A R T O F J O B C R E A T I O N

LEGACY CITIES AND 2030'S DISPLACED LABORER

~~"How do I find a job"~~

"How do I create an employed opportunity?"

By: Darrelle (DJ) Butler, Jr.

Advisor: Bess Krietemeyer PH.D

Thesis Completion: May 2021

Syracuse University School of Architecture

"It is already evident that inventions no longer are, as they had been in earlier times, means for warding off want and for helping consumption; instead, want and consumption are the means to market the inventions. The order of things has been reversed."
-- Gottfried Semper

"Where will the depreciation of material that results from its treatment of machines, from substitutes for it from so many new inventions lead? And where the depreciation of labour, of paintings, of fine art and furnishings, which originates from the same causes? How will time of science bring law and order into this now thoroughly confused state of affairs? How will it prevent the general devaluation from expanding into the area of work which is executed by hand in the true old fashion, so that one may find it more than affection, antiquarianism, superficial appearance and obstinacy?"
-- Gottfried Semper

Modern Architecture: A Critical History (World of Art)
By Kenneth Frampton

ABSTRACT

Public space along the street presents a unique informal opportunity for socioeconomic stimulation. The Legacy City was born post-Civil War in America, rapidly advancing the machine industry. The Legacy City manifested through zoning laws which allowed industrial districts to be developed within major cities across the United States, composed of industrial, manufacturing, and commercial warehouse typologies alike. While this provided many job opportunities just over 100 years ago, many skilled craftsmen were displaced. Now the rapidly advanced machine industry has evolved into robot automation. By 2030, nearly 73 million laborers will be displaced across America, many of whom reside in Legacy Cities.

"What spaces may 2030’s displaced laborers occupy, and what opportunities may they embrace?” With 2030’s displaced laborer being the generational descendant of the 19th century skilled craftsman, architecture has an opportunity to reimagine the narrative which led to displacement. The reimagined narrative of 2030’s displaced laborer occurs along the public streetscape of industrial districts. With 73 Million U.S. citizens facing potential unemployment and pushed out into the streets, this thesis situates the street in its reactivated context of job creation.

Along our street, catalyzed possible outcomes situate the voice of the displaced laborer in the urban street context of America’s historic industrial ecosystem, the Legacy City. Here, its urban street conditions are studied and framed to produce new relationships through 4 street perspectives; the street as an ecosystem, the street as an environmental system, the street as public right of way, and the street as utility storage. Appropriately framed, such elements are situated and reintroduced back into society, evolved to socially excite the epoch of the 21st century entrepreneur juxtaposed the 19th century skilled craftsmen. As a result, “The Art of Job Creation” is an intervention along a street without cars that situates an architectural language of skilled craftsmanship as it leads to 2030’s 73 million displaced American laborers. It’s intervention is achieved through the implementation of five methods.

Table of Contents

I N T R O D U C T I O N

Architecture’s ability to bridge relationships between elements reveals its power. Relationships produce negotiation, exciting humanity’s psyche and its latent social awarenesses. As social beings, it is important we humans uncover the latent social elements of our society. As we uncover, architect’s must constantly explore the uncovered elements which may produce new spatial negotiations that may then be situated and reintroduced back into society. This is the power of architecture, and the architect’s agency within it. The decade of 2020 requires architects to study the epoch of the post Civil War working conditions in America’s Industrial Legacy Cities. Such epoch should be critically studied to frame & situate newly produced socioeconomic opportunities for displaced laborers as a result of the machine. The decade of 2020 by the year 2030 highlights the displaced laborer once again, yet as a result of the evolution of machine technology into robot automation. The displaced laborer must evolve as the machine evolves. As the evolution of the machine created opportunities for itself, so must the displaced laborer evolve to create opportunities for himself/herself. Here, I am guided by the primary question, "Can job creation be situated by architecture as an art that is studied in America’s Legacy Cities?" Through the agency of architecture, this thesis explores the evolution of the skilled craftsman, evolved into the skilled laborer, evolved into the blue collar worker, evolved into the displaced laborer. The evolution begins in the post Civil War conditions of America leading up to the year 2030. This thesis juxtaposes the skilled craftsman of the mid-nineteenth century and the entrepreneur of 2030. This thesis declares this statement. “America will not host 73 million displaced laborers in 2030, but will host 73 million entrepreneurs in 2030.” It is the hope of this thesis that 73 million Americans will spatially experience latent elements uncovered, researched, related, and reintroduced back into society. This thesis hosts possible outcomes situating the voice of the displaced laborer in the street context of America’s historic machine epoch ecosystem, the Industrial Legacy City. Here, its urban street conditions are studied and framed to produce new relationships through 4 street perspectives as initiated by ArchDaily. The street as ecosystem, the street as public right of way, the street as utility storage, and the street as a drainage system. Appropriately framed, such elements are situated and reintroduced back into society with bridged relationships, evolved from the perspective of the disadvantaged

displaced laborer, evolved to socially excite the epoch of the entrepreneur.

S I T U A T I O N & A P P R O A C H

The increase in technology is causing a rising unemployment crisis. It is 2021, and now more than ever, companies have decided to invest billions of dollars into the technological advancement of machine automation systems. Technology is eliminating jobs across nearly all of the economy's top industries. Robots are replacing manufacturing employees. Storage retrieval systems are replacing warehouse workers. Software is replacing accountants. Online courses are replacing brick and mortar schools. Grocery store self checkout systems are replacing cashiers. Online shopping is replacing brick and mortar retail stores. By the year 2030, Mckinsey Global Institute predicts nearly 73 million American occupations are to be seized by automation resulting in 73 million displaced American laborers.

A third of the 2030 workforce in America may need to learn new skills. [2] Studies show that among the occupations to be seized by automation, the economy's "support roles" are to be impacted most. Support roles make up our economy's public transportation jobs, fast food jobs, mail delivery jobs, janitorial service jobs, warehouse manufacturing jobs, and the economy's "blue-collar" occupations. Contrast to support roles, are "directive roles," economy's "white-collar" occupations. According to Mckinsey and Company, America's economy comprises 57% by directive roles and 43% by support roles. Impacted severely relative to these statistics are African Americans. Of the 57% of the economy's directive roles, African Americans make up 44% of that, yet make-up 56% of the economy's support roles.

Geography :: Displaced in the Street, but Why the Street?

America's Industrial Capitalists society grew tremendously in the early 20th century, and so did its workforce. Major corporations established industrial manufacturing facilities across the country, particularly within dense urban cores of rising cities. Industrial expansion radically changed the face of American cities. Cities grew at dramatic rates with nearly 15 million people populating the urban cores of advanced industrial manufacturing cities between 1880 and 1900 alone.[7] Multicultural societies grew prominent within these cities as industrial manufacturing was a call for the skilled

craftsman. Nearly 40% of America's townships were vacated as craftsmen migrated from rural areas throughout America and immigrants by the millions came from around the world into rapidly growing urban cores to answer the call of craftsmanship in America which was industrial machine manufacturing. (7) Skilled craftsmen constructed the warehouses and factories to house the machines, built the machines to perform the production, and operated the machines to manage the production. This process promoted a special bond among craftsmen from around the world, thus achieving urbanization. According to Khan Academy and their publishing of "The Gilded Age: America Moves to the City," the Academy states that, "Eleven million Americans migrated from the countryside to cities in the fifty years between 1870 and 1920. During these same years an additional 25 million immigrants, most from Europe, moved to the United States. This became recognized as one of the largest mass migrations in human history and while some settled on farms, most moved into the nation's growing towns and cities." [8] Over the course of years between 1870 and 1940, America experienced an urban boom of nearly 70 new cities, and established within them, industrial counties. Fast forward to now, Alan Berube and Cecile Murray of the Metropolitan Policy Program at Brookings researched Older Industrial Cities and sourced Moody's Analytics and U.S. Census Bureau data. Research informed that by 2016 there were 365 urban counties which contained at least 50,000 residents. Of those 365 counties, 185 are classified as an urban industrial county which has a significant history in manufacturing. And of those 185 industrial counties, 70 now struggle to grow jobs in new sectors. Coincidingly, Jess Chen of the Institute for Spatial Economic Analysis (ISEA) reported on the share of jobs facing automation risk. It is here we graphically begin to overlay historical data of industrial manufacturing cities and its skilled laborer populations with that of the potentially displaced of 2030. See Illustration…

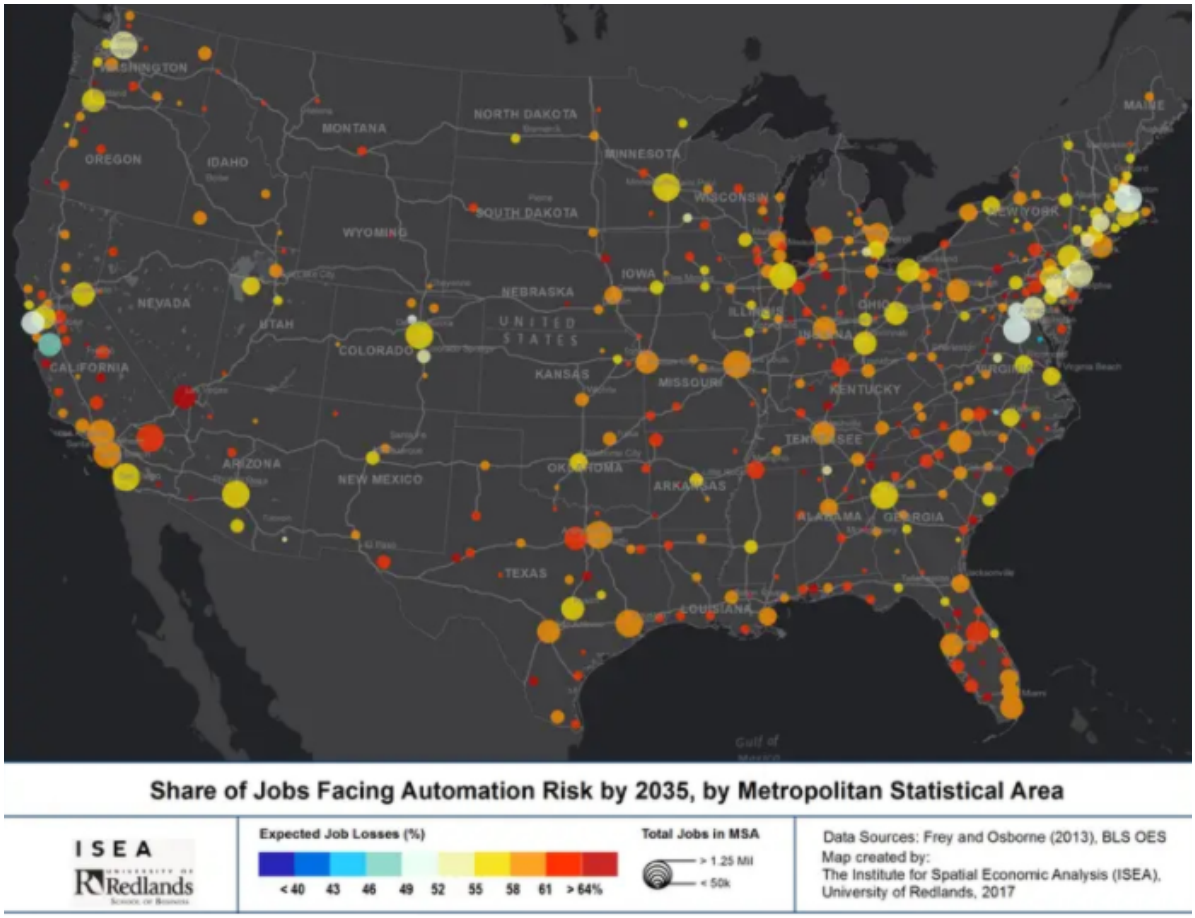

Figure 1: America's Automation Risk Map

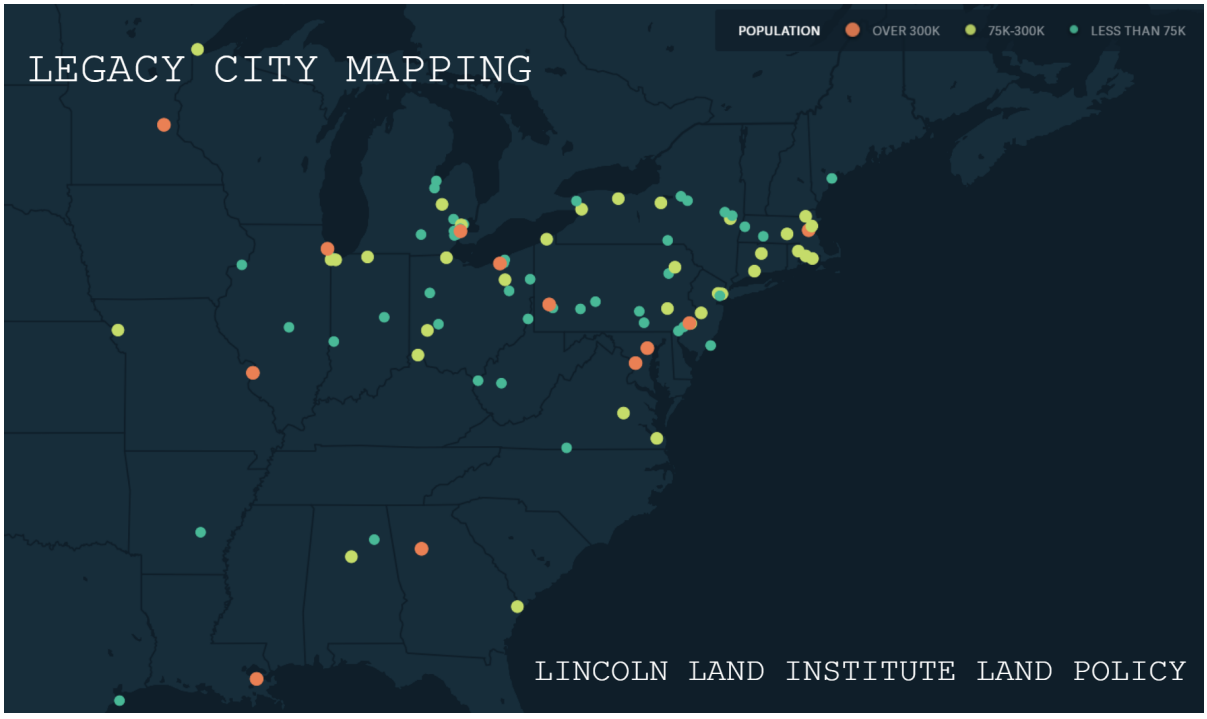

Figure 2: America's Industrial "Legacy City" by population

With geographical parallels nearly mirrored, studies yielded an insightful opportunity for possible intervention, and a starting point for design thesis relative to its geographic location. America's now, "Industrial Legacy City" hosts the historical narrative of a people which society has turned its back on socially, politically, culturally, and economically. If society has its way, the skilled laborers and craftsmen of the 19th century are scheduled to be pushed aside in the 21st century, socially evolved into the displaced laborer. And that is exactly where this intervention begins, the displaced laborer pushed aside and into the streets of America's iconic industrial district. Industrial districts within America's Legacy Cities today are ever increasingly in dire need of urban revitalization. "Legacy cities have been at the center of some of America's most historic achievements, and they possess a strong civic spirit and culture of innovation at a time when these qualities are most needed. Once drivers of industry and prosperity, many legacy cities are now on a path toward revitalization. Their challenges reflect a national struggle that too often leaves disadvantaged groups behind, yet legacy cities are also poised to seize many similar opportunities. With the right strategies, they can take steps to regenerate and follow in the footsteps of their peers on the rebound with deliberate, concentrated effort from new coalitions of civic actors." [11]

Identity :: Who is the Skilled Laborer?

As America's southern states heavily relied on slavery, cotton production and farming, so did the northern states rely on industry manfacturing. American cities grew where skilled labor was needed. "Industrial Legacy Cities," which they would soon be recognized as, manufactured iron, steel, oil, and textiles. Politically, seeing that the power of the north in its victory over the south was accredited in its industrial capabilities, a societal trend shifted in American economic way of life from land cultivation in fields for income to labor and wages in factories for income. White-collar jobs soon emerged as industrial capitalism sought employees to manage industrial production. Social stratification oppressed the skilled craftsmen and laborers into the sociopolitical classification of the "blue-collar" laborer. The distinction was recognized economically as white-collar jobs offered salaries, while blue-collar jobs earned hourly wages. White-collar jobs required higher levels of education while blue-collar jobs simply required skill. As industrial capitalism raged on, so did its consumer market. This cycle

perpetuated the displacement of the skilled craftsmen and his inability to compete with industry. This process quickly silenced the voice of the skilled craftsman and blue-collar laborers alike, having no political or economic leverage to counter the societal damage done. Many fears emerged within the blue-collar society due to the mechanization of industry and need for more efficient means of production led by white-collar employees. Not only had the skilled craftsman been stripped of his name, he had given up his right to enjoy the freedoms of work and craft production. The skilled laborer and craftsman also slowly grew dependent on machine operations, becoming semi skilled machinists and repair technicians. "As early as 1877, two-thirds of American workers were wage laborers, with little hope of opening their own shops or owning their own farms. By 1940, no more than one-fifth of the population of the United States were self-employed."[5] Harry Braverman, author of "Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century," further acknowledges that, "The transformation of working humanity into a "labor force," a "factor of production," an instrument of capital, is an incessant and unending process.

Politics :: Labor Unions as the Voice of the Skilled Laborer

As more and more American's took on jobs in the industrial economy of factories, mines, and mills, so did their reality of the importance of banding together grow. The socioeconomic degradation of skilled craftsmen into the blue collar laborer, was the leading cause of laborers banding together to form labor unions. Blue-collar laborers underwent harsh working conditions as they built the industrial economy. Initially, and in the late 1860's, laborers strove to get the "eight-hour work day." This led to the first major labor organization in America. The Knights of Labor was founded in 1869. The Knights were strategic and aided in a wide network of skilled and unskilled laborers by public campaign. Not only this, but they encouraged and socially uplifted laborers in a cooperative effort to reconcile the disparity in resources between big businesses and its primary workforce. This was the primary mission of all labor unions which arose during such tough socio economic times. Laborers were no longer individualized. They united themselves for justice, fairness, and equality. Unions encouraged laborers to bargain company owners for better quality working conditions such as higher wages, shorter working hours, and union recognition.

Labor Strikers Take Their Voice to the Streets!

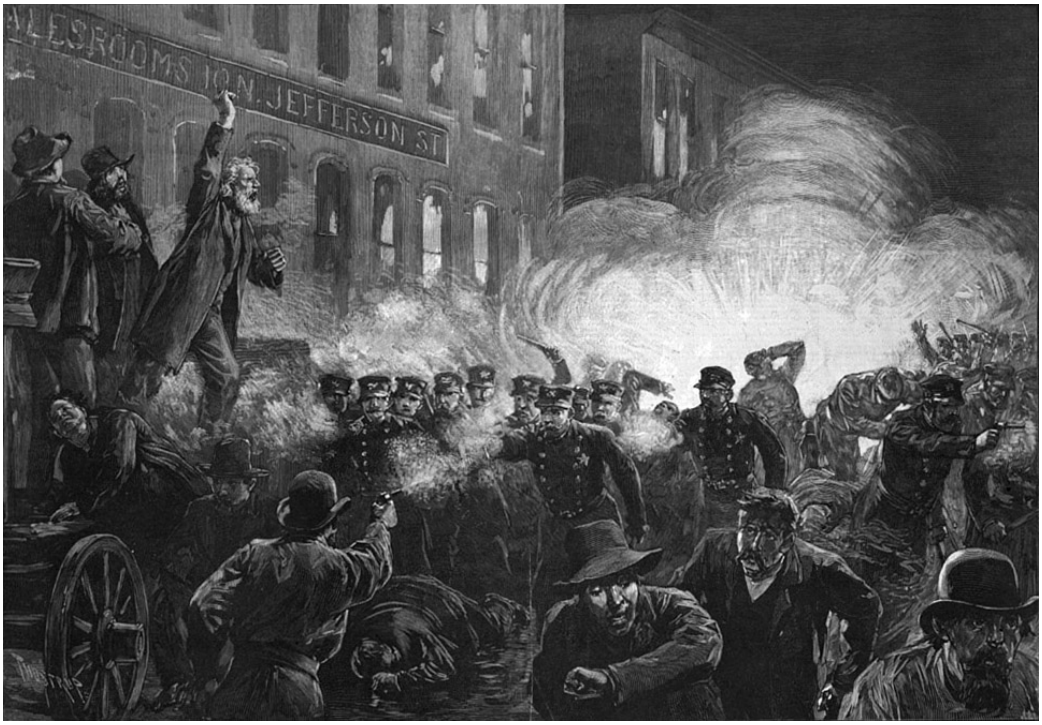

Figure 3: Engraving depicting the Haymarket Square riot, published in Harper's Weekly in 1886.

Figure 4: "National Guard troops lined Beale Street during a protest on March 29, 1968. "I was in every march, all of 'em, with that sign: I AM A MAN!"

K N O W L E D G E

This thesis intervention identifies the Industrial district of America's Legacy City as a case study to reclaim the skilled craftsmen. This intervention is achieved by allowing the displaced laborer to be pushed out into the street of his establishment as has been done to the skilled laborer of the past, reignited by the researched displaced future to come. With 73 million American laborers facing displacement, the street offers unique opportunities to explore its primary design make-up as to how it may be better accommodating for people. Such design leads us to a set of guidelines outlined by Kristen Hall, emphasizing the importance of street design. **Kristen Hall, AICP** "is an urban designer and city planner who specializes in complex urban infill projects in politically challenging landscapes. Her work centers on creating **equitable, sustainable, and resilient communities**." Hall urges designers to critically frame four important aspects of designing streets for people, and not just cars. From here, this intervention frames the following explored methods.

(1) The Street as an Ecosystem.
(Skilled Craftsman Furniture)

(2) The Street as the Drainage System.
(Sustainable Environmental Conditioning)

(3) The Street as a Public Right of Way.
(The Voice of Skilled Craftsman)

(4) The Street as Where Utilities Go.
(Technology Now Serving the Skilled Craftsman)

According to Hall, streets make up 30 percent of the total area of a city, which is a significant amount of land in the public realm. Yet for the most part, streets are now designed more with the car in mind. Kristen Hall published in ArchDaily that, "As an urban designer, I work on lots of projects where we take large parcels of land and subdivide them into blocks by introducing "new streets." These new streets are a rare opportunity to take a fresh look at the kinds of car-oriented roads that we are used to, and instead try to design streets that prioritize the safety and comfort of pedestrians. These projects give us a chance to design streets that are just for people. Imagine that we made these people-only streets into narrow, medieval-style lanes that are intimate and human-scaled." [13]

P R I M A R Y T H E S I S E X P L O R A T I O N

This thesis aims to develop a set of urban design guidelines (Design Streets for People, and Not Just for Cars) through the historic perspective of the 19th century skilled craftsman, to present opportunities for self employment in response to America's rising unemployment crisis.

O B J E C T I V E S

The outlined Situation and Approach of this thesis identifies the historic identity, geographic condition, and political climate of the skilled craftsmen as it evolves into 2030's displaced laborer. The outlined Knowledge of this thesis identifies the framework guidelines in which to execute design through. In doing so, this thesis grants Kristen Hall's guidelines and street Knowledge the opportunity to execute the outlined historic situational approach of skilled craftsmen as it relates to 2030's displaced laborer. As a result, this thesis seeks to create a new socioeconomic street condition. The intervention along the "new street" situates an architectural language of the skilled laborer and craftsman as it leads to 2030's displacement, achieved by four framed methods. As discussed in the Situation & Approach section, and outlined in the Knowledge section, this thesis seeks to achieve the following:

- **Establish the return of the identity of the skilled craftsmen**
- **Establish an efficient environmental passive design strategy**
- **Establish a voice of the skilled laborer and craftsman**
- **Establish an intended use of craftsman utilities**

By reactivating the street through the methods of framing the street as an ecosystem of skilled craftsmen furniture, the street as an sustainable environmental system, the street as the voice and public right of way of skilled craftsman, and the street as a utility that serves craftsmanship, 2030's displaced laborer will experience a new street condition which yields new socioeconomic employment opportunities. The street for 2030's displaced laborers is a spatial environment which encourages craft abilities and contributes to its performance and growth, while simultaneously providing a realm of social activity and engagement for the general public. Here, the new street serves 2030's displaced laborers to serve the public.

M E T H O D O L O G Y

S T E P O N E

Select a Site for this intervention to take place. Based on our research, we already know that our site intervention context happens within America's Legacy Cities. This intervention is chosen to take place in Syracuse, New York for the following reasons:

STEP 1 (A): "Select one of America's Industrial Legacy Cities which hosts a unique Industrial Legacy **zoning condition**.

STEP 1 (B): "Choose an **abandoned commercial / industrial site** within Syracuse's industrial Legacy Zoning District." See Illustration below:

STEP 1 (C): "Establish a **set of criteria** in order to narrow down on site specifics to **choose final site location**."

- Site must give a true aesthetic appeal of abandonment and vacancy (i.e.. Boarded up doors, windows, signs of graffiti)
- Site must be situated directly on, parallel to, and / or adjacent to heavily trafficked thoroughfare.
- Site must be visible from main streets and / or roads.
- Site must be located on the edge of the identified zoning condition to act as a buffer between Industrial Legacy Zoning and adjacent zoning condition (preferably residential)
- Site must be situated on or against the city public transit route (Promoting site walkability without disruption of vehicle. Also promoting use of city public transit system)

S T E P T W O

Frame the intervention along the "new street" within the identity of the skilled craftsmen.

STEP 2 (A): "Engage in a quick study of Kristen Hall and similar **design influences to include National Association of City**

Transportation Officials (NACTO) and Perkins + Will Architects in relation to the street as a populated ecosystem."

STEP 2 (B): "Design a series of **street furniture** that serve the general public and skilled craftsmen."

STEP 2 (C): "Establish a **set of criteria** in order to narrow down on **selected craftsman street furniture.**"

- At least one (1) furniture must strengthen craftsmanship performance.
- Furniture must have modular use in its ability to serve craftsmanship.
- Furniture is encouraged to have mobile capability.Furniture should encourage gathering
- At least one (1) furniture piece must have simultaneity in a utility function.
- Furniture must be an intermediate social condition between craftsman and general public
- Furniture should encourage seating

S T E P T H R E E

Frame the intervention along the "new street" as an environmentally sustainable condition achieved through the articulation of green spaces which facilitate rainwater control.

STEP 3 (A): "Engage in a quick study of Kristen Hall and similar **design influences to include National Association of City Transportation Officials (NACTO)** in relation to environmental design."

STEP 3 (B): "Iteratively design the street as an environmental system through the **use of bioretention swales and planters.**"

STEP 3 (C): "Establish a **set of criteria** in order to narrow down on **environmental bioretention swale design.**"

- System must promote clean outdoor air quality in opposition to industrial factory IAQ conditions.
- Systems must have strong potential to produce unique spatial conditions.
- Spatial conditions must not be linear as in a factory setting.
- System must be ADA Friendly unlike normal curb design.
- System must facilitate rainwater control.

S T E P F O U R

Frame the intervention along the street as a "public right of way" which hosts a public realm of program for the skilled laborer and craftsmen.

STEP 4 (A): "Engage in a quick study of Kristen Hall and similar **design influences to include National Association of City Transportation Officials (NACTO) & MVRDV** in relation to public right of way."

STEP 4 (B): "Establish **program spaces for craftsmanship** within boundaries of the bio retention swales, and pedestrian walking pathways for the general public."

STEP 4 (C): "Establish a **set of criteria** in order to narrow down **program spaces and pedestrian walkways.**"

- Spaces must allocate adequate workspace for craftsmanship.
- Spaces must promote a spirit of individual craftsmanship.
- The formation of spaces should speak a playful organic language of craft, creativity, and innovation.
- Spaces must be clearly distinguishable between public walkway and workspace.
- Spaces may not intersect and / or cut off the public pathway.
- Spaces must be configured within the bounds of the edge conditions of the curvilinear bioretention swales.
- Spaces must weave around public pathways.

S T E P F I V E

Frame the intervention along the "new street" with advanced technology embedded within crafts stations to serve & support craftsmanship. In doing so, apply to the street design a key utility which should aid craftsmen in the outdoor street environment.

STEP 5 (A): " Investigate and establish **key utilities used in Syracuse climate.**"

STEP 5 (B): "Allow key utility to **inform 3-dimensional spatial** features within the bounds of the defined programmed craftsmanship space."

STEP 5 (C): "Establish a **set of criteria** in order to narrow down utility use and its relationship to **3-dimensional spatial configuration.**"

- Utility must enable craftsmanship productivity.

- Utility must suit the needs of the environment.
- Utility should be thoughtfully sensitive to the situation and environmental condition.
- Utility must not be a utility of common conventional use such as street lights, fire hydrants, etc.
- Utility must propose an overall new street condition.
- Utility should be integratable into the designated craftsmanship space.
- Utility should inform spatial configuration of 3-dimensional space.

O U T C O M E S

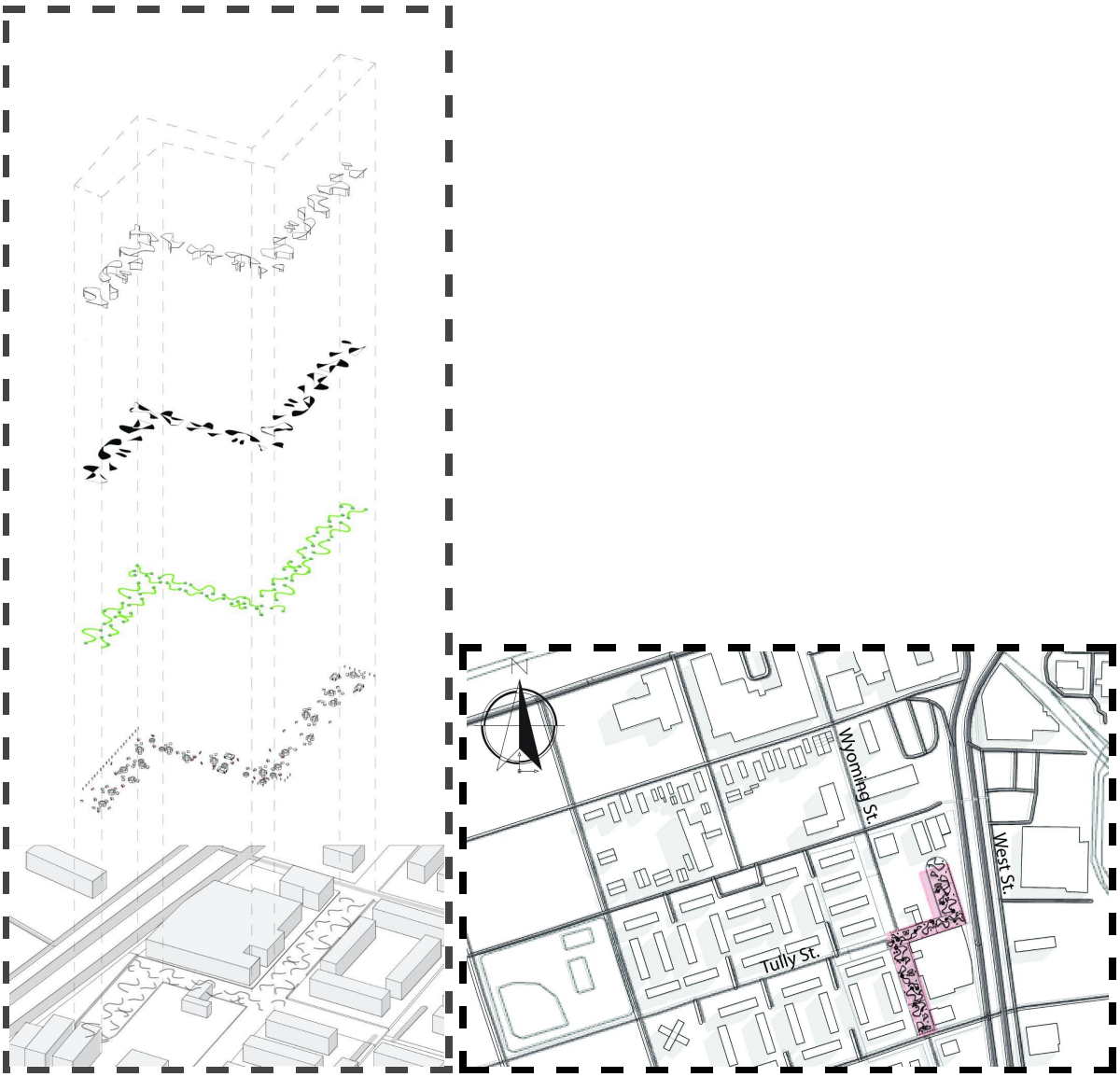

Figure 5: Component Axonometric & Site Plan by DJ Butler

B I B L I O G R A P H Y

1. Main Street Home (themainstreetentrepreneur.com)
2. Niall McCarthy. "Automation Could Eliminate 73 Million U.S. Jobs By 2030". Forbes. 11 2017 (https://www.forbes.com/sites/niallmccarthy/2017/11/30/automation-could-eliminate-73-million-u-s-jobs-by-2030-infographic/?sh=54dca9fd773d)
3. "The economic impact of closing the racial wealth gap." Mckinsey & Company. 8 2019
4. "Jobs lost, jobs gained: What the future of work will mean for jobs, skills, and wages." Mckinsey Global Institute. 11 2017
5. Jeffrey Helgeson. American Labor and Working-Class History, 1900–1945 (https://oxfordre.com/americanhistory/view/10.1093/acrefore/9780199329175.001.0001/acrefore-9780199329175-e-330?mediaType=Article#acrefore-9780199329175-e-330-div1-1)
6. Braverman, Harry, Paul M. Sweezy, and John Bellamy Foster. "The Scientific-Technical Revolution." In Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century, 107-16. NYU Press, 1998. Accessed March 9, 2021. http://www.jstor.org/stable/j.ctt9qfrkf.12.
7. Library of Congress. "City Life in the Late 19th Century." (City Life in the Late 19th Century | Rise of Industrial America, 1876-1900 | U.S. History Primary Source Timeline | Classroom Materials at the Library of Congress | Library of Congress (loc.gov))
8. Khan Academy. "The Gilded Age: America Moves to the City" (https://www.khanacademy.org/humanities/us-history/the-gilded-age/gilded-age/a/america-moves-to-the-city)
9. Alan Berube and Cecile Murray. "Renewing America's economic promise through OLDER INDUSTRIAL CITIES." Metropolitan Policy Program at Brookings. April 2018 (https://www.brookings.edu/wp-content/uploads/2018/04/2018-04_brookings-metro_older-industrial-cities_full-report-berube_murray_-final-version_af4-18.pdf
10. Future job automation to hit hardest in low wage metropolitan areas like Las Vegas, Orlando and Riverside-San Bernardino (https://www.iseapublish.com/index.php/2017/05/03/future-job-automation-to-hit-hardest-in-low-wage-metropolitan-areas-like-las-vegas-orlando-and-riverside-san-bernardino/)
11. Lincoln Land Institute of Land Policy . "About Legacy Cities." (Why Legacy Cities? | Lincoln Institute of Land Policy) (https://www.lincolninst.edu/research-data/data-toolkits/legacy-cities/comparative-cities-map)
12. Khan Academy. "The Knights of Labor" (The Knights of Labor (article) | Khan Academy)
13. Kristen Hall. "4 Important Things to Consider When Designing Streets For People, Not Just Cars." Arch Daily (https://www.archdaily.com/867390/4-important-things-to-consider-when-designing-streets-for-people-not-just-cars)
14. Sam Briger and Kayla Lattimore. "The Age Of Automation Is Now: Here's How To 'Futureproof' Yourself." NPR. 16 March 2021. Kevin Roose's 'Futureproof' Offers Rules To Thrive In The Age Of Automation : NPR
15. Jonathan Tilley. "Automation, Robotics, and the Factory of the Future." Mckinsey. Automation, robotics, and the factory of the future | McKinsey

16. Adam Volini, Manager, Deloitte Consulting LLP; Erika Berg, Senior Consultant, Deloitte Consulting LLP; Sophia Moradian, Business Analyst, Deloitte Consulting LLP.Using autonomous robots to drive supply chain innovation.” Deloitte. 2017 (us-manufacturing-autonomous-robots-supply-chain-innovation.pdf (deloitte.com)

L I S T O F I L L U S T R A T I O N S