

## ABSTRACT

Title of Document: D[Constructing Architecture]: Rebuilding  
Detroit with salvaged and harvested materials

Marques Gilbert King, Master of Architecture,  
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Architecture, Planning and Preservation

Cities are in a constant state of flux. The progression of time through the centuries has yielded numerous examples of entire transformations of a given city's economic, environmental, social, and cultural structures which in turn shape the physical city. In some instances those structures are allowed juxtapose themselves against each other creating a beautiful palimpsest. In other instances those layers are lost due to the changing forces of the city. As a result the narrative and the image of the city is lost. Where this is most applicable is in the context of shrinking cities. This thesis proposal will seek to explore ways in which the retention of a city's physical history and its memory can be reconciled within the context of a shrinking city. It will question, challenge and hopefully transcend current themes in historic preservation and adaptive-use taking a critical approach toward structures and systems that have lost their reason for being. The testing ground for this proposal is Detroit, Michigan.

D[CONSTRUCTING ARCHITECTURE]: REBUILDING DETROIT WITH  
SALVAGED AND HARVESTED MATERIALS

By

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University of Maryland, College Park, in partial fulfillment  
of the requirements for the degree of  
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## Foreword

The desire to pursue as thesis topic that relates to my hometown of Detroit, Michigan was always a desire of mine even before beginning graduate studies. However, I hadn't yet figured out what type of project I would pursue. It wasn't until the summer of 2013 that I started to formulate an idea. It was sparked by a study abroad trip to Italy, a place I had never been before. Living and studying in a country with so much culture and history visible by just walking down the street provoked me to ask questions within myself. Questions like, "why aren't our cities like this" or "how is it that all these layers are retained through thousands of years". At the end of that trip I now knew what issues I wanted to address within the scope of this thesis. Coming from a city that demolishes things before evaluating that value of it, I knew it would be a very tricky topic but one I would enjoy along the way. So I have my Italian adventures to thank for setting me on this wonderful path of discovery and inquiry.



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- My entire family for all you done to help me along the way.

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- The University of Maryland
- Second Chance in Baltimore, Maryland
- Reclaim Detroit in Detroit, Michigan

Lastly, I want to acknowledge my city: Detroit, Michigan. A city of resolve and hardworking people. You will rise again.

# Table of Contents

Preface.....	<b>Error! Bookmark not defined.</b>
Foreword.....	ii
Dedication.....	<b>Error! Bookmark not defined.</b>
Acknowledgements.....	iii
Table of Contents.....	iv
List of Figures.....	vi
Chapter 1: Transcending Contemporary Historic Preservation Ideologies .....	1
The Historical Paradigm of “Historic Preservation” .....	1
Current Preservationist Agendas & Counter Argument .....	3
Chapter 2: The Shrinking City at Various Scales .....	5
A Timeline of Change.....	5
Large Scale: History of Detroit.....	7
Intermediate Scale: History of Corktown Neighborhood .....	11
Small Scale: History of Michigan Central Station.....	16
Losing the Narrative .....	21
Chapter 3: Analysis of Michigan Central Station and Site.....	22
Connections to Grand Central Terminal: New York City .....	22
Building Analysis.....	28
Site Analysis .....	33
Chapter 4: Architectural Theory and Programmatic Considerations.....	48
Theories of Deconstruction and Roman Spoglio .....	48
Embodied Energy.....	53
Museum of a Monumental Ruin .....	55
Educational Spaces .....	57
Regional Transit Hub.....	62
Chapter 5: Precedent Analysis .....	62
Palazzo Della Cancelleria – Roma, Italia .....	63
Kolumba Art Museum_ Architect Peter Zumthor – Cologne, Germany .....	64
Chapter 6: Design Approach.....	67
Design Objectives .....	67
Building Proposal.....	67
Site Proposal .....	76
Chapter 7: Concluding Thoughts .....	78
Bibliography .....	81



# List of Figures

<i>Figure 1 Collage of neglected infrastructures that can be found on site.</i>	3
<i>Figure 2 Brief timeline of Detroit's history</i>	6
<i>Figure 3 Detroit passenger and freight rail Present. One passenger rail line exists today-only fragments of the freight line in operation</i>	9
<i>Figure 4 Detroit passenger and freight rail 1931;At the time it was the largest street car network in the United States</i>	9
<i>Figure 5 Detroit passenger and freight rail 1918</i>	9
<i>Figure 6 Detroit passenger and freight rail 1913</i>	9
<i>Figure 7 Detroit passenger and freight rail 1863</i>	9
<i>Figure 8 Detroit passenger and freight rail 1884</i>	9
<i>Figure 9 The destruction of historical Detroit. Info provided by Data Driven Detroit; graphic by Author 2014</i>	11
<i>Figure 10 Ribbon Farms close in proximity to Downtown area. The boundary of the city is denoted in black strip. MCS is to the left of the diagram. Data from corktownhistory.blogspot.com; graphic by Author 2014</i>	13
<i>Figure 11 Corktown,, Detroit, Michigan. Boundaries. Darker area is what remains a mere 20% in land area from what the size used to be. Image by- Author 2014</i>	16
<i>Figure 12 Michigan Central Station site diagram</i>	20
<i>Figure 13 Figure ground map with Corktown denoted in green and potential sites denoted in Red</i>	22
<i>Figure 14 Tiger Stadium site diagram</i>	22
<i>Figure 15 Reed and Stem's initial design for Grand Central Station (Kurt C. Schlichting. Grand Central Terminal)</i>	23
<i>Figure 16 Whitney Warren's sketch of his design for Grand Central Terminal. (Kurt C. Schlichting. Grand Central Terminal)</i>	26
<i>Figure 17 Compositional Similarities between Whitney Warren's idea of Grand Central Terminal and Michigan Central</i>	27
<i>Figure 18 diagram of the sequence of large interior spaces.</i>	32
<i>Figure 20 Image from the ticket lobby looking toward the main concourse (Source - Detroit Free Press 2013)</i>	33
<i>Figure 19 Image of the Guastavino Vaulted waiting room of Michigan Central (Source - Detroit Free Press 2013)</i>	33
<i>Figure 21Residential figure map</i>	33
<i>Figure 22 Abandoned building figure map</i>	33
<i>Figure 23 Industrial figure map</i>	33
<i>Figure 24 Parking Surface figure map</i>	33
<i>Figure 25 Scale Comparisons: Central Park, National Mall, Gardens of Versailles, Michigan Avenue</i>	33
<i>Figure 26Route from MCS to Campus Martius traveling Michigan Avenue</i>	33
<i>Figure 27 Public open space</i>	33
<i>Figure 28 "Green Triangle" of connected public space</i>	33
<i>Figure 29 Diagrams of Michigan Central Station</i>	33
<i>Figure 30 Sketches of Michigan Central Station</i>	33
<i>Figure 24 Connection between Michigan Central Station, Midtown Detroit and Downtown Detroit. Source – Author 2013</i>	44
<i>Figure 25 Diagram of building typologies in Midtown Detroit. Source – author 2014</i>	46
<i>Figure 33 North elevation of Michigan Central Station</i>	46
<i>Figure 34 Vehicular road layered by railway deck</i>	46
<i>Figure 35 Carriage Shed</i>	46
<i>Figure 36 Roosevelt park is used and inhabited by homeless persons</i>	46

<i>Figure 30 Apartments in the Jewish Ghetto of Rome. Medieval structures juxtaposed against Renaissance buildings. Holes refer to exterior beams and scaffolding that was removed. Image by – Author 2013</i>	50
<i>Figure 30 A fragment from what seems to be a Roman Bath incorporated into the structure of an apartment complex dating to the Renaissance Period. Image by – Author 2013</i>	51
<i>Figure 31 The opposite side of that same building. Pieces of possibly a Roman Temple and columns from perhaps a basilica or via protrude up from the ruin floor. The Teatro Di Marcello is partially visible in the background. Image by – Author 2013</i>	51
<i>Figure 37 Reed and Stem's initial design for Grand Central Station (Kurt C. Schlichting. Grand Central Terminal – not cleared)</i>	52
<i>Figure 24 Whitney Warren's sketch of his design for Grand Central Terminal. (Kurt C. Schlichting. Grand Central Terminal – Not cleared)</i>	52
<i>Figure 25 Sectional massing sketch of MCS.</i>	52
<i>Figure 27 Diagram the organization layers of current and proposed deconstruction organizations</i>	62
<i>Figure 39 Material reservoir underneath rail track platforms</i>	68
<i>Figure 40 Smoking Room transformed into a making space</i>	69
<i>Figure 39 Programmatic diagram of new functions in the building's base. Source – Author 2014</i>	70
<i>Figure 40 Programmatic Diagram of museum in the building's tower. Source – Author 2014</i>	71
<i>Figure 41 View of the city along from the top of the tower. Source- Author 2014</i>	71
<i>Figure 42 Section of newly adapted and deconstruction Michigan Central Station. Central to the design is the new excavated atrium that unifies the base and tower creating a unique spatial relationship. Source – Author 2014</i>	72
<i>Figure 42 Ground floor of newly adapted Michigan Central Station. Clearly marked in plan is the new spatial link that extend vertically through the building in section. Source – Author 2014</i>	72
<i>Figure 43 Gallery level with wall panels in the closed position.</i>	73
<i>Figure 43 Typical Gallery Floor with wall panels in closed position. All new wall construction is denoted in orange poche. Source - Author 2014</i>	73
<i>Figure 45 Typical Gallery level with wall panels in an open position</i>	74
<i>Figure 44 Gallery Level with wall panels in an open position</i>	74
<i>Figure 47 Assembly Detail for moveable wall panels. Source – Author 2014</i>	75
<i>Figure 48 Stair axon and tread details</i>	75
<i>Figure 48 Details for steel rails used as a</i>	75
<i>Figure 50 Phase 3 :MCS site developement. Source - Author 2014</i>	77
<i>Figure 51 MCS station neighborhood after phasing development. Source - Author</i>	77
<i>Figure 50 Phase 2: MCS site Developement. Source - Author 2014</i>	77
<i>Figure 50 Existing figure ground of MCS site. Source – Author 2014</i>	77
<i>Figure 51 Phase 1 MCS site development. Source –Author 2014</i>	77



# Chapter 1: Transcending Contemporary Historic Preservation

## Ideologies

### The Historical Paradigm of “Historic Preservation”

The biggest public misconception about the idea of historic preservation and adaptive reuse is that it is thought to be a relatively new idea. Perhaps, this false understanding exists because of the United States of America’s infancy as a country. The United States - which is only 237 years young - hasn’t experienced the tumultuous circumstances that come with the passing of centuries of time when contrasted to older empires such as England, France, Spain, Italy, and countless others. The U.S.A, founded as an agricultural society, morphed itself into an amalgamation of metropolises as a result of the Industrial Revolution. That milestone in our history drastically transformed our landscape and the social-economic structures that support it. Besides that critical moment, the US hasn’t had to re-think the identity of its cities, states and communities – until now. The ancestral European countries that reflect the heritage of our population have experienced periods like the Roman, Medieval, Renaissance and Baroque each carrying with them their own impressions, ideologies, agendas which were reflected in things like urbanism and architecture. For some of these grand scale urban interventions large areas of a development were wiped out either by political mandate, natural disaster or military combat, making room for the new urban fabric. However, what can be proven by the

mere existence of these cities themselves, is that many of these movements built their ideas on the foundations of what preceded them. They're countless examples of buildings and public places in countries outside the United States that have used existing forms and structures as the starting point for what was to be considered the "newness". Furthermore, there are equally as many examples of whole pieces and integral components of buildings being moved and re-appropriated in other locations and for other uses. Therefore, it can be argued that historic preservation as it relates to antiquity is not the saving of a building based on its initial interpretation but the preservation of a building's substance based on the re-interpretation of its materialization. America coming out of the past prosperity of the industrial era is merely going through a civic cycle in which it has to re-invent itself. For most of us, this is a somewhat unfamiliar concept but one not peculiar to history.

What's unique about the adaptive situation that is upon us is a very different set of infrastructures with which to work with; unprecedented even. Leaving perhaps the most significant progressive technological period the world has ever seen (besides the one we are currently experiencing) has left a very diverse layer within the urban palimpsest. Among those are: existing railway tracks; rail yards; raw material piles of structural steel, sheet metal, brick, stone or lumber; shipping containers; rubber tires; empty urban blocks; brownfield sites, dilapidated residences, and of course monumental sized abandoned architecture. The location of these materials vary yet are not hard to discover. These materials are proliferated all over the city waiting to be re-utilized in some inventive way. That invention and its relationship to the historical archetype of "historic preservation" is at the heart of this project. That being



said, the area of Detroit chosen for focus is the Corktown neighborhood which includes a wealth of the aforementioned components and some significant abandoned structures.

Figure 1 Collage of neglected infrastructures that can be found on site.



## Current Preservationist Agendas & Counter Argument

Preservation is defined by the National Park Service U.S. Department of the Interior as “...the act or process of applying measures necessary to sustain the existing form, integrity, and materials of a historic property.” What this definition refuses to acknowledge is change. What can be debated is whether or not the main goal of historic preservation is to freeze a building or allow for a metamorphosis. But suppose the existing form of a historic building is inadequate for the societal

conditions that exist at that time? Would it not be irresponsible to restore a building to its former glory when in fact that moment in time has run its course?

Historic preservation in the United States only exists as an attempt save significant pieces of architecture from demolition. Although admirable, it also halts processes of deconstruction and deterioration which when applied correctly have beneficial effects to the lives of buildings. It tries to bestow on a given building a feeling of permanence and “immortality” which is absolutely antithetical to a buildings nature. “Deterioration is constant, in new buildings as much as old... You can’t fix or remodel a place in the old way. Techniques and materials keep changing.”<sup>2</sup> If the main goal of historic preservation is to restore a building to its former condition then maybe those agendas need to be altered to reflect certain situations and the general character of something made of fallible stuff.

The application of these standards over the years has dampened design innovation and exploration in the preservation movement.<sup>3</sup> Or possibly it is a matter of determining whether or not the ideals of preservation apply at all to a certain structure if the current definition is true? Then the question is one of value. Is the initial intention of the building valued enough by current society to be restored to that form? If so, then historic preservation as currently described might be a valid strategy. But if not, then the given definition would prove to be erroneous. A tactic much more critical and transformative would be applicable.

One thing I think is certain is that when it comes to structures that are labeled as historically significant a simple “stuffing” of new program and salvaging of primary aesthetic facades is not always the correct solution nor the responsible one.

Some leverage within the legislative structure must be allowed for designers to be designers and to make critical advances in allowing the physical city to change along with all else: Culture, Politics, Environment, Economy, and other municipal systems. There is a sense of veracity here that must be resolved and accepted within the hearts of many city dwellers. That truth being that everything cannot always exist in the realm of perpetuity. Change is eminent.

*“...should buildings of this sort always be preserved? Is it not false to envisage the life of a building as something that extends in perpetuity, something that must indefinitely bear the burden of its history? Would not a sense of the “end” of a construction envisage its final outline? Some buildings be imagined to have a relatively limited lifespan, while others, because they are intended as permanent, may be realized perfectly in time through a series of sequential interventions.”<sup>4</sup>*

Buildings no matter how well designed or what their intended typology is are intrinsically meant to change over time in some fashion. It's part of their being.

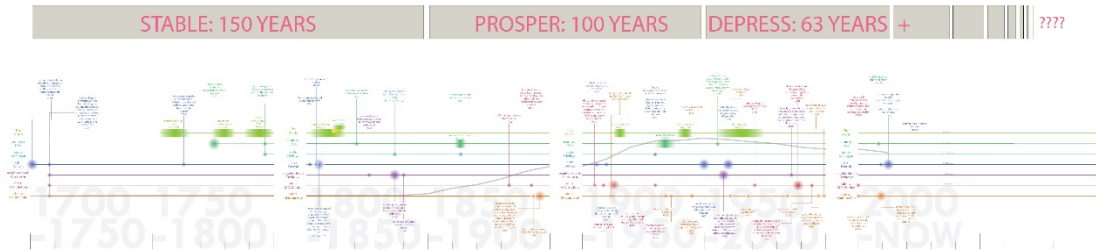
## Chapter 2: The Shrinking City at Various Scales

### A Timeline of Change

The very first diagram that I created for this thesis study was a timeline. It started as a simple tracking of significant milestones in the history of Michigan

Central Station. I then began to add layers to the diagram by documenting other events at larger scales as well as adding data relating to population change and industrial change. What resulted was a very interesting visualization of the change that has occurred in the city of Detroit and the possible causes of that metamorphosis.

Figure 2 Brief timeline of Detroit's history



I was able to classify three phases of the city's existence: a stable period at the point of its founding, followed by a prosperous period, followed by the depression period that is currently being experienced. What is of particular interest is the transition from prosperity to decline in the city. What the diagram shows is a multitude of events that occur around the 1950's when Detroit began its decline. It proves what was previously mentioned about cities having to re-invent themselves due to changes in culture, technology, politics, and economics. Events from all of these categories occurred within the Detroit area signaling the need for a transformation. Whether or not that need was recognized is a debate for another paper. What is certainly agreeable is that the responses to the arrival of a reimagined Detroit were not effectively addressed over the years. If it were, the magnitude of the city's woes would not be so drastic.

## Large Scale: History of Detroit

Detroit (like most major American cities) was initially a European settlement. Founded by the French sometime in the late 17<sup>th</sup> century as a missionary post and later officially incorporated as a French settlement by explorer Antonie Laumet de la Mothe sieur de Cadillac in 1701. The origin of its name comes from the river adjacent to it. “Le Detroit” translates to “the strait” alluding to the connection made between two of the Great Lakes providing accesses to the Atlantic Ocean to the East from the interior of the continent. For that very reason, the Detroit River has played significant role in the livelihood of Detroit.

A cyclical control of these fertile lands was in exchange between the French, British, and later the Americans for the better part of the 18<sup>th</sup> century with United States finally seizing control in 1796. Albeit, in those tumultuous times the land was always cultivated as farm land. Land on the outskirts of Fort Ponchartrain du Detroit, as the establishment was called, was divided into strands called “ribbon farms” in the French tradition. They were called so for their slender skinny form. These farms were only a few hundred feet in width but extended over 3 miles inland from their abutment to the river. As the Industrial Revolution began to take hold of the country Detroit became an industrial empire. Because of its position within the country’s shipping and rail networks it was afford access to a plethora of raw materials. Detroit was a place where things were made.

No doubt the most important cause of Detroit’s prosperity was the commercialization of the automobile. Henry Ford’s assembly line enabled cars to be made a unprecedented rates which then allowed him to pay his workers extremely

competitive wages. His great efficiency in this regard also made the automobile affordable to the common man. This attracted people from all over the globe to Detroit in hopes of a better life for their families. The city grew exponentially reaching a population of well over 1.8 million by 1950.

The transition point came mid-20<sup>th</sup> century. Automobile production was no longer autonomously controlled by Ford's company nor any other Detroit based car company. The market for cars had truly become global and competition was fierce domestically and internationally. The 1950's also saw the accumulation of momentum within the civil rights movement. The social and racial tensions displayed in that era were reflected in Detroit history through a series a "race riots". World War II had just ended resulting in two significant pieces of legislation that would drastically transform American cities. The federal highway act, passed as a military precaution, funded the construction of both the nation's interstate highway system and the state's freeways. Congress also passed the national housing act which essentially advocated the expansion and popularity of the suburb. Together, these pieces of public policy allowed for a great migration of people out of the cities relocating to satellite towns which were now in competition with larger municipalities they once were subordinate to. Detroit was no different. Because of the popularity of the automobile, street cars and rail transit ridership diminished. Tracks began to be decommissioned and by the 1970's all street car lines were eliminated. From 1950 to 2013 Detroit has lost over 1.1 million of its citizens – reduced to a mere 38% of what



it used to be. Unfortunately, the city's scope of jurisdiction and its faculties did not shrink in tandem with its citizenry which is a major cause of its present problems.



Figure 7 Detroit passenger and freight rail 1863



Figure 8 Detroit passenger and freight rail 1884

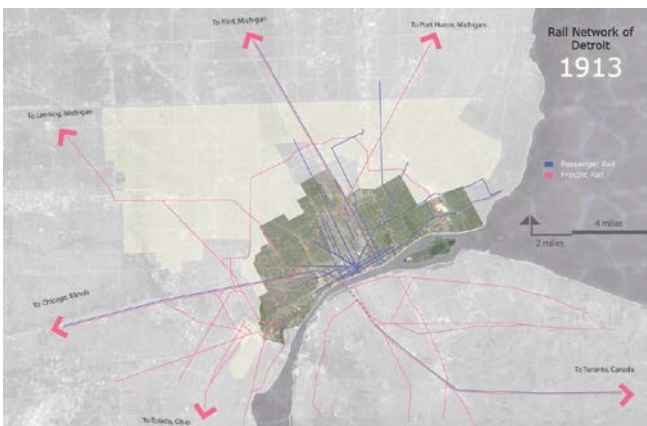


Figure 6 Detroit passenger and freight rail 1913

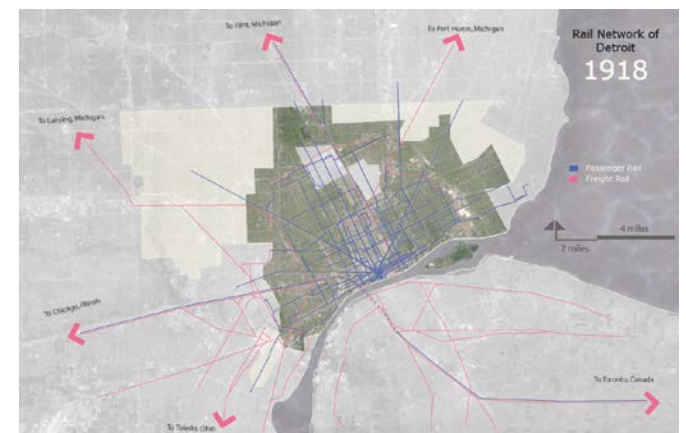


Figure 5 Detroit passenger and freight rail 1918



Figure 4 Detroit passenger and freight rail 1931; At the time it was the largest street car network in the United States



Figure 3 Detroit passenger and freight rail Present. One passenger rail line exists today-only fragments of the freight line in operation

I am certain there are other factors that play a role in the abrupt downslide of Detroit's economy. If they were included it would certainly only strengthen my argument that changes in economy, politics, industry, and cultural reflect a city in flux. Detroit is currently a city of just under 700,000 inhabitants still operating at the same 139 sq. miles it was when it annexed its last township in 1925. At that time Detroit had a population of 1.2 million and counting. The city with respect to people and tax base clearly diminished yet its size stayed the same with no successful initiatives to combat that. What this reflects is the disconnect between the social-economic systems of operating a city and the physical urban conditions of the city which have remained constant for the better part of 80 years. What has resulted is a bankrupt city operating at a scale outside of its means with failed auxiliaries and



enduring a struggle to find its new identity.

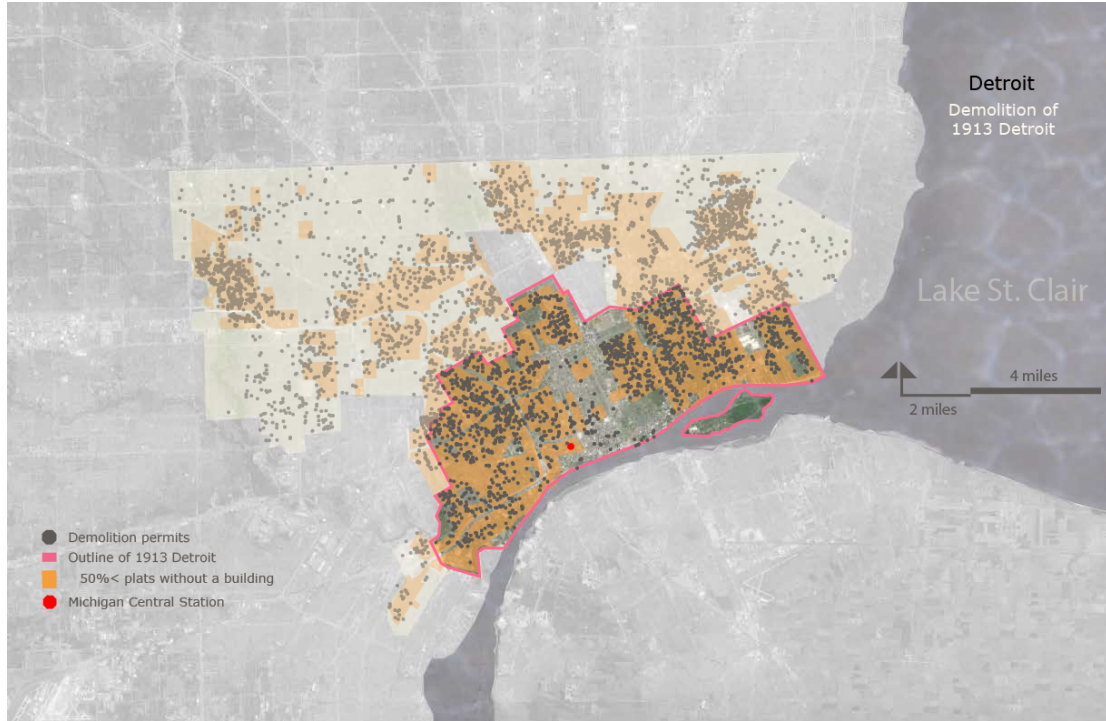


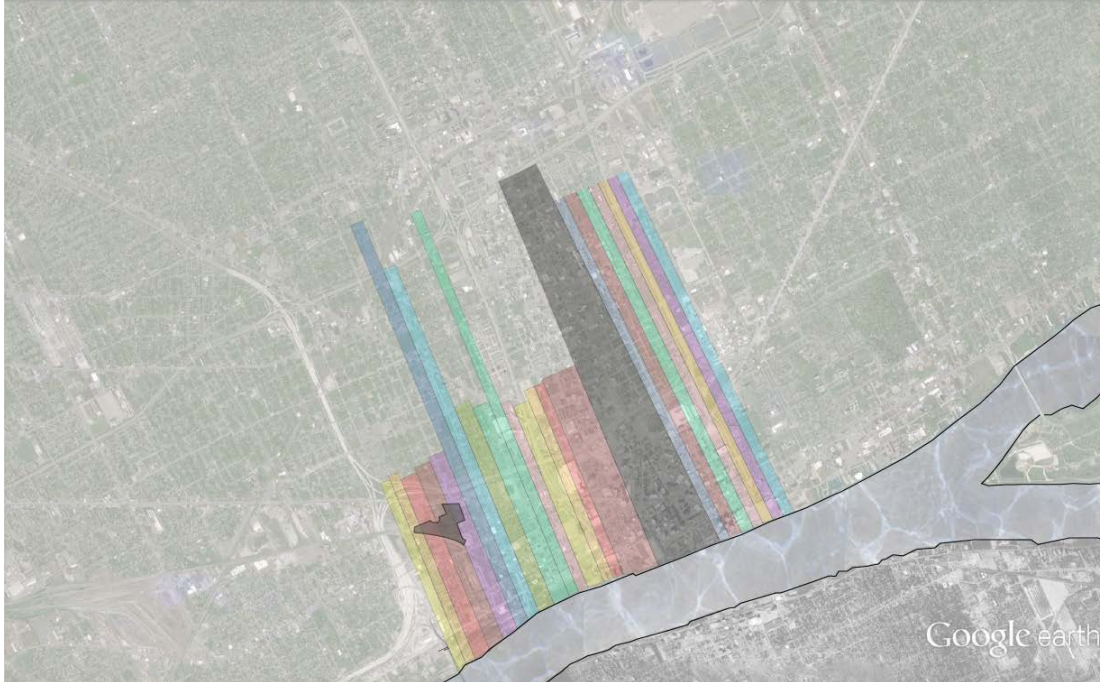
Figure 9 The destruction of historical Detroit. Info provided by Data Driven Detroit; graphic by Author 2014

## Intermediate Scale: History of Corktown Neighborhood

In the early 1800's when the great migration of Europeans to America commenced, a substantially large group of Irish immigrants decided to settle in Detroit, Michigan. A large portion of those Irishmen found respite on a site just west of the city center. Primarily being from Cork County, Ireland this ethnic settlement eventually grew to become "Corktown." Officially founded as a recognized neighborhood in 1837, it was an area that epitomized the spirit of Detroit as well as the American Dream - the sentiment of hard work and opportunity. It was (and still is) a working class neighborhood that prided themselves on family and making provisions for present and future generations; those in the United States and abroad.

As stated in the previous section Detroit was initially divided into “ribbon farms” by the French. Corktown resident and local historian Paul Szewezyk further describes the characteristics of those farms: “*The long narrow plots that were laid out according to [the] French custom have come to be known as ‘ribbon farms’. This method granted river access to each landowner and allowed the farmers’ homes to be relatively close together. The houses sat along River Road, later known as Woodbridge Street and Jefferson Avenue.*”<sup>5</sup> Szewezyk even mentions the nature of crops grown on these farms: “*...a typical ribbon farm would contain a garden, fruit orchards, fields of wheat or corn, pasture and finally woodland.*”<sup>6</sup> The area has an antecedent land use kinship with agriculture and proximity to the river.

As industry in Detroit began to gain traction and the migration of immigrants continued, these farms were purchased by the city and broken up into a grid street fabric that would form these new communities for the masses. Corktown in particular was formed by several farms most of them owned by the families of State and Federal dignitaries at the time. Writer Armando Delicato explains through his book that “*By 1840, the French ribbon farms to the west of the city were sold by the [families] for development. The neighborhood known as Corktown quickly became home to more and more of the new Detroiters from Ireland.*”<sup>7</sup> The notable family farms that were to become the 8<sup>th</sup> Ward (the municipal division that Corktown was located in) include: Michigan Territorial Governor Lewis Cass; State Senator and Detroit Mayor De Garmo Jones; Robert Forsyth, private secretary to Governor Cass; farms of Labrosse,



*Figure 10 Ribbon Farms close in proximity to Downtown area. The boundary of the city is denoted in black strip. MCS is to the left of the diagram. Data from corktownhistory.blogspot.com; graphic by Author 2014*

Baker, Lognon, Thompson, Lafferty and Godfrey families all distinguished in the region families; and Michigan State Senator and Governor William Woodbridge.

Corktown grew to absorb almost the entire area of those original farms. In the 1920's during Detroit's "golden age" Corktown had expanded to encompass an area of about 1.1 square miles (just over 30 million sq. ft.). Its boundaries were 3<sup>rd</sup> street to the east, 14<sup>th</sup> street to the west, Grand River Avenue to the North and the Detroit River to the South.<sup>8</sup> The community had become one of the city's densest and most sustainable working class communities.

What attributed to the prosperity of the community was its ethnic diversity. Yes, it was a district primarily dominated by Irish immigrants but there was no shortage of others cultures as well. Immigrants from France and Canadian settlers had previously settled there as Detroit was formerly a French settlement. Over the course of time there was a trend of German, Maltese, Spaniards, and Mexicans that fled to

the area - most noticeably the latter. There was such an abundance of Latinos that fused themselves into the area that they formed their own neighborhood on land just west of Corktown. This separate community was named "Mexicantown." Each cultural group was able to establish their own schools, churches, markets, stores, bars, pubs, and other institutions that thrived alongside those from other ethnicities. The result was a melting pot of ethnical pride, food, spiritual cultivation, education, and most importantly employment. Stitching the area into the rest of the city was not only accomplished by a basic grid system but also a street car transit system that allowed connections to factories and other places of interest. This transit network was further augmented once Michigan Central Station was completed in 1913. The station along with Tiger Stadium down the road were major attractions which kept the energy and the economy of the area thriving for several decades. Corktown was sincerely a sustainable diverse neighborhood and one that I'm sure would rival those in existence today.

The implementation of the Interstate and state highways proved to be catastrophic to the unity of Corktown. Entire sections of the neighborhood were destroyed in the name of urban renewal and enabled the construction of the massive vehicular arteries. From the 1950's onward, when the first sections of the freeways were finished, Corktown would begin its decline. The highways eventually divided the original neighborhood in to smaller sections and also served as non-traversable barriers within itself and other parts of the city. Occurring throughout the city was a movement of families to the suburbs made possible by the freeways and automobile popularity. Corktown was no different and experienced a mass migration. Happening

concurrently was the dismantling or burying of the city's street rail system. None remain in operation today although some tracks that were left can be seen half-covered by asphalt in the street. All of these events damaged the success and relevance of the grand station. In fact both of the district's attractions would soon be decommissioned. The station has been unoccupied since 1981 and Tiger Stadium was closed in 1999 and demolished in 2009.

Only remnants remain of that previous vibrant community. Visiting the neighborhood today you would see occasional glimpses: a Maltese catholic school here; an Irish pub or a Mexican market there. Though not nearly as numerous as decades ago, those very ethnic groups can still be found in the area taking pride in what is left of the place they've called home. Presently, the neighborhood is barely a quarter of the expanse it used to be, shrinking down to .3 square miles of land area (8.1 million sq.). Its boundaries are now Interstate-75 to the north, Porter Street to the south, Michigan-10 state highway to the east, and 12<sup>th</sup> Street to the west. However, when contrasted with other areas of Detroit the neighborhood still remains one of the most viable and sustainable neighborhoods in the city. But analogous to the city the community is largely barren, diminished, and struggling to find its identity.

*Figure 11 Corktown,, Detroit, Michigan. Boundaries. Darker area is what remains a mere 20% in land area from what the size used to be. Image by- Author 2014*



### **Small Scale: History of Michigan Central Station**

In the Corktown district of Detroit there are two identifiable landmark places. The first is the site of old Tiger stadium which had previously been the home of the

Major League Baseball's Detroit Tiger's for almost a hundred years. The team relocated to a newer downtown stadium in 2000 and the older structures was completely demolished in 2009. The other is Michigan Central Station (MCS) on the western end of the community. Completed in 1913, it was one of the most prized possessions of the New York Central Railroad Company. Designed in the Beaux Arts style by the firms of Warren and Wetmore and Reed and Stem (who also designed New York's Grand Central Terminal of the company) it towers over the landscape of modest height residential and commercial buildings. Structurally the building is steel framed, encased in concrete, and clad in either stone or tan veneer brick. It was envisioned as a dual programmatic structure. The plinth was designed to serve as the passenger train terminal and the tower atop the plinth was for offices. Other than the large concourses and waiting room of the terminal, program in the terminal base included retail kiosks, restaurants, baths, sitting rooms and dining halls. Most of the interior of the lower terminal mass was clad in beautiful marble on the walls with terrazzo floors. However, the most intriguing feature is the Guastavino vault ceiling in the waiting room similar to the one in New York's Grand Central Terminal. The brick clad office tower consisted of fifteen levels; two mechanical floors and thirteen dedicated to office space.

Clearing space for the station (and Roosevelt Park which completes the Beaux-Arts idea) required the removal of over 300 residences in the Corktown neighborhood. But the opening of the terminal spawned significant commercial and infrastructural development in the area. City street car lines were extended to connect to the station transporting passengers from the station to the downtown area of the

city. Because of the influx out-of-towners coming in from trains, medium height hotels began to spring up in Corktown providing rooms for weary travelers. MCS grew to service over 21 different routes connecting to cities like New York, Chicago, Toronto, Cleveland, Indianapolis and others. At its peak, the station would see 100,000 passengers a day. Unaware of the impact the automobile would have on Detroit and the rest of the world, there was very minimal vehicular parking accommodation within the station complex. During both the World Wars the station was a significant asset in the transportation of manufactured goods and materials to aid the war effort abroad. In the larger spectrum, MCS experienced about 40 years of strong ridership and utilization.

Along with the rest of the city, the 1950's brought troublesome changes to Michigan Central Station. As stated before, no one predicted the exponential growth of vehicular popularity. Coupled with the construction of the interstate highway system, rail ridership decreased as more individuals began to own cars and use them to travel long distances. The arrival and acclaim of airplane travel augmented this effect. As an after effect, lower passenger numbers meant a decrease usage of the station as a whole. In 1956 the station was first put up for sale in an effort by New York Central to dwindle down revenue deficits. By the 1968 New York Central Company had consolidated with Penn Railroad Company to form, Penn Central. The new entity continued to offer stations nationwide up for sell. After several attempts, 1971 brought on the first transference of ownership. MCS was final sold to the new federally formed passenger rail service company, Conrail & Amtrak. However, ridership numbers continued to drop across the country and the building proved to be



more of a burden than an asset in respect to physical upkeep; perhaps too much for Amtrak. Amtrak's last train pulled out of Michigan Central Station in 1988 and it has been unoccupied ever since.

Currently, the building sits as yet another reminder of the once wealthy, prosperous and diverse city Detroit was. Once the fastest growing city in America, Michigan Central Station is a snapshot of both the power and the demise of Detroit. From the moment the final train left the station it has been in a constant state of deconstruction by both manual and natural processes. Tracks have either been dismantled or buried in the ground. Only a solitary freight track is in use today by the Canadian Pacific Railroad Company. In 2000, the steel structured platform canopies were dismantled. The building has constantly been stripped of its stone cladding and metal finishes ever since its decommissioning as a train station. Every single original window is gone and at certain points one look through the fenestration and see directly to the other side. Over the decades of the station's unoccupied state it has had five different owners. Each of them proposing a solution to rejuvenate what can be deemed Detroit's grandest monument and each were unsuccessful. Kaybee Corporation bought the property in 1987 from the city paying off a \$400,000 mortgage debt. They had plans of turning Michigan Central Station into a commercial and retail complex. Next was real estate developer Mark Longton Jr. who took ownership in 1989. His desire was to transform the station into a casino. Two other developers would try their hands at development. Other suggestions that have been tried are converting it into a world trade center and even Michigan State Police headquarters. The station is now under the ownership of billionaire Manuel Moroun,

CEO and Chairman of CenTra Inc. who purchased the property in 1996. Moroun also happens to own the Ambassador Bridge, an international connection between the United States and Canada across the Detroit River. No plans for development are on the works under the current ownership. The story of Michigan Central Station's re-birth so far can be epitomized by local newspaper columnist, Harry Cook, "How many times have we read of one developer or another who planned to restore the station to its former glory? How many times have we been disappointed? Meanwhile there it stands; a jilted dowager in what might have been a vigorous old age, arrayed as for a tryst with an old lover who has long since left her."<sup>10</sup>

*Figure 12 Michigan Central Station site diagram*



## Losing the Narrative

We can see that at various scales the physical fabric of Detroit has been reduced to mere and almost untraceable remnants of the past. This presents the risk of losing not only the tangible city but also the memory of the city and the history of how it came into existence. What makes cities like Rome or other European cities so special is that the narrative of that place is traceable throughout the city.

I choose to pursue the site consisting of Michigan Central Station and Roosevelt Park for this thesis study, primarily because of the monumental status the building has gained and the significance it plays in the hearts and minds of Detroiters both past and present. Sites similar to MCS can be found all over the landscape of Detroit and because of their historical significance remain but yet have no functional purpose. By engaging a site and building that epitomizes the latter allows for critical dialogues about what these important historical structures could become and how they can cement themselves in the palimpsest of Detroit's past while remaining relevant in the present and future. Because the site is an industrial urban ruin with many of the aforementioned neglected materials and infrastructures existing here, it proves a legitimate test ground for the proposed thesis idea.

What must be remembered is that buildings and subsequently, cities, are constantly changing being deconstructed whether by natural forces, forces of conflict and war, or economic forces. What is missing is a system or an idea that is able to harness the contingencies of the physical city so that adapting to the environment in flux is somewhat seamless. The constant beating of rain water and wind on a building gracefully erodes the surfaces of an architectural finish. During times of war some

cities are leveled to the ground leaving behind fragments of their former buildings. Economic contingencies might mean a reduction to building usage as a means to adapt to changing markets. Buildings are even relieved of their “precious” materials by scrapers who need to make a dollar applying a subtractive approach. Regardless of the method, the outcome is the same; a reduced and deconstructed version of the initial building idea. It is erroneous to see buildings suspended in a state of stasis when the cities they are placed in are constantly being altered.

## Chapter 3: Analysis of Michigan Central Station and Site

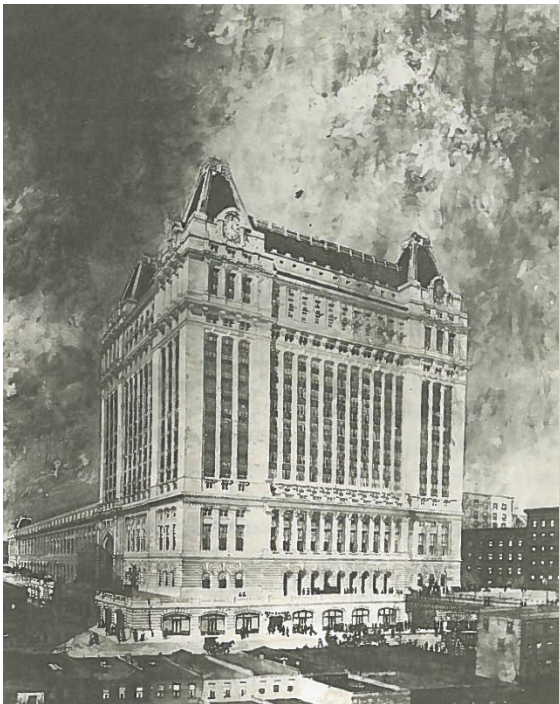
### Connections to Grand Central Terminal: New York City

It’s best to take a brief look at the predecessor, at least in concept, of the Michigan Central Station – New York City’s Grand Central Terminal. In 1904 Cornelius Vanderbilt and his railroad company, New York Central held a competition for the design of a new primary terminal which would replace the older station. Firms included in the competition were McKim, Mead and White of New York, Daniel Burham of Chicago, Samuel Huckel Jr. of Philadelphia, and Reed and Stem of Minnesota<sup>11</sup>. Reed and Stem won the competition on the count of some fortuitous events. The initial proposal they presented contained several primary features. First there was an elevated roadway around the terminal building allowing for vehicular traffic to traverse to the other side. There was also a bridge across 42<sup>nd</sup> street linking north and south Park Avenue. The most important characteristic of the scheme was a

revenue producing building sitting atop the terminal base – a 12-story office building rising from 42<sup>nd</sup> street.<sup>12</sup>(Figure 22)

When contrasting the intended elevation of Grand Central Terminal as done by Reed and Stem and the constructed main façade of Michigan Central Station (Figure 23) in Detroit some obvious similarities arise. The diagram of the buildings are very similar divided vertically in a very Sullivan-esque way with a clear base, shaft, and capital piece to top off the tower. Reading the surface horizontally, both are structured congruently with a square geometry in the middle abutted by two slender rectangular bars at the ends (Figure 24).

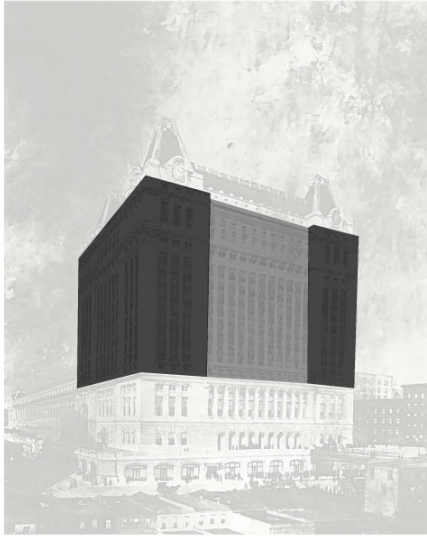
*Figure 15 Reed and Stem's initial design for Grand Central Station (Kurt C. Schlichting. Grand Central Terminal)*



*Figure 23 Michigan Central Station primary elevation. Source – Author 2013*



*Figure 24 Compositional similarities between Reed and Stem's idea for Grand Central Terminal and the front façade of Michigan Central.*



NYC Grand Central Terminal - Reed and Stem rendering



Michigan Central Station Front Façade

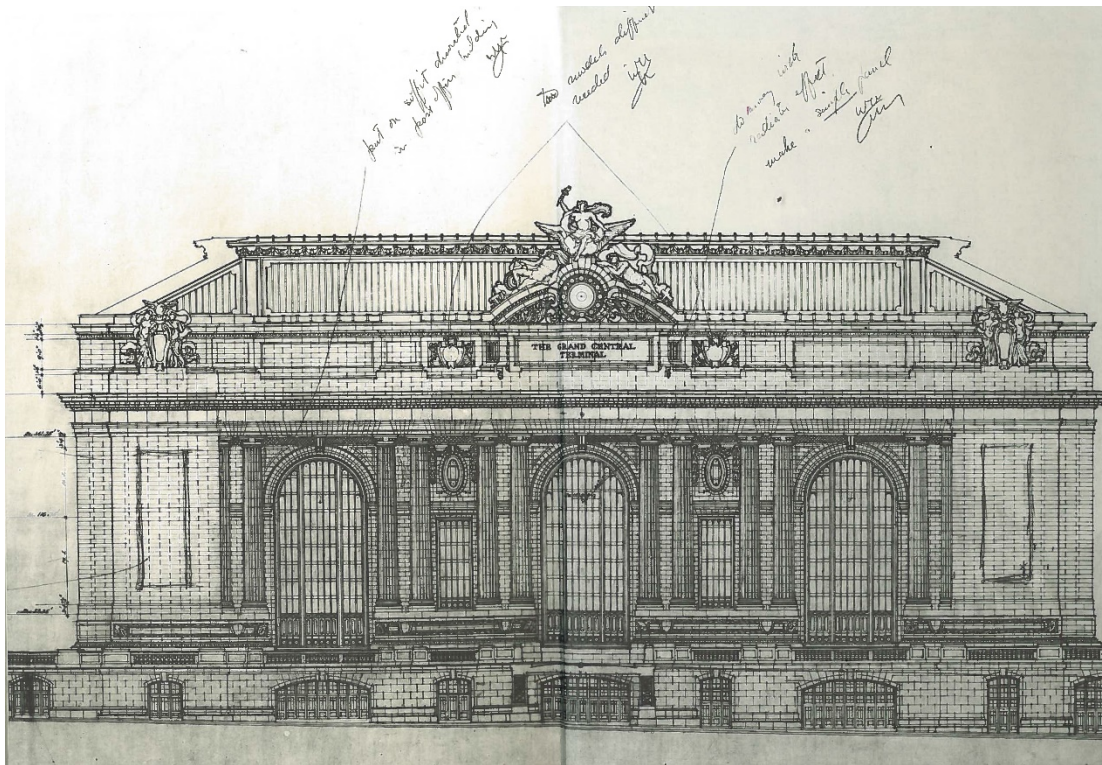
After the competition, Whitney Warren of Warren and Wetmore convinced his cousin William Vanderbilt, a member of the New York Central Board of Directors, to involve his firm in the design of the new station. The following year they were partnered with Reed and Stem to form a contractual design coalition called Associated Architects. Under this relationship the firms would also later design Michigan Central Station. However, the partnership was un-agreeable from the start. Reed and Stem were under the impression that they would receive complete freedom to design the station objectively since they were the winners of the design competition. They became quite disturbed when they discovered they would be partnered with another firm. Charles Reed would later pass away leaving Allen Stem (who wasn't a great designer) the sole representative of the company in the process of design. At that moment, Warren and Wetmore implicitly became the lead architects of the Grand Central project.

Whitney Warren would completely alter the initial idea of the preceding design team. “Warren’s plans dramatically changed Reed and Stem’s design for the interior of the terminal building...Warren also deserves full credit for the exterior treatment of [the terminal].”<sup>13</sup> They would also replace other elements essential to the former design by reducing the size but also augmenting the grandeur and affluence...

*“Warren and Wetmore’s major contributions included replacing the twelve-story revenue building, proposed by Wiglus and Reed and Stem, with a lower but monumental structure devoted to railroad functions with limited commercial space. [Their] design proclaimed the glory and might of the New York Central Railroad by adopting the language of the Beaux-Arts in a classical, low-rise building with arches and portals crowned by ornamental statues and detailing. Warren focused on the monumental aspect, rather than the mundane world of square footage and rental income.”<sup>14</sup>*



Figure 16 Whitney Warren's sketch of his design for Grand Central Terminal. (Kurt C. Schlichting, *Grand Central Terminal*)



Juxtaposing again the Michigan Central Terminal this time with the Warren and Wetmore rendition of Grand Central Terminal (Figure 26) obvious equivalencies show forth (Figure x).

With the tower completely removed in the Warren design focus is completely allocated to the terminal plinth. Both designs show a sameness in classical balance as was pursued by most Beaux Arts architects but the expression of the symmetry is of the same nature. The architectural language of the façade is also the same as both are adorned with a triplet of triumphal arches flanked by neo-classical pilasters. Ornamentation finds its way into many buildings of prominence at that time and such is the case here. The French roofs of both terminals are likened to each other. But the



most significant comparison can be made on the interior. In both buildings travelers would enter into a waiting room composed of three large vaults taking their precedent from the grand spatial ideas of ancient Roman baths. In both instances the ceilings of these vaults would be clad in an elaborate brick tiling system called *Gustavino vaulting*.

*Figure 17 Compositional Similarities between Whitney Warren's idea of Grand Central Terminal and Michigan Central*



NYC Grand Central Terminal \_ Warren and Wetmore Sketch



Michigan Central Station Front Facade

There is no question that architects copy ideas from previous designs into current ones. This occurrence happens all the time. However, my intent was to present the notion of a possible disconnect between the two designs parties involved in the New York Station and to what effect that dis-unity could have had at the Detroit Station. The fact that Reed and Stem were forced to work with Warren and Wetmore might have caused some professional tensions. The latter firm would have most certainly been upset that the entirety of their initial ideas were thrown away by

the former. Both conjured up two different ideas of what the New York building should look like, each having its own set of agendas and architectural statements that they desired to express. Whereas Reed and Stem pursued a vertical approach with a revenue generating capacity, Warren and Wetmore went for subtle size yet grand and detailed architectural monumentality, the idea that was eventually realized. What if Michigan Central Station was meant as a reconciliation project for what transpired at Grand Central? Could an initial incompatibility between the two firms attempt to resolve itself in another project? The previous diagrams clearly show how both of these distinguishable ideas find themselves attached to each other in the Detroit terminal. In my opinion, it is a collage of contradictions maybe not in program but most certainly in architectural form. This starts to unearth questions about the station that can be further answered by a formal building and contextual site analysis.

## Building Analysis

Michigan Central Station in the eyes of today's Detroiters and visitors is universally thought of as an exemplar example of cohesive architectural interpretation from the 1920's. Yet, in the eyes of the architects themselves the project was seen very differently. The lower program serviced the station and the needs of its auspice, The Michigan Central Railroad (a subsidiary of New York Central) and the above program was a real estate office venture funded by a private developer. There was a clear dichotomy from the inception of the station.

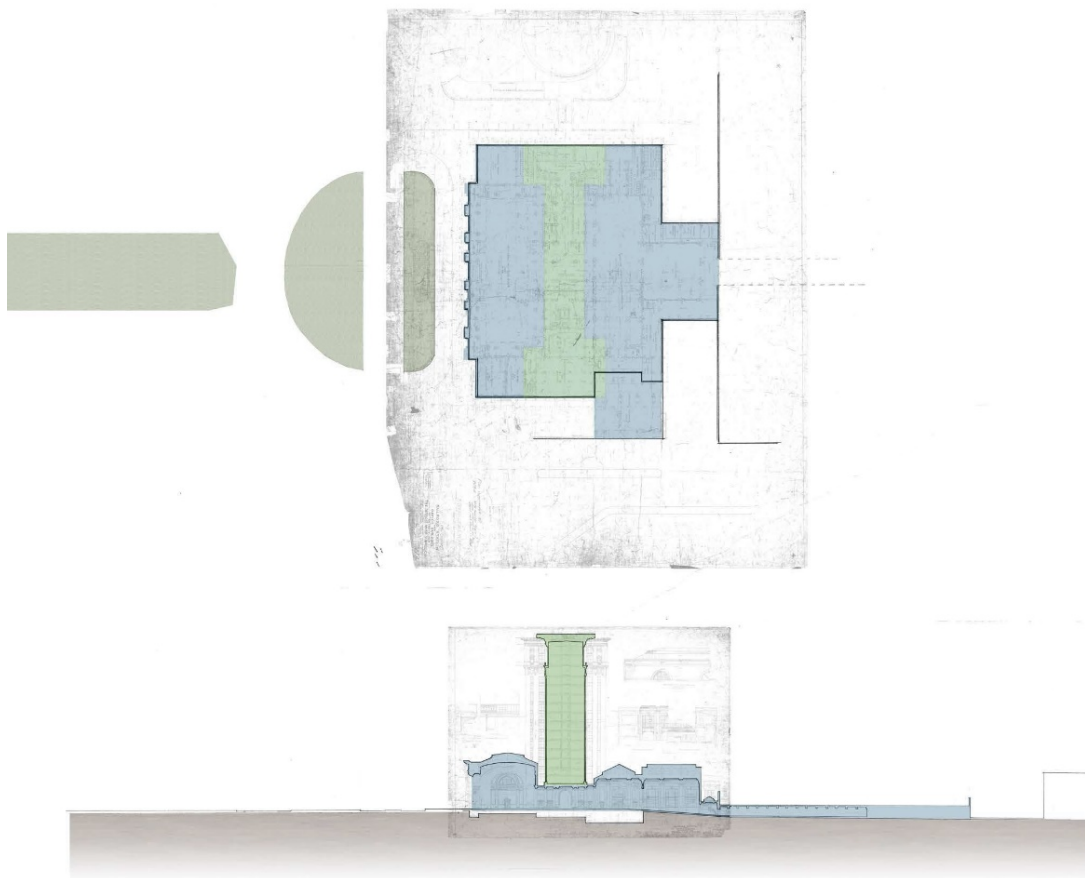
*“The architects clearly attempted to visually divorce the office building from the terminal by choosing distinct proportions, materials, and details for each*

*section and setting the taller block behind the station. The elegant classical base, executed in granite and blue limestone, established a civic presence on the street while the light brick tower seemed to hover above”<sup>15</sup>*

The manner in which this visual divorce is produced can arguably be attributed to the “mash-up” of disparate ideas discussed in the previous section. But there is clearly intention to separate plinth from tower. Peter Pennoyer and Anne Walker, authors on a book of the architecture of Warren & Wetmore, cite an architectural critic, who was apparently unaware of this design intention. The critic “complained that ‘the exterior of the Detroit Station presents an extraordinary lack of continuity of conception...each part taken separately might be good. Joined together they are architecturally incongruous’”.<sup>16</sup>

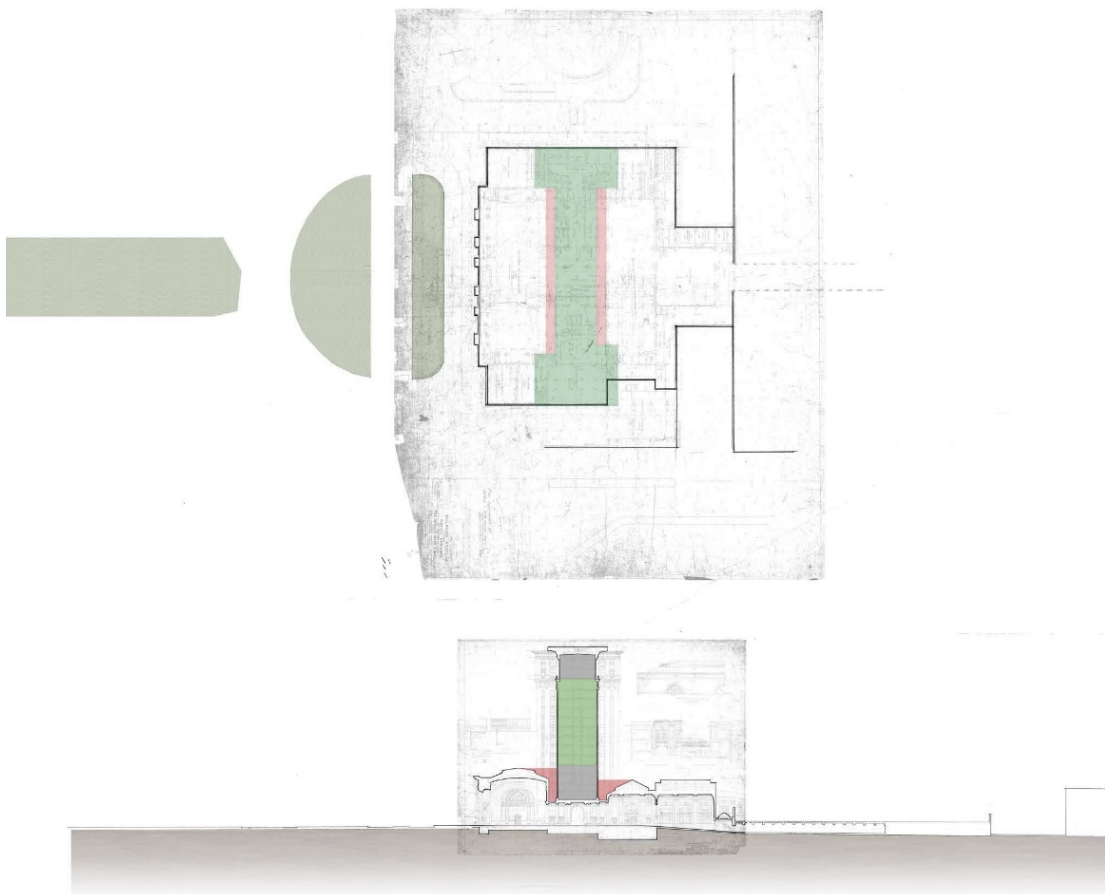
A few byproducts of this architectural incongruence can be discovered through the diagram in both section and plan. Breaking apart the terminal space from the tower in section strengthens the argument of incompatibility between the two. The tower reads as a mass carelessly placed on top of its base lending its character more to an out of scale chimney stack than an elegant high rise. The tower also lacks street presence as it is substantially set back from the main façade. It is as if the tower itself desires to retreat surrendering the foreground prominence to the Beaux Arts plinth (Figure 9).

*Figure 9 Sectional and plan diagram of MCS.*



Where the programs of the two main masses begin to conflict is at the junction of the two. The tower does seem to float producing inconvenient spatial gaps between the two masses because of setback and the high ceilings of the waiting room and main concourse below. The first floor of the tower was designed as a mechanical level but the others were intended to be occupied office space. Yet, what a person would see when looking out the windows of one of the first four levels is the tops of the trussed roofing systems covering the monumental spaces below. These occupants would receive a completely impeded view of landscaped Roosevelt Park to the North and the commotion of the train platforms to the South as well as the surrounding

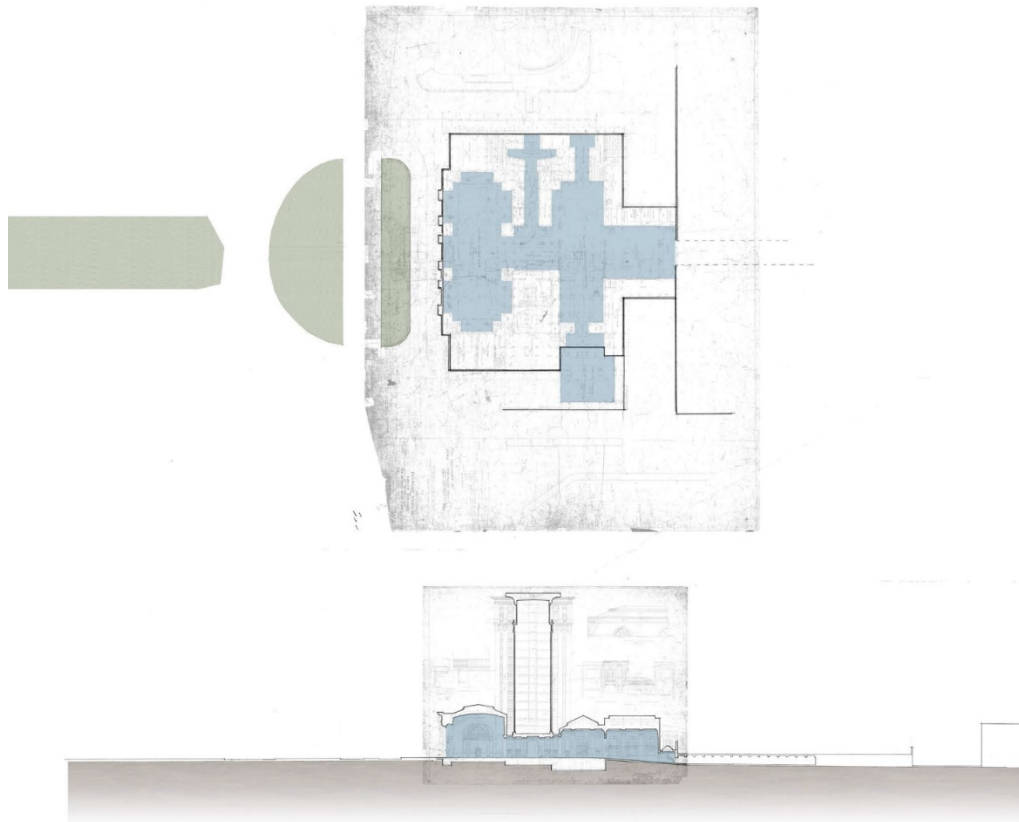
*Figure 10 Section & Plan Building Diagrams showing Tower and Plinth spatial conflicts*



neighborhoods. These spatial gaps in the building would also be prime spots for standing water build up from rain, an undesirable view which the occupants of those lower floors would surely see. Each of the fifteen floors has a capacity of 18,000 square feet. The first two levels were for mechanical use and the others were thirteen were office levels. What is intriguing is that of those office levels five were never wholly completed and the top two floors never occupied.<sup>17</sup> That invalidates over 100,000 square feet of valuable space and portrays the extreme inefficient operation of the tower.

On the terminal level of the structure there are some pretty expansive and amazing spaces. A passenger would progress through spatial sequences of expansion and compression starting with the grand vaulted waiting room and ending at the

*Figure 18 diagram of the sequence of large interior spaces.*



smaller concourse at the south end of the building. Although these volumes were meant to function as primary interior spaces diagrammatically they read similar to an

*Figure 20 Image of the Guastavino Vaulted waiting room of Michigan Central (Source - Detroit Free Press 2013)*



Italian courtyard building – solid mass framing a central volume that is entered on its geometrical axis (Figure 11).



*Figure 19 Image from the ticket lobby looking toward the main concourse (Source - Detroit Free Press 2013)*

## Site Analysis



Examining the surrounding context that Michigan Central is in uncovers more interesting opportunities for design intervention (Figure 14). The building is positioned with its main façade north facing as it addresses Roosevelt Park. The southern side is completely dedicated to rail operations.

Figure 14 Illustrative site analysis plan. Shown around the plan items that are available materials and unused around the site





This particular orientation doesn't allow for much sunlight to reach the principal northern approach because of the height of the tower. There is usually always a shadow cast on the park. What is not so easily seen is the larger network of

Figure 15 Existing site axonometric

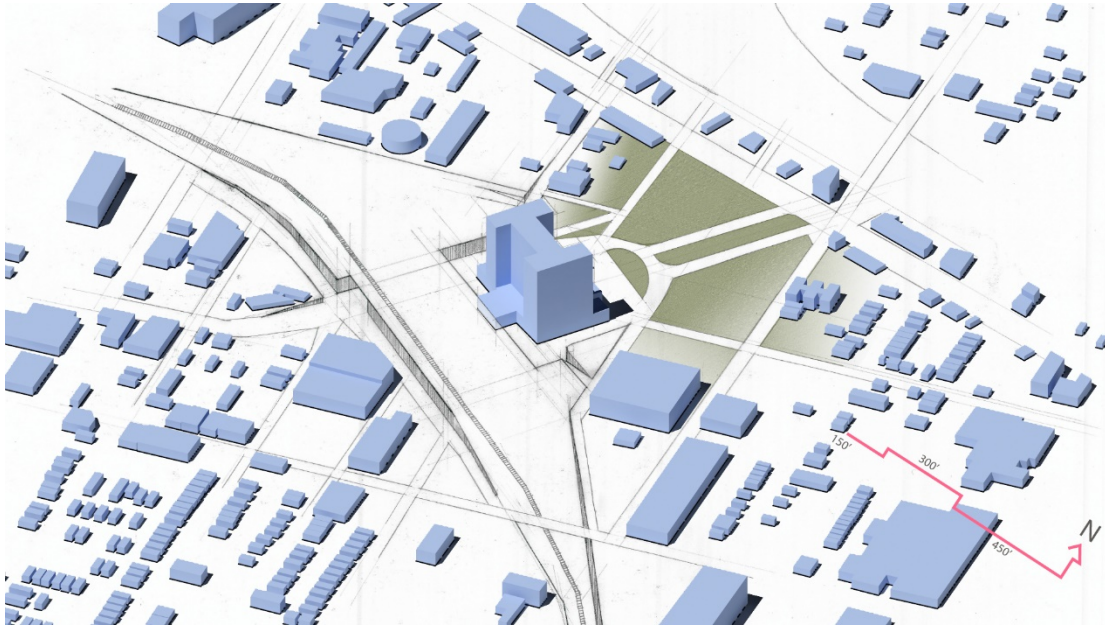
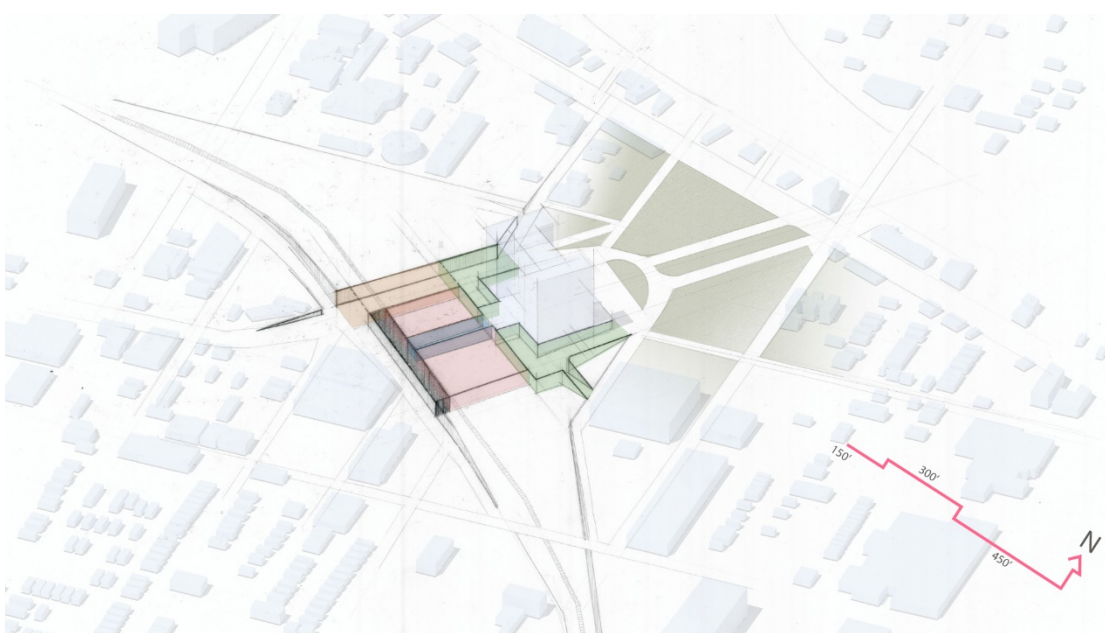
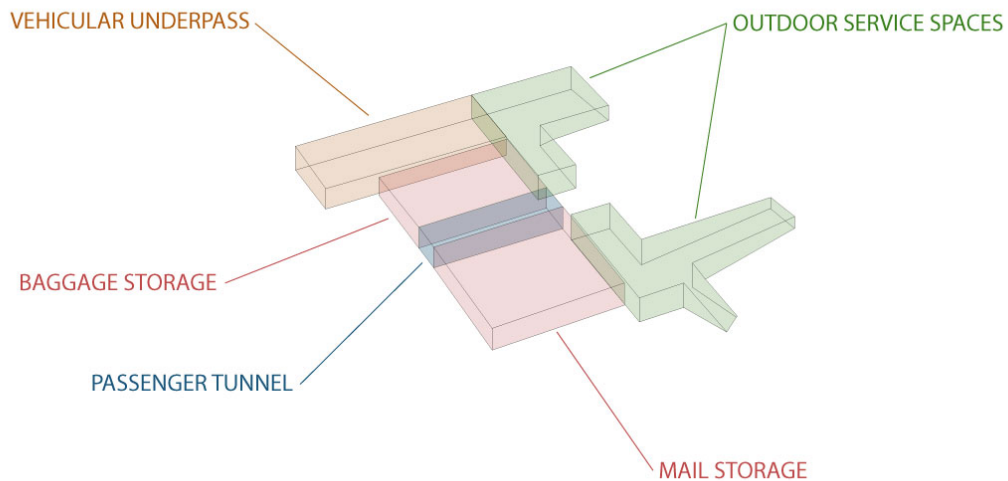


Figure 16 Diagram of the "hidden" spaces in context



spaces within the train station complex. This is partly because they exist as hidden volumes underneath the railway tracks and platforms – one to the east and west of the underground passenger tunnel. The space to the east was dedicated as a storage space for the US mail service and the other was for passenger baggage storage. Tucked between the station and the track platform are two large outdoor interstitial service

Figure 17 Diagram of "hidden" spaces



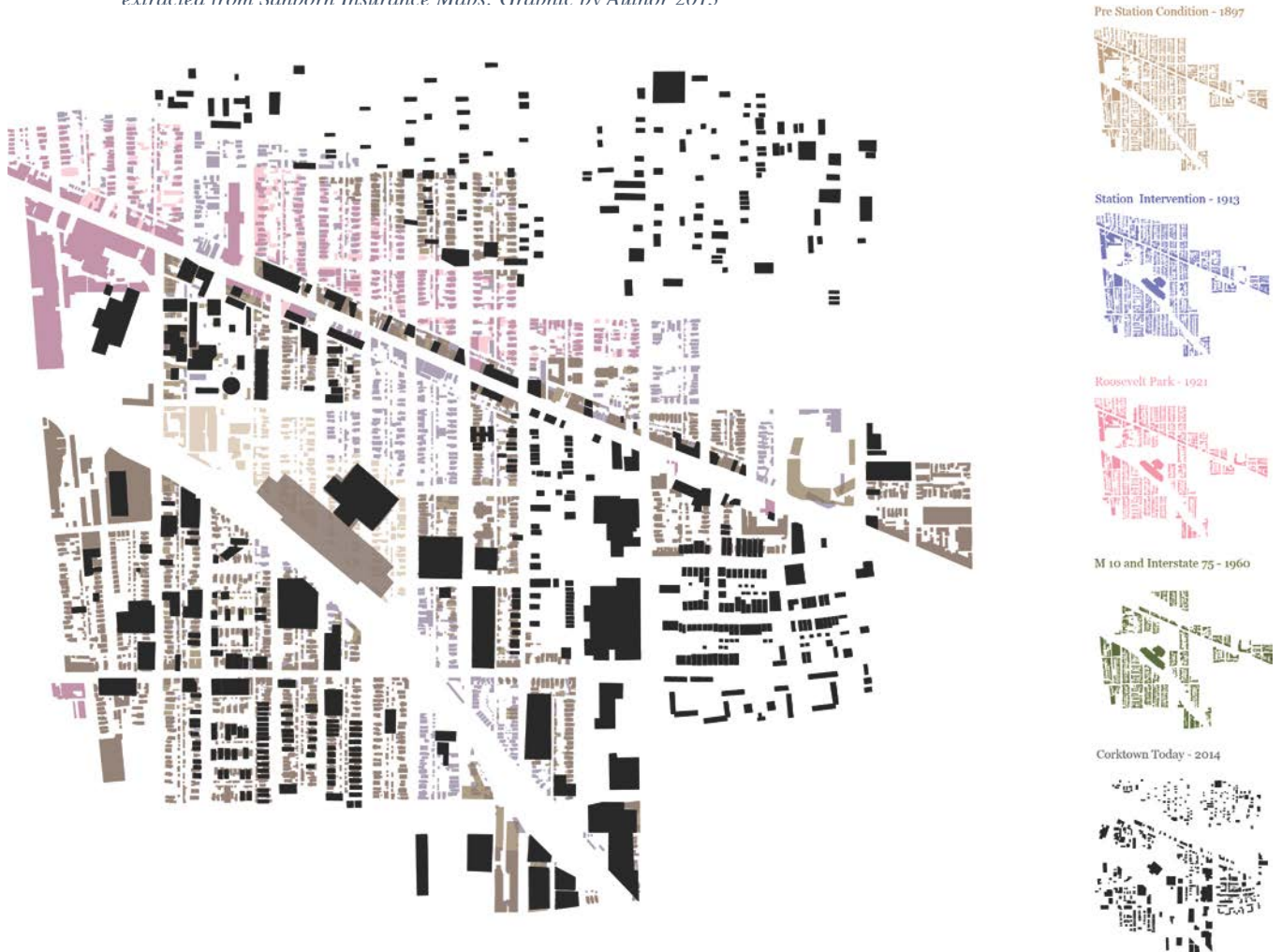
spaces. Considering these spaces altogether the station breaks away from being contained within its classical geometry and begins to present a more expansive relationship with its surroundings. This larger matrix of spaces presents a diversity of enclosures, levels and datums that make for a more interesting experience.

Graffiti makes its way on to most abandoned buildings in just about every urban city. In some cases the building doesn't even have to be abandoned. But the local urban artwork that has been applied to the surfaces of the derelict Michigan Central Station complex is of a special kind. Several exterior surfaces of the building that have been modestly tagged but the real treasure is found on the retaining walls of

the elevated train track. An entire string of graffiti extends along the southern wall underneath the vehicular underpass and through to the northern side. On the southern side of the tracks the graffiti is completely continuous. The work seems to have been created by many different artists each placing their vision in sequence with the previous one – a palimpsest of colors, ideas, techniques and statements. It is amazing to see how one artist’s mural to a deceased family member morphs into another artist’s memorial to a favorite snack - a cool painting of Chester Cheetah. There are a myriad of flags representing various Spanish speaking countries which reflects the Latin demographic dominance of the neighborhood. The walls are a literal expression of the minds and sentiments of the people that live in the area and are worthy of integration into a design proposal for the site.

Looking beyond the boundaries of the station complex the neighborhood of Corktown is a mere fragment of its former condition. A substantial part to the disintegration of Corktown can definitively be attributed to the arrival of Michigan Central Station. Layering figure ground diagrams of the site from before, during and after the station’s existence allows a visualization of that effect. Before MCS there

Figure 18 Palimpsest map of Corktown documenting the fabric of the neighborhood before and after the intervention of Michigan Central Station. What is left of the neighborhood is the darkest tone. Information extracted from Sanborn Insurance Maps; Graphic by Author 2013



was a clear presence of street blocks logically organized by a street grid. The community was knit together rather well. The station established an orientation for its approach that was of no relation to the former grid system nor was it perpendicular to the diagonal Michigan Avenue. In the process it demolished entire blocks of residential and commercial fabric consequently beginning the demise of the community.

There are small blotches of neighborhoods that are still somewhat intact. But in large, the collective is completely dismantled. The various typologies that make a community functional are sparse and concentrated away from each other. There is no shortage of abandoned buildings. Those that have been torn down have remained as vacant lots – most of them being utilized as informal parking surfaces. The abundance of undeveloped land is near the equivalent of land that is developed and because of this magnitude of open space large gaps of discontinuity separate singular buildings.

*Figure 22 Residential figure diagram. Source – Author 2013*

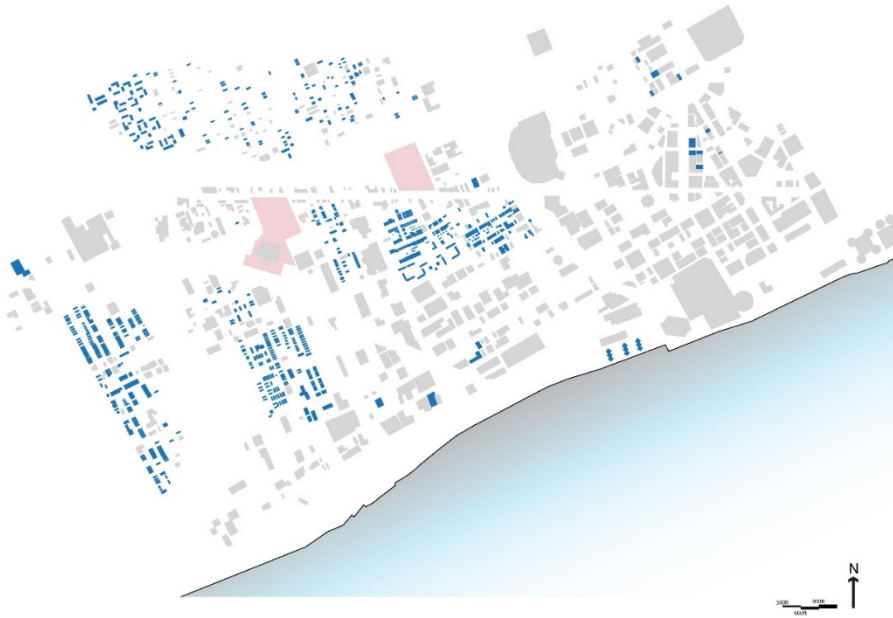


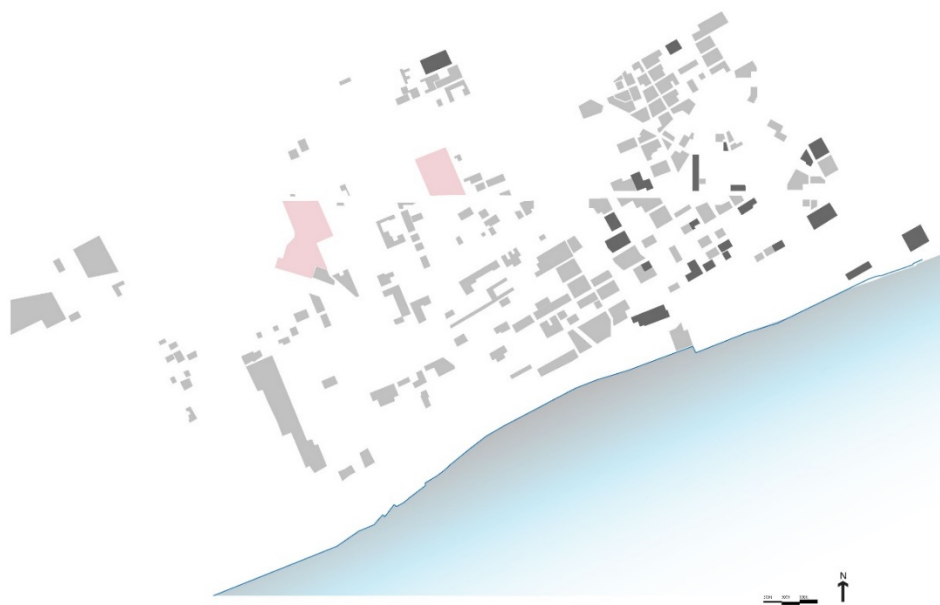


Figure 23 Abandoned building figure map. Source – Author 2013



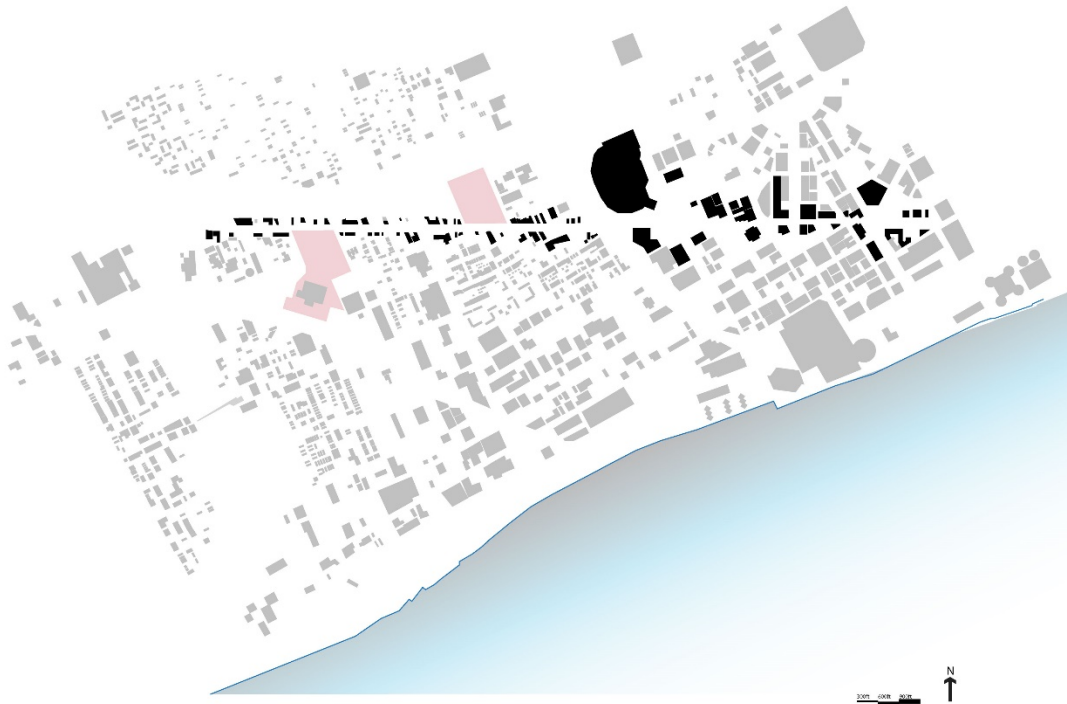
Well known are the many undesirable repercussions of a community in such a state, among them are inadequate safety of citizens, arson of dilapidated structures, misappropriation of civic services, and other factors. A clear oxymoron is the grand structure that once was the foundation of pride for the entire area and now is a factor in its deterioration.

Figure 24 Parking Surface diagram. Source-Author 2013



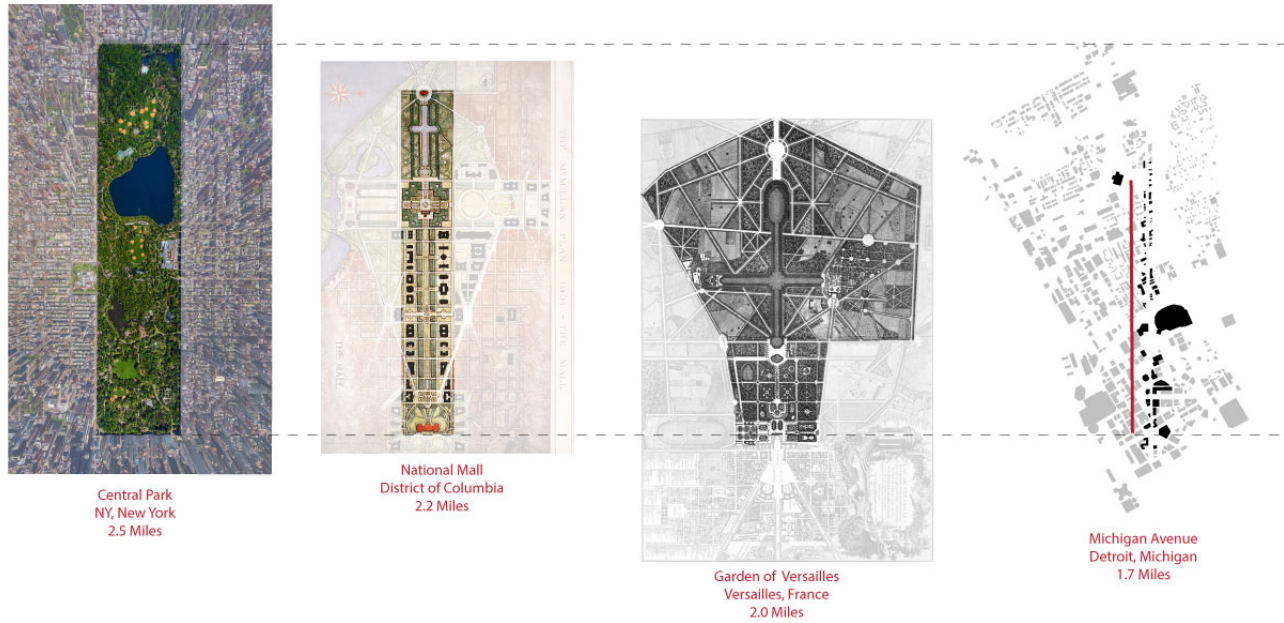
Furthering my analysis of the site I began to evaluate Corktown with respect to other surrounding neighborhoods starting with the downtown core to the east. Traveling down the main artery of Michigan Avenue the distance from MCS to the downtown's main square, Campus Martius, is about 1.65 miles (Figure 25). At a typical human walking pace that would total a trek of around 40 minutes (.5 mile = 10 minutes walking). To show how relatively short that distance actually is I compared other large scale city spaces that are very comfortable and enjoyable urban hikes. The National

*Figure 25 Route from MCS to Campus Martius traveling on Michigan Avenue. Source – Author 2013*



Mall in Washington D.C, the Gardens of Versailles in France, and Central Park in New York City are all beloved spaces, visited and enjoyed by millions every year. Each of these spaces are also lengthier than the route in Detroit: Central Park, 2.5 miles; The Mall, 2.2 miles; and Versailles, 2 miles. When the scale, prestige and popularity of these precedent spaces are considered they strongly suggest that the

Figure 26 Scale Comparisons: Central Park, National Mall, Gardens of Versailles, Michigan Avenue. Source – Author 2013



walking distance from MCS to downtown is a completely manageable and valid one if that route is designed and made enjoyable along the way (Figure 26). The condition of planned public open space is completely unconnected (Figure 27). The relationship between this monumental station and Detroit’s center presents a potential for bridging those gaps.



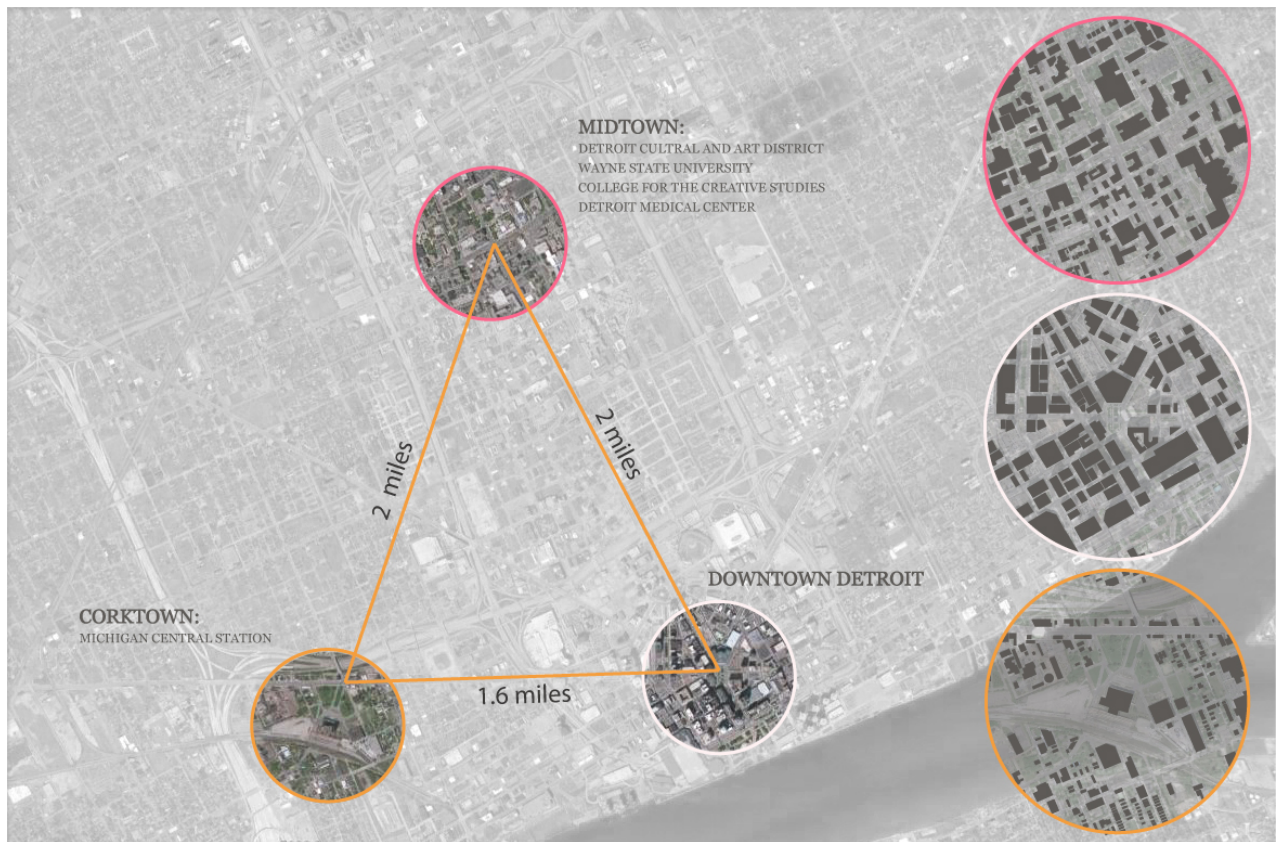
Figure 27 Public open space. Source-Author 2013



The lower section of the building and adjacent park are truly Beaux Arts at the core. However, the grand statement that is usually found in Beaux Arts/City Beautiful design and planning seems understated, erroneous and incomplete here at the Detroit station. There aren't any other grand uniform public buildings that help define the large open space such as the buildings of the 1893 World's Columbian Exposition in Chicago or the Smithsonian buildings along the National Mall in Washington D.C. There is a confluence of different orientations and grids at the site which takes away from what spatial axiality does exist. What is most curious is the orientation that was chosen for spatial complex. What is ubiquitous of spaces in Beaux Art character is the pronunciation of an elongated axis that is begun by an object and is received at the opposite end by other object; perhaps another building or a statue of some sort. There is no such relationship here at MCS. The axis is started by the building but relates to

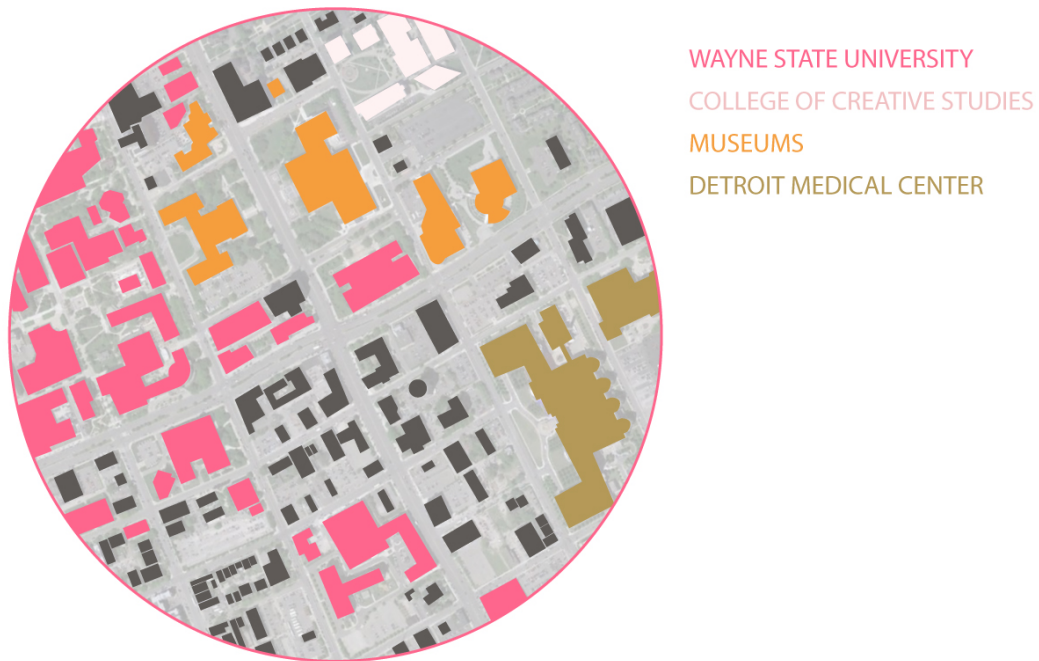
nothing from its extension. Presently that axis faces Slow's Bar-B-Que, housed in an old commercial building unable to match the scale of MCS. That structure is one that has had the good fortune to remain despite the destructive history of the neighborhood. What this tells us is that Michigan Central and this two story structure have always had this relationship. But why? This modest building could not have been the prescribed object to complete the spatial experience. The question to be asked now is was there another piece to the development here that would seek to finish the monumental spatial connotations made on the site? Were there other design phases that were never implemented? In an attempt to answer that question I speculated what would happen if the axis that begins at the station was extended beyond what exists today? What would align itself to receive that axis and where

Figure 31 Connection between Michigan Central Station, Midtown Detroit and Downtown Detroit. Source – Author 2013



would it lead to? It turns out that the only place of significance that the extended axis points to is the intersection of Warren Avenue and Woodward Avenue – the heart of Midtown Detroit. The distance between those points is approximately 2 miles which happens to be the same distance when traveling from Midtown to Downtown via Woodward Avenue. Together with the leg of travel from MCS to Downtown, a triangular network surfaces between three very important districts within the city, all within a reasonable walking distance (Figure 24). I find it no coincidence that both the center of downtown and MCS hold this connection with Midtown. Midtown hosts a wealth of different building typologies and programs that make it a very popular place in Detroit for institutions, businesses, artists, and entrepreneurs (Figure 25). Besides the downtown core, midtown is the fastest growing section of the city and has further developments planned for its future. Its home to Wayne State University and the College of Creative Studies while schools such as Lawrence Technological University, Michigan State University, and the University of Michigan have satellite campuses there. The Detroit Medical Center is also located there as well as other health facilities. Most importantly, Midtown is the location of the city's cultural district. Museums such as the Detroit Institute of the Arts, the African American History Museum, and the Detroit Historical Museum can be found alongside the Detroit Science Center and the Main Branch Public Library in this area. It is a melting pot of culture, creativity, research, education, history and learning. The downtown of course is physically connected to Midtown by way of Woodward but Michigan Central's connection is more implied than explicitly stated. What this analysis suggests is that there might have been a desire to physically link the station to the

Figure 32 Diagram of building typologies in Midtown Detroit. Source – author 2014



cultural center of Detroit by a grand avenue, the first phase of that plan being the construction of the cornerstone station. Pragmatically, it makes sense to connect this small but dense zone with the millions of people travelling in and out of Michigan Central Station. Making that link would complete the Beaux Arts/City Beautiful undertones that are modestly stated here through a sort of Baroque relationship between the important nodes. If any of this holds true the fabric of Detroit would look entirely different.

An urban design scheme is beyond the scope of this thesis topic. However, what these larger analytical findings prove is that Michigan Central Station is in a prime position within the city to reestablish urban connections. These potentials further stress that a well thought out and creative design proposal is required and warranted. What that proposal must be is peculiar – time and history have proven

that. How do you invigorate a structure that even in the wealthiest of times was never completely occupied? How do you adapt a train station in a context where rail travel is almost non-existent? How do you address a building that may have been carelessly designed from the beginning by its architects forcing dichotomous ideas to work in concert? How do you program a monumental urban ruin that no one can seem to find a function for or risk money for investment? Scrappers and scavengers have removed most of the precious finishings of the interior but the substance of the building is still intact. The steel frame structure, encased in concrete, and faced in brick and stone are all viable materials and able to be used. The question now is in what capacity if not what it was initially intended for? There is a nationwide movement within urban cores where organizations are addressing abandoned and dilapidated buildings by prudently deconstructing them and redeploying the salvaged materials in different places and with different functions. This strategy contains many idiosyncrasies contrasted to the United States' constructive culture yet it allows a controlled metamorphosis of the built environment. This tactic goes beyond simply "stuffing" an old building with new program but promotes sustainable change, design invention, and reason for a structure's being regardless of the inevitable fluxuations of the cultural and ecological environment. The architect reinvents the architecture and in the process continues the historical palimpsest of the city, showing erasures and interventions. I propose that the theory of deconstruction be applied to Michigan Central Station as a means to adapt the structure into 21<sup>st</sup> century Detroit.

## Chapter 4: Architectural Theory and Programmatic Considerations

### Theories of Deconstruction and Roman Spoglio

One of the primary reasons that Michigan Central remains in such a neglected state is that no one is sure what to do with it. Should it be demolished? Should it be restored to the grandeur of its former glory? Should it simply be stuffed with a new program? Or perhaps all three. Framing Michigan Central Station as a metamorphic object instead of a static one is the beginning of finding a solution to the abandoned monument. Urban deconstruction is the process that will allow that change and concurrently salvage some of the history of the object as well.

Urban deconstruction is not to be confused with demolition. Both terms are similar in that they refer to the reversal of something which has been constructed. Where they differ is in the process of that constructive reversal. Whereas demolition forcefully reduces a building to rubble, deconstruction prudently takes apart a building with the same care in which it was constructed. The latter usually results in the rubble being transported to a city dump or incinerator. The former enables the materials to be salvaged and reused. Urban deconstruction attempts to create a cyclical relationship between the city, the inhabitants, and the individual buildings trying to recycle each within the process.

Perhaps the most significant aspect of urban deconstruction is that it allows buildings to behave in a way that aligns itself more to the ever-changing nature of our cities.

Author Steward Brand gives an accurate synopsis on the metamorphic condition of buildings based on functional typology. His definitions reflect the ideals of deconstruction in that it states how all buildings must change ...

Commercial buildings have to adapt quickly, often radically. Because of the intense competitive pressure to perform they are subject to rapid advances that occur in any industry. Most businesses either grow or fail. If they grow, they move; if they fail they're gone. Turnover is constant. Commercial buildings are forever metamorphic...Institutional buildings act as if they were designed specifically to prevent change for the organization inside and to convey timeless reliability to everyone outside. When forced to change anyway, as they always are, they do so with expensive reluctance and all possible decay. Institutional buildings are mortified by change.<sup>18</sup>

In each case the Brand frames the built environment as a thing that changes contingent on the various forces that operate the city.

Urban deconstruction organizations are being established in almost every major post-industrial city that has suffered from population decline and economy failure on some level. Usually non-profits, these organizations deconstruct and salvage almost every component possible of a home from the dimensional lumber to the fixtures to the flooring. They then prepare everything that has been harvested so that those materials can be used once again either for an architectural use or in the fabrication of products. I was able to interview two of these organizations during the research phase of this process; Second Chance in Baltimore City and Reclaim Detroit in Detroit, Michigan. Both are exemplar operations. But in the case of Reclaim Detroit they are unique in that they engage in the market for salvaged materials as



well as the market for products made from salvaged materials. In addition, a great portion of their operational efforts goes into researching how these harvested materials can be utilized as foundation pieces of architecture and not simply interior elements. Although the market for such materials is increasing, the awareness of urban deconstruction is still struggling to gain traction.

The issue with the application of urban deconstruction today is that it is still a relatively small grassroots operation. The scope of application is usually focused on residential buildings and not in enough quantities to make significant effects at the urban scale. This project will seek to expand the scale at which the urban deconstruction process is applied.

In the age of Roman Antiquity this idea of deconstructing and reusing buildings was called *spoglio*, an Italian word literally meaning “the spoils”. It refers to the Roman preoccupation with reusing materials and building fragments ushering

*Figure 37 Apartments in the Jewish Ghetto of Rome. Medieval structures juxtaposed against Renaissance buildings. Holes refer to exterior beams and scaffolding that was removed. Image by – Author 2013*





those into the built environment of the present. Perhaps this is a reason why Rome and other cities of its empire are so rich in history and are frequently visited by people from all over. Because of spoglio it is not uncommon to see a building palimpsest containing over two thousand years of history. One such building might reveal ancient Roman foundations supporting a medieval tower with an intervention attached to it from the Renaissance Period which then serves as a building within a Baroque piazza complex. In another case, a new

*Figure 38 A fragment from what seems to be a Roman Bath incorporated into the structure of an apartment complex dating to the Renaissance Period. Image by –*



*Figure 39 The opposite side of that same building. Pieces of possibly a Roman Temple and columns from perhaps a basilica or via protrude up from the ruin floor. The Teatro Di Marcello is partially visible in the background. Image by – Author 2013*



structure might contain the columns from another ruined building that preceded it. In the eternal city itself, countless examples abound all over. The range of building sizes and typologies are irrelevant. Spoglio can be found in simple apartment buildings to the grand palazzi of the Papal Italian elite, such is the case with the Palazzo Della Cancelleria.

In our contemporary society it may seem counterintuitive to remove portions of buildings or reuse ones that are in a ruined condition in an effort to make them

*Figure 31 Palazzo Senatorio on Capitoline Hill in Rome, looking from the ruins of the Roman Forum. Remnants of Ancient Roman, Medieval and Renaissance interventions are visible here accounting for 2000 years of history. The building is still in use today as the meeting place for Roman legislators. Image by - Author 2013*



functional again. But this theory has been used for many millennia and the existence of such buildings today proves that it is an effective strategy. The ideologies of deconstruction and spoglio are also highly sustainable processes because of the embodied energy that they retain.

## Embodied Energy

As it pertains to initial costs, demolition is more often than not a substantially cheaper option than salvaging a building. In its most recent appraisal, Michigan Central Station was estimated to cost between \$110 - \$300 million dollars to renovate opposed to only \$5 - \$10 million to demolish<sup>27</sup>. As it relates to overall costs however, demolition is a terribly inefficient option both financially and sustainably because of the lost embodied energy. Former chief architect of the Preservation Services Division of the Illinois Historic Preservation Agency, Mike Jackson FAIA, states that “Embodied energy is the sum of all the energy required to extract, process, deliver, and install the materials needed to construct a building.”<sup>28</sup> By completely destroying any structure you delete all of the time, effort, and financing that went into making that building a reality. Most modern green-building rating systems do not take into account the lost energy of a disposed building.<sup>29</sup> As a result most developers and owners are unaware that new builds after a demolition require numerous decades before any net energy savings are reached. The energy and money that was lost has to be recompensed. Due to the massive physical nature of older buildings, such as Michigan Central, this can be a substantial amount of energy lost when starting the new build.

Using an existing building for an updated purpose goes beyond its financial and sustainable benefits. It allows the story of a place to be retained for future citizens to see, enjoy and experience. “Retaining the embodied energy in historic buildings would obviate the need to build a new structure and assure that the energy already used to manufacture the building parts was saved for future generations”.<sup>30</sup> But in

some cases a critical re-appropriation of a building's energy and parts is required for its survival. This is where the idea of deconstruction is so effective. Although it can drastically change the initial form of a building the energy is not lost because those removed components are reused. In the case this project, the materials are reused on site. In an ideal situation, complete retention of a structure would certainly be the best choice from an economic and ecological stand point. But in the circumstance of monumental buildings, that ideal may prove to be absolutely unachievable. Even still, a partial deconstruction is more sustainable and financially lucrative than complete demolition. It also keeps the building tangible allowing it to continue within the ongoing physical palimpsest of the city.

Holistically, Michigan Central is a great candidate for deconstruction because of the substantial amount of material it contains. By the numbers, the station holds 8 million bricks, 125,000 cubic feet of marble and granite, and a whopping 7,000 tons of structural steel.<sup>31</sup> In the stations current decommissioned state those materials provide no functional purpose other than keeping the ruin itself intact. Deconstruction could potentially solve that by allowing these things to shift and reorganize within the site. It enables the architect to transcend a simple preservation attitude and allows the creativity and design skill set to move to the forefront of a project. It has stronger potential in producing a unique solution that is reflective of its context. But perhaps the most celebrated thing about this ideology is that it provides a practical method in retaining a monument so intrinsic to its place and people. To lose a building like this forever would be similar to not including important chapters in a history book. But it is also almost naive and ignorant to keep the building in its current state.

## Museum of a Monumental Ruin

In American society there is a clear dichotomy between what it means to be a monument or a ruin. Monument, as defined by Merriam-Webster, is “a lasting evidence, reminder, or example of someone or something notable or great; a memorial; to remind.” Ruin on the other hand means “a physical, moral, economic, or social collapse; the remains of something destroyed.” Both of these definitions refer to the past and frame some moment of history. These interpretations present more similarity between the two terms than differences. Although we perceive a monument to have a high standard of value and a ruin to be worthless, ironically they are treated in the exact same way. Take for instance the Thomas Jefferson Memorial located on the National Mall in Washington D.C. Millions of people gather from all over to see the monument that memorializes one of the most prolific individuals of American history. The value of the monument is widely accepted and agreed upon. In comparison, the ruin of Michigan Central Station attracts large amounts of people as well yet the physical condition is totally adverse to the memorial.

The link here that attracts swarms of people in both instances is time. Regardless of the condition of each, both encapsulate some instance of history rather it be the economic collapse of a city or the founding of an entire nation. In European and perhaps other cultures, it can be argued that the similarities of a monument and a ruin are acknowledged blurring distinctions between the two. These blurred lines have produced fantastic precedents for studying complete ruins that have been

adapted for contemporary use. The one included in this document is the ruin of Trajan's Market in Rome, Italy.

I propose that the potential presented by the groups of people frequenting the derelict station be harnessed through the program of a museum. As part of my site and building research I interviewed individuals that were specifically visiting the station. What resulted from that particular portion of research was a short video documentary. In those conversations people expressed their desires to enter and explore the building, some even explicitly stating it should become a museum. Some conveyed their disapproval of demolition. I was even fortunate enough to catch a local film being shot using the station as a backdrop. Before the station was completely surrounded by barbed wire it was a popular spot for urban explorers, artists, and of course vandals. What was most surprising is the diversity of individuals that were visiting the station. Not only did the gathers travel from different regions across the nation, they also hailed from different countries. It was amazing to discover that a ruin could pull people to the city from all over the globe.

An article featured in the New York Times sums up the world-wide public's infatuation with Michigan Central as well the benefits of allowing the public inside. It references Phillip Cooley, the owner of a local restaurant near the station. He calls the building "an education" and states that over 30 people a day approach the ruin to take pictures or just to gaze in amazement.<sup>32</sup> "It shows our postindustrial landscape: how nature takes over, what abandonment looks like. There's a lot to be learned from its current state. It needs to be a public space again."<sup>33</sup> A museum would certainly

provide the historical and educational experience people are travelling thousands of miles for.

## Educational Spaces

Michigan Central Station really is “an education” just as Mr. Cooley had mentioned. If anything it is a principal paradigm on the unique construction techniques used in the early 20st century. With the application of deconstruction some other didactic potentials begin to surface and influence the programmatic considerations for the station. One is the location of a local university’s presence on site; the other is the integration of a deconstruction organization on site. Incorporating these tenants into the function of the building will create dynamic working and learning relationships as well as promote and sustain the growing trend of deconstruction in cities.

Second Chance, the premier deconstruction non-profit in Baltimore, has a good small scale organizational model which they operate under. I was able to sit down with both President and CEO Mark Foster and Deconstruction Sales Manager Paula Huber who gave me some operational insights. Listed below are a few important facts and conclusions from that conversation.

- They operate within a 200,000 sq. ft warehouse in the heart of Baltimore City which serves as their warehouse, corporate offices, and retail store.
- All buildings that Second Chance deconstructs are donated either by the city or by private donors. Private donors receive tax credits and usually give a monetary gift.

- On average Second Chance deconstructs 110-120 structures a year. Most of them are residential and because of the row house typology prevalent in Baltimore, most of those residences are outside the city.
- Primary salvaged materials include lumber, flooring, some small stone ornamentation, appliances, furniture, doors, fixtures, flooring, and miscellaneous metals. Materials not salvaged include structural steel, brickwork, concrete and stone work.
- Completing a deconstruction takes between 5-7 days. Only 1-2 dumpsters are ever needed to dispose of materials not salvaged (city dump material).
- Second Chance hires its employees from the citizenry of Baltimore through a partnership with the Mayor's office. Most are first-offenders looking to receive a fresh start. Through Second Chance's 16 week on-site job training program these individuals receive valuable building trade skill sets and a vast knowledge of residential construction/deconstruction.

Similar organizations in Detroit operate within the same structure and scale except Second Chance has a much more progressive social employment program than the others. Foster and Huber mention that it usually takes an additional 12-18 months of work experience for a trainee to master the art of deconstruction, intending the trainees expound on what they have learned elsewhere or start their own businesses.<sup>34</sup> Although impressive, the model of Second Chance and others like it is not equipped to function at a large scale nor does it take advantage of all of its instructional avenues. Nonetheless, it is a good example to start with.



The primary potential that needs to be exploited more is the endowment of knowledge and skills that pertain to the craft of deconstruction. The deteriorating conditions of most urban cores will make disassembling buildings a very popular option in the not so distant future. The exchange of this expertise should not be limited to one group of people but expanded to include individuals such as future architects, developers, engineers, preservationists, ecologists and even those interested from the general public. Through the vehicle of a designed oriented urban university this knowledge would be obtainable to a wider range of people and strongly advance the trade. In Detroit, universities are already beginning to create urban campuses where the act of study and research has a more visible relationship with the city. The University of Michigan has its Detroit design center located just outside of the Downtown district on Woodward Avenue. Wayne State University and College for Creative Studies have both been located in the Midtown area of Detroit for decades now. In a conversation with Prof. Steve Vogel, former Dean of the University of Detroit Mercy's College of Architecture, he explained how studios within the college are always engaging in design projects centered around the issues unique to urban areas. Lawrence Technological University (LTU), has a very interesting and unique new urban campus currently under construction in Midtown Detroit. Called the Detroit Center for Design + Technology, the building will consolidate all of its previously sparse design campuses in the city and new research spaces under one roof. In addition to the university's presence the center will also house the preservation and architectural offices of Quinn Evans Architects, capital investment company Invest Detroit, and a retail component. This particular typology

promotes the university's image, creates interactions between students and professionals not before afforded, and promotes good design and urbanism. When asked what the motivation behind such an initiative was, Associate Dean of LTU's College of Design, Amy Green Deines, stated "There is nothing better for a student designer than to be part of what they are studying ... Our new center will put our students right in the middle of the dynamic changes that are gaining momentum along the Woodward corridor."

My proposal will include programmed space for a design institution as well as space for the services of building deconstruction. This will highly augment the range of functions previously found in the old model of operation.(Figure 38) It does so by

# ORGANIZATIONAL LAYERS

FORMULATING A PROGRAM

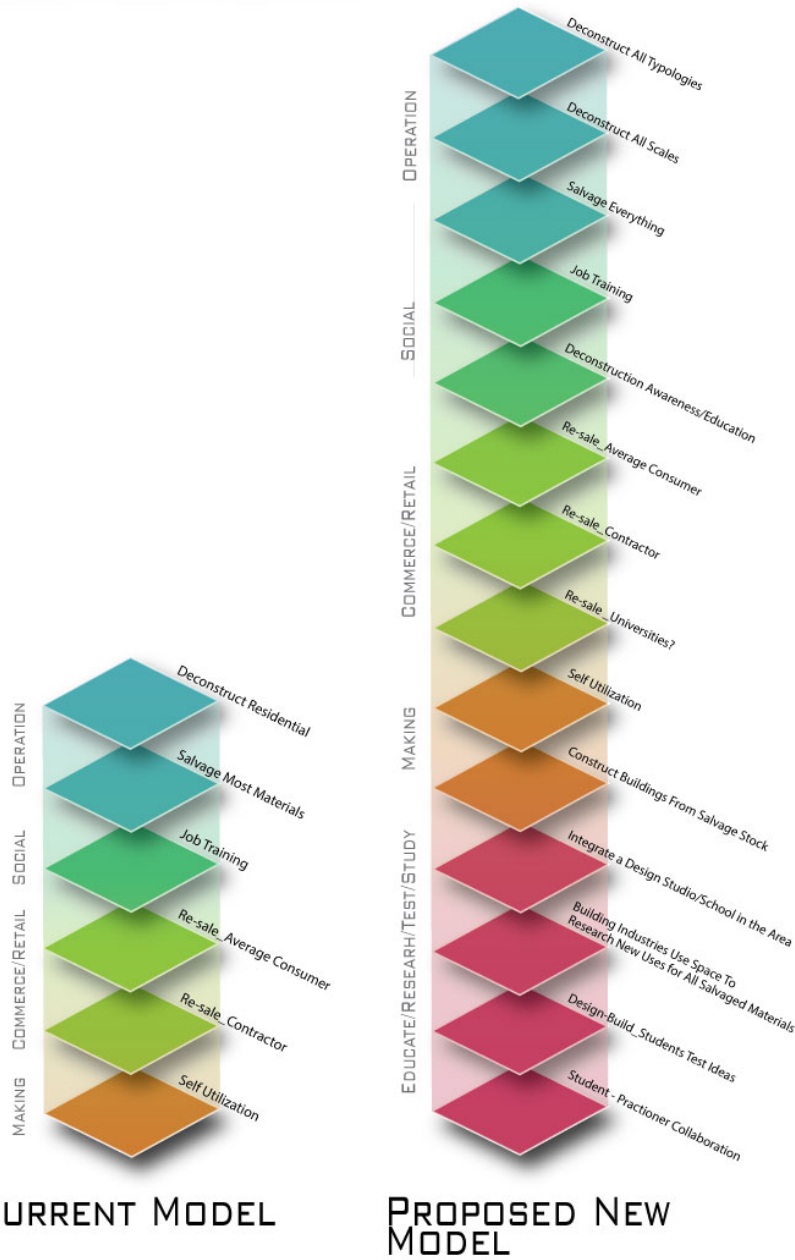


Figure 38 Diagram of organizational structure of current and new model for deconstructive

centering functions around five main categories each obtainable through adding the agent of a university: Education/Research, Making, Commercial, Social, and Operational. This programmatic foundation allows students, professors, professionals, tradesmen and city dwellers to operate with in the same vicinity of space; a building which epitomizes the common interest of the city and deconstruction. What will result from this integration is an intense synergy completely focused on expanding the science of deconstruction and cementing Michigan Central as the hub for urban ideas and research.

## Regional Transit Hub

Previous owners have suggested a diverse mix of uses of which none have ever manifested. I believe that part of the buildings use should be allocated to what advocated the existence of the structure in the first place – a transit hub. The infrastructure is in place and proves to be in prime position to tap into what could (and should) become part of a regional network. But what shall become of the remaining elevated spaces of the building is subjectively the most perplexing question that needs to be asked?

## Chapter 5: Precedent Analysis

To only look at precedents of adaptively reused train stations across the globe would greatly hinder the discovery of an adequate solution for the rehabilitation of the Michigan Central Station. Doing so might suggest that the station can only be that and nothing else which I feel will further stop the building from being a variable that

is allowed to change with the city. This is not to say that rail service should not be a component of the building's future program, but it also must not be the only option. The scope of which to pull precedents from must be expanded. In broader terms, Michigan Central is not a train station but a monumental urban ruin. It is a superior structure that memorializes both the past and present of Detroit's culture and economy. For that reason, all relevant precedents shall be sent through a filter to ensure some element of monumentality, a ruin of derelict state and a deconstructive or spoglio character is present. Since the idea of reusing structures and the urban palimpsest is not a contemporary idea, this pool of precedents will also include models from antiquity.

### Palazzo Della Cancelleria – Roma, Italia

Contemporary times hosts quite a few portrayals of what I would consider effective adaptive reuse projects. However, within the eras of antiquity there is a wealth of precedents that allude to the adaption of buildings and structures over time; showing in parallel how the fabric of cities change with the transposing of its politics, economy, and culture. Perhaps the most ancestral example to what I'd like to pursue with MCS is the conception of Il Palazzo Della Cancelleria, in Rome. It was commissioned by Raffaele Riaria Sansoni, the great-nephew of Pope Sixtus IV and completed in 1514 A.D. What is most unique about this palace is the nature and character of its façade; "The façade is extraordinary...instead of plain stucco front, the place has a monumental travertine surface (made with stone from the Colosseum) on its principal side, to the east, divided into three main horizontal fields broken up

by shallow pilasters.”<sup>39</sup> Instead of quarrying new stone, the travertine that graces the surface of the Cancellaria was taken from the defunct Flavian Amphitheatre, or The Colosuem which at that time was already a magnificent ruin of the city. Dignitaries saw fit to repurpose perfectly good materials for another use – they were adapted from the 3<sup>rd</sup> century into the 16<sup>th</sup>, not destroyed.

### Kolumba Art Museum\_ Architect Peter Zumthor – Cologne, Germany

Kolumba Art Museum in Cologne, Germany is a fitting precedent of study for this thesis because it exemplifies what it means to be both a memorial monument and a ruin. Called the, *Museum of Reflection*, Columba uniquely “allows visitors to immerse themselves in the presence of their memories” by merging the peculiarities of the site into one architectural piece.

Contained on that site were the remains of the 11<sup>th</sup> century Church of St. Kolumba was destroyed in World War II, an archeological site of excavated Roman foundations, and small memorial chapel dedicated to the destruction of the city during war. Welding these idiosyncrasies together with the prestigious art collection of the Archdiocese of Cologne provides interesting spaces of contemplation - where old and new can be viewed in the same instance.

What is most intriguing about this project is the methodology that architect Peter Zumthor uses to create these spaces of meditation. Most of the initial Gothic church on site existed as an almost complete ruin. The typical designer would see little value in the dilapidated structure unable to satisfy the role of its initial purpose.

The remnants of the church also allude to the World War II bombing that almost obliterated the entire city. Instead of starting a new it seems Zumthor not only desired to create a place where art could be viewed in space objectively but also a place where the architecture itself adds to the artistic collection to be contemplated. In this case the context in which the art is experienced is with in art itself. He creates volumes using the stone remains of the gothic church as the starting point. External tranquility courtyards are enclosed by new surface and battered church walls with pointed arch fenestration allowing the visitor to reflect on the exterior modern world and the city's tumultuous history currently. Other courts host sculpture where the object can be gazed upon while juxtaposed against a back drop of fragmented brick and stone. In some instances he "completes" implied surfaces of the ancient stonework with his own careful interventions allowing a fantastic palimpsest of ancient and contemporary masonry construction techniques. The intervention is prudent as not to take away from the significance of the original structure. In either case the expressions of scars, marks and weathering from the original building are just as highlighted as the individual art pieces themselves and in some places.

The archeological find consisting of ancient Roman ruins further heightens the architecture as a place of contemplation. The destruction of the old church revealed that the building was resting on stone foundations dating back to the Roman era. The Parish of St. Kolumba was an example of material reuse and *spoglio* all on its own. To harness this asset Zumthor leaves the substructure from antiquity exposed enclosing it in a volume of composite surfaces composed of the fragmented medieval wall and a grayish brick assembly intervention. Completing the enclosure is an

elevated volume supported by selectively placed slender columns. The intent, is to allow the display of the history and site of the church as told through its structure. Zumthor places a suspended walkway in the space that traverses the archeological enclosure which grants the visitor a personal interaction with the ruins not before given. A complete taxonomy of all the changes of the site can be reflected on all at once.

The architecture here breaks down the objective nature that the profession traditional promotes becoming not only an artistic piece for viewing but also one to be experienced. Therefore, the art is experiential as well. The viewpoint taken from the inception of the project was that the ruins of the site give unspeakable value to the sense place. The ruin is evidence to the citizens of Cologne and visitors as well of a city that was once on the brink of extinction during World War II. Yet, in its ruined state serves as a local monument that constantly reminds the city of its past and how far it has come during its reconstruction phase. The design merges both the monumentality and ruined state of the site into a museum that encourages people to experience what was and what has become. The site is historically significant yet we see how careful alterations can heighten the importance of a place. The initial bombing provided most of the alterations. Zumthor made further changes by integrating a new wall system into the old and placing column supports for the elevated volume with in the pit of the excavation site. Although, these alterations were made the site seems improved because of it. The building is allowed to change, moving it beyond a primarily significant object within the city arising to the status of



cultural experience. The church changes along with the city telling the story of its metamorphosis along the way.

## Chapter 6: Design Approach

### Design Objectives

The design proposal is very complex and occurs at both the urban scale and the building scale, each having several agendas. However, the intentions of the design at either scale can be summarized in 3 main points:

1. **Collect:** The design will seek to collect materials through urban salvage and deconstruction creating a storage nexus of fragments from the physical city.
2. **Educate (or engage):** Educate users on the process of urban deconstruction and conservation. Users will also learn about the history of Detroit through the lens of its physical palimpsest as an urban artifact.
3. **Build.** Consolidate the separate entities of architectural industry to create a complete collaborative environment of all parties involved in the inception of the building. Design schools will integrate with deconstruction organizations along with contractors forming a cycle of ideas, techniques, people and materials.

### Building Proposal

The summation of the program for Michigan Central is focused around the ideas of making and memory. Beginning in the monumental terminal base, the original function of the building as a passenger rail transit hub is reestablished providing the foundational pedestrian traffic through the building along its main axis. Aligned along that axis are the newly adapted vaulted waiting room and the courtyard like concourse as well as the new spatial atrium which I will talk about later. These spaces now serve as the public realm of gathering and interaction for the users of various programs of the building. Along the periphery of the public realm are spaces that are completely dedicated to making, working, and researching with salvaged and harvested materials. These materials which are collected from the decomposing city of Detroit as a whole are housed in the storage areas underneath the rail tracks.



*Figure 44 Material reservoir underneath rail track platforms*



*Figure 45 Smoking Room transformed into a making space*

Through a series of service ramps these materials are extracted from the reservoir into to the main building where they will be utilized. Of those working spaces will include fabrication shops for metal and woodworking, making studios, and a conservation lab for things such as ornamental stone detailing. The recycling process of Detroit's physical history is put on display to users of the building in passing. Culminating at the heart of the building is an atrium that links the base with the tower creating a spatial link that had not existed before. It is through that atrium that the memory of

Detroit's physical history is linked with the making portion.

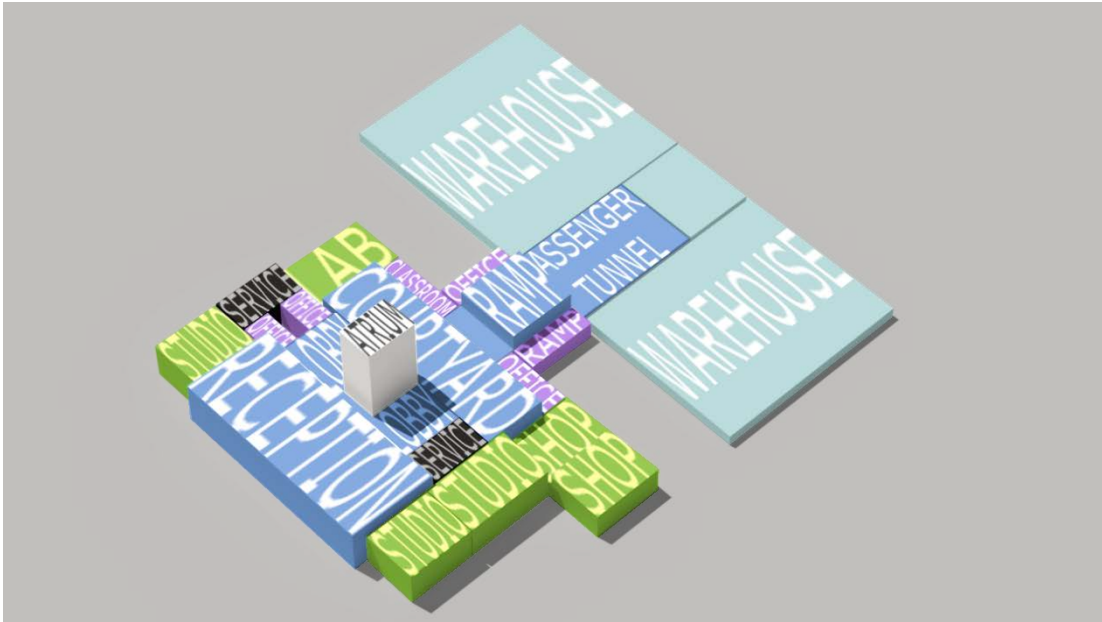


Figure 46 Programmatic diagram of new functions in the building's base. Source – Author 2014

The immediate levels of the tower are dedicated to a museum of Detroit as an urban artifact or as an object. Each level highlights a particular aspect of Detroit's manifestation as a city. Proceeding vertically through the tower by way of the atrium the user is educated on the narrative of Detroit's history. Some of those categories include architecture, organization and planning, parks and plazas, and neighborhoods, and transportation. Everything that went into making of Detroit will be documented highlighted in the museum. The pinnacle of the museum presents the user with a

panoramic view of the city along the axis that extends from the station.

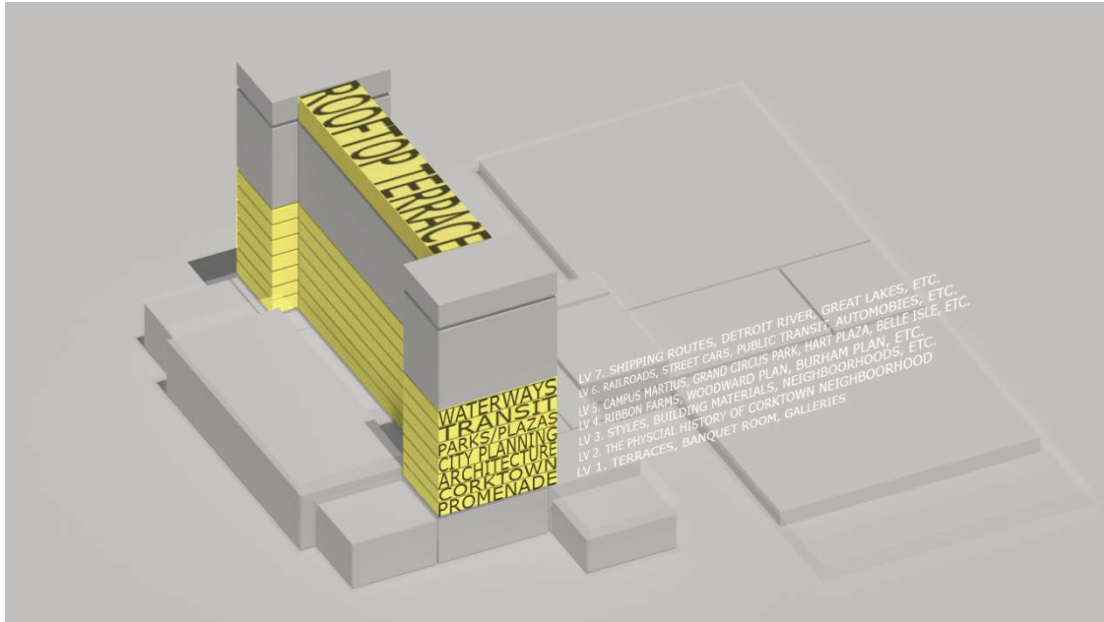


Figure 47 Programmatic Diagram of museum in the building's tower. Source –Author 2014

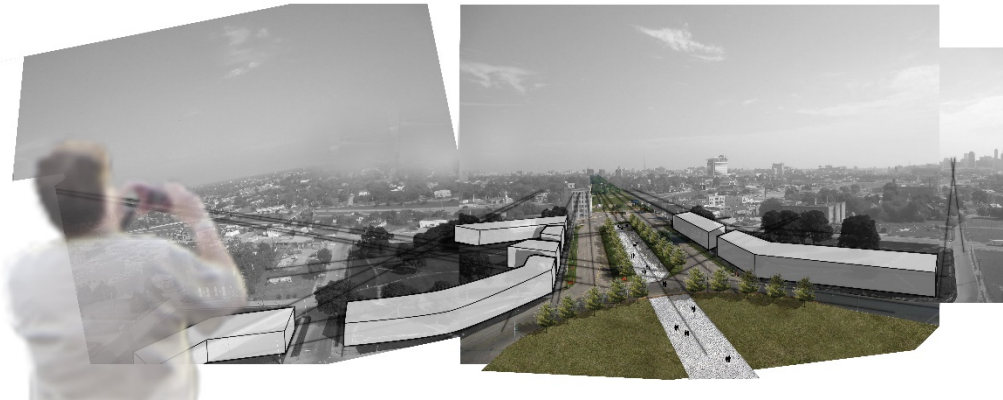


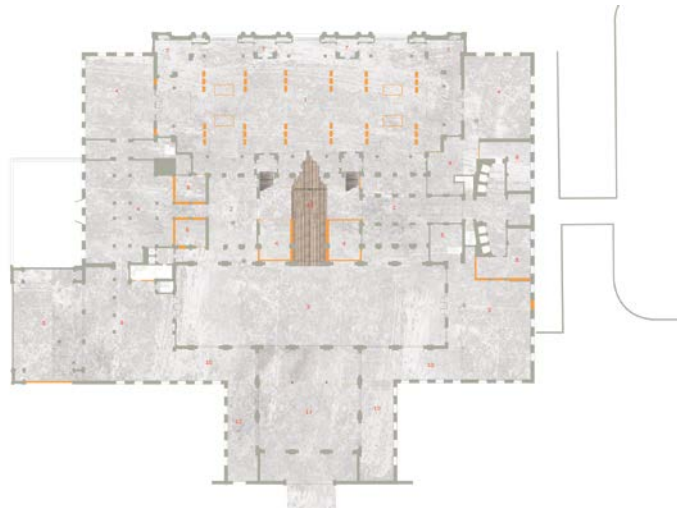
Figure 48 View of the city along from the top of the tower. Source- Author 2014

Staying with the central idea of Deconstruction, all of the interventions inside the station are composed of the materials that have been salvaged from the surrounding landscape and the building itself. The atrium skin and the moveable museum wall panels portray this idea. The atrium unites the base and the tower not only spatially but also aesthetically as well. Made of old wood floor boards aggregated together, the skin creates a visual unity allowing the space to read as one.

The boards are attached to the exposed steel frame and staggered to allow light into to the spaces behind and views of people moving up through the space. The source of light into the space comes from the tower windows now operate together to illuminate the interior in a completely different way.



*Figure 50 Section of newly adapted and deconstruction Michigan Central Station. Central to the design is the new excavated atrium that unifies the base and tower creating a unique spatial relationship. Source – Author 2014*



*Figure 49 Ground floor of newly adapted Michigan Central Station. Clearly marked in plan is the new spatial link that extend vertically through the building in section. Source – Author 2014*



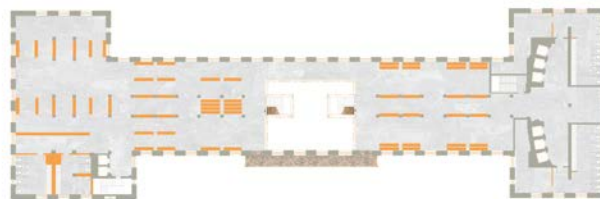
On the gallery level, spatial variability is the motive. Though a moveable panel system the spaces for viewing and organization of exhibits are very flexible. Stacked six dense inside the central structural bay of the tower, the panels can be moved to create two large gallery spaces or several smaller alleys for viewing. Those panels also double as light screens when placed completely adjacent to the window allowing not only a control of space but also a control of light. Just as the atrium skin, the museum wall panels are made from salvaged materials displaying methods in how these seemingly useless materials can be adapted to different functions in a contemporary world.



*Figure 52 Gallery level with wall panels in the closed position.*



*Figure 54 Gallery Level with wall panels in an open position*



*Figure 53 Typical Gallery level with wall panels in an open position*



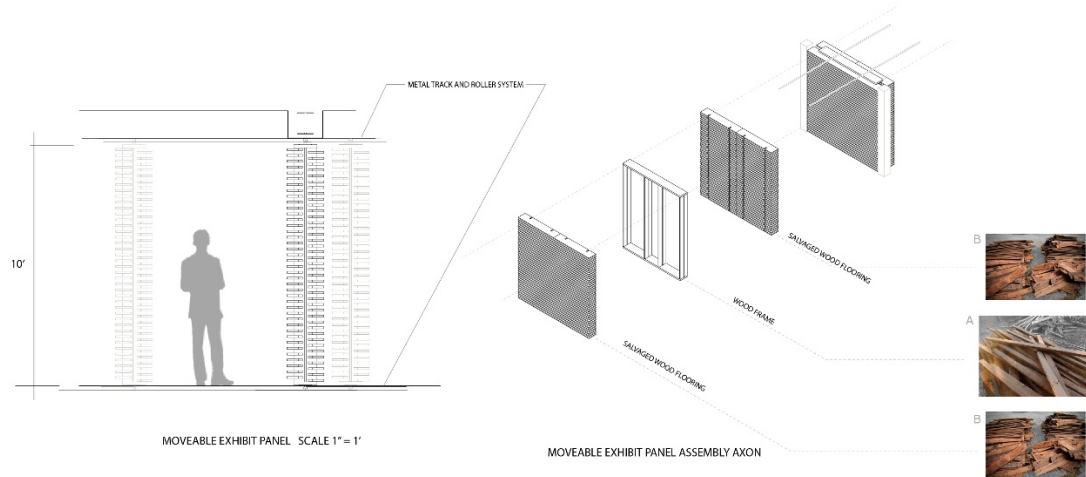


Figure 55 Assembly Detail for moveable wall panels. Source – Author 2014

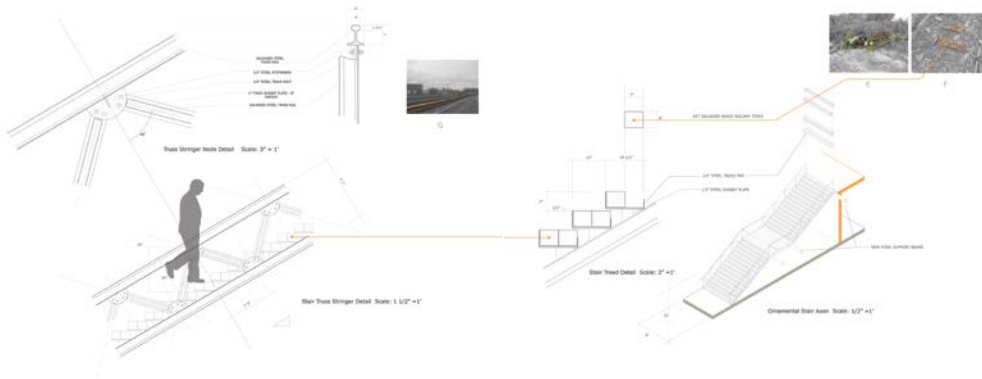


Figure 56 Stair axon and tread details

Figure 57 Details for steel rails used as a stair stringer truss. Source – Author 2014

Found on site were train rails and wooden ties either embedded into the ground or stacked off to the side of the site in piles. Seeing this as an opportunity, I used those elements to construct a monumental stair something the station had never had before.

Steel train rails are made of steel just like their architectural counter parts. Because of the size of the members (rails are around 7 inches x 6 inches) assembling sections together in a truss formation proved to be very advantageous. Consequently the salvaged industrial steel serves as the support for the stair as well as the hand rails component. Here the train rails get to continue their functionality as a conduit for movement, this time for pedestrian traffic. The treads of the stair are comprised of the wooden rails ties. Typically about 6" x 6" x 6', when coupled together in pairs these members create usable stepping surface. Once again the ties serve as the unifying element for their steel counterparts.

## Site Proposal

Michigan Central is isolated from the rest of the city in much the way a high modernist building would be. It is an object in the landscape. My research has proven that this condition was perhaps not the intention. In an effort to begin relating the structure into the surround fabric I thought it responsible to speculate on how the regeneration of MCS could possibly spur the future development in the Corktown area. I developed a phasing sequence that would serve as the strategy for this neighborhood to grow in a responsible and sustainable way.



Figure 61 Existing figure ground of MCS site.  
Source – Author 2014



Figure 62 Phase 1 MCS site development. Source – Author 2014



Figure 60 Phase 2: MCS site Development.  
Source - Author 2014



Figure 58 Phase 3 :MCS site development.  
Source - Author 2014



Figure 59 MCS station neighborhood after phasing development. Source - Author

The first phase constitutes aligning buildings along the edge of the axis that extends from the building into the landscape. This creates an urban room that is more pedestrian in scale and highlights the axial approach to the station. Also created in this phase are the pedestrian plazas in the front and back of the station mitigating the traditional vehicular dominance in approaching the building.

The second phase involves creating better edges along the Michigan Avenue, the main thoroughfare to the north that leads directly into downtown Detroit. The remainder of the blocks that comprised the vast Roosevelt Park are also filled in. These moves will help make pedestrian connections to other prominent parts of the city as well as bring an element of density to the area. The last phase is a simple infilling of the surrounding neighborhood with new residences, retail, and commercial functions. The result is a more legible and cohesive neighborhood

## Chapter 7: Concluding Thoughts

There were several successes and failures throughout the process of this thesis – more failures than successes in my opinion. However, I am a firm believer that no one great success can come without many failures along the way. If anything the process was very enlightening.

Perhaps the greatest success I experienced was the path being laid for the rest of my career. Before beginning this study I had no overwhelming interest in working with existing buildings. But soon as I began to delve into the research process the amount of historic information that I uncovered was immense. Tracing the lineage of an object and a place revealed to me so many informative layers that there was never a dull moment. Figuring out how these layers translate into an architectural intervention is something I could see myself doing for years to come.

One of my sure failures was my timid-ness in the adaptive approach toward Michigan Central (although carving through the building is something I'm certain is unconventional). I'm not sure what inspired that timid nature. Possibly it was the fact that this was the first adaptive reuse project I had ever done and I was simply trying to stay within my realm of comfort and comprehension. Maybe it was the sheer size of the building and its surrounding site. It would take a few years and an experienced team to comprehensively transform the structure in any way. Whatever it was it kept me shy in my approach especially as it pertains to the facades. Being able to reflect on the process a bit now I feel much more comfortable working in the realm of existing structures.

Maybe not as much as a failure than it is more a challenge was working with an existing building let alone one of the scale and prestige of Michigan Central Station. In conventional architectural studios the architecture is usually totally generated from the mind of the student. It is autonomous and objective to the creator – and original work. And so the preparation for an adaptive reuse or even historic restoration project

is not typically a skill set that is taught in architecture school. Seeing that most of our attention as designers has shifted back to urban areas this should began to reflect itself with in the formal architectural education. However, I found it an exciting challenge to begin with a given building which adds an entirely different set of implications. One of those being a formal analysis of the existing object both at the building and site scales. I strongly believe that in order to create a meaningful intervention toward an existing building it must first be understood the original author of the work has done. Through that process a series of discoveries will guide the new designer on what could possibly be altered, changed, and manipulated.

I times I felt very overwhelmed throughout the process. Not sure which approach to take which in some instances kept me in a stasis during the design formation. Reflecting, I wish I would have modelled a lot more instead of simply relying on the drawing. In other respects I also wish I would have relied more on precedents and conducted a more in-depth investigation of pervious and like mined project. It is through these methods that I will advance the progression of this project.

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## Endnotes

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