in the Klondike District (except those served by Colonial Coal Dock--see above). This was one of two coal docks that consolidated the transportation and processing of coal from dozens of Fayette Co. mines. The coal dock represents the transition from beehive to by-product coking, as it was constructed for mass shipment of coal to riverfront by-product plants, thus phasing out on-site beehive plants.

Jacobs Lutheran Church (German, German Township, Fayette County), 1773, [I&M], this site represents the German families for which "German Twp." is named. A replica of the original log church is on the premises.

Isabella (Company Town, Luzerne Township, Fayette County), 1907, [RPS, CF, CNI, L&LM, CS, I&M]. This is one of the largest "traditional" mining towns, built on a remote site with about a hundred identical, frame duplexes overlooking the mine and river. Just outside town is the burned-out ruins of a relatively recent (post-1950) union hall. The P&J Grocery in town was a "Jewish Store" (a competitor to the company store built by a Jewish merchant, who probably came to town as a peddler).

LaBelle Processing Works (Coal Dock, Luzerne Township, Fayette County), 1949, [RPS, T&I, M&O, CF, CNI, CS], this giant plant was built by Jones and Laughlin Steel for processing of coal from its various Vesta Mines across the river. Coal was carried to the plant by conveyor-belt suspension bridge, then processed, and sent by barge to by-product ovens at Hazelwood and Aliquippa. This coal dock and plant were the main reason for the survival of the **Fredericktown Ferry** (Ferry, Luzerne Township, Fayette County), 1948, [RPS, T&I, CNI, CS]. This is the last commercial ferry operating in Study Area, and possibly in state. Owned by Fayette County, it has been sustained over the years primarily by J&L employees who lived in Vestaburg area but worked at the LaBelle Processing Plant.

Penncraft (Luzerne Township, Fayette County), 1937, [CNI, CS], this is housing built for unemployed workers in Fayette Co. during the Great Depression. The Society of Friends (Quakers) sponsored the project, assisting each homeowner in building his own stone house on a large lot. The complex has a stone community store and a co-op textile plant (now vacant).

Allison #1 and #2 (Company Towns, Redstone Township and Luzerne Township, Fayette County), 1910, [RPS, T&I, M&O, CF, CNI, CS, I&M], are two interconnected company towns built for W.J. Rainey Coke Company, an Ohio company which was H.C. Frick's largest competitor in Fayette County. At one time, the Allison Mine (in the valley between the two mines) had 500 coke ovens. Rainey built rectangular beehive coke ovens, an innovation that allowed for mechanized loading and unloading from the sides, while Frick seemed to prefer the older, round models. Allison #2 contains two African American churches: **Community Baptist Church** (African American), 1949, [I&M], and **Allison #2 Baptist Church** (African American), c1920, [I&M], both institutions reflecting African American culture as brought to the coal and coke towns in the Study Area in the 1920s, a subject which merits further investigation. Allison #2 also has good examples of management housing.

Buffington (Coal Patch, Menallen Twp., Fayette County), 1900, [RPS, M&O, CF, CNI, CS], a good prototype of a large patch, having approximately one hundred frame duplexes in a perfectly rectilinear grid. The slightly-sloped site includes a frame company store and a small frame church across the road, near the coke oven site.

Searights (Coal Patch, Menallen Township, Fayette County), 1907, [RPS, M&O, CF, CNI, CS, I&M], like Buffington, Searights is a "prototypical" coal patch (the two are almost identical), except that Searights has a unique history. In 1937, Paul Angelo, Sr. bought Searights from Republic Steel and the Angelo family operated it as a private real estate venture until 1971, when it was sold to Westgate Management of Trenton, N.J. The U.S. Dept. of Housing and Urban Dev. subsidized rehabilitation of the houses in 1971 (including uniform aluminum siding and new windows), bringing back the uniformity of the company-owned days.

Searights Tollhouse (Menallen Township, Fayette County), 1835, [I&M], one of two remaining tollhouses built by Pennsylvania when the state took over the National Road and made it a toll road.

Holy Trinity Orthodox Church (Rusyn), (Menallen Township, Fayette County), 1914, [I&M], this large Orthodox church combines gothic windows and Byzantine domes in an unusual design. The size of this, and several neighboring churches, indicate that the small village of New Salem served as a kind of "neutral zone" between the various patches and company towns of the Dunlaps Creek Valley.

Sandy Hill Quaker (English), (Menallen Township, Fayette County), c1880, [I&M], this church (the present affiliation is non-denominational) was the most recent building of an early Quaker group (1770s), among whose members were the founders of Uniontown.

New Geneva (Early Industrial Town, Nicholson Township, Fayette County) [T&I, CF, CNI, CS, I&M], this is an early industrial town with several individually-distinguished sites, including: **Old Stone Church** [CS], 1797, and **Friendship Hill** (Owner's House) [M&O, CF, CNI, CS], c1790. New Geneva was founded by statesman Albert Gallatin, a leader of the Whiskey Insurrection and Secretary of the Treasury under Thomas Jefferson. Gallatin named the new town for his hometown in Switzerland and founded several early industries here, including one of the first two glass factories west of the

Alleghenies, and a gun factory. A vein of stoneware clay discovered here in 1810 led to a thriving Mon Valley pottery industry until the 1890s. **The Old Stone Church** is believed to have been a "Union Church;" a building provided by an early industrialist to encourage workers of all denominations to locate in the community.

Filbert Company Store (Company Store, Redstone Township, Fayette County), 1909, [CF, CS], this is a particularly good example of a company store. Generally, company stores are large buildings, two to three stories, either brick or frame, sometimes with other functions.

Ralph (Company Town, Redstone Township, Fayette County), 1909, [RPS, T&I, M&O, CF, CNI, CS], one of the mines connected by underground conveyor to the Palmer Coal Dock. It is architecturally typical of towns built by H.C. Frick Coke Co.

Republic (Company Town, Redstone Township, Fayette County), 1904, [RPS, M&O, CF, CNI, CS, I&M], this company-built town is more important for its private enterprises, including: **Republic Construction Company**, and **Republic Sons of Italy** (1922). Though Republic appears to have been built as a typical coking town by Republic Steel, it has grown into a full-blown community with stores and large churches. Local residents point to Domenico DeGregori, an immigrant Italian mason, as founder of the town. DeGregori organized Italian masons into a successful construction company. DeGregori became rich enough so that he donated a hall (now "Sons of Italy") to the town, much in the style of Andrew Carnegie. The hall is of distinctively Italian architecture.

Merrittstown Blacksmith Shop (Secondary Metals, Redstone Township, Fayette County), c1820, this small brick blacksmith shop, intact in its exterior architecture and setting and located on the edge of an early Fayette County village, is one of few sites in western Fayette County which lend themselves to interpretation of early industrial activity.

Hunters Mills (Early Industrial Complex, Springhill Township, Fayette County), 1790, also called "Sylvan Mills." These are now ruins of a water-powered complex that was rebuilt several times for various industries including two 1796 iron forges (built by the Oliphant family, early iron masters), a grist mill (c1816), and a carding machine, sawmill, and oil mill.

RECOMMENDED COMMUNITIES:

The communities listed below are recommended because of the quantity and quality of their resources. After the name of the recommended community, the individual resources are listed. Other resources of the same quality within a five mile radius of the community are then listed. (For selection criteria see Section 2.30)

Allison #1 & #2
includes:
Community Baptist Ch
Allison #2

Within 5 miles:
Merrittstown Blacksmith Shop
Penn Craft
Republic Coke town
Republic Construction Co.
Republic Sons of Italy

Brownsville
includes:
Bowman's Castle
Christ Episcopal Protestant Ch
Croatian Fraternal Union
Dunlap Creek Bridge
Hillman Barge Co.
Mt Zion AME Ch
St Peter RC Ch

Within 5 miles:
Fredricktown Ferry
Isabella
Labelle
Penn Craft
Republic
Republic Construction Co.
Rowes Run
Smock coke town & ovens

Smock
Company town & ovens

Within 5 miles:
Brownsville
Buffington
Rowes Run
Star Junction

4.13 CONNELLSVILLE DISTRICT

Geology and Topography: (see Map ~~15~~ 16, p. ~~72~~ 82)

Perhaps the easiest district to distinguish from all the others is the Connellsville District. The Connellsville District has a distinctive geology, topography, history, and culture that separate it from the other districts.

Geologically, the difference is in the chemical make-up of the portion of the Pittsburgh Coal Seam that underlies the Connellsville District. There is an abrupt break in the seam that parallels the base of the Chestnut Ridge Mountain a mile or two west of the foot of the ridge. The coal found here is low sulphur. It burns cleaner and produces a lighter-weight coke, thus it can be produced and used more easily than coke from the more typical coal of the Pittsburgh Seam.

The district also had some small deposits of bog iron which attracted early ironmasters into the area. A third category of geological resources in the Connellsville District is the stone which was quarried to make millstones and other early industrial components. The stone quarried in the district has found several uses including structural, mechanical, and chemical/metallurgical. A few small quarries continue to be active in the Dunbar area, apparently for chemical/metallurgical uses.

Topographically, the Connellsville District is distinguished by the mountains which form its eastern boundary. The Chestnut Ridge (the ridge line of which forms the eastern boundary of the Study Area) is the western-most ridge of the Appalachian Mountains. The Youghiogheny River cuts through the mountains in a narrow gap near the center of the district in the Dunbar-Connellsville area.

The land just west of the foot of the mountains is relatively level. However, as it is at the headwaters of several different small streams that flow into the Monongahela and Youghiogheny, the land rises slightly to a few rolling promontories between the streams. Flowing southwest to northeast (along the foot of the mountains) into the Youghiogheny are Dunbar Creek and Gist Run. Flowing northeast to southwest (along the foot of the mountains) into the Youghiogheny is Mounts Creek. Areas further southwest along the foot of the mountains drain into Redstone Creek and Georges Creek which flow into the Monongahela near Brownsville and at New Geneva, respectively.

History:

The Connellsville District began to develop into an iron-making center in the late-eighteenth century. The land along the west slope of the Chestnut Ridge Mountain was divided into plantations which combined water-power mills, iron-smelting operations, timbering, and agriculture to make maximum use of the land. Iron furnaces were built on hillside sites, where wood and charcoal were readily available, where materials could be easily loaded into the top of the furnace and products easily removed from the bottom, and where water-power could be put to use running bellows and other parts of the operations.

By 1810 there were sixteen charcoal-fired blast furnaces in this district, out of a total of twenty-one in the western half of the state. By 1830 thirteen more had been added, mostly in the northern half of the district. After 1830 the focus shifted away from the Chestnut Ridge, with ninety-six new stone blast furnaces built in Lawrence, Mercer, Butler, Venango, Clarion, and Armstrong Counties, with only five new ones in the Connellsville District in the same period.

By the Civil War era, the charcoal-fired blast furnaces of the Chestnut Ridge area were surpassed by riverfront plants in the Pittsburgh area. The development of the coking industry made this transformation possible. Iron could be made more efficiently with coke, and this efficiency led to larger and larger plants, which needed to be closer to transportation systems for transportation of the increased production volume. Ironically, as the geological superiority of the Connellsville coal brought the coking industry to the area, the availability of coke assisted the new riverfront plants along the Monongahela in making the old charcoal-fired plants of the Connellsville area obsolete.

The first use of coke was by Isaac Meason, one of the region's most influential iron masters. The commercial production of coke did not begin until the Cochran family began producing it in the 1840s. By the 1880s, huge steel plants were being built in the area around Pittsburgh, based on the availability of Connellsville coke. Approximately a hundred coking operations, coal mines, and company towns sprang up in the Connellsville District between 1870 and 1900 to mine the Connellsville Coal and to produce coke.

The coke industry began to decline in the Connellsville District shortly after 1900 because of two main factors: depletion of the coal seam, and the conversion of the coke industry to by-product ovens. As the coal seam was depleted, several adjacent areas were opened up by companies to mine "the next best thing"--adjacent portions of the Pittsburgh Coal Seam in the Klondike District.

By-product coke ovens were introduced in the area at Dunbar in the 1890s, but this was the only plant of its kind in the region until about 1915. During World War I, there was an increased demand for coal by-products (dyes, various chemicals used in explosives, and gases). European countries had already switched to the new technology and enjoyed the advantages. The depletion of the Connellsville Coal may well have contributed to the conversion, as new fields in the Klondike were more accessible to river transportation. This facilitated shipping raw coal to steel mill sites where large by-product coke plants could convert massive amounts of coal to coke at or near the blast furnaces. Another important factor was the need to wash the coal from the Pittsburgh Seam, and to mix various grades of coal in order to make suitable coke from it. This was more easily accomplished at the large, riverfront plants.

The Connellsville District's industries were almost exclusively based on the coal and coke industry and the railroad network that connected the mines and coke ovens to the markets of Pittsburgh. A few exceptions to this pattern include earlier water-powered industries (e.g. silk mills and woolen mills) that developed in

Connellsville and Dunbar in the first two-thirds of the nineteenth century, and a few industries that grew out of the population density during the coke boom (e.g. macaroni factories, water works, and power plants). However, few remains of these ancillary industries were found.

Another important exception was the continued development of iron and steel making at Dunbar and Scottdale. At Scottdale, a steel mill was built in the 1880s, and it continued to operate for about a hundred years. At Dunbar the second set of by-product coke ovens built in the United States were installed in 1895. This led to steelmaking activities at Dunbar that continued long after iron production had ceased throughout most of the Connellsville District.

The Connellsville District has had two periods of growth and two periods of immigration. The early industrial period (1790s-1890s) saw immigration mainly from northern and western Europe. The second period (1890s-1920s) saw immigration from eastern and southern Europe. There was also a smaller-scale migration of African Americans during the 1920s.

THEMES:

The Connellsville District represents the following themes:

role in a regional processing system: the District may be, next to the northern steel-making Districts, the most important district in the Study Area in terms of the regional processing system. The entire industrial complex of the Pittsburgh Region owes much of its success to the unique qualities of coking coal from the Connellsville District.

technology and innovation: technological transformations were made in this district from charcoal-fired iron production to coke-fired and from raw iron production to puddled and rolled iron. Coke was first developed in this region by the Cochran family, and by-product coke ovens were also pioneered in this region at Dunbar. Numerous examples exist of early coking operations. The coke ovens around Broadford, though in ruins, are probably more significant than many others because of their early connection with Henry Clay Frick's career. The Semet-Solvay coke ovens at Dunbar are now a massive, overgrown ruin, but may yield important archaeological information. They also have potential as an interpretation site, particularly with the various ruins of beehive ovens and early charcoal furnaces nearby.

The coke ovens at Shoaf are by far the most intact example of a beehive coking plant in the entire Study Area. Apparently, Shoaf's remoteness discouraged recyclers from scrapping the hopper cars and other equipment at the site, and Shoaf is one of very few coking towns where the stone facings of the coke ovens have not been torn off for reuse elsewhere.

capital formation: in the establishment of coke ovens around Broadford H.C. Frick first began to amass the capital to become a major player in American industrialization. West Overton and Broadford are within a very short distance of one another. West Overton (now a museum complex) was a distillery **company town**

founded by Frick's grandfather and it was Frick's birthplace.

Although not as famous as the Frick concerns, the capital developed by the Cochran family in the Dawson-Star Junction area was an important component in the industrialization of the region. The town of Dawson contains a few spectacular turn-of-the-century structures, reflecting its role as the business center of the Cochran operations. Nearby Star Junction contains the remains of the Cochrans' largest operation, although the coke ovens have recently been demolished.

The Meason concerns in the early period are also examples of capital formation. Mount Braddock (Meason's home) and several charcoal furnace stacks remain of these operations, although, unfortunately, Meason's rolling mills at Plumsock (the first rolling mills to roll puddled iron into bars in America) are long gone.

cyclical nature of industrialization: the District exhibits many examples of the results of cyclical industrialization, particularly since industries came and went so much earlier than in other areas. Examples include the ruins of long-abandoned iron furnaces, numerous coking towns, and some early industrial sites such as the Harper's Woolen Mill buildings at Dunbar.

labor and the labor movement: as in the other coal/coke areas, union activities were severely limited in the company-owned towns. "The Morewood Massacre" of 1891 is a rarely-mentioned episode of brutal anti-union efforts just one year prior to the Homestead Strike of 1892, and with several of the same actors. Morewood mine, in Westmoreland County, was owned by Henry Clay Frick, who was in partnership with Carnegie Steel. In the spring of 1891 upwards of 25,000 miners and coke workers were out on strike throughout the area, protesting wage cuts and the 12-hour day. Frick brought in the infamous Pinkerton Detective Agency. On April 2, as the strikers peacefully marched home from a rally, the Pinkertons fired on the unarmed workers. Sixty men were shot, eight of which died instantly. Two died the next day and another seven within a week, making a total of seventeen.

community structure: the coal and coke **company town** and **coal patch** was virtually invented in this district. Davidson, one of Frick's towns near Connellsville is probably the oldest coke-industry **company town** still standing in the Study Area.

The company-town appearance of West Overton may have been influential in shaping Frick's attitude toward construction of worker housing and toward the relationships (physical and organizational) between workers and the industrial plant.

While Davidson is probably the best example of a mid-nineteenth century coke-industry **company town** in the Connellsville District, there are several good examples of late-nineteenth-century coking communities, including Lemont Furnace, Leisenring, and West Leisenring.

immigration and migration: the Connellsville District includes some of the earliest eastern European immigrant communities in the Study Area, including an early group of Hungarian immigrants. The fact that one of the first two Byzantine Catholic churches in the region was founded here in 1891 (St. Stephen's, in Leisenring) is an indication of the importance of this region to the Rusyn community.

The earliest settlers in the Connellsville District were German, English, and Scots-Irish; these groups remain the most dominant numerically and culturally in the District. The 1980 Census for Fayette County reports that of people claiming single ancestry 14,571 were English, and 13,162 were German.

Until the mid-nineteenth century, the District's economy was agrarian. The need for more services increased with a growth in population and a more diversified economy developed in the county and the District. It is significant to note that early industries such as brewing and distilling reflect the ethnic make up of the district before the second half of the nineteenth century. With the growth of the coal and coke industry after that date, the need for unskilled labor led to an increase in the ethnic diversity of the district.

The HABS/HAER report on Fayette County points out that because the

> mines and coke yards were scattered around the perimeter of the Pittsburgh bed where it outcropped and did not conform to extant population patterns, coal and coke operators began to build towns in hopes of attracting and accommodating a more stable work force.[13]

The report adds that the immigrants who came from eastern and southern Europe were often "coming from much worse living situations...[and they] were willing to accept the living conditions in company towns because they had few options."[14] Population studies, as well as the numbers of historic and current ethnic organizations, suggest that Italians, Poles, and Slovaks were among the largest groups to immigrate to the district.

The community of Dunbar offers a good example of the immigration/ migration theme. Sites there illustrate the change in industrial technologies, and the community itself exhibits the various changes in the ethnic composition of the area. Residents' names reflect the early German and Scots-Irish heritage, while southern and eastern European names are also found in the community.

SITES:

The sites listed below represent the most outstanding sites in the Connellsville District. For a complete list of all surveyed sites in the district see the Appendix, Section 6.10. The themes that relate to each site are indicated by the following abbreviations:

role in the regional processing system [RPS]
technology and innovation [T&I]
management and organization [M&O]
capital formation [CF]
cyclical nature of industrialization [CNI]
labor and the labor movement [L&LM]
community structure [CS]
immigration and migration [I&M].

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[13] Sarah H. Heald (ed), **Fayette County, Pennsylvania: An Inventory of Historic Engineering and Industrial Sites**, [Washington, DC: National Park Service, 1990], 14.

[14] Heald, 14.

Connellsville Borough (Capital Town, Fayette County) [RPS, M&O, CF, CNI, I&M], this is one of the most important district capitals in the Study Area, which became wealthy and world-famous as a result of the metallurgical coal that surrounds it. Connellsville was a hub for the coal-field rail lines and lines leading to Pittsburgh. Connellsville began as an early industrial town, but grew into an important capital town in the late-nineteenth century. The town began to decline as the high-grade Connellsville coal began to run out around 1900. The community contains numerous individually-distinguished structures and institutions that reflect the town's role as a center of many mining communities, including: **Carnegie Free Library** [CF, CS], 1903, given by Carnegie to serve workers in the coke fields after the sale of Carnegie Steel and H.C. Frick Coke Co. to J.P. Morgan in formation of United States Steel in 1901. **Immaculate Conception Roman Catholic Church** (Irish/German) [I&M], 1870, located on the edge of Connellsville's urban center, this church was built to accommodate the Irish and Germans who worked on the railroad and other industries of the area. **St. Emory Roman Catholic Church** (Magyar) [I&M], 1903, designed by famed Magyar architect Titus de Bobula, St. Emory's ceased to be a Magyar parish in the 1970s and is currently an African American church. The beautiful stained glass windows portray images of Magyar saints. **St. John Evangelist Roman Catholic Church** (Slovak) [I&M, CS], 1895, termed a "cathedral" by local Slovaks, who inscribed the Slovak word for "cathedral" on the building. The beautiful stained glass windows were donated by Slovak families, Slovak fraternal organizations, and other ethnic groups. **St. John's Lutheran Church** (German) [I&M], 1871, founded by Germans from West Newton who came to Connellsville to work in the B&O Yards and Repair Shops.

Dawson Borough (Capital Town, Fayette County) [RPS, T&I, M&O, CF, CNI, CS], this tiny town was the "capital" created by the Cochran family. The Cochrans owned the Washington Coke Works at Star Junction, the largest single set of beehive ovens in the Study Area. But they kept their "headquarters" in this little riverfront borough, where they had a bank, several residences, offices, etc. After selling off the company, Sarah B. Cochran, widow of Phillip Cochran, built nearby Linden Hall. The mansion is now a resort/ retreat center owned by the United Steel Workers of America. The Cochrans also built **Cochran United Methodist Church** [CF, CS], possibly the most high-style church in any community in Fayette County, here dramatically juxtaposed with the fabric of the small town that surrounds it.

Dunbar (Early Industrial Community, Dunbar Borough and Dunbar Township, Fayette County) [RPS, T&I, M&O, CF, CNI, CS, I&M], this is an important and well preserved community, centered in the Dunbar Borough limits, but having important links to the surrounding Dunbar Township. Dunbar was a center of iron furnaces in the early 1800s, including Isaac Meason's first furnace, **Union Furnace** (Early Iron Furnace Complex, Dunbar Township, Fayette County) 1789 (moved 1860), [RPS, T&I, CF, CNI, I&M], and Meason's **Center Furnace** (Early Iron Furnace Complex, Dunbar Township, Fayette County) c1815 [RPS, T&I, CF, CNI, I&M], c1815. Union Furnace was one of the first two furnaces in western Pennsylvania. Both Union Furnace and Center Furnace bore the name "Dunbar Furnace" at different times. Col. Meason also constructed the second rolling and slitting mill west of the Allegheny Mountains

on Dunbar Creek in 1816.[15] By the 1890s the **Dunbar Furnace Company** site (Dunbar Township, Fayette County) [RPS, T&I, M&O, CF, CNI, L&LM, CS] was evolving into a modern iron-making complex. In 1895 the company installed Semet-Solvay by-product coke ovens, the second set of by-product coke ovens built in the United States. Today, only ruins remain of these ovens, which were some of the only by-product ovens in the Study Area until a major demand for coal by-products led to construction of six large riverfront plants along the Monongahela River during World War I. In 1914 Dunbar Furnace Company became part of the American Manganese Company. This company's workforce grew from 328 in 1916 to 523 in 1922, and then closed as a result of the United Mine Workers strike of that year. Dunbar Borough contains a well-preserved, small commercial historic district with distinctive structures from the 1850s, 1870s, 1880s, and 1910s. **St. Aloysious Roman Catholic Church** (Irish), 1873, was originally built to accommodate the influx of Irish iron workers into the area (St. Aloysious has moved to a new building about two miles outside of Dunbar and is now a territorial rather than ethnic parish). At the edge of the borough is **Harper's Woolen Mill** (Early Industrial Complex, Dunbar Borough, Fayette County), c1835, believed to be housing (and possibly a "Union Church") from an early water-powered industrial complex. Near the Harper's Woolen Mill site and Dunbar Furnace Site is company housing built by Dunbar Furnace Company in c1810 and c1840. Another remote iron furnace site in the township is **New Laurel Furnace** (Iron Furnace Complex, Dunbar Township, Fayette County), c1827, made from masonry of a 1797 furnace ("Old Laurel Furnace") and operated until 1838.

Everson Car and Repair Shops (Railroad Car Repair, Everson Borough, Fayette County) [RPS, T&I, M&O, CF, CNI], 1895, built by H.C. Frick Coke Co. to fabricate cars used to haul coal and coke, this site was a consolidation of three former repair shops.

Fairchance Iron Works (Early Iron Furnace Complex and Owner's House, Fairchance Borough, Fayette County) [T&I, M&O, CF, CNI], c1796. The ironmasters house, known as "Liberty Hall," is all that remains of an important iron plantation which also briefly made steel in 1837. The house was a small log structure, purchased in 1802 by Col. John Oliphant who built Fairchance furnace in 1807. Col. Oliphant and his son, Fideleo H. Oliphant, expanded the house, and F.H. Oliphant, manager of Fairchance Furnace and owner of two other early iron works, lived here. Later, it was home of Lee Klingensmith, an H.C. Frick Coke Co. superintendent. Although surrounded by newer developments, the house retains much of its early setting.

Tree of Life Synagogue (Jewish, Uniontown Borough, Fayette County) [I&M], 1901, this Orthodox Jewish congregation did not move into its present house of worship, a converted school until 1908. The congregation was made up mostly of Lithuanians along with Magyars, Russians and other east Europeans.

Leisenring (Company Town, Dunbar Township, Fayette County) [RPS, M&O, CF, CNI,CS, I&M], 1880, and **West Leisenring** (Company Town,

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[15] Some sources refer to Meason's Plumsock Mill as the "first rolling mill in the United States," others call it the second.

North Union Township, Fayette County) [RPS, M&O, CF, CNI,CS, I&M], 1881. Two of the three towns named Leisenring (#1, #2--or West Leisenring, and #3--or Monarch) built by John Leisenring of the Connellsville Coke and Iron Company in the 1880s, and sold to H.C. Frick Coke Co. in 1890. Leisenring #1 is a good example of a medium to large size Frick coking town. It is also significant as home to one of the first two Byzantine Catholic (Rusyn) churches in the Study Area, St. Stephen's Byzantine Catholic Church.

Meason Complex (Early Iron Furnace Complex and Owner's House, Dunbar Township, Fayette County) [RPS, T&I, M&O, CF, CNI, CS], 1802, home of early ironmaster Isaac Meason, who built the first puddling and rolling mill in the area in 1816. Meason was probably the single most influential of the region's early ironmasters, with investments in several other iron furnace complexes. This house, one of the finest pieces of architecture in the Study Area, is also known as Mt. Braddock. It was built on the site of the home of early explorer Christopher Gist.

Shoaf (Coal Patch, Georges Township, Fayette County) [RPS, T&I, CF, CNI], 1904, possibly the most remote coal and coke complex in Fayette Co. As a result, it is the only coking complex whose hopper cars and other metal components have not been sold for scrap, and one of few with coke ovens with intact stone facings. It was built by H.C. Frick Coke Co., and it is the most appropriate place to interpret details of the beehive coking process in the Study Area.

German Baptist Church (German, Lower Tyrone Township, Fayette County) [I&M], 1812, this is a denomination related to Mennonites, which played an important role in early settlement of various parts of the Study Area.

Lemont Furnace (Mine and Coke Works) (Company Town, North Union Township, Fayette County) [RPS, CF, CNI, CS], 1871, one of the earliest coke complexes and coking towns still standing in the Study Area, and once owned by H.C. Frick.

Mt. St. Macrina Convent (formerly--Owner's House, now--Rusyn convent, North Union Township, Fayette County) [CF, CS, I&M], 1930, this former estate of coal magnate J. Thompson is now the home of the Sisters of St. Basil. It is an important site for pilgrimage for Rusyn Catholics because the remains of the first Rusyn bishop, Basil Takach, are interred there.

St. John Lutheran Church (German, Mt. Pleasant Borough, Westmoreland County) [I&M], 1793, one of numerous churches in the Scottdale/ Mt. Pleasant area that attest to the early concentration of German settlers in the area.

Tree of Life Synagogue (Jewish, Mt. Pleasant Borough, Westmoreland County) [I&M], 1938, this congregation was chartered in 1924 but did not move into its present house of worship, a former Presbyterian Church, until 1938.

Scottdale Borough (Capital Town, Westmoreland County) [RPS, M&O, CF, CNI], this was the center of a large early German settlement, of which West Overton, the village where Henry Clay Frick was born, was a tangential part. **H.C. Frick Coke Company Offices** [RPS, T&I,

M&O, CF, CNI, L&LM, CS], 1880, Frick located his offices here, close to his birthplace, in what was to become one of the "cleanest" and wealthiest capital towns in the Connellsville District. This site is of importance not only for its intact architecture, but also for archival materials still housed here from the days when Frick owned the company. **Scottdale Iron and Steel** (Steel Mill) [RPS, CN], 1887, this is a very well-preserved steel mill, with some architecturally-significant structures. It is unusual in that it was built fairly early, was operated continually with very little architectural change, and is located in an area (foot of the mountains, away from any river) where there are no other steel mills, in spite of proximity to coal, coke, and early ore supplies.

RECOMMENDED COMMUNITIES:

The communities listed below are recommended because of the quantity and quality of their resources. After the name of the recommended community, the individual resources are listed. Other resources of the same quality within a five mile radius of the community are then listed. (For selection criteria see Section 2.30)

Dunbar
includes:
- Furnace
- company housing
- Union Furnace
- St Aloysious RC Ch
- Sons of Italy

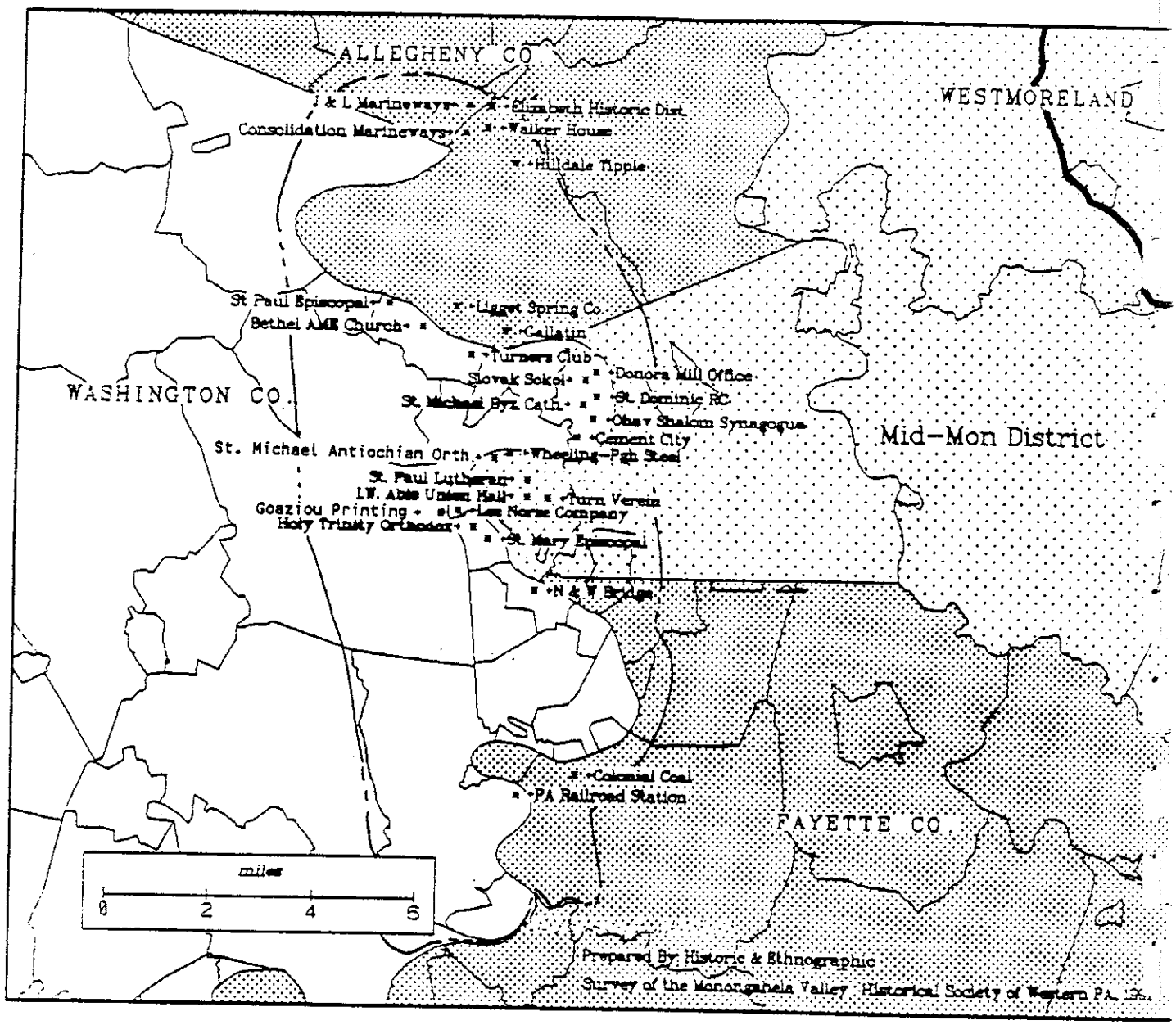
Within 5 miles:
- Harpers Woolen Mill
- Immaculate C RC Ch
- Leisenring
- Lemont Furnace
- Meason Complex
- New Laurel Furnace
- St John the Evangelist RC Ch
- St John Lutheran Ch
- St Rita RC Ch
- W. Leisenring

Shoaf
includes:
- Mine & coke works
- Frick company town

Within 5 miles:
- Jacob Lutheran Ch
- Masontown Mennonite
- St Mary Orthodox

Scottdale
includes:
Frick office
Scottdale Iron & Steel

Within 5 miles:
St John Lutheran Ch
Tree of Life Synagogue
Everson Car & Repair



MAP 17 MID-MON DISTRICT in Allegheny, Fayette, Westmoreland,

& Washington Counties

LEGEND

District Boundry

Study Area Boundry

4.14 MID-MON DISTRICT

Geology and Topography:

The Mid-Mon District is underlain by typical coal of the Pittsburgh Seam. Steep cliffs along winding river bends made this coal accessible at an early date, and much of it was mined out before 1900. A few more modern mines, however, use older openings to access portions of the coal seam away from the river and to bring the coal out to riverfront preparation areas and loading areas.

The winding course of the river, plus the numerous hollows connecting the valley floor to hilltop farmland, made this District into a patchwork of farming communities, early highways, early industrial complexes, boatbuilding locations, mine complexes, mill towns, and other kinds of fabric. The district is the threshold between the southern mining areas and the northern steel areas. Many small, ancillary industries were also naturally located there.

The Mid-Mon District is the portion of riverfront between Elizabeth and Brownsville, plus adjoining areas away from the river. Many of the fifteen Districts border on the Mid-Mon District (Klondike, Mid Yough, North Yough, North Mon, Peters Creek, Ellsworth, and Daisytown). In several cases, the Districts actually overlap, since a number of the adjoining mining corridors were developed as extensions of Mid-Mon communities, which subsequently served as the capitals of these smaller districts. For instance, California is the **capital town** of the Daisytown District, Monongahela is the **capital** of the Ellsworth District, and Brownsville is the **capital** of the Klondike District. In all these cases, the **capital town** belongs in both districts, but is usually only listed in one. All of the above are listed in the Mid-Mon District except for Brownsville which is under the Klondike District. Brownsville is of tremendous historic importance to both the Klondike District and Mid-Mon District, and the only reason it is not listed in both is to avoid duplication of effort.

History:

The Mid-Mon District is one of the oldest permanent settlement areas (perhaps the oldest) in the Study Area, apart from early forts and trading posts. While forts spawned towns at Pittsburgh, Brownsville, and several smaller communities, and early trading posts were scattered across the Study Area, the earliest area to have a large influx of pioneer farmers, "town promoters," and diversified industrialists was the Mid-Mon District at the heart of the valley.

Early settlers included Scots-Irish Presbyterians, who migrated from New Jersey in the 1760s. Quakers settled near Brownsville and across the Monongahela River near present-day Centerville Borough. The Quakers in this area were small groups, mostly farmers. By 1864, all of the Quaker meetinghouses in Washington County were closed, although in nearly every case, a Methodist Church was built on or near the same site, the Methodists being sympathetic with the Quakers, and picking up many of their disenfranchised members.

The Quakers appear to have helped to bring at least three other groups into the Study Area: African Americans, German Baptists, and Episcopalians. West of the Quaker settlement became home to a large German settlement by 1790. Although three Lutheran congregations were organized in this strip of land in the 1790s, the southern half of the settlement appears to have been mostly German Baptist (or Dunkard), a Mennonite-related pacifist sect.

Within the Quaker settlement area, there was at least one African American family from the earliest days, the Smiths. According to Smith family records, a Ralph Smith, Jr. was born into slavery in what is now West Pike Run Township in 1758. His father was an English immigrant named Ralph Smith, either a slave brought here from England or an immigrant slaveholder. Ralph Smith, Jr. became a free man at age 28, according to Pennsylvania's slave laws of that time. As the Smith family grew in numbers, West Pike Run Township became home to a community of free Black farmers. Many of the older African American families in the Study Area can trace their lineage back to Ralph Smith.

The concentration of early farming settlements in the Mid-Mon Valley owes much to the early roads. Numerous Indian trails had criss-crossed through the District from the earliest times, and a couple of these were cut into broad roads during the French and Indian War. In the early 1800s, the trail through Uniontown, Brownsville, and Washington was chosen as the route for the National Road, the nation's first experiment with federally funded highways, eventually connecting Baltimore and St. Louis. The National Road quickly became a major migration route into the west. About the same time, the first Pennsylvania Turnpike was completed from Philadelphia to Pittsburgh.

Beyond agriculture, the first two widespread industries in the Mid-Mon Valley were boatbuilding and whiskey distilling. Judging from early accounts, huge numbers of flatboats were built and sold to settlers who reached the river and proceeded on the rest of their journey by water. The whiskey industry, though mainly confined to small farm stills, led to a keen passion about early politics and industrialization, culminating in the pivotal role Mid-Mon Valley residents played in the Whiskey Insurrection. After the Insurrection, there appear to have been some conscious efforts on the part of the former rebels to industrialize the District. The rebellion itself had been fueled by the difficulties of getting goods to market and getting cash back into the District.

The earliest company town, by far, in the Study Area is Elizabeth in Allegheny County. The town was laid out in 1787 by Col. Stephen Bayard. From his military service at Fort Pitt, Bayard had been a friend and a business partner of Col. Isaac Craig, founder of the first glass factory in Pittsburgh and numerous other early industrial enterprises. When Bayard laid the town out the **early industrial town** of Elizabeth in 1787, there was no resident community: it was a speculative venture that hinged on selling the individual lots. The town was advertised in the Pittsburgh Gazette on Nov. 10, 1787, and the advertisement contained the following reference to industry:

> the place proposed for this Town lays...in the center of a rich, thick settled and well cultivated country, abounding in clay, stone, coal, and timber, is well watered and extremely healthy...having besides the great road from the lower counties leading directly through it to Washington and Wheeling...The proprietors are now erecting a saw mill thereon, where every material for building may be had at a very reasonable rate. Artists of all kinds, particularly boat builders, carpenters, joiners, masons, blacksmiths are especially invited....Adventures that are moving to this country with an intent of going down the Ohio, may also know that...they may be accommodated with boats of every dimension at a short notice...

Bayard advertised his new town numerous times, not only in the Pittsburgh Gazette, but also in Philadelphia papers, hoping to attract more westward-bound settlers who needed boats. The first major boats built at Elizabeth were ocean-going sailing vessels, beginning with the schooner "Monongahela Farmer" launched in 1800. The Monongahela Farmer was financed by a company of farmers from the Jersey Settlement area who built it to get their farm goods to market. It was sailed to New Orleans on the unimproved rivers (an amazing accomplishment by itself) and thence to New York, laden with flour, whiskey, deer skins, and bear skins.

Early industrial towns in the Study Area seem to have three basic elements in common: a speculative town plan, an early attempt at creating an industry for the town, and financing through a co-operative organization involving nearby landowners. The same pattern began to develop in 1792 in Washington (Chartiers District) and in Williamsport (now part of Monongahela City) in the Mid-Mon.

In 1809, the pattern was repeated at Clarksville (Greene District), laid-out in a loop of Ten Mile Creek. Clarksville was ideal for water-powered industries, was located next to an early iron furnace, and was financed by a co-operative organization including early ironmaster Thomas Meason of Uniontown. Clarksville had a town square and a union church (i.e. shared by all the various denominations), as did the original plan of Williamsport.

By 1820, the list of these speculative **early industrial towns** had been expanded to include:

* Fayette City, laid out by Col. Edward Cook, a native of Virginia, Revolutionary War veteran and Whiskey Rebel, with at least one glass factory and a union church.

* New Geneva, laid out by statesman and Whiskey Rebel Albert Gallatin, with a glass factory and a gun factory, and other industries, and a union church (still standing).

* Greenfield (now known as Coal Center), laid out in 1814, with a co-operative "Farmers and Mechanics Commercial Store" with $20,000 in capital to guarantee shipment of farm goods to market.

* Perryopolis, laid out with an ambitious radial plan in 1814 by Thomas Hursey and Thomas Burns, adjacent to a grist mill

built by George Washington, and having a glass factory financed by a co-operative initiated by Hursey and Burns in 1815. The co-operative organization established a bank in 1816, whose stone building is still standing.

Similar **early-industrial-town** characteristics can be seen in Columbia (now Donora), Allenport, Greensboro, Belle Vernon, the various components of Brownsville, and several other places.

In Williamsport, the 1792 plan failed to turn up any buyers. A second attempt in 1796 was more successful. By 1810, the town had only 500 residents. In 1814, the Parkison family established a co-operative and bank, the "Monongahela and Williamsport Manufacturing Company," with a capital of $125,000, following the lead of other **early industrial towns** in the valley, and built a glass factory which had to issue its own currency to pay its workers, and eventually failed.

The same pattern can be seen in California, which was laid out in 1849 by members of the same family that founded Greenfield a generation earlier. It was laid-out with an ambitious town plan, had a Disciples Church (a "non-denominational" denomination founded in Washington County), was a dry town (to attract only the most reliable residents and workers), and had its major employment in a large boatyard established shortly after the town was laid out. California, however, became more famous for another element of its original plan. Its founders established such a progressive academy in the town that it eventually grew into a state teachers college (now a university).

The 1810s were not only important for town planning and early land-based industrialization, but also for the perfection of the steam-boat. In 1811, the second commercial steamboat in United States History was built in Pittsburgh (the "New Orleans"). This great accomplishment, however, was overshadowed by the "Enterprise" built at Brownsville in 1814. The "Enterprise" went to New Orleans as the steamboat "New Orleans" had done, but unlike the "New Orleans," it was the first steamboat to return upstream on its own power. Subsequently, many of the early industrial towns along the Monongahela became steam-boat building centers.

By the 1830s, the character of the Mid-Mon Valley began to evolve again. This decade was the last great hurrah for the National Road which began losing its advantage when the Pennsylvania Canal was completed from east of the mountains to Pittsburgh in 1832. By 1837, the state had taken over the National Road, making it a toll road (the "National Pike"). The Canal was rendered obsolete by the Pennsylvania Railroad which arrived in Pittsburgh in 1852.

Another great accomplishment of the 1830s was the "canalization" of the river. The "Monongahela Navigation Company" was chartered in 1837, and by 1841 had made the river navigable in most of the Mid-Mon Valley. By 1860, the lock and dam projects reached the West Virginia line. Canalization of the river made mining more profitable, since shipment at least as far as Pittsburgh was guaranteed almost year-round.

Clusters of "river mines" were opened, particularly at Limetown and near Greenfield, where steep bluffs made the coal easily accessible. About five hundred miners, mostly migrant workers, lived in a single row of company houses precariously perched on narrow lots along the river and owned by nearly 40 individual mining companies. Along the length of the river, there were about 150 individual river mines by 1883. Most were small operations serving the steamboat trade or shipping the coal to Cincinnati and Louisville.

Most of these small mines were rendered obsolete by innovations introduced by large mine conglomerates at the turn of the century, and by the 1930s, nearly all of the river mines were closed. Many of them simply ran out of coal, or encountered other obstacles. The "mining camps," relatively temporary communities, created in this period (such as Limetown) have nearly all disappeared, although many place names, and a few of the larger company towns have survived. To a large degree, Monongahela City developed as the capital of these small, river-based operations, although Brownsville, Elizabeth, and a few other towns can rightly claim to have been capitals of individual sections of the river.

Boatbuilding probably reached its zenith as a Mon Valley industry in the 1850s. Of the boats listed in Lloyd's 1857 **Steamboat Directory** (a directory of commercial boats afloat on the "Western Waters," i.e. the Mississippi and its tributaries), approximately half were built in the Mid-Mon Valley. Of these, 65 were built at Brownsville, 5 at West Brownsville, 37 at California, 16 at Belle Vernon, 22 at Monongahela City, 46 at Elizabeth, 14 at West Elizabeth, and outside the Mid Mon Valley but within the Study Area, 35 at McKeesport, 18 at Port Perry, 5 at Pittsburgh, and several at Shousetown.

In the 1850s, railroads began eclipsing water transportation in other parts of the Study Area, but the first railroad in the Mid-Mon Valley was not built until 1873. At 1873, the Pittsburgh, Virginia, and Charleston Railroad arrived at Monongahela City, connecting that town to Pittsburgh. It was supposed to continue up the valley, but was stopped by chronic opposition from river shipping interests and by the "Jay Cooke Panic" which bankrupted the company. Railroad lines were built from Monongahela City to Brownsville, on both sides of the river, in the 1880s and 90s, and many small crossroads grew into commercial centers as a result.

Probably the most anomalous community in the Mid-Mon District is the town of Charleroi, built in 1890 as a direct result of the gas and oil boom and innovations introduced in the glass industry. Before 1881, plate glass had to be imported because Americans did not know the technology. By 1889, Pittsburgh manufacturers had drastically undercut the Belgian and French imports. A group of Belgian investors visited Pittsburgh in 1889 hoping to buy one of the Pittsburgh plants. They were unsuccessful, until they met up with James McKean who offered to build a whole new plant and town for them.

McKean put together a group of American investors. They named the town for the Belgian glassmaking city of Charleroi. Most of the skilled glassworkers needed were brought over from Charleroi, Belgium. A land sale for private lots was held on March 4, 1890,

and was so successful that a whole town went up almost overnight. Two other glass factories located there, plus a decorating firm, a glass cutting firm, and several other manufacturing interests. The town had several coal mines, wealthy gas fields, streetcar lines coming in from four directions, thousands of residents, and about four hundred small businesses by 1900.

One of the first businesses to move to town was a Pittsburgh manufacturing concern, the Hussey-Binns Shovel Company, which made mining tools. The plate-glass works proved less profitable after changes in the labor force after the Homestead Strike, and limped to its demise within four decades of its construction. However, one of the remaining companies (Macbeth-Evans, originally a lamp chimney maker) became a division of Corning Glass, and the plant continues to thrive there today, with a recent multi-million dollar expansion.

Charleroi's ethnic composition also differentiates it. The Belgian community, being largely Protestant and largely skilled workers, quickly assimilated into the middle class. One exception was Louis Goaziou, a Belgian printer who established a French-language socialist newspaper in the town at an early date to encourage unionization. A second influx of glassworkers included Germans and Austrians who brought the skills to blow large glass globes, for electric street lighting. Charleroi also had Rusyn, Slovak, Italian, Jewish and African American contingents.

Later in Charleroi's history, the Charleroi Iron Works (an early foundry in town) was reorganized as the Lee Norse Company, a machinery manufacturing plant. Together with Joy Manufacturing, Lee Norse perfected continuous mining machinery and long-wall mining machines and became one of the nations largest manufacturers of these machines.

In many ways Charleroi's instant development foreshadowed other developments in the boom years that came to the Mid-Mon District in the 1890s and 1900s. Monessen, for instance, had its earliest beginning concurrently with Charleroi's. It has a parallel story: some investors from Essen, Germany came to the Mon Valley looking for a place to build a gun factory (which apparently never got built). The name "Monessen" was conceived to attract the investors. The boom that followed, however, took on its own, larger dimensions.

Monessen began when a consortium of Pittsburgh capitalists and investors got together in 1894 and purchased 211 acres of land in what was Rostraver Township, Westmoreland County, apparently hoping to attract German industrialists. The consortium did very little, until 1897, when William H. Donner, head of tin plate mill in the state of Indiana, decided to move his operations to the new town site. The tin plate mill was originally called American Tin Plate Company, and changed names several times before it became a subsidiary of U.S. Steel in 1937.

Between 1897 and 1907 Monessen became a **steel mill town** as several large industrial concerns decided to locate there, including Carnegie Steel Hoop Mill, Page Steel and Wire, a Foundry and Machine Shop, and largest of all, Pittsburgh Steel. By 1920, these

plants and smaller spin-off operations employed 6,000 men in Monessen. Eventually, Pittsburgh Steel (better known by its later name, Wheeling-Pittsburgh Steel) grew to be a large fully-integrated steel mill, with coke ovens, blast furnaces, open hearths, and "the most modern rail mill in the world." Page Woven Wire also held on, but all the other large plants closed by World War II.

Successive waves of immigration came to Monessen, giving it one of the most diverse ethnic populations of any community in the Study Area. Slovaks and Rusyns, Italians and Greeks, Syrians and Jews, Germans and Finns, African Americans, and old WASP families built churches and lodges in Monessen. The Lutherans were divided into German and Finnish congregations, the Methodists into "English" and German, and the Catholics into about five language communities. African Americans, generally the most recent group to come, built about a half dozen churches in the town. The business district boomed, and then after World War II suddenly went bust. Many of the Jewish merchants moved to Charleroi or other towns, and the city undertook an urban renewal program that resulted in tearing down about two-thirds of the downtown and replacing stores with modern low-rise office towers and housing complexes.

In the 1980s, Wheeling-Pittsburgh Steel declared bankruptcy. Various parts of the mill were sold off to other companies in 1987. The coke works reopened in 1988 as a community-run co-operative known as "Monessen Incorporated." Sharon Steel and Bethlehem Steel bought various other components, but did not restart them. According to some local sources, bidders came from as far away as Australia to bid on the rail mill, because of its recently updated machinery. But the courts sold it to Bethlehem Steel, a competitor in the rail milling industry, who apparently bought it to keep it from reopening.

Across the river to the northwest of Monessen is Donora, another steel industry boomtown, built by a consortium of investors. In this case, the investors were put together by Andrew W. Mellon, who hired Monessen's William Donner to lay the town out. Mellon devised a contraction of Donner's name and that of his wife, Nora, to create the name for this **steel mill town**, "Donora." The town was built around a new plant of the American Steel and Wire Company, one of the companies that was bought a year or two later by J.P. Morgan in the formation of United States Steel. The mill was a combination tin mill, zinc works, and the world's largest wire mill. As it boomed, so did the town, which became home to Scottish iron workers, Spanish Zinc workers, Rusyns, Slovaks, Croatians, Hungarians, Italians, African Americans, and many others.

Donora's importance, however, comes afterward in the event that brought the demise of the mill. Donora mill had boomed until the end of World War II. The curved parcel of land chosen for the mill had been considered an ideal tract of level alluvial plain, and one natural characteristic had been overlooked: this particular bend in the river generated a lot of fog. No one had considered the potential hazard of building the valley's largest zinc works in the midst of this fog.

In October, 1948, weather conditions were such that the region experienced a climatic "inversion" wherein fog and clouds were holding down the gases that usually drifted out into the atmosphere. Fumes from the mill and particularly the zinc works accumulated until residents began noticing breathing difficulties. By the time anyone took serious notice of the situation, the air was almost too smoggy to see well enough to drive. Two hundred people with respiratory ailments and other problems checked themselves in at local hospitals. That night, most of the town's population decided it would be a good idea to leave town and visit relatives and friends in neighboring towns, while twenty of the most ill died of respiratory problems.

When the air cleared, national attention was drawn to the problem and journalists and sociologists descended upon Donora. Pressure was put on the government to pass air-control laws, and many adherents to the new "ecology" movement traced the history of their movement to the event at Donora. Pittsburgh industrialists took notice. The episode was a factor in the development of the Allegheny Conference and the redevelopment of Pittsburgh's industrialized landscape. In the mid 1960s, United States Steel Corporation decided it would be easier to close Donora Mill than to rebuild it, and almost over night, 8,000 jobs were lost. The traumatized community reacted by rebuilding the millsite, as quickly as possible, into an industrial park where eventually about 2,000 jobs were regained. Most of the physical fabric of the town, however, remained frozen, much as in ghost towns, as the population drastically declined. Donora, as such, was the first **steel mill town** to experience the de-industrialization and provided a model of how a community can pull itself back up by the bootstraps.

Mining interests in the Mid-Mon District were also important. In 1899 John Barclay Finley, a Monongahela City banker and heir to several small coal mines, began promoting the idea that the small river mines should merge together. Finley eventually succeeded, as one hundred or so mines merged and bought out marineways and shipping companies needed to make the small mines profitable. The resultant company, Monongahela River Consolidated Coal and Coke Company (also known as "River Coal," "River Combine," or simply "R.C."), made many local families wealthy, and made Finley a millionaire.

Other local concerns centered around Monongahela City included the brickyard that made the bricks for Donora and Clairton mills, a chemical company founded on by-products of the coke industry, a foundry that specialized in coal-fired furnaces (Coshocton Iron Division of Combustion Engineering), and several service empires, such as food and catering businesses, a chain of local newspapers, and a chain of banks that sailed high and then fell abruptly in 1931.

THEMES:

The following themes are represented in the Mid-Mon District:

Technology and innovation: Lee Norse Company in Charleroi made continuous and long-wall mining equipment. The recent closing of the plant may mean that the actual documentation of these

developments (in archival materials and machining tools) are still intact.

Management and organization: As a fully integrated mill, Monessen's Wheeling Pittsburgh Plant represents a unique opportunity to interpret the special organization of a plant with everything from coke ovens to rolling mills. Donora's "Cement City" is one of the best (perhaps the best) example of a paternalistic company building a special neighborhood for its middle management within an existing milltown.

Capital formation: This theme is very clearly illustrated in large (now vacant) bank buildings and office buildings in Brownsville and Monongahela, plus in upper-middle class neighborhoods in these towns. It is specifically illustrated in the various components that came together to make up the Monongahela River Consolidated Coal and Coke Company, focused in Monongahela, but involving well over 100 different properties in the area. It is also illustrated in the fact that Donora and Monessen were chosen as milltown sites, yet at quite a distance from established steelmaking segments of the valley, during the turn of the century boom. Likewise, Charleroi represents rapid capitalization of a town. At a smaller scale, capital formation was a key to the establishment of all the small, early industrial communities.

Cyclical nature of industrialization: This theme is very poignantly illustrated in Donora, a boom town with 8,000 jobs at the end of World War II, which nearly lost everything, and then rebuilt itself. The theme is also well illustrated in the numerous early industrial communities in the Mid Mon Valley that have suffered the effects of short boom and bust cycles over many years. At least four different generations of architecture can be seen in Monongahela as a result of this "cyclical nature," while neighborhoods in Elizabeth, Brownsville, Coal Center, and Fayette City seem to be frozen in the Civil War Period. Brownsville's "Neck" business district reflects similar results from the 1910s.

Labor and the labor movement: One of the largest union halls in the Study Area was found at Monessen (I.W. Abel Hall), while sites in Monongahela, and other communities illustrate smaller-scale manifestations of this theme. The Goaziou Print Shop in Charleroi is one of the best preserved illustrations of the labor theme in the entire Study Area. Much of the original equipment which Louis Goaziou used in publishing L'Union Des Travailleurs (The Union Worker, a French-language newspaper with a socialist bent, aimed at French and Belgian glassworkers). Goaziou helped bring Eugene Debs to Charleroi where he gave several well-attended speeches around 1920.

Community structure: As explained above, Elizabeth, Brownsville, Monongahela City (Williamsport), Greenfield (Coal Center), Fayette City, California, and several other communities embody a special kind of community structure centered on early industry and funded by speculative land sales. Of these communities, perhaps Coal Center and Fayette City are the best preserved.

The upper-middle-management neighborhood of "Cement City" in Donora is an excellent illustration of a such aesthetically-designed, but cheap and densely packed housing.

Both Donora and Monessen have the relationship between industrial site, business district, churches, lodges, and various residential districts that follow the steel mill town prototype. However, the physical structures (except the mill itself) are better preserved at Donora, while the human relationships, traditions, etc. seem to be better preserved in Monessen (in spite reconstruction of about half of the community in the last thirty years, and closing of five Roman Catholic ethnic parishes in the last year).

Immigration and migration: Both Donora and Monessen are excellent illustrations of ethnic diversity. Italian immigration can be seen in the relationship between various Italian groups in the tiny mining town of Gallatin (Calabrese built their buildings; Calabrese, Tuscans, and Napolitan residents each had their own grocery stores). Quaker influence can still be seen in the early architecture of Centerville. Charleroi has the remnants of a once-important Belgian community, plus several very small specialized communities, such as the Slovak Lutherans and the Sicilian businessmen. African-American migration is illustrated at various levels at the following towns: early families at Centerville and Monongahela City, traumatic migration and segregation at Lock View and Gallatin, and integration into declining mill towns in successive waves of migration in Donora and Monessen.

SITES:

The sites listed below represent the most outstanding sites in the Mid-Mon District. For a complete list of all surveyed sites in the district see the Appendix, Section 6.10. The themes that relate to each site are indicated as follows:

role in the regional processing system [RPS]
technology and innovation [T&I]
management and organization [M&O]
capital formation [CF]
cyclical nature of industrialization [CNI]
labor and the labor movement [L&LM]
community structure [CS]
immigration and migration [I&M]

Monongahela City (Capital Town, Washington Co.): **Monongahela Historic District** [CF, CNI, CS, I&M]. Built during the period when Monongahela City was the capital of the small river mines and the Ellsworth District (about 1840 until about 1930). About a third of the district was laid out in 1792 as the early industrial town of Williamsport, also known as Parkison's Ferry. Another third was laid out in 1807 as the boatbuilding town of Georgetown. Examples of buildings built as part of the capital town include: Monongahela City Trust Co. (bank, built 1927, closed 1931), Linn Building (was an Italian steamship agency/bank, and has a sign in several languages), and St. Anthony R.C. Church (Italian and Slovak). Individually-distinguished structures/institutions include: **J. B. Finley House** (Owners House), 1872, [CF], home of the banker who, in 1899, organized about 100 small river mines into the "River Coal Combine," one of the region's first coal conglomerates; **Bethel AME Church** (African American), 1872, [I&M], founded 1833, built 1872, designed by John Blythe, this high-style Victorian Gothic church

is the center of a very old African American community; **St. Paul Episcopal Church** (English), 1863, [I&M], evidence of English immigrants; **Turners Club** (German) [I&M], c1910, German gymnastics club.

California (Capital Town, California Borough, Washington Co.) [CF, CNI, CS]: Laid out in 1849 by Greenfield (Coal Center) families, California was an early boat-building town named for the gold rush. After 1880, it became the capital of new mines developed in the Pike Run Valley and adjoining areas (Vesta Mines #4-#7, plus a few independent mines). Individually-distinguished structures include: **Pennsylvania Railroad Train Station**, (Train Station), 1910, [I&M].

Charleroi Borough (Capital Town, Washington Co.): **Charleroi Historic District** [T&I, CF, CNI, L&LM, CS, I&M], Laid out in 1891, Charleroi was a glass making town. It was the center of Belgian immigration into the area, and gradually became the commercial district for most of the Mid-Mon Valley. Individually-distinguished structures/institutions include: **Lee Norse Co.**, c1940, [T&I], one of the largest manufacturers of mining machinery, several innovations were developed at this plant, which closed in 1987; **H. Goaziou Commercial Printing**, c1900, [L&LM, I&M] at this print shop a pro-union/socialist newspaper was published in French for immigrant workers around the country, called "L'Union des Travailleurs" (the "Union of Workers"); **Holy Trinity Orthodox**, (Rusyn) 1901, [I&M], Charleroi had some of the first Rusyn churches in the Study Area--this church is probably an offshoot of a Byzantine Catholic congregation formed in 1899--even so, this is the oldest Russian Orthodox Church in the Study Area; **St. Mary Episcopal**, (English) 1896, [I&M], also known as "the Shrine of Our Lady of Walsingham," this is an Anglo-Catholic "high" church, representing a particularly conservative strain of English immigration; **J.K. Tener Library**, 1912, [CF, L&LM], this library was built as a post office when J.K. Tener (a Charleroi banker) was U.S. Congressman and then Governor of Pa. (he was influential in labor legislation).

Coal Center Borough (Early Industrial Town, Washington Co.) [CF, CNI, CS]: Coal Center was laid out in 1814 as an Early Industrial complex, with a "Farmers and Mechanics Bank" (a co-operative). Hemmed-in by hills, the town was abandoned by some families who laid out the larger town of California nearby. It was renamed "Coal Center" in 1883, when speculators were developing the Daisytown District, and railroad was begun to connect to the Klondike District. The railroad was not finished, and the town remains largely unchanged since the Civil War.

Donora Borough (Steel Mill Town, Washington Co.): **Donora Historic District** [M&I, CF, CNI, CS, I&M], Laid out in 1900 by a consortium of Pittsburgh investors and William Donner (a Monessen industrialist), Donora was a quickly-built boomtown with a large wire mill, zinc mill, and tin mill, fully integrated with blast furnaces, etc. Zinc fumes caused a disaster in 1948 which led to the mill closing in 1964. Individually-distinguished structures/institutions include: **Cement City**, c1915, [M&I, CS], a grid of about 100 poured-in-place concrete houses for middle management, based on a Thomas Edison patent; **Mill Office**, c1900, [M&I, CNI], one of only a few buildings still standing in this once mammoth and significant mill complex; **Mill Superintendent's House/Spanish Club**, c1900, [M&I,

CNI, CS, I&M], home of general superintendent of mill until sold to Spanish Club--now an indication of this rare Spanish community, which came here to work in the zinc industry; **Ohav Shalom Synagogue**, 1911, [I&M], designed by architect C.C. Compton and center of a small orthodox community; **St. Dominic Roman Catholic Church**, (Slovak) 1902, [I&M], represents a substantial Slovak community; **St. Michael Byzantine Catholic**, (Rusyn) 1911, [I&M], designed by architect C.C. Compton, architecturally distinguished and represents the Rusyn community; **Slovak Sokol**, c1900, [I&M], one of the most architecturally-distinguished fraternal halls in the Study Area.

Elizabeth Borough (Early Industrial Town, Allegheny Co.) [RPS, CF, CNI, CS]: Elizabeth contains a potential historic district for which no current BHP form exists, and which was considered too complex for complete documentation as part of this reconnaissance survey. Nevertheless, it is tremendously important as an early boatbuilding center, with boatbuilding activities continuing into the twentieth century, including: **Consolidation Coal Marineways**, c1900, [RPS], the last boat-building industry of Elizabeth, with turn-of-the-century machining equipment and repairs barges and tows for Consolidation Coal.

Norfolk and Western/Pittsburgh and West Virginia Bridge [RPS], 1930, (Hot Metal Bridge, Speers Borough Washington Co.-Rostraver Twp., Fayette Co.), built to carry the Connellsville Branch of the P&WV over the Monongahela, a route which opened some new areas to mining, the bridge had a lower deck (never finished) intended as a Hot Metal Bridge from Wheeling-Pittsburgh's Monessen Mill to Allenport Mill, the same company's sheet mill.

Hilldale Wagon Mine Tipple (Forward Township, Allegheny Co.), c1880, [T&I], This is one of the only intact examples in the Study Area of a small, one-man mine operation, operated privately until about 1980 when the owner died.

Gallatin (Company Town, Forward Twp., Allegheny Co.), c1900, [CNI, L&LM, CS, I&M], This was once a large mining complex, the middle of three "patches" owned by Pittsburgh Coal in the World War I era (the other two were Manown and Sunnyside). It has a 1915 "Miner's Hall," one of the oldest union halls found by the Survey Team. Italians in Gallatin stayed separate from other white groups, and in fact, stayed in three sub-groups: Tuscans, Neopolitans, and Calabrese. Each had its own grocery store, and the Calabrese built a "free enterprise zone" including a silent movie theater. African Americans came in during the 1927 coal strike, eventually establishing a Baptist Church. The mines in this area closed around 1930.

Liggett Spring & Axle and Coshocton Iron Works (Foundry and Machine, Forward Twp., Allegheny Co.), 1903, [M&I, CNI], these were two separate plants moved here from Pittsburgh and Coshocton, Ohio to form an interconnected complex owned by the Park family. Liggett made axles for World War I Jeeps, and Coshocton eventually became the main foundry of Combustion Engineering, a corporation formed from small companies that made parts for stoker furnaces (fired by ground-up coal, fed by extrusion). Liggett had company houses (Axleton), a school, etc. Both plants closed by the mid-1980s.

Monessen (Steel Mill Town, Westmoreland Co.) [M&I, CF, CNI, L&LM, CS, I&M]: Laid out in 1897 by a consortium of Pittsburgh investors who named the town for Essen, Germany, Monessen grew to be a large Steel Mill Town with several different mills and many ethnic groups. Individually-distinguished structures/institutions include: **I.W. Abel Hall** (Union Hall), c1920, [L&LM], the largest union hall identified in the survey; **Wheeling-Pittsburgh Steel** (Steel Mill), 1901, [M&I, CF, CNI], originally "Pittsburgh Steel," a fully-integrated steel mill with coke ovens, blast furnaces, and a c1970 rail mill; **St. John Divine Russian Orthodox Church**, (Rusyn), 1914, [I&M], representing a substantial Rusyn community; **St. Michael Syrian Orthodox Church**, 1914, [I&M], one of only a handful of churches in the Study Area founded by the Syro-Lebanese, many of whom were itinerant peddlers, moving from mining town to mining town; **St. Paul's Lutheran Church**, (Italian), 1904, [I&M], the only Lutheran Church in the Study Area known to have been founded by Italians; **Turn Verein**, (German), c1900, [I&M], a German gymnastics club.

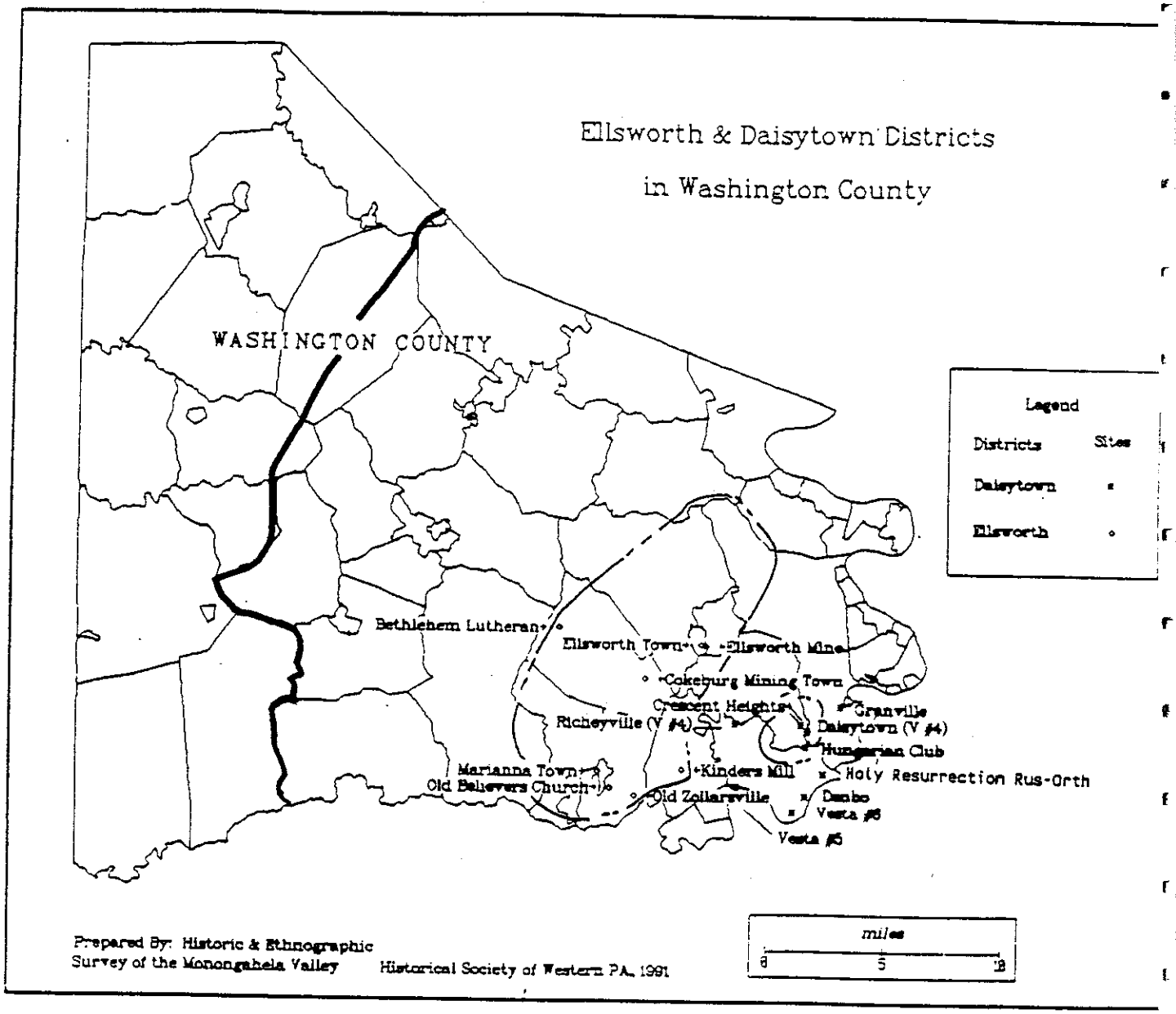
RECOMMENDED COMMUNITIES:

The communities listed below are recommended because of the quantity and quality of their resources. After the name of the recommended community, the individual resources are listed. Other resources of the same quality within a five mile radius of the community are then listed. (For selection criteria see Section 2.30)

Donora/Monessen
includes: (Donora)
- Cement City
- Donora Steel Works
- Donora Mill Office
- Ohav Shalom Temple
- St Dominic RC Ch
- St Michael Byzantine Cathedral
- Slovak Sokol

(Monessen)
- IW Abel Union Hall
- St John Russian Orthodox Ch
- St Michael Syrian Orthodox Ch
- Turn Verein

Within 5 miles:
- Colonial Coal
- Gallatin co town
- Lee Norse Co.
- Ligget Spring
- Norfolk & Western Railroad Bridge
- Bethel AME Ch
- Holy Trinity Ch
- St Mary Episcopal Ch
- St Paul Episcopal Ch
- Turners Club
- Tener Library
- Charleroi (town)
- Monongahela (town)



MAP 18 ELLSWORTH & DAISYTOWN DISTRICTS

in Washington County

LEGEND

District Boundry

Study Area Boundry