

ABSTRACT

Title of Thesis: LAYERING CONNECTIONS: Reclaiming
Abandoned Post-Industrial Infrastructure

Michael Joseph Gessner, Master of Architecture,
2019

Thesis Directed By: Assistant Professor, Michele Lamprakos, School
of Architecture, Planning and Preservation

Industrial Infrastructure fueled the birth and growth of countless small towns and cities throughout the United States. In many instances, the railroad served as the main source of employment. Local economies were often tied to the continued success of the railroad industry and mirrored their decline in the mid-20th century. The transition away from rail resulted in a network of abandoned rail lines, vacant rail yards, and unemployed towns.

This thesis examines the Erie divisional rail yard in Port Jervis, New York and the voids left from abandoned industrial infrastructure. It proposes a solution that PROVIDES spaces that meet the community's needs; ORIENTS the city as a regional port; RECONNECTS residents to the city's past; and creates higher educational and TRAINING opportunities.

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LAYERING CONNECTIONS: RECLAIMING ABANDONED POST-
INDUSTRIAL INFRASTRUCTURE

by

Michael Joseph Gessner

Thesis submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Master of Architecture
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Dedication

MLH,

Your love, encouragement, and unwavering dedication are my daily inspiration and served to guide me along this never-ending journey. Without you, the pages will forever remain blank.

Love,

MK

Acknowledgements

I would like to thank Prof Du Puy for yelling because he cares. Passionless teaching is just instructing and we are all better for your commitment to your craft.

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Chapter 1: The Problem

Introduction

Throughout the rust belt, small towns and cities were founded along lines of industrial communication connecting producers and ports with metropolitan centers. In many instances, the economies in these towns were directly tied to the success of the railroad industry. As transportation shifted to become automobile centric in the mid 20th century, many towns were left with falling populations, disappearing economies, and voids, traces, and fragments of what once was.

Some of the voids have been filled in; the traces covered up; and the fragments hidden away; while others have been teased out and put on display to be remembered. The march of progress often leaves a wake of devastation. This thesis seeks to examine the devastation in one rust belt town and propose a solution that enables the residents to remember the past and rise up, ready for the future.

Chapter 2: Product of Industry

Anthracite Coal and the Industrial Revolution

Prior to the 1830s, the industrial revolution in America relied on Europe for much of its iron supply¹. Stone coal, also known as Anthracite coal, had been mined in Northeastern Pennsylvania beginning in the late 18th century and offered a product

¹ Chandler Jr., Alfred D. Anthracite Coal and the Beginnings of the Industrial Revolution in the United States. *The Business History Review*, Vol 46, No 2, Summer 1972 pp 148
<http://www.jstor.org/stable/3113503>

with a higher carbon content that produced intense heat with minimal smoke. This long burning, clean coal became a cheaper and more efficient alternative to wood, charcoal, and bituminous coal.² Philadelphia and New York City realized the value of anthracite coal and pushed for the creation and expansion of canals to facilitate the movement of coal from Northeastern Pennsylvania to the urban centers.

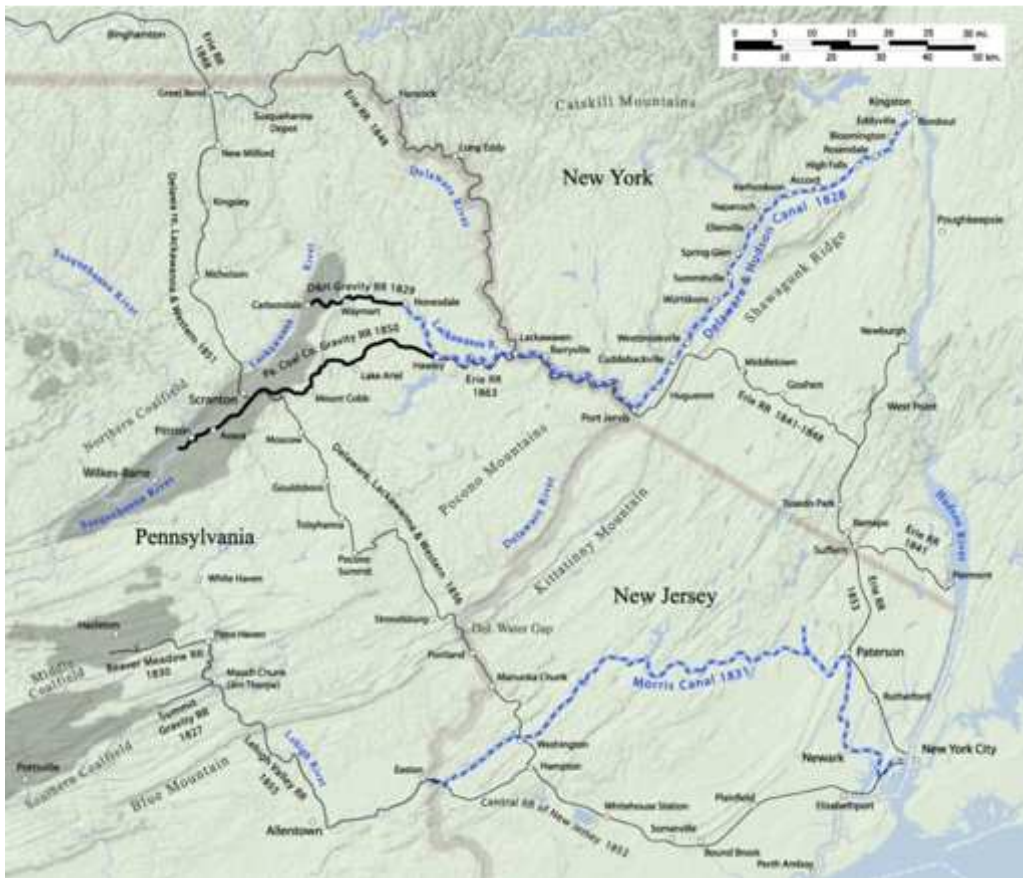


Figure 1 Anthracite Coalfields in Northeastern Pennsylvania
 Source: Jim Irwin, Wikimedia Commons, accessed March 16, 2018.
https://commons.wikimedia.org/wiki/File:Delaware_and_Hudson_Canal_Map.png

² Chandler Jr., Alfred D. Anthracite Coal and the Beginnings of the Industrial Revolution in the United States. *The Business History Review*, Vol 46, No 2, Summer 1972 pp 152
<http://www.jstor.org/stable/3113503>

Introduction of the Canal

In 1814, anthracite coal was mined in the Lackawanna Valley in Northeastern Pennsylvania, loaded onto small wooden rafts and transported in small quantities from the Lackawaxen to Susquehanna Rivers and finally on to Philadelphia. This route had proven effective in the past for transporting lumber, but the process proved difficult and small yielding due to the dead weight of the coal.³ The proximity of the Anthracite coalfields to the Delaware River, spurred the planning of a canal route connecting the Lackawanna, Delaware and Hudson Rivers; thus, connecting the remote coal fields of Northeastern Pennsylvania south to New York City and north to Albany and the Erie Canal.

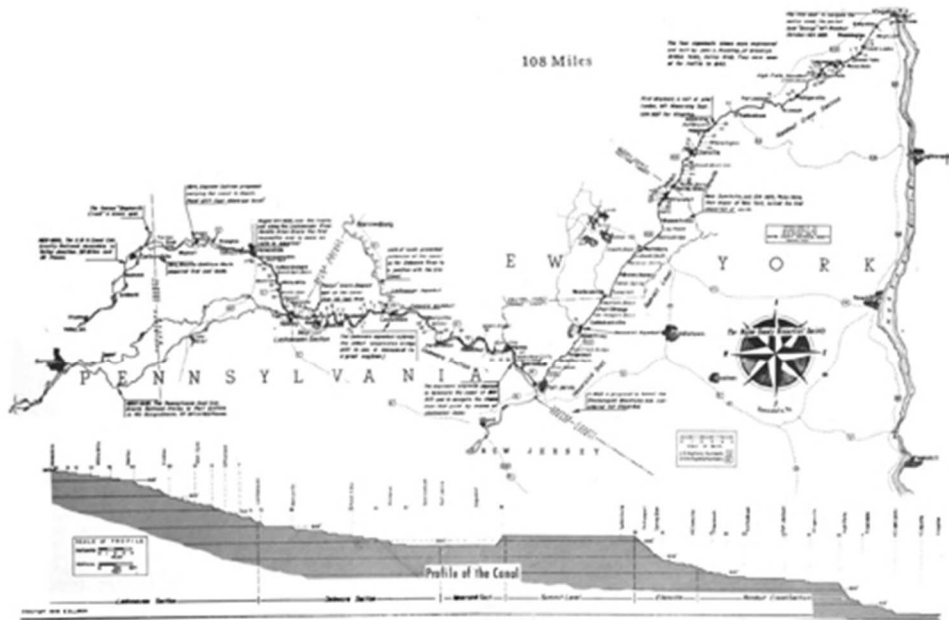


Figure 2 The Delaware and Hudson Canal Map

Source: Le Roy, Edwin D. *The Delaware and Hudson Canal: A History*. Wayne County Historical Society, 1950. 6-7

³ Le Roy, Edwin D. *The Delaware and Hudson Canal: A History* Wayne County Historical Society, 1950 pp 5

Construction began on the Delaware and Hudson (D&H) Canal in 1825 and the 108-mile route was open for business three years later.⁴ The canal, with its 108 locks, operated between 1825 and 1898, and became a leader in 19th century technology. The chief engineer for the D&H Canal Company, John B. Jervis, designed the D&H Gravity Railroad to move the anthracite coal from the mines to the canal.



Figure 3. Roebing's Delaware Aqueduct
Source: Derek Ramsey, Wikimedia Commons, accessed March 16, 2018,
https://commons.wikimedia.org/wiki/File:Roebing%27s_Delaware_Aqueduct_Side_View_3000px.jpg

John Roebing designed four wire suspension aqueducts between 1842-1852 (the same technology he would incorporate into the Brooklyn Bridge nearly 20 years later).⁵ The success of the D&H canal spilled over to the towns that sprouted along its route from Honesdale, Pennsylvania to Rondout, New York.

While the D&H Canal continued to operate until 1898, the transition to rail began in 1868 after the D&H Co. sought to transport coal year-round and illuminate

⁴ The D&H Canal – “Its Creation and Contribution” www.canalmuseum.org/history

⁵ Ibid

the five-month winter closure every year.⁶ Four years after the canal company entered the agreement, railroad companies had effectively halted the transport of goods via the D&H Canal. After 40 years of trailblazing and transporting anthracite coal, the D&H Canal began to fade away to the point that the D&H Canal Co. stopped publicizing statistics on canal traffic.⁷

Transition to Rail

The popularity of anthracite coal and simultaneous success and limitations of canal transport, paved the way for expedited rail lines connecting the coalfields to the major metropolitan areas. Beginning in the 1840s, the New York and Erie Railroad worked to shorten both the shipping distance and time between extraction and end user.

The success of the railroads met mixed political reviews. The canal systems (both Erie and D&H) had been the result of great investments by New York State and the privatized rail companies were viewed as a threat to that investment. In 1832, Governor E.T. Throop proclaimed that the state should be “extremely careful to do nothing which may interfere with canal revenues, or retard the payment of the debt.”⁸ This sentiment would slowly change between 1851-1869 as the demand for year-

⁶ Le Roy, Edwin D. *The Delaware and Hudson Canal: A History* Wayne County Historical Society, 1950, pp 77

⁷ *Ibid*

⁸ Ellis, David Maldwyn. Rivalry Between the N.Y. Central and The Erie Canal, *New York History*, Vol 29, No 3, July 1948, pp 271 <http://www.jstor.org/stable/43460288>

round freight and passenger travel increased and rail routes expanded; and by the end of that period, railroads were “carrying as much freight as the canal system.”⁹

While the canals relied on existing topographically and hydrological terrains, the railroads sought more direct connections. In 1834, the New York and Erie Railroad proposed routes stretching from Piermont, NY (along the Hudson River North of New York City) west to Dunkirk, NY (on Lake Erie). The 446-mile endeavor began construction in 1836 and reached Dunkirk in 1851, crossing “the valleys of the Delaware, Susquehanna, and Genesee rivers... and over obstacles sometimes difficult to be surmounted.”¹⁰



Figure 4. 1834 New York & Erie Railroad Proposed Route

Source: Wright, Benjamin, and New York And Erie Railroad Company. *Map of the route of the proposed New York & Erie Railroad, as surveyed in, reduced from the plans as returned by Benjn. Wright, Civil Engineer, D. R. Harrison, sc. [New York, 1834]*<https://www.loc.gov/item/98688731/>. (Accessed March 08, 2018.)

⁹ Ellis, David Maldwyn. Rivalry Between the N.Y. Central and The Erie Canal, *New York History*, Vol 29, No 3, July 1948, pp 269 <http://www.jstor.org/stable/43460288>

¹⁰ A Statement Concerning the New-York and Erie Rail-Road Company pp 3



Figure 5. 1855 Map of the New York and Erie Rail Road and its Connections
 Source: https://commons.wikimedia.org/wiki/File:1855_Erie.jpg (Accessed March 08, 2018.)



Figure 6. 1869 Map of the Erie Railway and its Connections
 Source: G.W. & C.B. Colton & Co, and Erie Railway. *Map of the Erie Railway and its connections*. New York, 1869. Map. Retrieved from the Library of Congress, <www.loc.gov/item/98688655/>. (Accessed March 08, 2018.)

Like the canals before, rail expanded settlements by opening new economic opportunities along its route. First, between the Hudson River town of Piermont, NY and Goshen, NY in 1841; then on to Port Jervis, NY and Binghamton, NY in 1848; Oswego, NY in 1849; and Dunkirk two years later. The railroad “provided both

passenger and freight service and shipped agricultural and lumber products from the Upper Delaware River Valley to larger markets”¹¹ and increased accessibility of scarce commodities.

Port Jervis, New York

Situated at the confluence of the Delaware and Neversink River valleys, Port Jervis (originally known by the Lenape name, Mahackamack) was founded by Dutch and English colonists in the late 17th century. It became a gathering place for settlers traveling along the “Old Mine Road, connecting the earliest Dutch settlements in the Kingston area with the Minisink region.”¹²



Figure 7. The Old Mine Road
Source: Daniel Dwyer and Peter Osborne, “Our Town: Historic Port Jervis 1907-2007” Minisink Press, 2007, pp 22

¹¹ The New York & Erie Railroad. Town of Cocheton <https://townofcochetonny.org/our-community/arts-culture/railroad-history/new-york-erie-railroad/>

¹² Daniel Dwyer and Peter Osborne, “Our Town: Historic Port Jervis 1907-2007” Minisink Press, 2007 pp 22

The village of Mahackamack was devastated during the Revolutionary War and progress between late 18th and early 19th centuries was resigned to rebuilding the settlement. The rise of anthracite coal and the geographical location of the village along the Delaware and Neversink Rivers, brought the proposed route for the D&H Canal through Mahackamack. The canal provided new trade and tradesmen, new business, and a new name for area.

The village of around 100 residents from small hamlets (Delaware, Carpenter's Point, Brooklyn, and Tri-States) adopted the name Port Jervis in 1827 to honor the chief engineer of the canal, John Bloomfield Jervis. The canal transformed the village from a small stop along the Old Mine Road to a major village, eventually becoming a city due to the "expanding industrial, manufacturing and business center."¹³

Port Jervis had one of the largest basins along the canal and was situated nearly at the halfway point, thus becoming a natural stopover point for canal workers. Much of the village growth evolved immediately around the canal route. During the first half of the 19th century, Port Jervis grew to over 2,500 poised to continue its transformation with the transition to rail.

¹³ Daniel Dwyer and Peter Osborne, "Our Town: Historic Port Jervis 1907-2007" Minisink Press, 2007 pp 24

As discussed earlier, the New York and Erie Rail Road Company began work on the Piermont to Dunkirk line in 1836. The phased work created an opportunity for Port Jervis to temporarily act as the line's terminus. With the addition of the rail, to the already successful canal, came the opportunity for growth through larger sections of the village. The success of the rail and location of the village resulted in Port Jervis becoming Erie's division center with "large shops and facilities for train service."¹⁴ This success spawned the creation of a second rail line in Port Jervis; connecting Monticello, NY to the North.

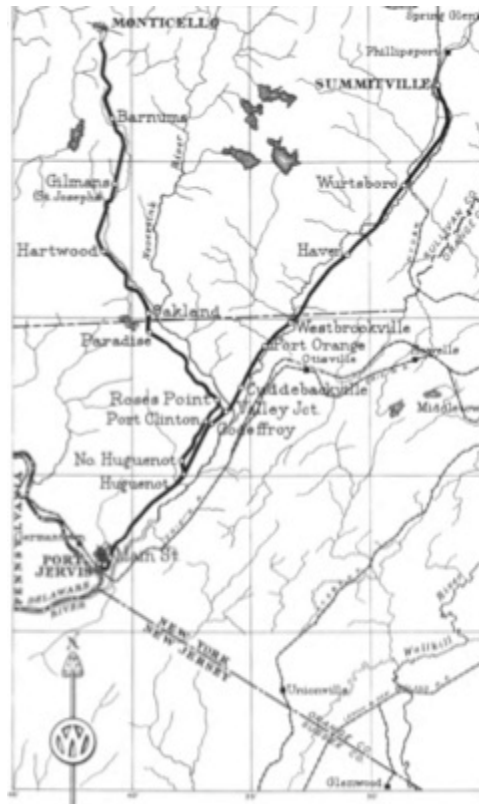


Figure 8. Map of the Port Jervis, Monticello & New York Railroad

Source: Best, Gerald M. *Minisink Valley Express: a History of the Port Jervis, Monticello & New York Railroad and its Predecessors*. Beverly Hill, CA, 1956, pp 14

¹⁴ Best, Gerald M. *Minisink Valley Express: a History of the Port Jervis, Monticello & New York Railroad and its Predecessors*. Beverly Hill, CA, 1956, pp 11

The Port Jervis and Monticello railroad operated from 1868 – 1895 when it was incorporated into the New York Ontario and Western Railway (O&W). With this addition, Port Jervis became poised to grow as a “railroad center, for a line down the Delaware Valley to Belvidere, NJ.”¹⁵ This addition, and resultant rail workers, helped



Figure 9. Map of the New York Ontario and Western Railway
 Source: Penney Vanderbilt and KC Jones, *All About Railroads*,
<https://penneyandkc.wordpress.com/ontario-western/> (Accessed March 10, 2018.)

fuel the population rise in Port Jervis from 6,377 in 1870 to over 10,000 at the turn of the century. The D&H Canal closed 1902 and with it Port Jervis had transitioned from a handful of hamlets; to an incorporated village built along the canal; to a major rail division center. This success and growth of the Village led to the New York State Governor granting a charter for the City of Port Jervis in 1907.¹⁶

¹⁵ Best, Gerald M. *Minisink Valley Express: a History of the Port Jervis, Monticello & New York Railroad and its Predecessors*. Beverly Hill, CA, 1956, pp 11,12

¹⁶ Minisink Valley Historical Society, “Port Jervis and the Gilded Age”
<http://www.minisink.org/histpj.html>)Accessed March 10, 2018)



Figure 10. Photo of Erie Rail Yard Port Jervis, NY 1868

Source: Best, Gerald M. *Minisink Valley Express: a History of the Port Jervis, Monticello & New York Railroad and its Predecessors*. Beverly Hill, CA, 1956, pp 8

Today

Port Jervis continued to ride the industrial wave forged along the railroad until the Great Depression ushered in the decline of rail. Post World War II America has been defined by the Interstate Highway system and Port Jervis has lost its status as a major transportation hub and thus its population has fluctuated around 9,000 since the decline of the railroads. However, the city still possesses the raw materials from

which it originally settled: the natural allure of the Delaware and Neversink River valleys and the direct access to the New York Metropolitan area via the active New Jersey Transit line. These resources have allowed Port Jervis to remain afloat while countless other rust belt towns have failed, but they haven't set the stage for new growth or a rebirth.

Chapter 3: Precedent Analysis

Turning voids into public spaces

The idea of reclaiming abandoned industrial infrastructure is by no means a new one. Numerous cities have transformed rail lines and rail yards into public spaces with great success. These spaces capitalize on the central location of the rail yards and offer a prime location to inject green space into the urban environment. Beyond the green public space, sites have been tailored to meet the needs of each city and have included museums, cultural centers, spaces for the arts and entertainment, and educational spaces.

The transformations aren't limited to large rail yards, organizations like Rails-to-Trails are nationally prolific at finding, mapping, and lobbying government to transform abandoned rail lines into accessible hiking, biking, and walking paths. No, two, projects are the same and their success is dependent on their ability to meet the needs of the surrounding area.

Leon, Spain

The transformation of the historic train station, turntable, and rail yard in the center of Leon created an opportunity to collaborate between citizens and the city to design a new public space. Estudio Sic designed a space that included a cultural and youth center where citizens can flex their creative muscle. The abandoned turntable was adapted to become a new amphitheater that, along with the cultural center, bookends the new public space and overlooks the active rail line and train station.



Figure 11. Espacio VIAS

Source: *Inhabitat*, "Spanish Train Station Renovated into Green-Roofed Youth & Public Art Center".
<https://inhabitat.com/spanish/-train-station-renovated-into-a-green-roofed-youth-public-art-center/>
(accessed April 12, 2018)

Santa Fe

This redevelopment of the 50-acre rail yard in Santa Fe aimed at “restoring and revitalizing the industrial and transportation district directly adjacent to the former Archison, Topeka and Santa Fe Railway Company spur line.”¹⁷ The plan called for 13 acres of open space containing public plazas and a park covering the southern rail yard district and retail, gallery, non-profit tenant spaces, and a rail park within the northern section and housing and small business spaces within the Baca district.



Figure 15. Santa Fe Railyard Redevelopment

Source: *The Railyard at Santa Fe*, <https://www.railyardsantafe.com/wp-content/uploads/2018/04/RAILYARD-MAP-2018-jpg> (accessed April 12, 2018)

¹⁷ Shibley, Robert et al, “Partnering Strategies for an Urban Edge: Santa Fe Railyard Redevelopment” Bruner Foundation, 2011, pp 133

Scranton

The Steamtown National Historic Site is situated on the former Scranton yards of the Delaware, Lackawanna and Western Railroad. Remnants of the old rail yard were salvaged, preserved, and reconstructed to create a museum amongst the active rail yard. The turntable and adjacent work buildings were adapted to house a history museum, train exhibits, theater, technology museum, and visitor's center.



Figure 13. Steamtown National Historic Site
Source: <https://commons.wikimedia.org/w/index.php?curid=6543102>

Birmingham

The city of Birmingham, Alabama transformed a section of the rail yard, adjacent to active rail lines, into a landscaped green space with multiple event spaces

woven into the memory of the old rail lines and turntable. The space offers walking, running and biking loops and serves as a much-needed outdoor rehabilitation area for two hospitals located a few blocks south.



Figure 14. Plan Diagram: Birmingham Railroad Park
Source: <https://www.railroadpark.org/files/map-guide.pdf>

Key Takeaway

The most successful transformations adapted abandoned rail yards into new public spaces that remind users of the sites historic purpose while providing them with new experiences and opportunities.

Chapter 4: Context

Site

The site for this thesis is the old Erie rail yard in Port Jervis, New York. The rail yard is bifurcated by the existing New Jersey Transit tracks and extends from River Road, along the Delaware River to the West, to what once was the Delaware and Hudson



Figure 15. Outline of the proposed site
Source: Author; Background image: Google Earth

Canal to the North, and Pike Street to the East. The site (outlined in red in Figure 11), like the city itself has undergone numerous iterations and revisions to accommodate the expansion and contraction of the rail yard. In its existing condition, there are three buildings located on the East side of the site: Burger King (1), CVS

(2), and a vacant strip mall (3). The site also includes the NJT train Port Jervis station platform (4) and the Erie Railroad Roundhouse Turntable (5).



Figure 16. Rite Aid Pharmacy and Burger King Occupying the Rail Yard
Source: Author

This fluid interpretation of the site lends itself to varying degrees of argument regarding the scope of this thesis. The site needs to be defined beyond the current parcel boundaries and eluded to three interpretations of that definitions.

The first site definition extends the rail yard to the two parks located to the west along the Delaware River (operated by the Port Jervis Parks and Recreation Department); West End Beach and the Port Jervis Little League fields. Between the city parks, along River Road, there are two manufacturing companies: The Skydyne Company and Kolmar Laboratories. Skydyne specializes in the design and manufacturing of custom cases within a 68,000-sqft facility. The Kolmar site is comprised of 264,000 sq. ft. of manufacturing space where they develop and manufacture custom skincare products. The second interpretation of the site

boundaries excludes the two city parks on the to the west and the third option further defines the site by the current parcel boundaries.



Figure 17. The Skydyne Company and Kolmar Laboratories
Source: Author, Background Image: Google Earth

The concept of connection through reconnection in this thesis required a more in-depth study of the rail yard, as it existed over time. While none of the rail buildings remain, there are remnants of track and infrastructure scars throughout the site. The site can only define itself and requires some investigation.

History

Port Jervis is located at the point where New York, New Jersey and Pennsylvania meet, and the Neversink River merges with the Delaware River. As discussed in Chapter 1, the convergence of river valleys low, flat land that could be easily traversed. The Old Mine Road running northeast to Kingston and the D&H Canal transporting coal and lumber put Port Jervis on the map as a key stopover point. When the Erie Railroad came to town in 1841, they began to occupy the site in an ever changing and growing capacity. Sanborn Fire Insurance maps depicted the rail yard in a state of constant rebirth. Prior to 1888, there existed two turntables and

two roundhouses on the site. The 1872 map depicts the rail yard as congested series of interwoven tracks running into, through and around repair, storage, and coal buildings.

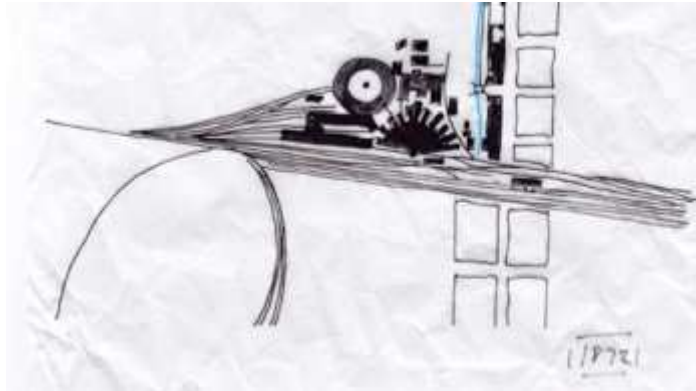


Figure 18. Diagram of Erie Rail Yard, 1872
Source: Author

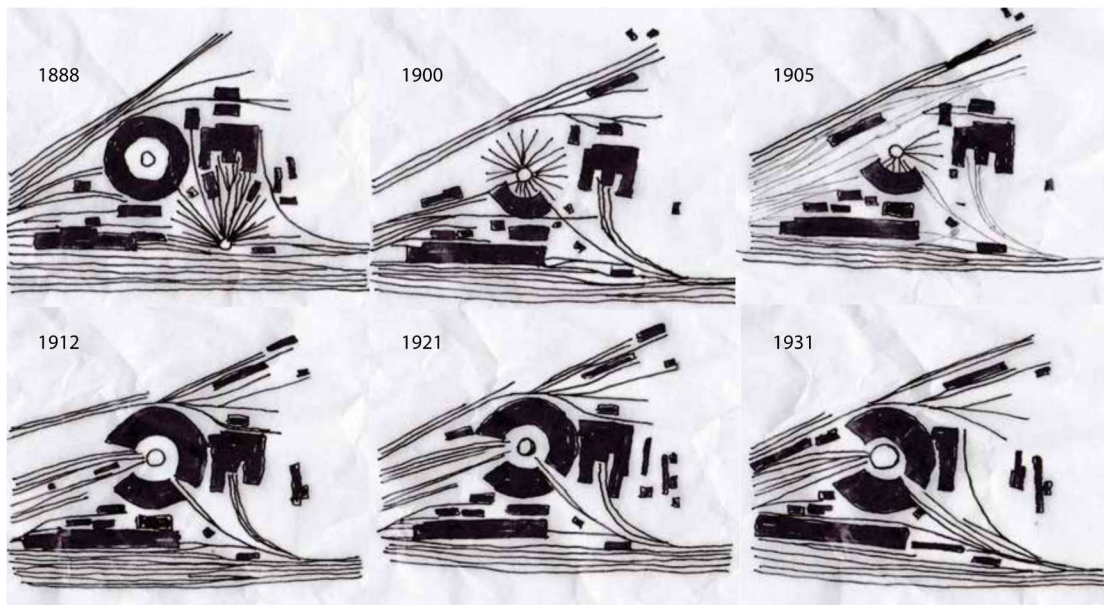


Figure 19. Erie Rail Yard Buildings 1888-1931
Source: Author

Commercial buildings lined the west side of Pike Street, between Hammond and Front streets until the Erie underpass was constructed in 1934 and rerouted traffic along the old mine road beneath the train tracks. The new traffic pattern eliminated the commercial blocks and changed the street grid and entry to the rail yard.



Figure 20. Restored Erie Turntable
Source: Roadside America, <https://www.roadsideamerica.com/tip/51933>

A roundhouse accompanied the remaining turntable until the early 1980s when it was destroyed by arson. The turntable was abandoned in 1987 and restored to working condition in 1996¹⁸.

Site Selection

Port Jervis' success has ebbed and flowed along with the transportation lines that run through and around the small town. So the rail yard presented itself as the ideal site for further study. Therefore, the selection of the thesis site becomes a matter of defining the rail yard's boundaries. The three options were selected based on the following criteria:

¹⁸ Roadside America, "Port Jervis, New York: Erie Railroad Turntable" <https://www.roadsideamerica.com/tip/51933> (accessed April 12, 2018)

1. Historical relevance
2. Connectivity to the waterfront
3. Connectivity to public parks

Option One

The first site option follows the current parcel boundaries and identifies the rail yard site as the triangular area between the current train tracks; old D&H canal path, and Pike Street. This represents the site in the smallest capacity and doesn't address the light industry sitting on the west side of the tracks; nor does it connect with the Delaware River or city parks.

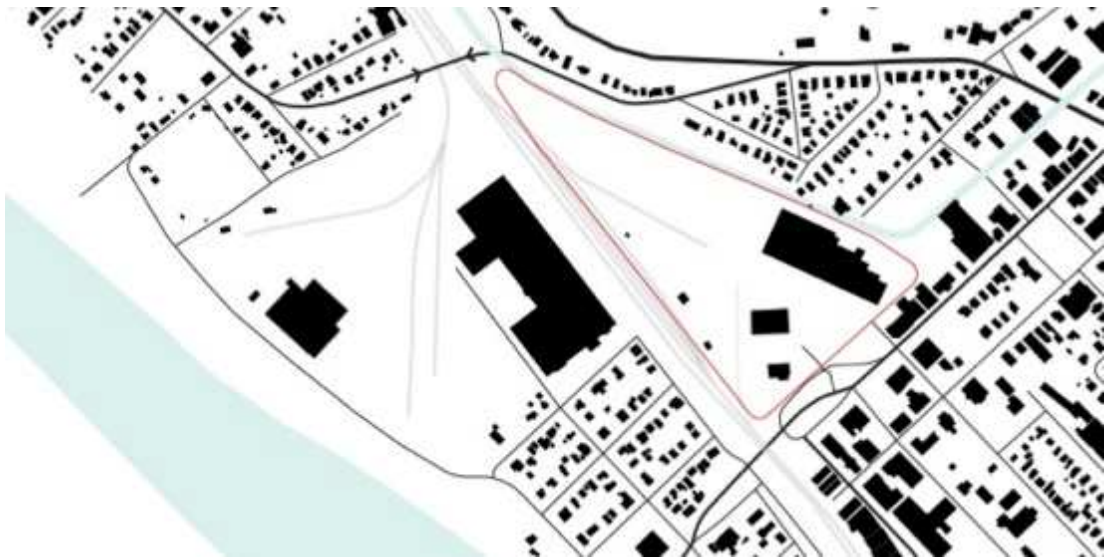


Figure 21. Site Option One
Source: author

Option Two

The historic boundaries of the rail yard extend to across the current tracks the properties currently occupied by the Skydyne and Kolmar buildings. This option covers 59 acres connecting the Delaware River to the old D&H Canal path. As the original site of the Erie rail yard, it contains the remaining infrastructure and scars from partially removed and buried tracks.



Figure 22. Site Option Two
Source: author

Option Three

The third option expands the boundaries to include West End Beach, Port Jervis Little League fields, and includes the riverbank. This increases the site to 91 acres and connects downtown Port Jervis to the two city parks.



Figure 23. Site Option Three
Source: author

Site Analysis

Topography

The Delaware and Neversink River valleys have created a stepped plateau within Port Jervis. The lower shelf of the city sits 50' lower than the upper shelf. When the D&H canal was routed through the area, it followed the ridge between the two elevations along the North side of the rail yard. Whereas, when the Erie rail was introduced to the city, it followed the Delaware River bank along the lower shelf.



Figure 24. Topography
Source: author

Zoning

The site is zoned for commercial along Pike Street and where the strip mall, Burger King, and RITE AID are located. This area forms the West side of the Central Business District (CBD). Throughout the 1990s to early 2000s, the CBD included a large proportion of vacant storefronts. Over the last 10 years, stores have been

reintroduced to the downtown area. The site is predominantly zoned as light industrial which extends across the West side of the tracks to Kolmar and Skydyne properties.

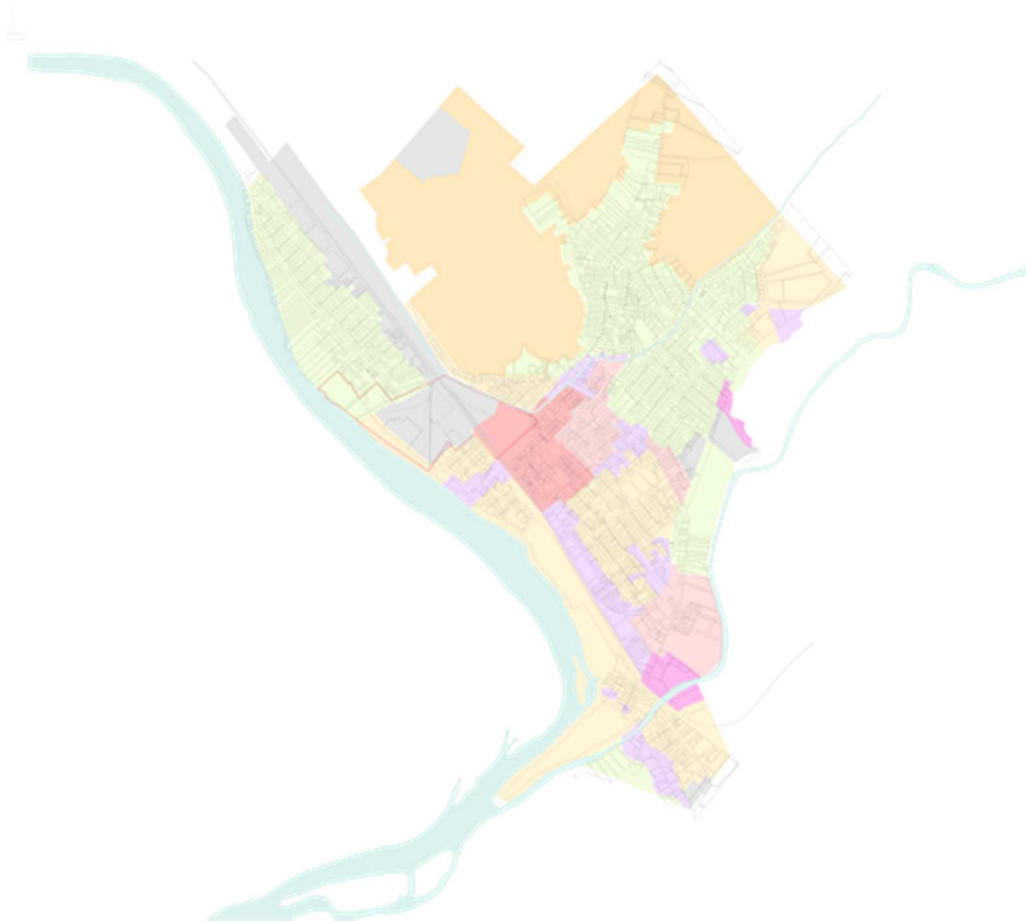


Figure 25. City Zoning Map
Source: author

Chapter 5: Process

Introduction

Site analysis uncovered the essential elements that occupy the rail yard today but required further exploration to map out the voids, detect the traces, and uncover the fragments scattered throughout the site. This exploration focused on mapping and analyzing the palimpsest of historical layers that have buried the past while abandoning the site. Only through understanding what was can there be an attempt at contemplating what should come next.

Historical Layers

As mentioned earlier, the site has been party to an ever-changing iteration of industrial infrastructure molded, created, and destroyed to fit industry's needs. This continual wave of change has resulted in layers of forgotten rail lines and support buildings; the full effect only noticeable when overlaid. The combined site plans between 1872 and 1969 result in an accurate representation of the site boundaries and help to explain the resulting void left after their departure.

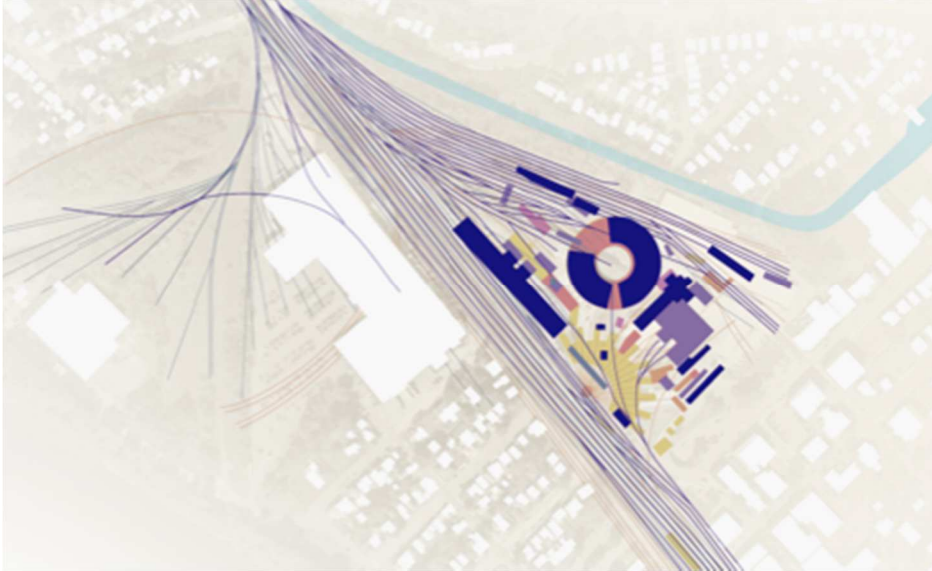


Figure 26. Rail lines Palimpsest
 Source: author

Rail Lines and Building Footprints

The growth of the divisional rail yard is best understood through the addition of rail lines over time. With the success of the Erie railroad came the need to expand the divisional rail yard to accommodate for the increase in traffic and rail maintenance. Prior to 1880 there were two roundhouses and turntables located on the site.



Figure 27. 1872 Lines and Footprints
 Source: author

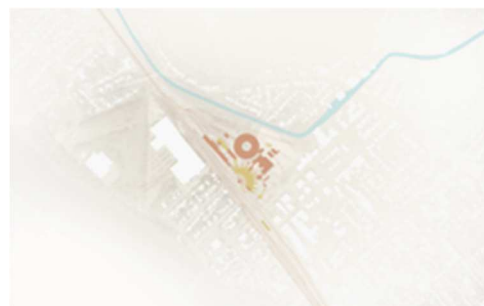


Figure 28. 1888 Lines and Footprints
 Source: author



Figure 29. 1894 Lines and Footprints
Source: author



Figure 30. 1900 Lines and Footprints
Source: author



Figure 31. 1905 Lines and Footprints
Source: author



Figure 32. 1912 Lines and Footprints
Source: author



Figure 33. 1921 Lines and Footprints
Source: author



Figure 34. 1945 Lines and Footprints
Source: author

Program Objectives

This site intended to connect the City of Port Jervis with its transportation origins, serve as a gateway to the Scenic Upper Delaware River Valley, and reintroduce the city, not as a transitional stop-over community, but a destination. The rail yard should become the center of the city as a gateway for rail travel; connectivity

hub for hiking and biking trails that link the city parks through abandoned infrastructure trails; and a focal point to harness the local abilities of artists and crafts persons to teach, mentor, and build the next evolution of Port Jervis.

Objective 1: Provide spaces to fit the community's needs

- a. Transform the abandoned rail yard into an open and accessible rail park
- b. Reconnect the urban fabric separated by the rail yard
- c. Incorporate event spaces

Objective 2: Orient the city as a regional port

- d. Transform the train platform into a gateway to the scenic upper Delaware river valley

Objective 3: Connect residents to their history

- e. Design a Rail and Canal Museum
- f. Include a library reading room for the Minisink Valley Historic Society
- g. The rail park should house static displays

Objective 4: Provide higher education and training opportunities

- h. Create a trade school to train both high tech and traditional trades persons
- i. Include classroom spaces that can be shared by the State University of New York Orange County Community College
- j. Include office space for the faculty and master tradesmen
- k. Create a maker space where tradesmen, apprentices and local residents can share knowledge and create together

Program

Trade School

These spaces should act as the focal point for the site. Education and training will serve as the new basis for the regional hub and should be open and accessible.

There should be separate spaces for classroom learning, laboratory demonstration and practice, community interaction, and instructor offices.

Trade school apprentice labs	12000 sqft
Classroom	6000 sqft
Maker space	5000 sqft
Office space	8000 sqft

Museum

These spaces should act as the knowledge vault that walks the visitor through the rich history of the site and region. It should be welcoming and allow for interaction between visitor and staff, while providing opportunity for privacy.

Canal and Rail Museum	6500 sqft
Minisink Valley Historical Society MVHS Office	500 sqft
MVHS Storage	500 sqft
MVHS Reading Room	1000 sqft
Café	1000 sqft

Restrooms 250 sqft

Train Station

These spaces should serve as the gateway to the Scenic Upper Delaware River Valley. They should welcome travelers and commuters, offer shelter from the elements and easy access to the train. As the first and last space train travelers encounter, it should represent not only Port Jervis, but the region.

Platform 4000sqft

Ticketing/Lobby 600sqft

Chapter 6: Proposed Solution

Objectives

Like the precedent's discussed in Chapter 3, the proposed solution for the abandoned divisional rail yard should be specific to the City of Port Jervis.

Therefore, the solution will aim to address the following objectives:

- a. Provide spaces to fit the community's needs
- b. Orient the city as a regional hub
- c. Connect residents to their history
- d. Provide higher education and training opportunities



Figure 35. Current site
Source: author. *Image:* Google Earth



Figure 36. Proposed Site
Source: author.

Urban Fabric

The proposed solution stitches the urban fabric surrounding the site back together. In the 1930's, Pike Street was routed through a new tunnel beneath the railroad tracks to prevent delays and injuries. This created a visual and physical separation between the main commercial district and two residential neighborhoods (the Acre and West End). This separation was furthered as Kolmar expanded its employee parking lot across the abandoned rail yard. The proposed solution eliminates the tunnel and resurfaces Pike Street, connects the main commercial street through the site and connects the Acre to West end with five additional residential blocks.

Public Spaces

While the rail yard was historically closed to the public, the new rail yard will include public green spaces northwest of the turntable following the traces and fragments of forgotten rail lines. The memory of the original roundhouse will become public space to stage local events like the Fall Foliage Festival, car shows, Heritage Days, and many more.

Trade School

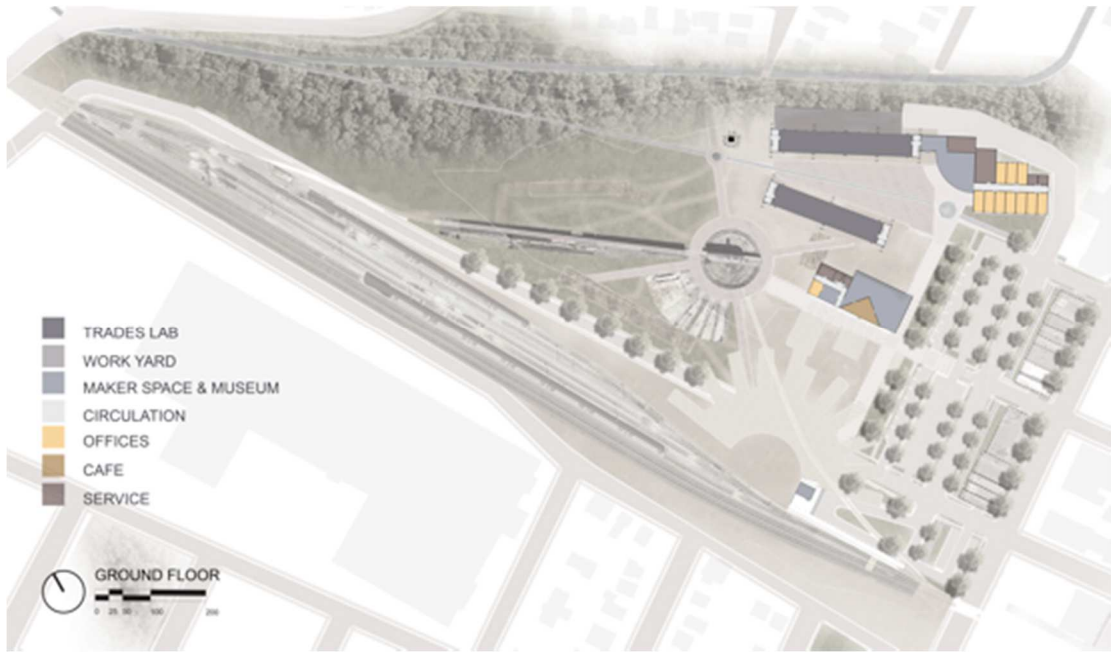


Figure 37. Proposed Ground Floor Plan
Source: author

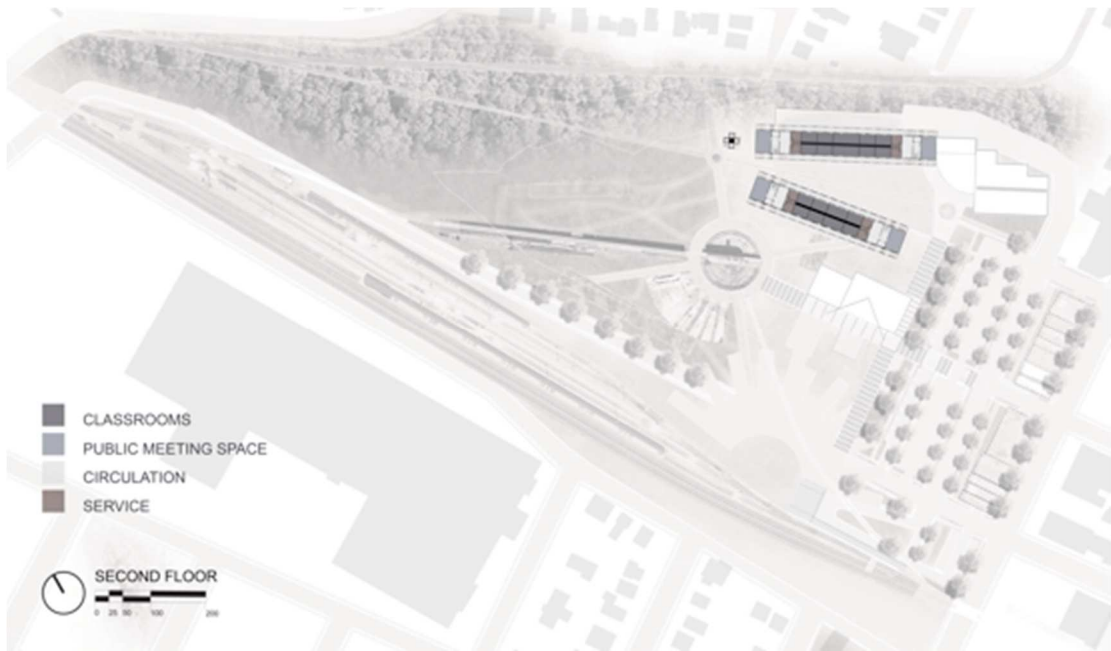


Figure 38. Proposed Second Floor Plan
Source: author

The trade school will be a combined partnership between SUNY Orange County Community College and local trades persons. The proposal adapts the form of the strip mall that currently occupies the northeastern section of the rail yard, to create two linear labs that follow traces of the original rail lines. The strip mall was first divided into four sections that will become the work yard, classrooms over the high tech labs and the traditional trades labs, and the office space. Then the classroom segments were split to create a public space between the two buildings and elevated above the labs using steel viaducts reminiscent of the Roebling viaduct used to ferry the canal across the Delaware River. Then the proposed maker space was inserted into the space between the trade school and the offices in the old strip mall.

The work yard and office space form the outline of the strip mall and remember the most current layer of the site as a connection to the current population that will occupy those spaces for instruction. The classroom and lab buildings focus on the viaduct form and memory of the rail lines to transform residents along the path from apprentice to journeymen, to master trades person. The maker space calls upon the form of the forgotten roundhouse and reimagines it as the switchboard between the two opposing ends of the trade's spectrum that connects the community to the instructors.

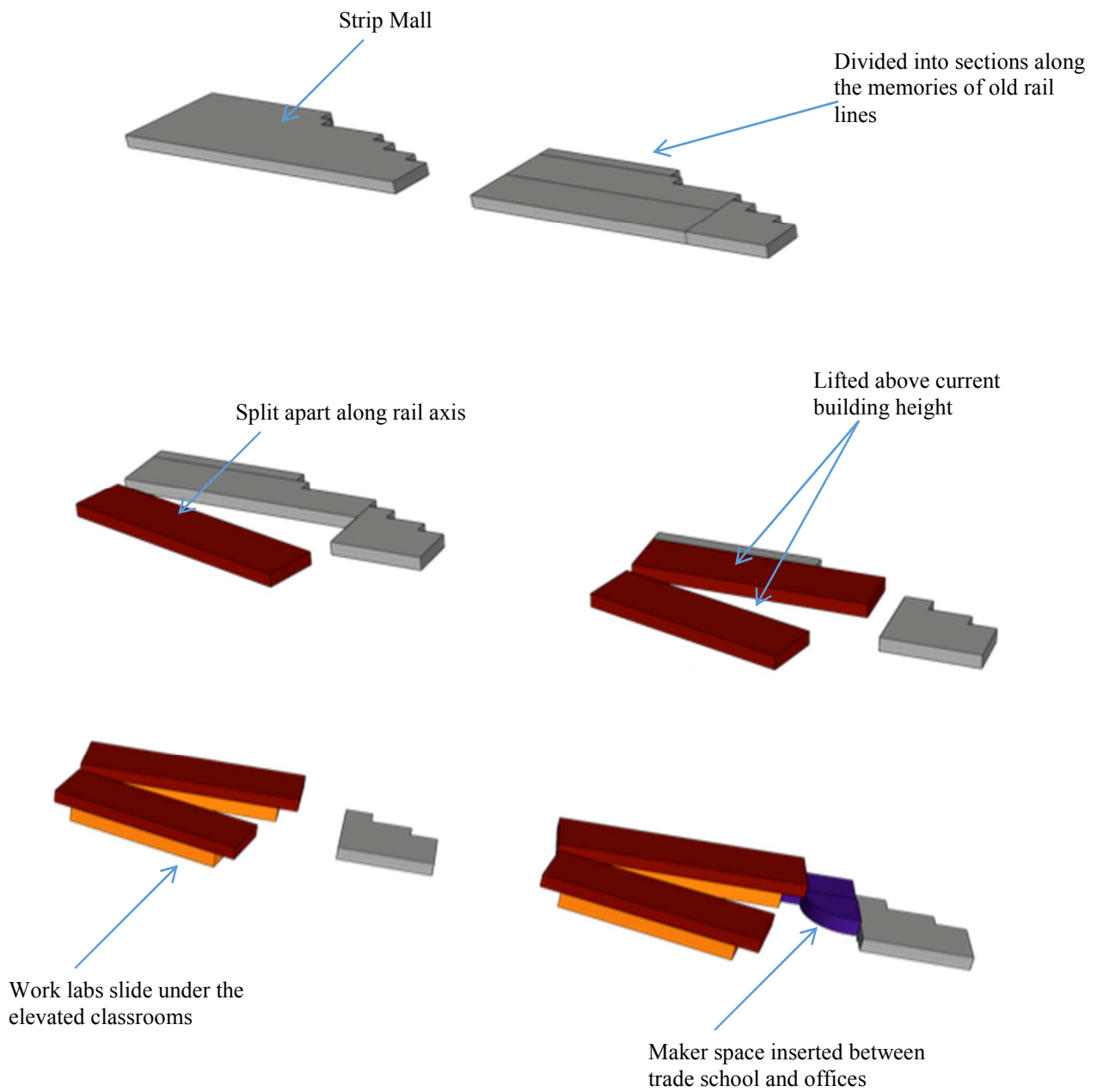


Figure 39. Strip Mall Building Adaptation
 Source: author

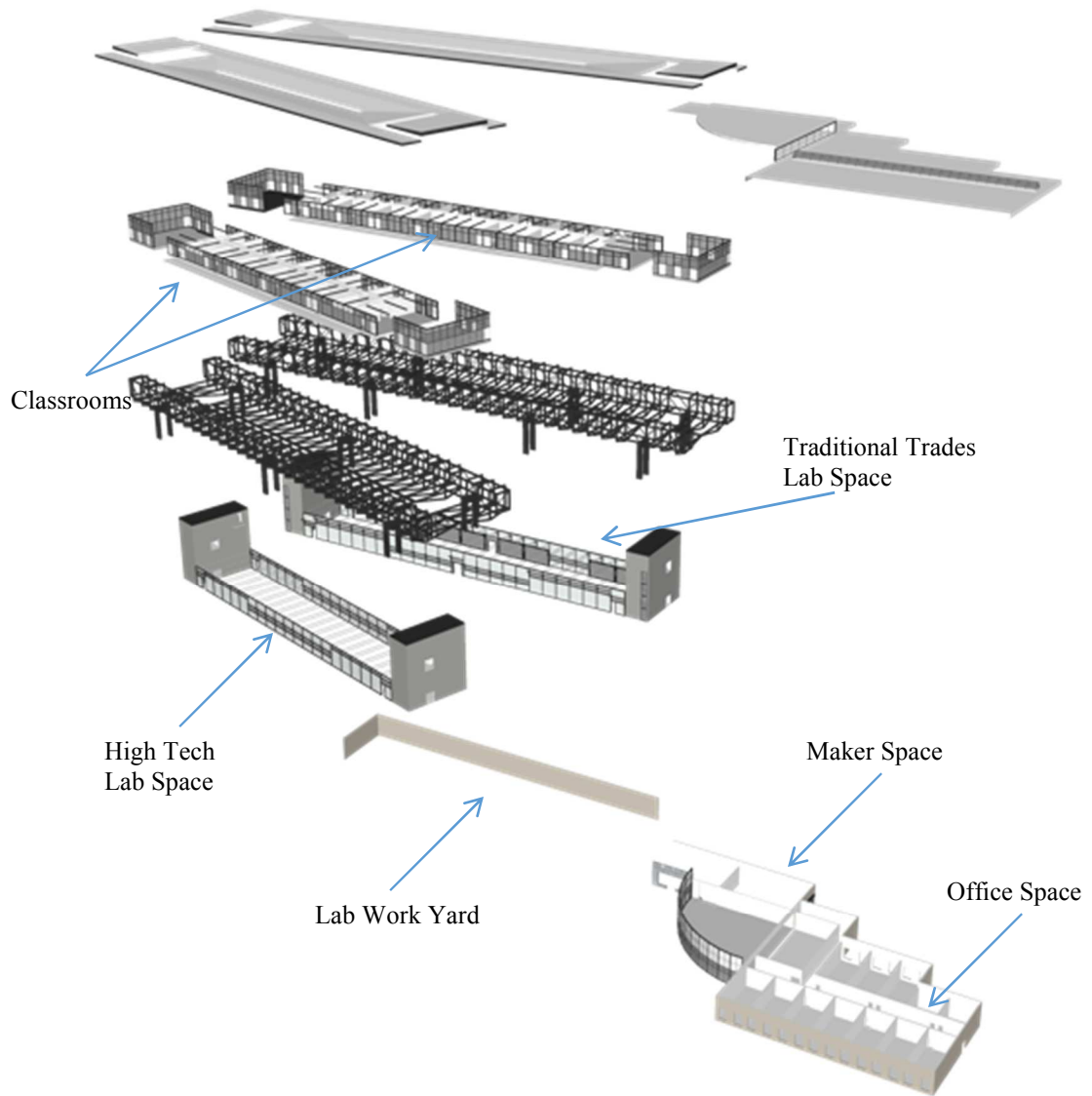


Figure 40. Exploded Axonometric Drawing of the Trade School
Source: author



Figure 41. Perspective Showing Trade School Viaduct and Maker Space
Source: author



Figure 42. Erie Roundhouse 1971
Source: <http://www.iridetheharlemline.com/2012/05/24/a-last-look-at-port-jervis/>

Museum

The museum combines the memory of the machine shop footprint with the current Rite Aid building to create a new building that remembers both structures. The building serves as the cross-axis between the train platform and the trade's school, and the city and the turntable. Internal exhibition space surrounds the exterior

on two sides of Rite Aid with a café occupying the space that was the inside of Rite Aid. The north side of the building includes the Minisink Valley Historic Society office, storage and reading room.

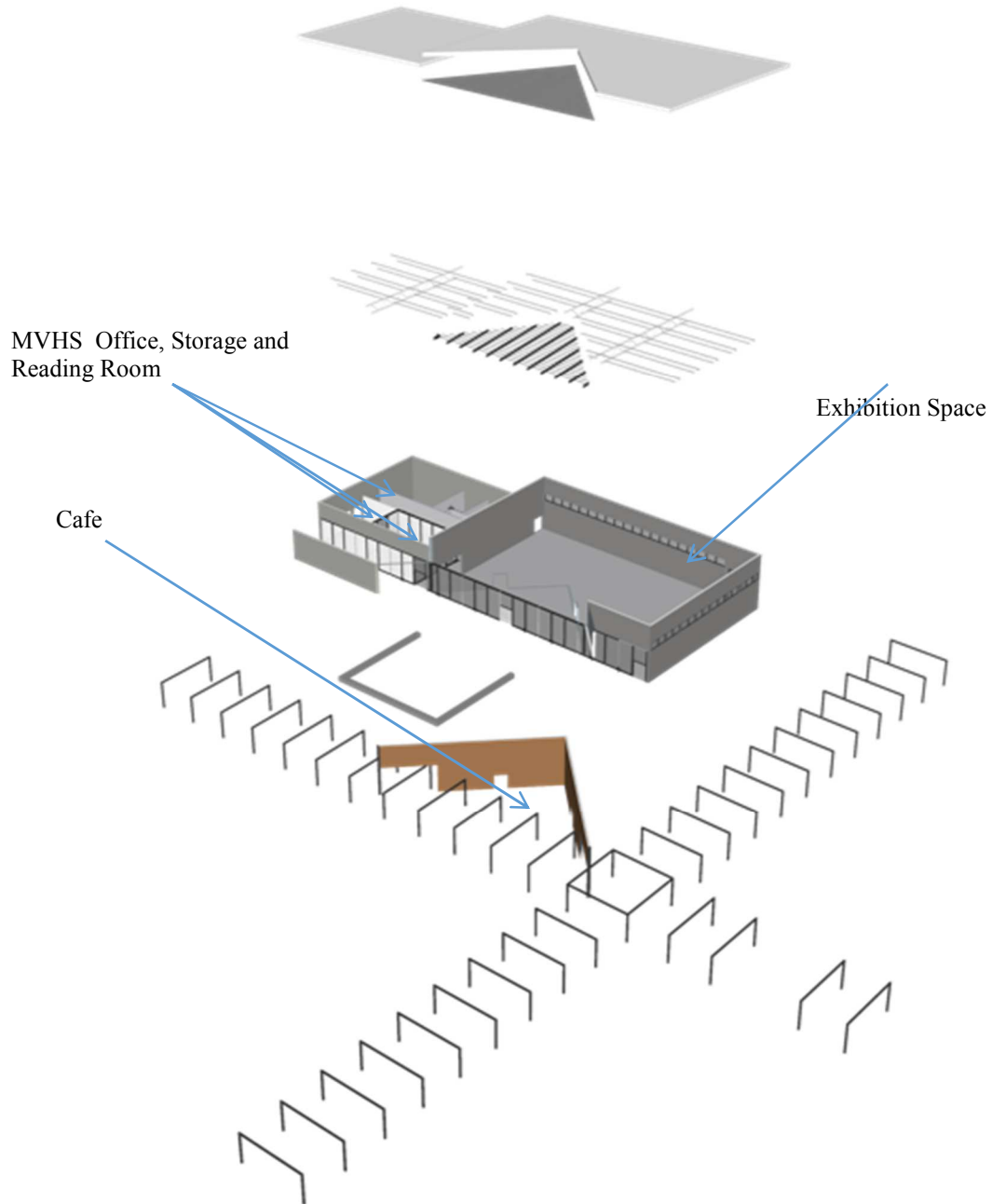


Figure 43. Exploded Axonometric Drawing of the Museum
Source: author

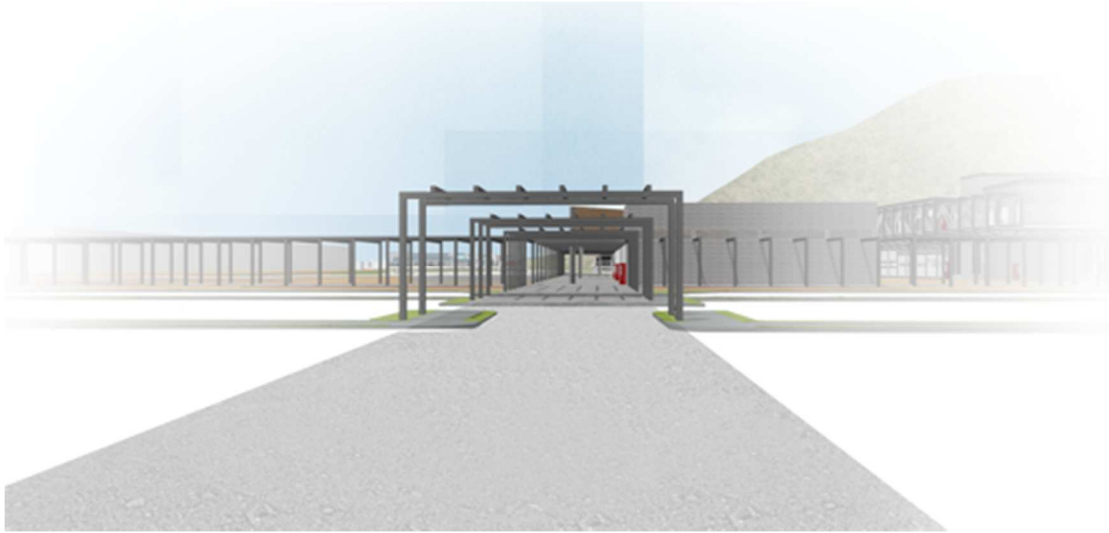


Figure 44. Perspective Approach to the Museum
Source: author

Platform

The train platform uses the inverted form of the Roebling viaduct structure to enclose the modest waiting room. The covered platform will shelter commuters and visitors alike and usher them either toward the main street or into the rail yard.

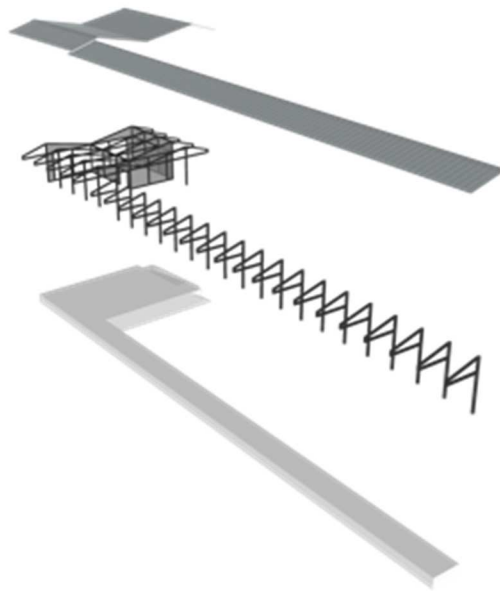


Figure 45. Exploded Axonometric Drawing of the Platform
Source: author



Figure 46. Perspective Arrival to the Rail Yard
Source: author

Chapter 7: Future Growth

Housing

While this thesis hasn't directly addressed housing as a potential piece of the solution, it has laid the framework for five additional city blocks of residential units. Also, the northwest side of the turntable could become higher density housing units for the trade school in the future. The current housing market in Port Jervis is improving and there are about 40% fewer homes available for purchase in 2019 than in 2018. The city is still struggling with vacant properties and unfilled rental units. For this reason, housing wasn't a focus of this thesis.

Chapter 8: Concluding Remarks

Provide

Like many other towns and cities, Port Jervis has the opportunity to transform a void within the city into an asset that exists to meet the needs of the community. For nearly 200 years, the rail yard has existed to serve industry and Port Jervis has benefited as a result of industry's success. This thesis aimed to rewrite that equation and make the rail yard work for the benefit of the community.

Orient

Train stations have a long history of welcoming travelers to new places. Daniel Burnham and the City Beautiful movement as a whole, used the train station as the gateway into the city. The first, and last place one would enter and therefore the representative for the greater city. The Erie rail yard in Port Jervis, NY hasn't shared Burnham's approach throughout history. Even at its height, the rail yard was a dirty, dangerous place that helped build the city while simultaneously changing Port Jervis from a natural getaway destination for the New York metro area to a hub through which resources flowed to that same area. This thesis aimed to reverse that flow and reintroduce Port Jervis as the Gateway to the Scenic Upper Delaware River and a regional hub for higher education and skilled trades.

Reconnect

The effect of the rail on Port Jervis' citizens, economy, and community has long since departed. What remains are the voids, traces, and fragments of the height of early American infrastructure. The industry that provided Port Jervis with a reason to exist and thrive, and ultimately occupied over 25% of its population abandoned its roots and framework leaving the city with a large hole in its center. The area surrounding the turntable has been a blight on the city and helped to divide the downtown district from the West end residents. This thesis aimed to reconnect the city by re-stitching the urban fabric, creating public event and green space, and creating spaces that are accessible, and reconnect the residents to the city's historic success.

Train

Port Jervis's success was tied to the jobs created by the canal and rail routes that ran through the city. The Erie Railroad's upper Delaware division included land upon which change was ever present and constantly adapting to ensure efficiency and mission effectiveness. Jobs were therefore tied to the continual growth and adapting industrial yard. This thesis aimed to replace the single job provider with sets of skills to enable residents to no longer be tied to the success of a failing industry.

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