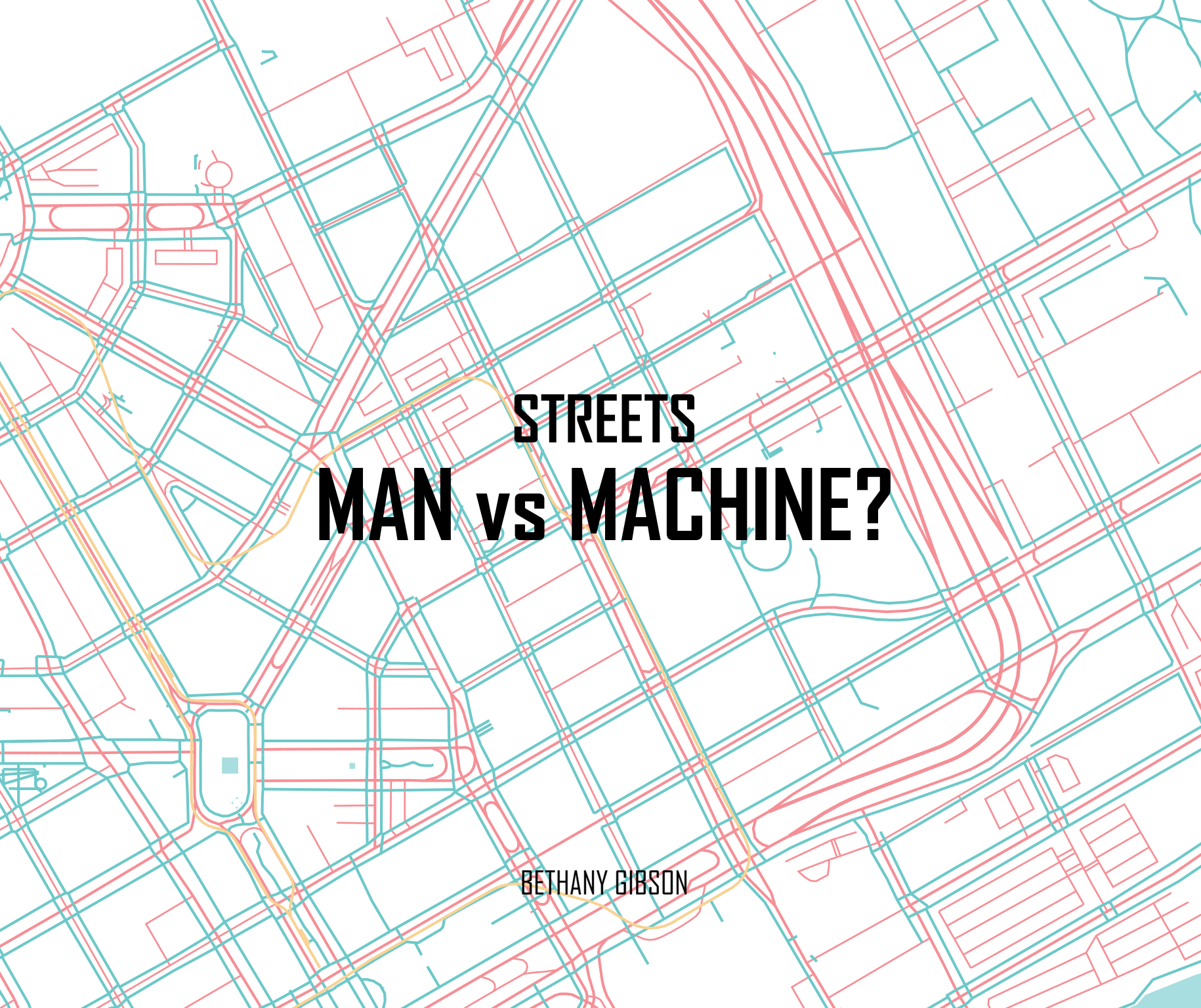

STREETS
MAN vs MACHINE?

BETHANY GIBSON

TO MY MOM

Who always believed and supported
me through this whole process.

STREETS: MAN VS MACHINE?

This book explores the concept that
man and machine can operate harmoniously
on an urban street. Through a series of interventions, main
thoroughfares like Jefferson Avenue can transform
into public social spaces to promote casual physical
activity as well as reconnect Detroit
with the riverfront.

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FOREWORD

We begin our day with a cup of our preferred caffeination and brace ourselves for the endless fray on the expressway as people run amuck fighting for the best parking spot, running red lights and rolling through stop signs with a singular focus of making it to their destination quickly.

Impatience and tempers climb higher as the panic of making it to work alters the perception of time. Now, things that should not bother us become an annoyance. Why doesn't everyone just drive instead of walk or cycle? After all, it is the Motor City. It is this cultural self-image that the car is the most important being on the road that has led to Detroit becoming the 18th deadliest city in the United States (Insurance Information Institute, 2019). People in cars, people on bikes, people on scooters, and people on their own two feet. They are all people and as such have equal right to commute efficiently and make it to their destination alive.

As it stands, a person walking along a city street has a lifetime risk of 1 in 556 chance of being fatally struck by a moving vehicle. Road design plays a major factor in this statistic. The average lane width of Jefferson Avenue in downtown Detroit is 14 ft, 3 ft wider than the recommended lane width to achieve safety equilibrium amongst all forms of transit (Karim, 2015). One of the primary causes of this phenomenon is the Peltzman Effect which occurs when drivers react to safety regulations by increasing other risky behaviors (Schmidt, 2017). Historically, roads have been designed like expressways and are surprised when they are driven as such. How a road is designed can either promote or discourage the occurrence of the Peltzman Effect. We must lobby for multi-modal transit operating harmoniously on the street. No longer should there be bike share stands with nowhere to ride them redesigning Detroit as a truly livable city.

Since vehicle travel has such a strong hold on Detroit, it will be a fight to convince certain people that this is a necessary change but there have been cities who have turned their car-centric cities into people-centric cities as a result, each of these cities reported that life satisfaction as well as the economy have seen a significant upturn with increased tourism and a decrease in incivilities such as littering (Local Government Commission Center for Livable Communities, n.d.). As people in cars, on bikes, on scooters, and their own feet become accustomed to the new road structure, we will finally be able to pass the title of least happy city to somewhere else.


All Beef Hot Dogs

PREFACE

In the summer of 2018, I participated in a study abroad program based in Volterra, Italy, a small, Etruscan town perched on the hills of Tuscany. Volterra, a town that has stood since before the existence of the Roman Empire consists of three to four story buildings forming a continuous street wall punctuated only by narrow alleys and public squares. The narrow streets paved with local stone with shell fossils from a bygone era echo with footsteps of locals and visitors alike with only an occasional car squeezing past. The town which can easily be walked in its entirety within a day's time, leads to numerous social interactions with shopkeepers and those who, like you, are enjoying a pleasant stroll about town in a casual search for those with whom they are familiar or simply to savor the beautiful day. It was comfortable, relaxed even.

Lacking personal transportation meant that I, along with my classmates, had to explore Europe via rail, bus, and my own two feet. Walking to a station to board a tram, bus, or train altered how I experienced my surroundings. I was able to take it slow and absorb the nuanced details of the city and interact with those I never would have otherwise met. At a café on the streets of Paris, I conversed with a Parisian about acceptable etiquette in an American transaction. I learned from him and he learned from me. Speaking with people on the streets of a city gives you a perspective different than you would expect. I was warned prior to my flight for Europe to be wary of the French particularly those from Paris as they resented anyone who did not speak French. A stereotype that was falsified by the first French meal.

In Berlin, I was able to move about the city on public transit which arrived promptly and consistently. During the ride, I could soak in the views of the streetscape. There were restaurants with exotic dishes, clothing stores displaying the latest fashions, tourists being humorously touristy to the annoyance of others, and artists performing for a gathering crowd on the sidewalk. All seen from my seat on the tram.

Upon my return to the States, I was greeted by passive swaths of asphalt parking which had replaced the vibrantly energized public squares. I have seen graveyards livelier than these sidewalks. Street walls were flattened into faceless monsters daring you to approach, that is if you could make it across the street. I was stuck, literally stuck, in traffic with my fraying nerves tangling into balls of pure rage and anxiety. I just wanted to get to my destination and open a bottle of wine. It is during my road time that I wish for Berlin's public transit for its timeliness, the easy access of Volterra's little shops, the beauty of Paris' gardens, and the vibrancy of Bruges' squares and wonder why can't the best of all these cities be translated into North American cities?












BUS ROME

1 INITIAL RESEARCH

[FLOW]

"[Flow is] a state in which people are so involved in an activity that nothing else seems to matter; the experience is so enjoyable that people will continue to do it even at great cost, for the sheer sake of doing it."
Csikszentmihalyi, 1990

Is there one cut and dry method to achieve flow? There is not according to Csikszentmihalyi, the path to flow in daily life is as unique as the individuals themselves (2016) but architects, can create an environment which fosters this experience. Csikszentmihalyi has however formulated eight characteristics by which flow can be identified:

1. Complete concentration on the task
2. Clarity of goals and reward in mind and immediate feedback
3. Transformation of time (speeding up/slowing down of time)
4. The experience is intrinsically rewarding
5. Effortlessness and ease
6. There is a balance between challenge and skills
7. Actions and awareness are merged, losing self-conscious rumination
8. There is a feeling of control over the task

Granted, he identified these characteristics based upon the study of what would traditionally be considered a personal task, i.e. solving a puzzle, learning a new language, etc., but this same concept is applicable to the urban condition. When people experience control over their environment, they react to difficulties with increased positivity in comparison to when problems arise in an unfamiliar environment or one in which they possess minimal control (Ding et al., 2014). It can also be a way of life if there is a conscious effort both from urban planners as well as city residents.

[EMPOWERMENT]

Everyone is a designer. Everyone can influence change in the environment in which they live, work, and develop as individuals. As those who inhabit cities evolve it is right to assume that the cities themselves too will need to evolve to address societal changes. The difference between the evolutionary development of humans through ideological and perspectival shifts of how cities should be present

themselves on a gradient scale from personal to societal.

On the personal level, how people directly interact with their immediate surroundings, those which they regularly encounter through daily activities, and those outside of the norm directly influence which districts or neighborhoods continue to thrive and which wither away until they are cleared by the city funded wrecking crews or destroyed by illicit behavior such as arson. Either option can present the appearance of derelict, dangerous conditions for citizens. It is not only the responsibility of planners and city government to evaluate what should be done to remedy, or better yet prevent, these types of actions from occurring but also the responsibility of individuals who live, work, and play within the city. As Gabe Klein, Commissioner of the Chicago Department of Transportation (CDOT) from May 2011 until December 2013, stated in his book Start-up City, "In my mind, a key component of continuous process improvement is a constant feedback loop, and this applies not only to things or services, it applies to people and their performance (2015)." Without the feedback of the citizens, city administration will be unable to fully interpret and understand what is occurring throughout the various city districts leading to inequitable allotment of funds for enhancements.

Enhancements can include elements such as parks, street lights, street and sidewalk maintenance, shared transit, improved public transit, among others. But how will city administration know where these enhancements are required when they are not receiving the necessary feedback from those living within the districts? This leads into the first question, why do so few people both within the city administration and the districts fail to communicate necessary repairs and desired enhancements? The impulsive answer is that no one cares about the conditions of the city enough to act upon daily observations of the urban condition. However, further thought and research would propose that the individuals do care but the system in which they are operating is broken to the point that it renders unto the individual a false perception that they are powerless to address the issues and implement remedies.

It is the responsibility of the planner to actively engaged to determine project goals and work with political bodies to accomplish those goals. It is the responsibility of the citizens to keep the decisionmakers accountable and grounded by remaining involved in the processes through offering ideas, skills, and time. To simply "accept whatever decision is made by the body politic (Walden, 2006)." is not acceptable. At times the governing body is out of touch with the needs of the neighborhoods in which they are proposing additions or alterations. Situations such as these require the planner to uphold their responsibility within the fiduciary relationship with the public to advocate in the best interests of the citizens. Individuals with differing opinions voicing ideas is not something to be feared or prohibited but not necessarily followed without inhibition. At times it may be necessary to agree to plans which are not fully agreeable to all parties but under no circumstances should plans be approved without proper due process regarding potential side effects, whether good or bad, that could be incurred from that course of action.

[SHARING ECONOMY]

The sharing economy is based upon alternative modes of transportation, i.e. scooters, bikes, and cars, which strangers share by renting the item for a set duration of time then subsequently returning the item to one of many set locations. This system is popping up throughout the known world primarily major cities such as Paris, Toronto, Chicago, Boston, and many others. Recently, Detroit was invaded by dockless scooters. These scooters are a fun, readily accessible form of transit that does not require a license for operation. The trouble becomes that Detroit is not equipped to facilitate this new form of traffic resulting in there being minimal regulation as to where scooters can be parked, where they can be ridden, and what traffic laws they are required to follow. Even with these misgivings and potential injury that may occur, it displays a shift in North American consumer values which urban planners must integrate into current as well as future city plans.

Cities like Chicago have already begun a successful introduction of alternative transportation in the form of bike sharing. Gabe Klein, while Commissioner of CDOT, studied the bike sharing operations in Montreal, Canada and Paris, France in order to understand what caused those programs to be more successful than his attempt in Washington D.C. to introduce bike sharing (2015).

"[In regard to value and quality] By embracing new technologies, reducing the friction in customer engagement, and attacking markets with stagnant or overregulated offerings, you can lower prices and improve quality and service, a trend that has been exhibited again and again in the sharing economy, peer-to-peer networks, and online retail."
Gabe Klein, 2015

New technologies can include shared transit in the form of existing methods such as bikes, scooters, and cars but could eventually lead to shared autonomous vehicles. Introducing shared autonomous vehicles could potentially decrease the number of traffic-related deaths but would certainly reduce the amount of land used to house vehicles while their operators are at work, school, or otherwise out-on-the-town.

[IDENTITY]

For anything successful to occur in the city people need to feel empowered, from the layperson working on the streets to the citizen to those who are actively presenting and approving decisions in political bodies. If there is no one who feels comfortable introducing

new concepts for fear of rejection and ridicule, nothing new will occur. If evolution never occurs in the city, the city becomes stale, unattractive, and eventually derelict. The city, to remain relevant, must be able to evolve as needs of its citizens change which includes being able to alter uses of existing buildings and streets as well as introducing new projects that will bolster city pride. This at times includes being able to shed irrelevant identities of the city and adopt new ones. How do people identify with their city? Well, they become part of their city. They have to interact with others that they might not otherwise meet. Diversity forces a city to constantly reinvent itself making it a perpetually morphing enigma in which every individual can see a reflection of themselves. It is when the city is unable to evolve that it dies.

One city on the cusp of an identity crisis is Detroit. Detroit transformed from the undisputed motor capital of the world with magnificent architecture and a booming economy to bankrupt struggling to compete with international companies which encroach on the private car market previously based solely on the "Big 3" car sales and production. In combination with the steady decrease of personal vehicle affordability, a sudden loss of a strong identity deeply shakes communities incurring a sense of uncertainty which in time causes people to begin searching elsewhere for a place to call home.

Sigmund Freud's theory of life and death of organisms, specifically focuses on the prolongation of the inevitable which is death (1963), could be applied to the status of cities such as Detroit and its surrounding neighborhoods. Is there ever a point at which citizens should abandon their city or neighborhood permitting it to be reclaimed by nature and they relocate whether that means moving closer to the downtown or moving elsewhere all together? Public officials must remember that they cannot force a city to remain the same. Sameness begets stagnation which in turn begets the death of a city. Cities must evolve while preserving the best of themselves. In a city like Detroit, the societal identity is moving from auto-making to culture-making as observed through the immense success of seasonal installations in Campus Martius to music festivals in Hart Plaza to the foodie subculture.

[CULTURAL SHIFT]

Now, a mass cultural shift is occurring, as seen in the success in the sharing economy in major North American cities. According to Derek Miller, a writer for The Balance, writes that a survey conducted of U.S. adults who are familiar with the sharing economy that 86% say using shared transportation and lodging makes life affordable and 83% say it is more convenient and efficient when compared to traditional transportation methods (2018). With costs of owning an automobile on the rise, efficiency, affordability, and convenience have become the new rules of the road. It is not only the pocketbook that is spurring this next step in city evolution but also self-perception. Up until recently, the public has been ensnared in a love affair, that you are what you drive as portrayed in the 1987 hit song G.T.O. by Sinitta,

"But I wonder if he'll ever know if he loves me or just his G.T.O."

Not all aspects of this cultural shift are innovative but are quite old. Young professionals moving back into urban centers value being social both in private and in public much like that of medieval Tuscan towns and they want to be able to access these social spaces through both private and public means in the most instantaneous, relaxing methods possible which researchers have found to be best achieved by the various forms of active transit due to their ability to release endorphins a.k.a. the happy chemical (Widrich, 2014). Those who walk from home to work instead of commuting via personal vehicle are healthier and are more likely to have higher life satisfaction than those who commute (Ding et al., 2014). Being able to utilize active transit, walking, biking, etc., not only improves the individual's health but also the economy and social culture of the city. The current cultural climate of Millennials as they return to the city from the suburbs, is that as the costs of owning a private vehicle continue to rise there is a vocal desire for reliable public transit with a vibrant cityscape to which to ride it and as designers, we must begin the process of city evolution to accommodate.

[EVOLUTION OF STREET DESIGN]

For cities to gain and retain residents, they must be able to continuously evolve to accommodate technological advancements as traffic increases in its various forms. Streets are a direct reflection of the societal values of that city. In many North American cities, cars are the primary form of transit with minimal effort in many cases to integrate alternate forms of transportation in a way that creates a self-sustaining, harmonious system. Major transportation issues in these cities, such as traffic congestion and swaths of asphalt for parking personal vehicles, spawned directly from the invention of the automobile. As with other new technologies, smartphones, vacuums, and others, people are willing to sacrifice time, money, and healthy activities for the sake of performing daily activities in a dissimilar way to their standard routine.

Since North American cities developed around the horse and buggy, few are designed with two legs being the primary form of transportation. In Medieval and Renaissance era cities, like that of Florence, residents relied on necessities being accessible within walking distance as most residents lacked another form of transportation. Walkable cities as they are now called, commonly found in European countries, are significantly older than North American cities thus are built with higher residence densities saturated with necessary amenities at a human-scale. North American cities on the other hand were developed around horse and buggy and subsequently the automobile. Introduction of the automobile effectively pushed pedestrian traffic to the wayside as everyone who could afford an automobile purchased one and wanted to be able to flaunt their newest acquisition by driving it from home to work to the store and back home. To accommodate this new desire, urban planners began designing wider streets to facilitate vehicular traffic as well

as parking lots and garages to house the vehicles. Being able to drive their personal vehicles to complete daily activities allowed urban planners to develop the suburbs thereby decreasing living densities (Jakle & Sculle, 2004).

Recently, Boston, Massachusetts began an overhaul of its streets by altering the street designs based upon the type of district in which it was located. The goal of this expansive project was to recreate the walkable city Boston was prior to the introduction of private vehicular traffic. They call these new designs "active streets". Streets that can be found along the traditional downtown areas of Boston such as Beacon Street, are now characterized by sidewalk cafes and small, boutique shops creating an engaging and lively sidewalk culture (Boston Transportation Department, 2012).

[EVOLUTION OF PUBLIC SPACE]

Prior to the introduction of the automobile and even prior to common use of horse and buggy, people walked to socialize, to shop, and to work. As soon as an individual left their private residence, they almost instantaneously began experiencing chance encounters. These chance encounters occur when greeting a familiar face or meeting new ones in the street, a shop, or event. Nowadays, North American cities lack the proper characteristics to facilitate these chance encounters. When social spaces within a city are created, people begin to regularly gather which encourages spontaneous connections with strangers which can last for years or just a few moments. Casual meetings such as these foster understanding between groups of people and innovation.

Social spaces, or any form of public space really, have become all but extinct in North America. As result, the city has become culturally and socially fragmented. Even spaces which initially appear as public spaces are fallacies. Campus Martius like many of Detroit's public spaces is privately operated as it was sold to the Detroit 300 Conservancy by the city during an economic decline. On one visit to downtown, I stopped at Campus Martius. I was not there long before I was approached by a security officer by whom I was told to vacate the premises. Why? Because my camera was mounted to my grandfather's tripod. The officer informed me that due to rules set forth by the owners, the only individuals permitted to use a tripod in the park were pre-approved journalists and by using one I was in violation. This may simply appear at first to be just odd, but it reveals a horrifying reality. Detroit lacks a space for people to assemble freely void of regulation beyond local law.

Comparing the relatively new North American cities with historic European cities allows us to see the correlations between the predominant mode of transit and land use. In the North American cities: Detroit, MI, Toronto, CA-ON, and Boston, MA land use is predominantly car-centric with little to no public social space in comparison to the predominantly social-centric land use of the European

cities: London, UK, Paris, FR, and Florence, IT.

In European cities, where the private vehicle use is not the primary form of transit, there is an increase in the amount of public space that is socially active, a decrease in land used for automobile parking, narrower streets widths with more accommodations for pedestrians and cyclists, and a continuous street wall with the opposite being true of the North American cities. Though European cities traditionally are more active transport friendly due to their development at a human-scale, some cities, London for example, have instituted vehicle-free or vehicle-restricted zones where vehicles are required to possess a permit to drive in these zones or face steep fines (Transport for London, 2019) to reduce the potential for traffic-related incidents and promote healthier lifestyles and social activity. Instituting policies such as vehicle-restricted zones significantly decrease the vehicular volume on roadways in areas that are frequently used by pedestrians while maintaining economic stability. To date, there has yet to be found a North American city which as implemented a similar policy. It is reasonable to hypothesize that North American cities are hesitant to implement such policies for fear of potential backlash from the public that they may receive as a result of the policy infringing on the operation of a car-centric culture. For a restricted zone to function successfully, public transportation and walkability must be at a level at which people will be able to move about the zone efficiently and consistently. Currently, the City of Detroit lacks the proper infrastructure for a car-restricted zone as shown in figure-ground and walkability rating. Restricted zones as can be experienced in many major European cities are effective in creating an environment that supports frequent, casual social interactions even if a formal public space is lacking. In theory, if public transportation and infrastructure were to be improved in North American cities, the possibility of successful institution of a car-restricted zone would be greater.

[URBAN STREET TREES]

"An "auto sewer" arterial that, except for the palm trees, could be Anywhere, USA. "The road is now like television, violent and tawdry... They do not celebrate anything beyond their mechanistic ability to sell merchandise. We don't want to remember them. We did not savor the approach and we were not rewarded upon reaching the destination, and it will be the same next time, and every time. There is little sense of having arrived anywhere, because everyplace looks like noplace in particular."
James Howard Kunstler, 1993

How a street is designed greatly impacts how people walking, biking, and driving interact with it. Before every road became an expressway, streets, Main Street in particular, was a desirable space to linger and socialize. It was perceived by all as welcoming. The continuous street wall created by buildings accented by trees lining the street created a sense of enclosure further fostered by street

proportions. Now, many streets are obviously designed by engineers for cars domination and as a result no one walks them. Their scale is now daunting, and the cars just fly past with little regard for speed limits or traffic signals (Dover & Massengale, 2014). This new road designing makes the person the inferior being instead of the reason for its being.

Trees are instrumental for the development of a harmonious streetscape. Dover and Massengale synthesized the seven roles of the urban street tree in their book Street Design: The Secret to Great Cities and Towns (2014):

1. Define the space of the street. This particularly applies to streets that are too wide for the height of the buildings, streets with holes in the street wall, or suburban streets with buildings too far apart to contain the space of the street. Mature trees provide canopy.
2. Define the pedestrian space. A mature canopy hides the tops of tall buildings, giving the sidewalk a constant human scale.
3. Calm traffic and protect the pedestrian from cars. The tree is aided in this by on-street parking.
4. Filter the sunlight. Deciduous trees, unlike evergreen or palm, serve different functions in the summer and winter. Trees also lower city temperatures in the summer and change carbon dioxide into oxygen through photosynthesis.
5. Bring order to the street. Trees should be laid out with regular geometries, repetition, consistent sizes, and alignment. On long, straight streets, trees that form canopies over the street limit the visual length of the street.
6. Visually soften the streetscape. At some times of the day, the shadows are as beautiful as the trees.
7. Introduces the beauty of nature. Living plants contrast with the buildings, and in many parts of the world introduce seasonal change, color, and fragrance.

In cities such as Savannah, Georgia or the Detroit of old, trees are not just something seen on the side of the street but an essential character trait of the city itself. It is in the shade of trees that people can find reprieve from the elements as well as from their nature-deprived workplaces.

Biophilia, a hypothesis by Kellert and Wilson (1993), that human beings possess a subconscious desire to affiliate with nature. This connection can be with plants, animals, streams, beaches, and even the wind. The concept of adaptively relevant environments (Irons, 1998) suggests that organisms thrive in environments similar to those in which they evolved, in the case of humans it would be in plant-based environments. Contact with nature, both regular and short-term, has been proven to improve cognitive abilities and restore an individual's attention span by repairing attention fatigue which leads to impatience, increased memory loss, and diminished ability to focus. Experiencing natural environments, even digitally, has been shown to reduce stress and make individuals more resilient to stress

triggers with an increased ability to recover from stressors (Dannenberg et al. 2011).

In addition to the mental benefits of urban street trees, social benefits of tree lined streets include (Chatfield, 2019):

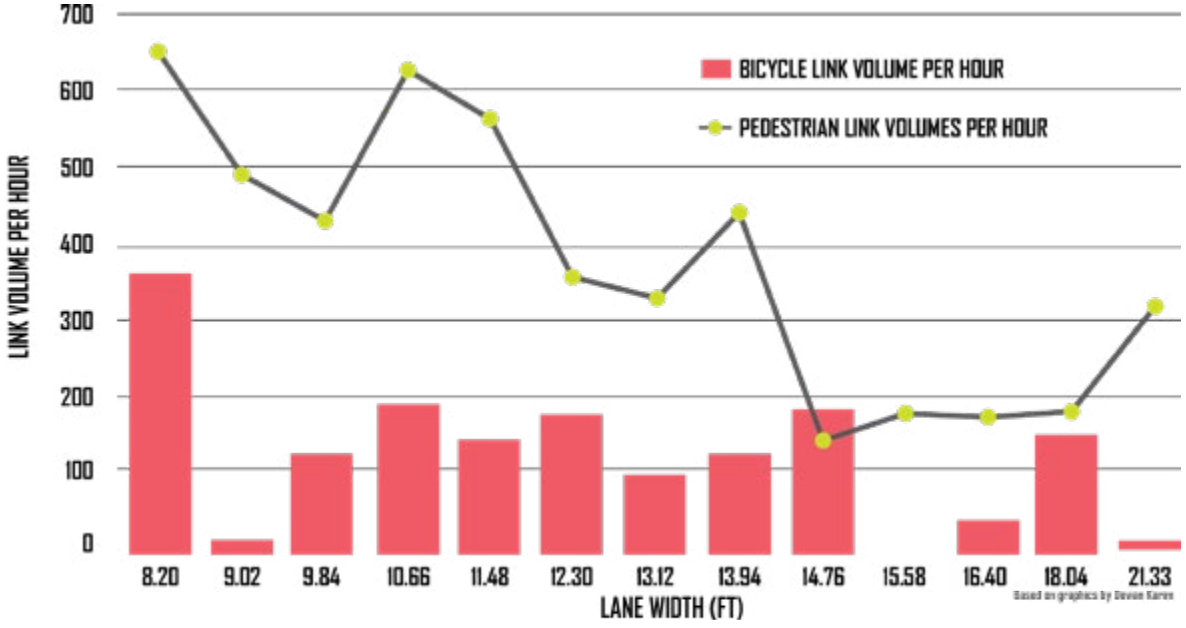
- Decrease in graffiti and other incivilities
- 25% fewer acts of violence
- 52% fewer crimes
- 48% fewer poverty crimes

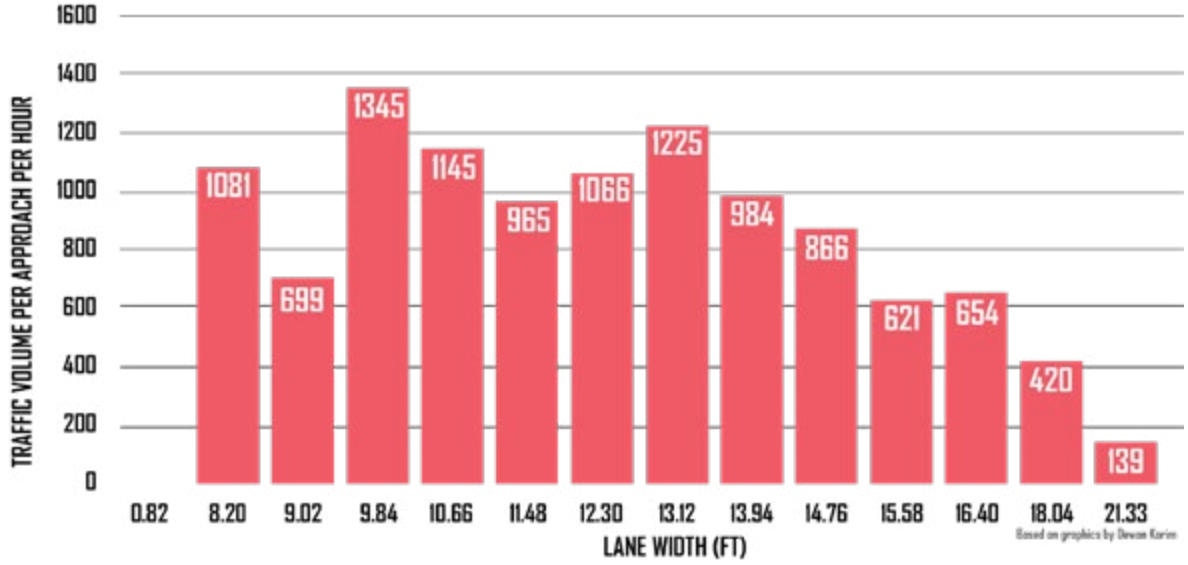
[Purpose]

Design is created as a sensible response to create, alter, or facilitate an emotional exchange within and between individuals whether the designer is aware of this phenomenon or not. Purpose of a space can be discovered on a gradient scale. On one end, the barely perceptible, whose purpose is suggested or loosely defined to the blatant purpose, clearly defined on the other. Which should be used in a particular place depends upon the desired feeling for invocation in situ.
Defining the purpose of the public space to improve the possibility of success can be difficult due not only by the humanistic need for understanding but also the method in which to implement definition. In some instances, it is appropriate for the place to be preserved for its natural landscape as Central Park in New York City. Other times, it is necessary to clearly define the place's purpose in order to regulate a district's economy and traffic as Piazza delle Erbe in Verona, Italy. Which should occur depends upon the societal customs of those individuals living the surrounding spaces and what they need to sustain a healthy community. A healthy community being one that has achieved the balance necessary for a city's residents to experience flow in their daily lives. It is imperative that urban planners and architects recognize that every design decision they implement has an inherent purpose that is determined by their own self-conscious value system in addition to its perceived purpose which is felt by individuals who are both directly as well as indirectly affected by the action. Doing something for the sake of itself is not possible as every action is based upon some preconceived notion of how the world should work and how that operation should look.

[Lane Width]

In an article by Dewan Karim, a Senior Transportation Planner for the City of Toronto, Canada, titled Narrow Lanes, Safer Streets (2015), Karim analyzes how the street design of Toronto compares with research findings from the early 1900s to the early 2000s. Through his study, he determined that by reducing lane widths to 10 – 11 ft, a balance between safety and street efficiency is achieved. Lane widths any wider or narrower, the risk of an incident increases with equal magnitude. Karim discusses, "The findings acknowledge that human behavior is impacted by its street environment." By altering the street geometry, drivers of larger vehicles must increase their attentiveness to navigate the narrower lanes. Karim assures readers that even though lane width decreases, the effectiveness of the street's ability to facilitate vehicle traffic improves as narrower lanes carry the highest volumes of traffic whilst maintaining minimal speed variance for all vehicles. Reducing lane width additionally decreases the distance between street users thus increasing the quality and frequency of user eye contact. Eye contact reminds drivers that others using the street are people as well. Reducing lane width is as easy as repainting lines but "...combined with other livable streets elements in urban areas, result in less aggressive driving and the ability to slow or stop a vehicle over shorter distances to avoid a collision (Karim)."

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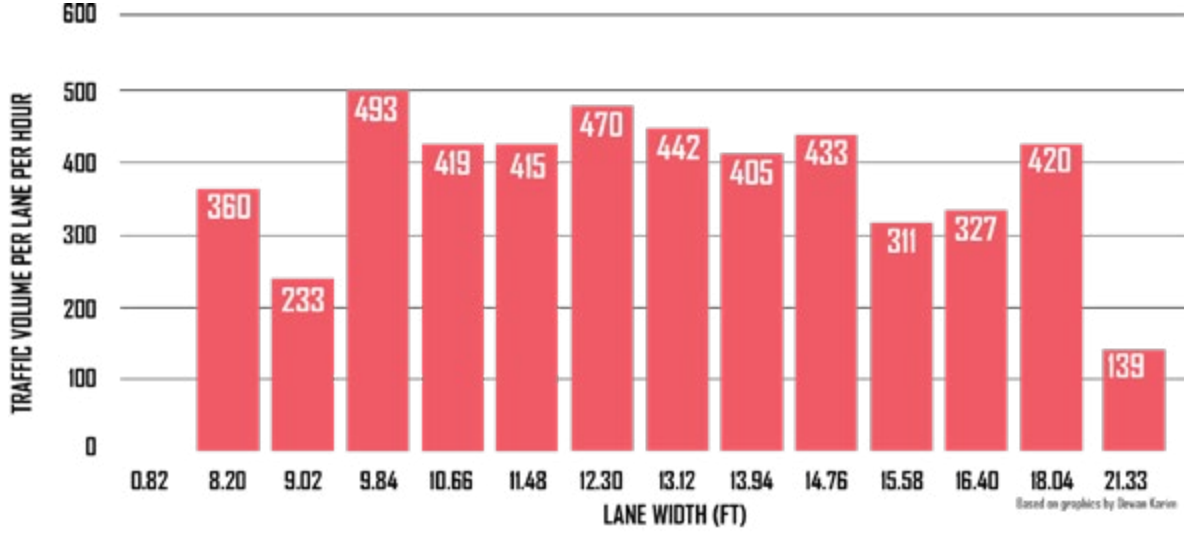
LANE WIDTH (FT)
Based on graphics by Dewan Karim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14.76
15.58
16.40
18.04
21.33
LANE WIDTH (FT)
Based on graphics by Dewan Karim

[FIGURE-GROUND ANALYSIS]

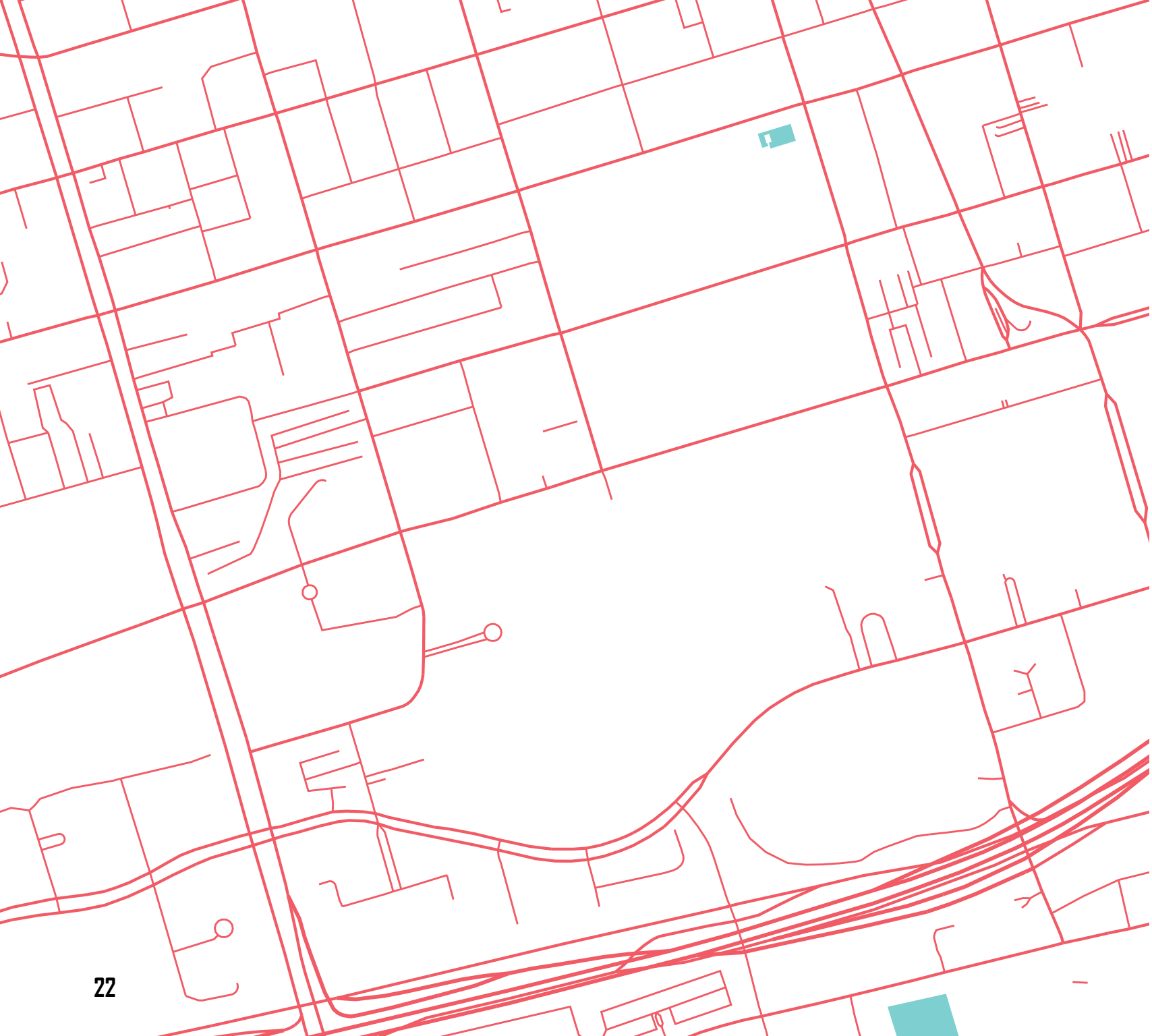
Like Toronto, Detroit was developed around private automobile travel with little regard to the overall strength of the urban fabric. As Karim pointed out in his article, Toronto's infrastructure is incredibly dangerous to people on the streets. In order to understand how the urban conditions of Toronto compares to the conditions of Detroit, figure-ground maps were developed to analyze the quantity of roadway versus pedestrian paths and how they relate to current public social spaces.

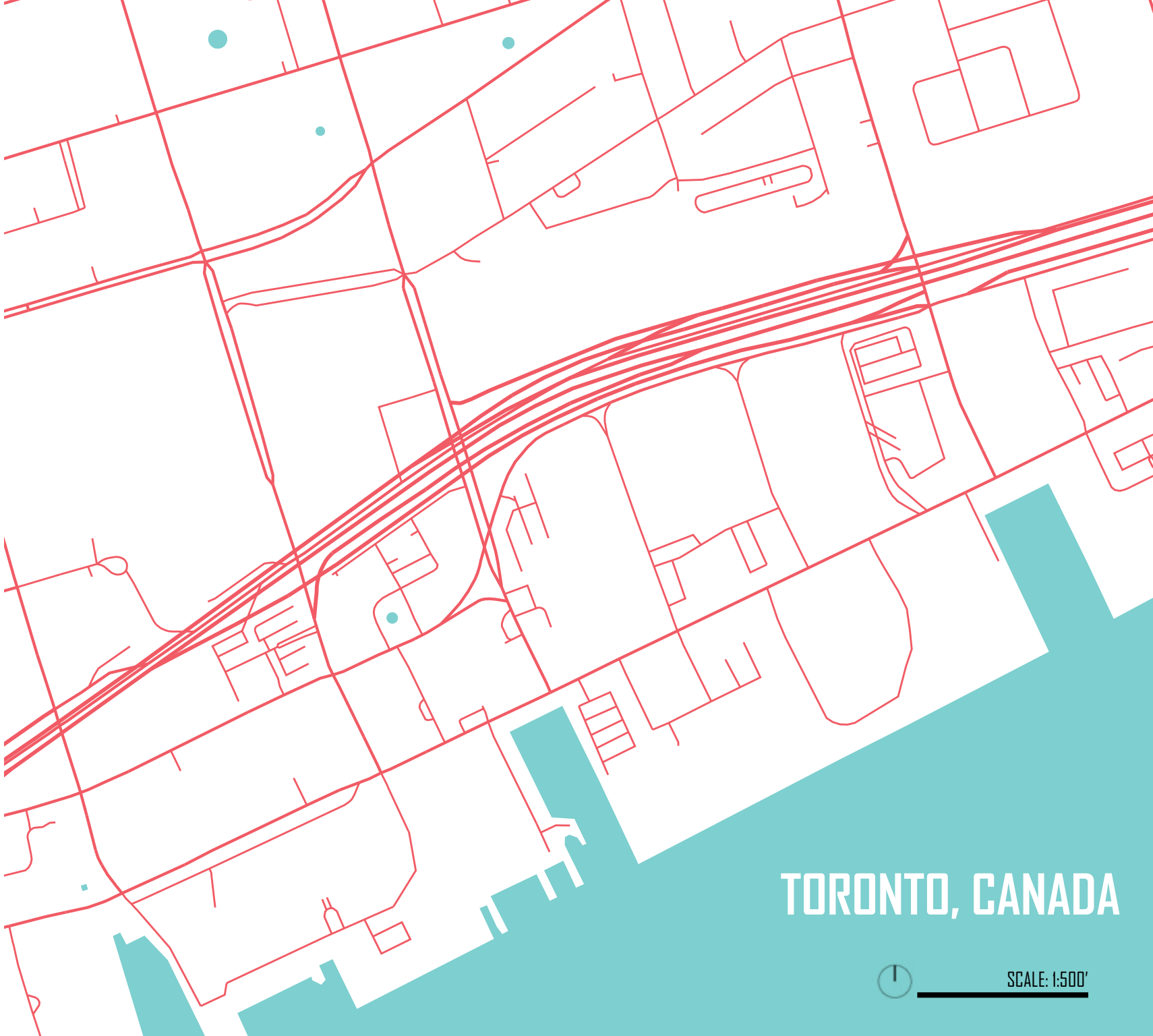
From the figure-ground analysis, the following was discovered concerning the urban condition:
:

- Both cities are severed from their waterfront by transit
- Toronto has more pedestrian-only areas
- Toronto has a significantly higher density level
- Detroit's park spaces are in a tighter radius
- Detroit has wider streets, particularly expressways
- Detroit has significantly more dedicated ground space for parking than Toronto

FIGURE-GROUND KEY

Public Transit | Roadway | Pedestrian Path | Building | Public Social Space

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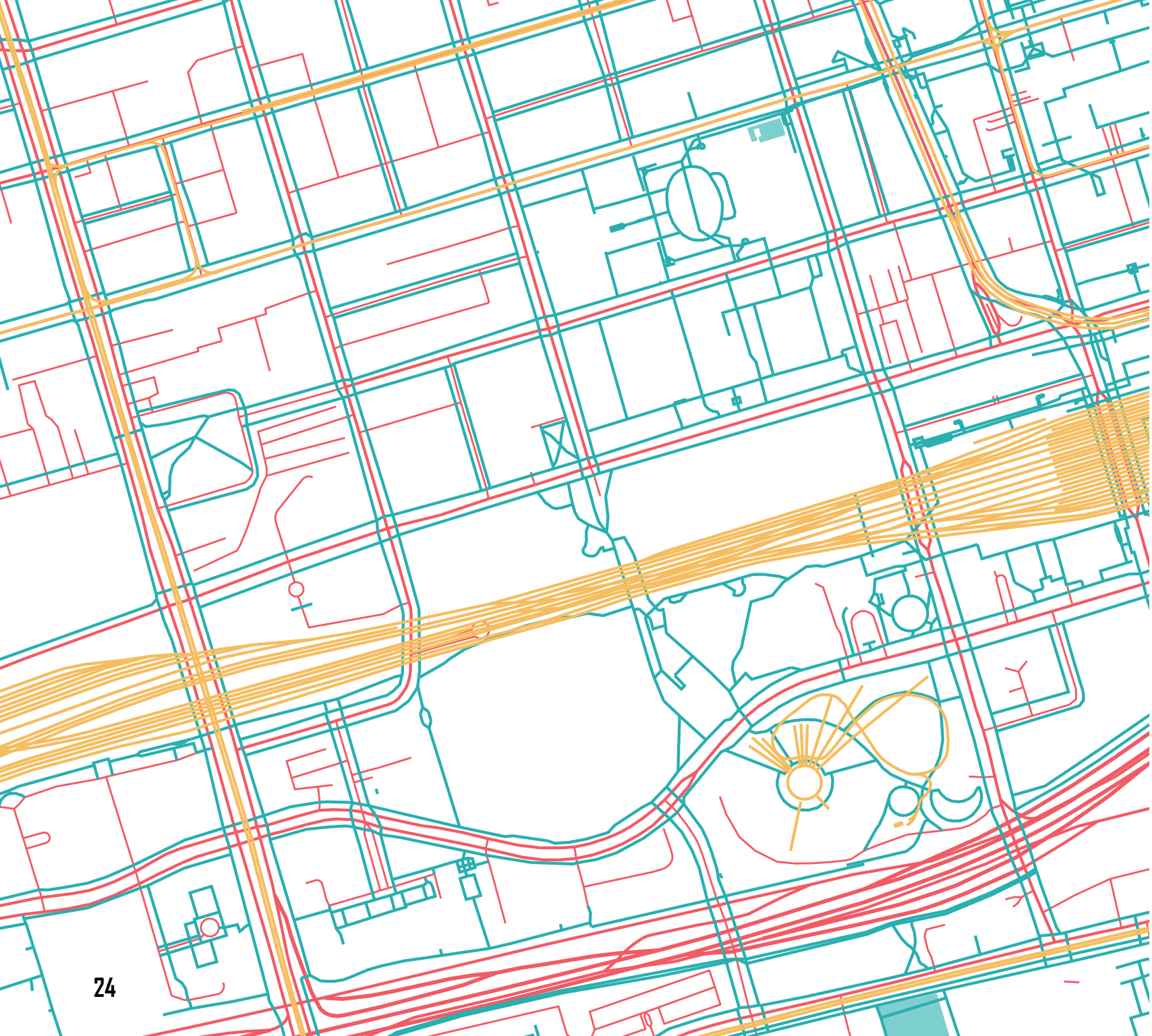

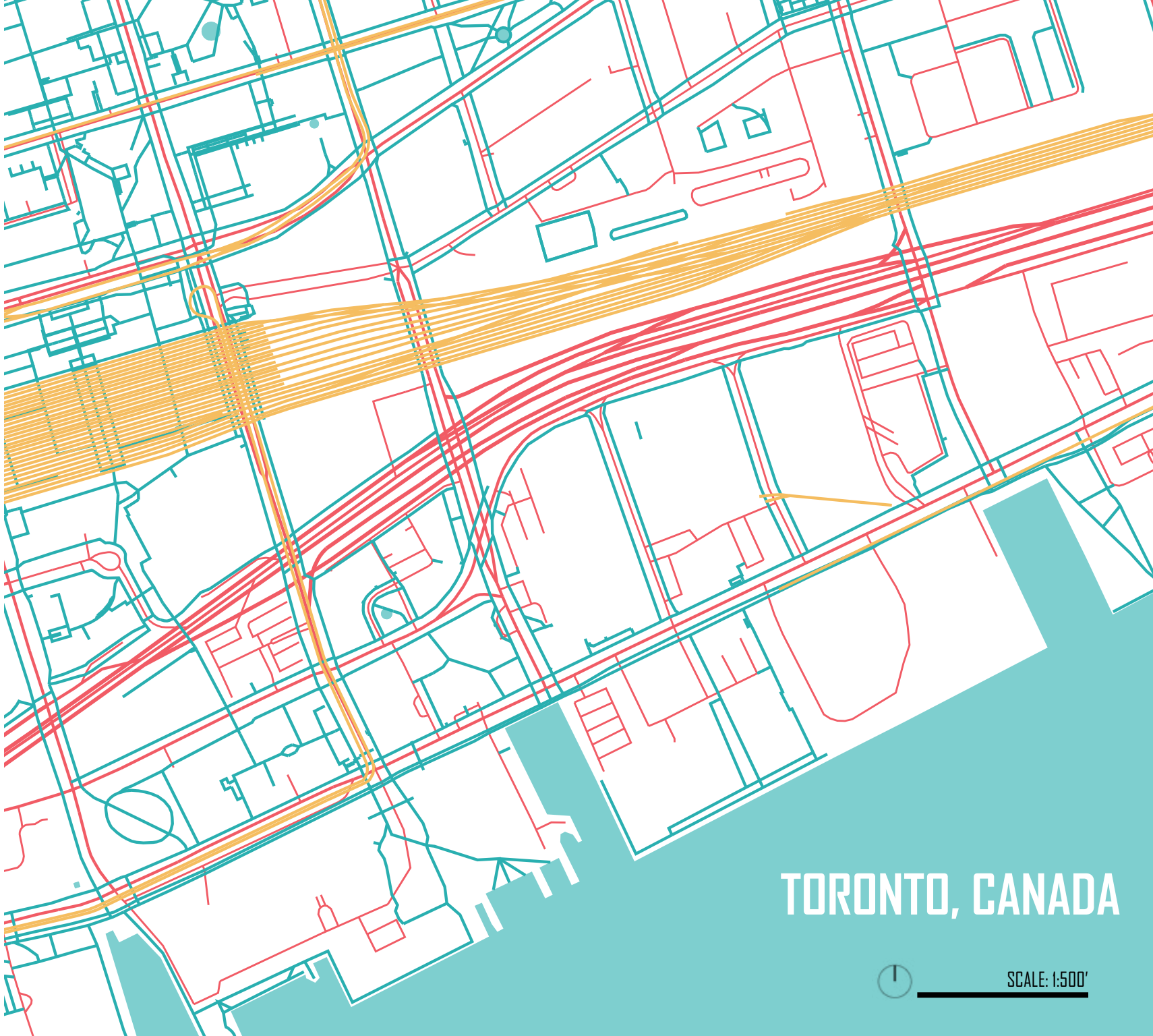
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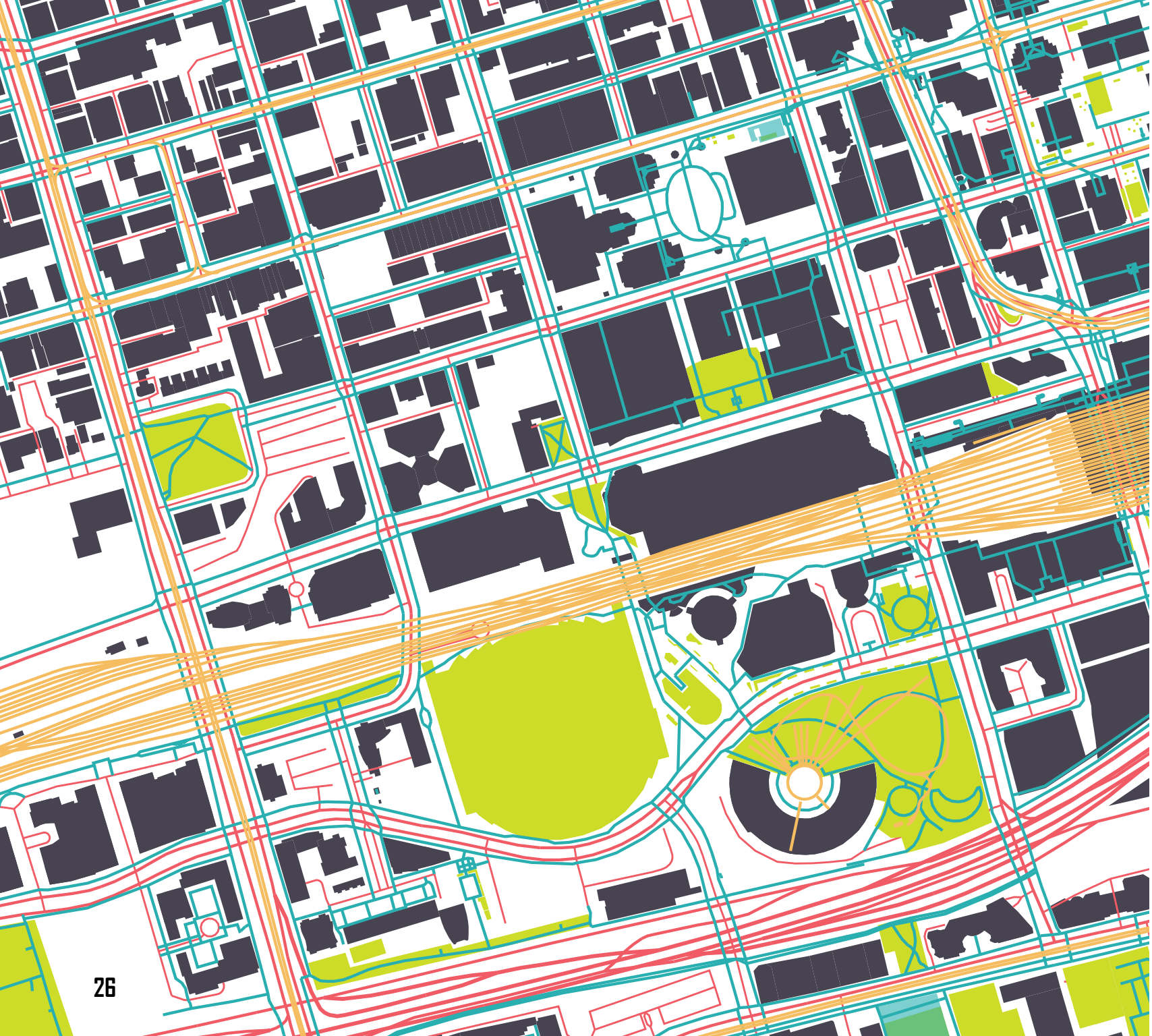

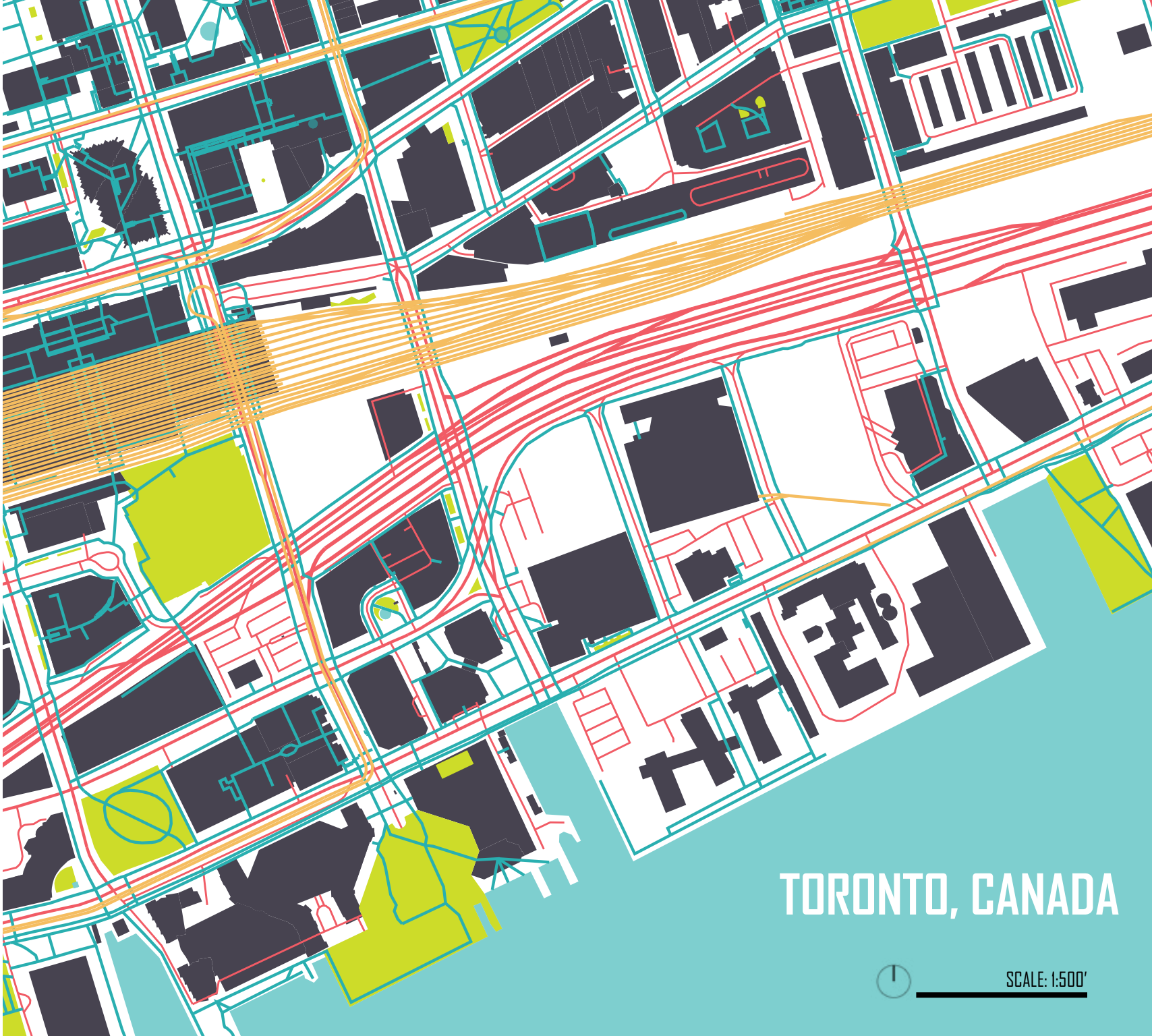
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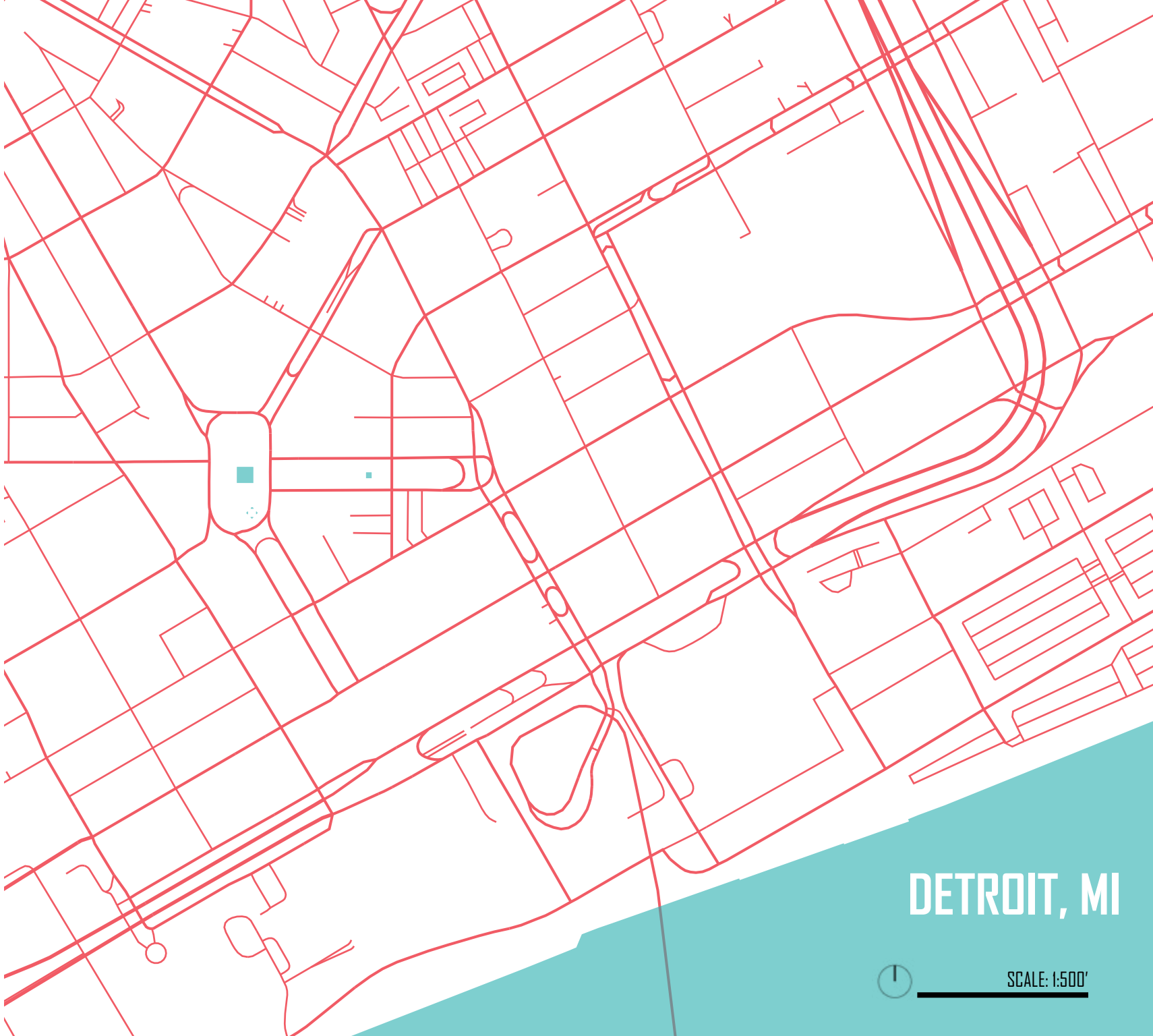
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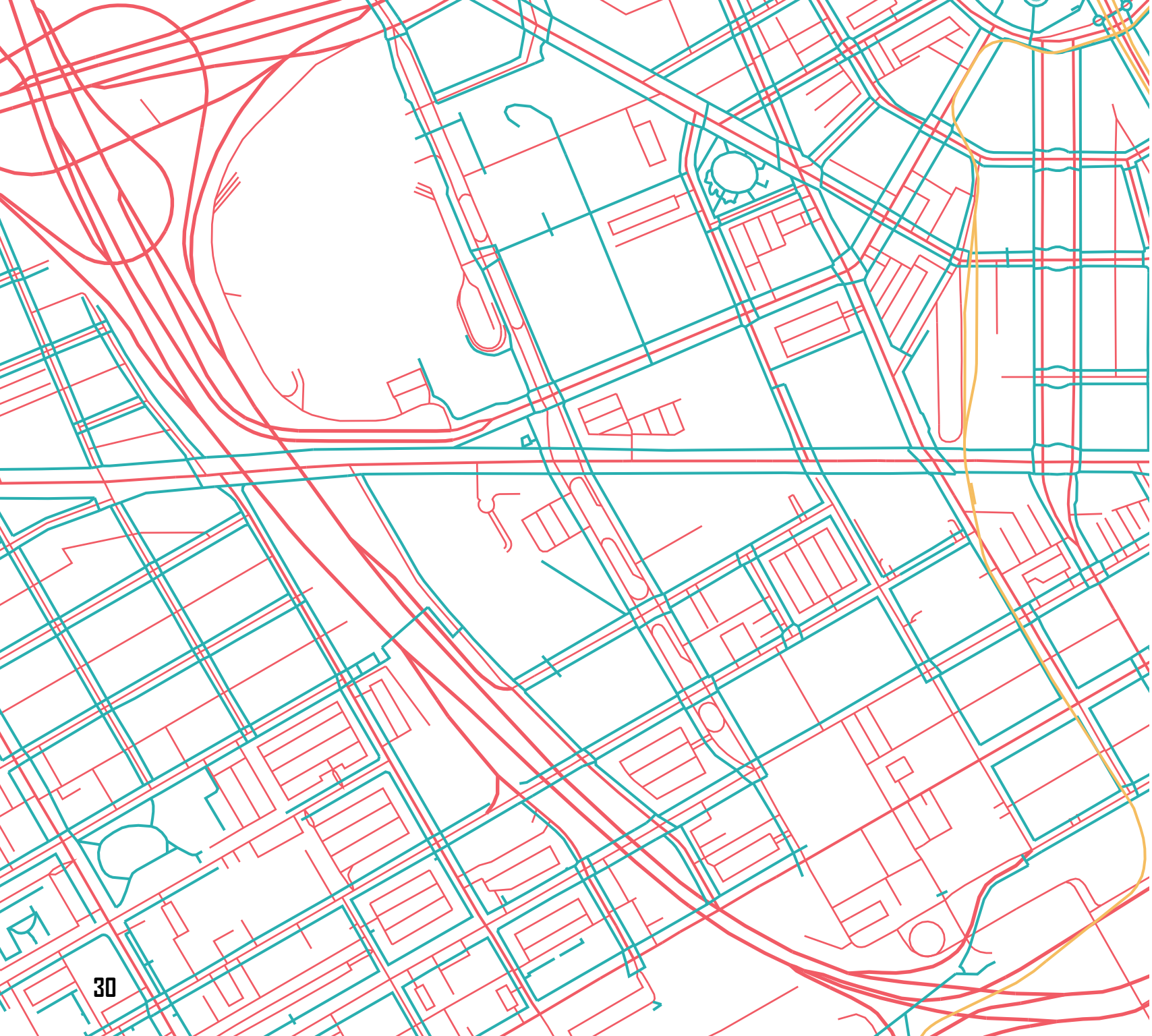

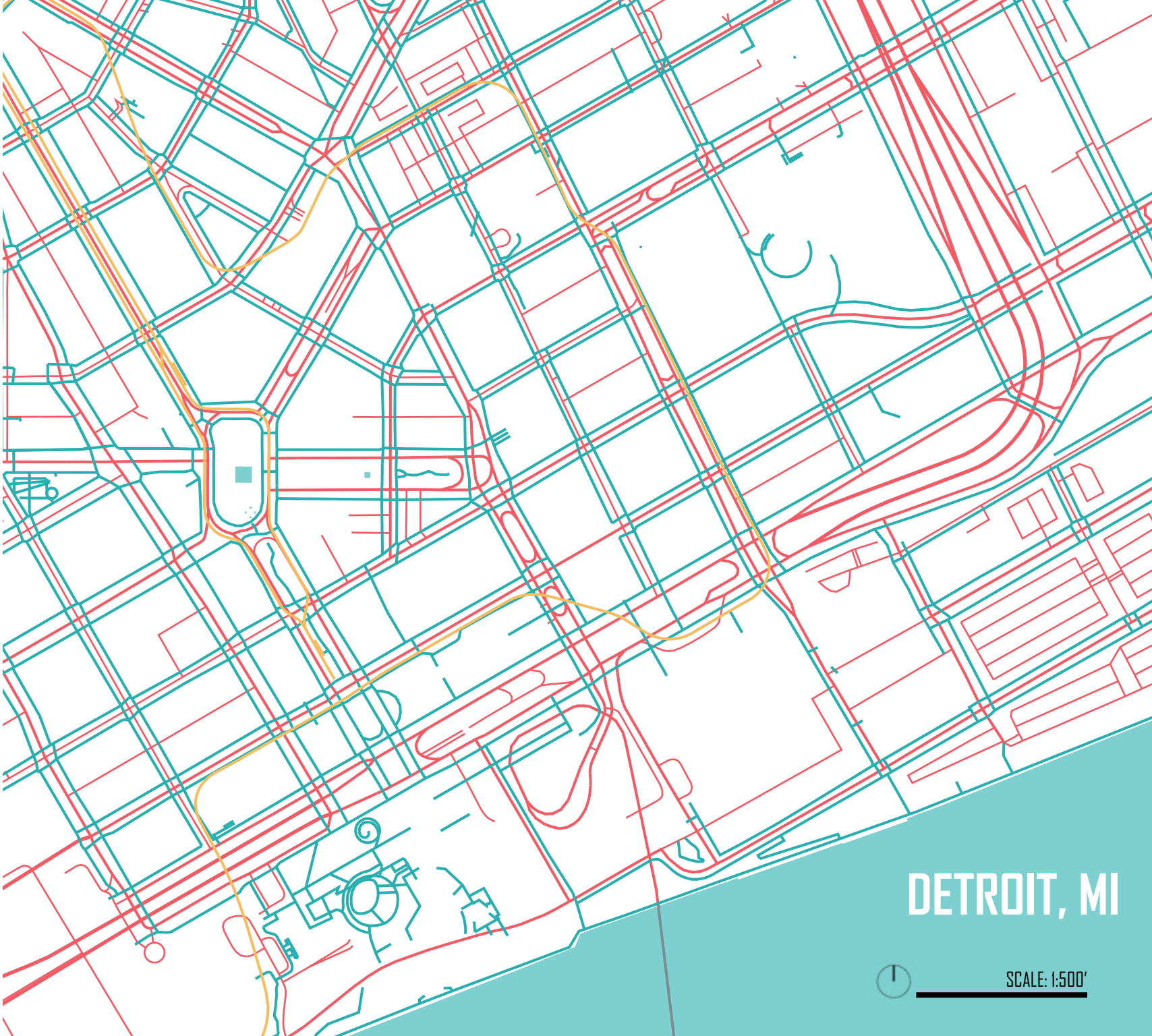
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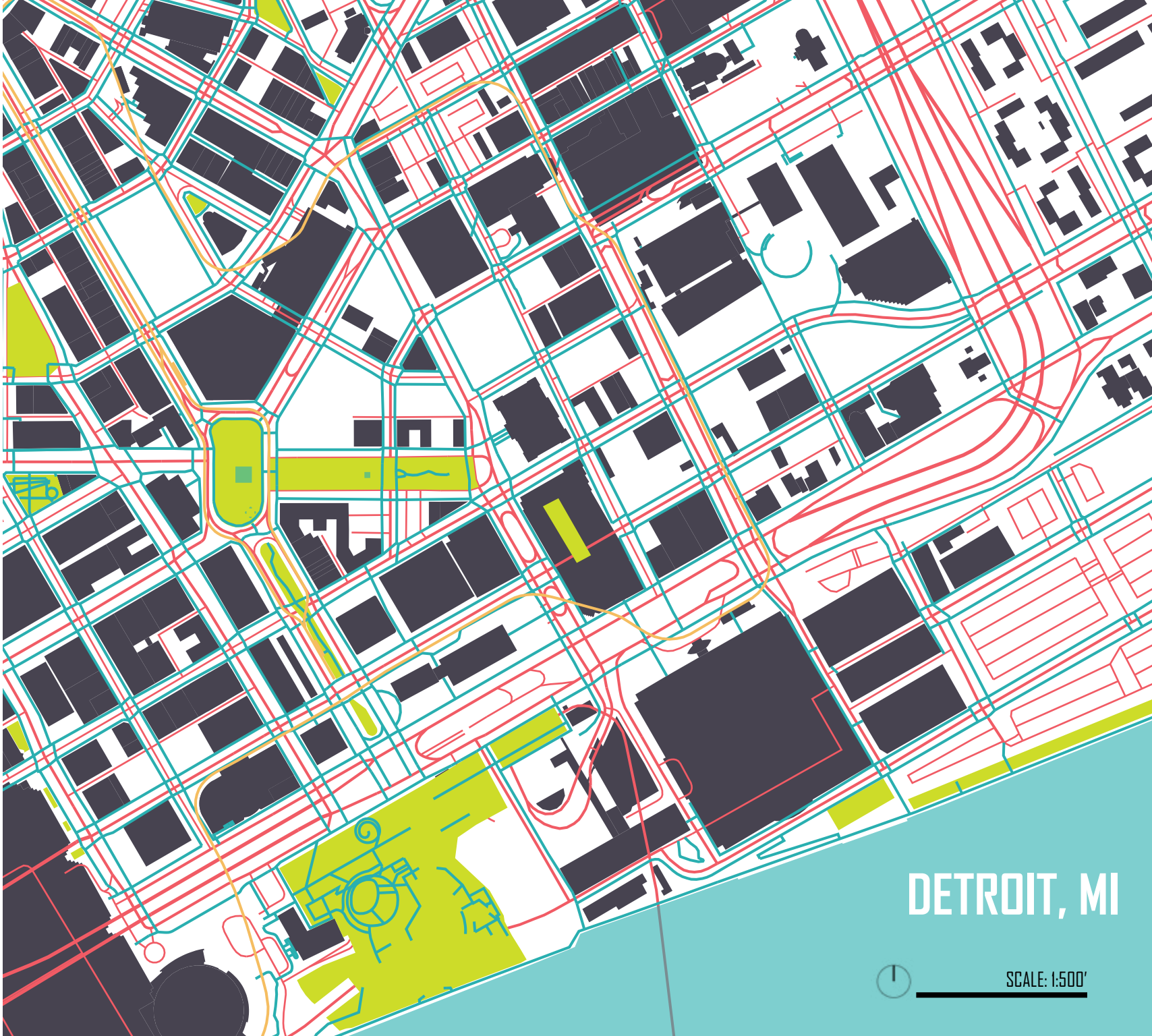
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2 SOLUTION EXPLORATION

Transit via private transportation will continue to be a key element in our daily lives whether we are actively engaging with it or simply existing within the same spaces. With the development of new technology, such as autonomous vehicles, this is a pivotal time for urban planners. Planners can either let these vehicles run amuck in the same manner as the automobile with little understanding of the future impact or autonomous vehicles can be used as a solution to heal North American cities of the scars of privatized transit thus allowing for the reclamation of wasted spaces into places for social engagement as also for simply being.

[AUTONOMOUS TRANSIT]

Currently, cities across the United States are experiencing an influx of young professionals from vastly differing backgrounds. As the urban population rises, cities are being forced to critically evaluate how they can integrate diverse desires, values, and safety measures for their new residents. So, if cities wish to retain their population, they must identify how to ensure their population's quality of life. As psychologist Mihaly Csikszentmihalyi states, "Happiness takes a committed effort to be manifested (2016)." He continues that true happiness can be experienced in daily activities when they maintain a state of mind termed flow. What is flow and is it possible to apply the concepts of flow and street reclamation to transform urban street conditions to create a harmonious streetscape enabled by emerging technology?

In his book Start-up City (2015), Gabe Klein presents facts to a serious urban dilemma.

"Envisioning Zero…we lose more than 32,000 people each year to traffic crashes, including 4,500-5,000 pedestrians…leveraging that anger to transform the culture back toward one that prioritized walking, cycling, transit, and experiencing cities at human scale. At the heart of this philosophy was valuing of life, health, and happiness over efficiency of travel or mode, specifically the automobile. The Danes made a concerted effort to change, to fix the damage, to remove excess car lanes and parking, and to replace them with spaces for people…a recognition that there are no "accidents," only institutional failures resulting in "crashes" that take people's lives and make city streets feel like a game of Frogger instead of the safe and connected places that they should be…Sweden has a wide-ranging plan to reach this goal, from safety improvements and better technology in automobiles, to redesigning streets for slower speeds and active transportation, to automated enforcement campaigns that not only ticket speeders, but register law-abiding citizens automatically to win a percentage of the speeding ticket revenues, every week!…experimenting with employing behavioral economics to gamify a problem and make it fun to be safer. I was determined, along with my team, to take aspects of Vision Zero and them to Chicago's mean streets…has been followed by…New York, San Francisco, and Los Angeles."

Gabe Klein, 2015

North Americans are highly protective of their personal forms of transportation but also recognize the need for alternate forms of transit. A potential solution for this dilemma is the autonomous vehicle. According to the Union of Concerned Scientists (UCS), if the promise of this new technology proves fruitful, vehicles of the future will be able to operate completely autonomously reducing errors caused from human drivers (2018). As of right now, UCS categorizes prototypes based on a scale of six levels of autonomy operation:

- Level 0: All major systems are controlled by humans
- Level 1: Certain systems, such as cruise control or automatic braking, may be controlled by the car, one at a time
- Level 2: The car offers at least two simultaneous automated functions, like acceleration and steering, but requires humans for safe operation
- Level 3: The car can manage all safety-critical functions under certain conditions, but the driver is expected to take over when alerted
- Level 4: The car is fully-autonomous in some driving scenarios, though not all
- Level 5: The car is completely capable of self-driving in every situation

Autonomous vehicles have the potential to heal and to damage. If road infrastructure is altered to reclaim street space for other modes of transportation or public social space, A.V. can give fragmented North American cities the opportunity to boost their local economies, cultural and social identities, as well as reduce negative environmental impacts including, but not limited to, carbon emissions and water runoff by reducing the need for large land areas for parking (Thompson, 2016). The flipside to the potential benefits of A.V. comes the decreased revenue for municipalities as cities of the future could see a significant reduction in not only gas consumption but in licensing registration and renewal fees, vehicle sales tax, and parking fees (Corwin & Pankratz, 2017).

How A.V. will affect sidewalk culture will be key to its social success. If people are able to accomplish work and personal tasks while riding in an A.V., they may never feel the need to experience the city past the front door of their office building. In brief discussions with others both in university and on the streets of Detroit, numerous stories of people who had worked in the City of Detroit for decades but their only interaction with the city was expressway to parking lot or garage to building in the morning and the reverse after the workday had ended were uncovered. With A.V. being a potentially major factor in the further distancing the residents of North American cities from public social space, social repercussions should be continuously addressed when city planners begin designing new or alterations to street infrastructure. Working alongside planners, policy makers of their respective regions must carefully consider these same repercussions as well in addition to how new forms transportation are introduced and permitted to operate within cities. To combat potential severance of people from public social activities as caused by A.V., design alterations to existing road infrastructure can

assist city residents in the creation of habitual engagement behaviors by reducing the friction occurred in the process of exploration. Interventions such as reducing unnecessary lane widths and creation of intentional public social spaces in close proximity to workplaces and residences conjointly forming connections with other sectors of the city would in theory attract individuals into regularly experiencing the positive benefits of these spaces, including stress reduction through physical activity and social interaction. Once A.V. becomes a feasible mode of interurban transportation, city residents will already be habitually wandering the city before, during, and after work hours that A.V. will simply be a tool for transit rather than a way of life.

A.V. like the new modes of transit which came before, will pull certain people way from active transit but current lifestyle trends show that people are concerned with their health but lack the means to integrate physical activity into their daily lives. An average adult should be getting 60-75 minutes of moderate or 35-45 minutes of intense physical activity everyday but most fall short of that goal (Rettner, 2016). Instituting walkable city principles, dedicated bike lanes, wide sidewalks, and traffic calming measures preps the city and its residents for A.V. assisting in the formation of healthy habits now while there is one fewer modes of transit to work into the current grid.

Policy makers in conjunction with city planners will also need to address super-sprawl which will likely result from wide-spread A.V. usage. Similar to the introduction of expressways, people will be able to move far outside the city limits and commute into the city for work. To date, average city density is decreasing at a rate of 2% per year due to sprawl (Swilling, 2016). With approximately 3.9 billion people living in urban areas, a 2% decrease means nearly 78 million people are contributing to urban sprawl which can be reasonably be predicted to increase as regular A.V. usage occurs. Before A.V. is allowed to take hold of current city grids, these questions as well as many others must be addressed to ensure the future vitality of cities and individuals.

[LAND RECLAMATION]

Hypothetically, if autonomous vehicles are successful and are integrated into the traffic pattern alongside bike lanes, personal vehicles, public transit, and pedestrians, street widths can be reduced and increase sidewalk widths and public social space land allotment. If autonomous vehicles can park themselves, the size and frequency of parking lots and garage can be decreased allowing the formerly wasted space to realize its full potential as a socially fruitful place. Land that is reclaimed preferably will transform into places which benefit the community both passively, such as parks with recreational spaces, and actively, such as cafés and shops. If the land is to be built upon, a mixed-use development is ideal. Mixed-use strengthens flow between private living quarters and public activities by reducing the friction and interference between modes of transit; however, this type of development may not be feasible in all situations thus other interventions should be explored.

The importance of public spaces cannot be underemphasized. As Virginia Stanard, Director of the Master of Community Development program at the University of Detroit Mercy, stated, successful public spaces for social interaction occur in places with complete neighborhoods with housing, retail, schools, and jobs. Characteristics such as traffic noise, fast car traffic particularly, in conjunction with nothing to do in the space and complete lack of proper seating discourage social activities. Stanard goes on to say that utilizing the Power of Ten from Project for Public Spaces, "The idea behind this concept is that places thrive when users have a range of reasons (10+) to be there. These might include a place to sit, playgrounds to enjoy, art to touch, music to hear, food to eat, history to experience, and people to meet" can act as a standard for successful public space design (2018). Not all architects and planners agree with Stanard. Some argue that a public space can be successful even without given reasons for individuals to pass through or stay within the space. There is always a reason to pass through a space whether the desire to do so arises from curiosity or sheer boredom.

[PUBLIC SPACE DEFINITION]

In Kevin Lynch's book Image of the City (1960), he performs an experiment of cognitive mapping in which he asked individuals to map their city based solely on five concepts:

1. Paths – routes along which people move throughout the city
2. Edges – boundaries and breaks in continuity
3. Districts – areas characterized by common characteristics
4. Nodes – strategic focus points for orientation like squares and junctions
5. Landmarks – external points of orientation, usually an easily identifiable physical object in the urban landscape

Though Lynch applies these concepts to the city holistically, they can equally be applied to public spaces. Observing successful public social spaces in Detroit, Boston, and New York City, they were consistently characterized by:

- Paths – access and safety for the purpose of staying or transit
- Edges – built structures, streets, foot paths, landscaping, and fencing
- Districts – each public space reflected the character of the neighborhood's inhabitants and cultural heritage
- Nodes – scale of pathways and their ability to accommodate multiple functions, their location within daily foot traffic patterns
- Landmarks – focal points in the forms of fountains, art, and cafés or other businesses

A successful social space is measured by whether it is used regardless how well it adheres to the concepts of Lynch. "If a variety of people use it at a variety of times throughout the week, it is successful (Stanard, 2018)." Besides designers wanting their designs to be successful, the success of these places strengthens the community. "A good public space is one that reflects diversity and encourages people to live together effortlessly, creating the necessary conditions for permanence, which invites people to be on the street. It is the vitality of spaces that attracts people (Pacheco, 2017)." It is essential for healthy communities to have this sense of place, but urban planners must actively advocate and design to create and preserve these spaces. Should the urban context be saturated with open green space and playgrounds? No. These spaces require a balance in quantities of individuals traversing the space for social and economic reasons. If a space is consistently haunted by low quantities of patrons for shops and few children on playscapes, the shops will close and the playscapes will be plagued by crime (Jacobs, 1961).

[DESIGN CONSIDERATIONS]

It is important to recognize and understand how the elements of the previous sections influence the success of public spaces. How the introduction of automated vehicles will affect the creation and sustainability of these public spaces has yet to be determined as there have been limited autonomous vehicle testing in the urban context. A positive result may be the reduction of pedestrian-vehicle accidents along with a reduction of street size and parking requirements. Potential negative impacts might include a decrease in pedestrians on the street as people as super-sprawl leads to homes being constructed further and further into rural areas.

If riders of autonomous vehicles are distracted by work for their jobs or their smartphones, will they even look out a window to observe the complicated simplicity of street life? Or will commute time morph into more time for self-absorption. To combat self-absorption upon leaving the vehicle, public social spaces should be designed and located in such a manner that these spaces are part of the individual's regular environment thus increasing the regularity of use (Dannenberg et al., 2011). Proximity to recreational spaces is directly related to higher rates of recreational physical activity as well as overall space usage. A study conducted by Troped and associates determined that for every quarter mile increase in distance the likeliness of visiting a recreational space decreased by 42% (2001). The focus in this discussion of location is on recreational activity rather than general physical activity which would include fitness and sports facilities as it is my belief that people should not have to pay for membership to achieve the necessary levels of physical activity. Be that as it may, additional studies have found living in regions located near coastal areas, whether it is a lake, river, or beach, has displayed increased frequency of recreational physical activity (Owen et al., 2004).

It has also been determined in a limited study that the standard sidewalk width of 5 ft is insufficient in its ability to encourage active

transit. In field visits to Washington Square Park in New York City, observation of how individuals utilized the spaces provided suggested that the 12 ft sidewalk width was on the cusp of being too narrow for proper pedestrian flow through the space. One occurrence in particular was observed. A young couple was sitting on a bench facing one of the playscapes on which their two small children were playing. On multiple occasions, the couple was forced to adjust their body posture and location to maintain a vantage point. Likewise, individuals passing the couple also was forced around not only the couple but also groups conversing on the sidewalk as well. When asked about how the couple felt about the environment in which they were sitting, they both voiced displeasure in the width of the sidewalk as it caused them to feel uncomfortable and inferior. In regard to the theory of flow, this unwanted interaction between the couple and individuals passing them increased the negative emotions experienced by all parties involved.

Vehicle lane widths are frequently overdesigned at a similar rate that sidewalks are underdesigned. In his article, Dewan Karim discusses right-sizing lane widths. He discovered that not only does the width of each lane influence the risk of being hit and killed by a vehicle but for each additional lane after the first two – 11 ft lanes compound the risk astronomically. This poses a major flaw in current road design in North America where a typical road consists of a minimum two to three 14 ft lanes with no median running between the two traffic directions. At times, there is a median which by all checks should be sufficient for pedestrian safety but are in fact undersized. As an example, Livernois Avenue which runs the western edge of the University of Detroit Mercy's McNichols campus in Detroit has all the characteristics of a well-designed road. Two lanes continuously running each direction with a sizable median between the two directions and Michigan left turns at regular intervals and street parking buffering sidewalks from active traffic. However, Livernois Avenue is still designed for vehicular traffic with only minimal consideration for people crossing on foot. The continuously straight run permits high rates of speed. The posted limit is 30 mph, but 10 to 20 mph are not uncommon with stories of drivers being pulled over for driving 70 to 90 mph. These high rates of speed cause frequent crashes which often lead to damage on the median including trees and poles being run over. Even when the speed limit is followed the people crossing the street are still faced, quite literally, with effects of vehicular traffic. One rainy morning driving to the University of Detroit Mercy for class, I witnessed a pedestrian standing legally in the section of crosswalk that crossed the median, but they became stuck on the median due to a light change. As a car was passing them headed southbound, the person turned their back to avoid being splashed but as they did so, a car headed northbound hit a large puddle sending water into the person's face. To add insult to injury, instantaneously after being hit with water by the northbound lane, the person turned to avoid being hit again with water from the northbound traffic but instead was hit by water kicked up by a car traveling southbound. It is experiences such as this which causes pedestrians to regularly jaywalk as there is little positive reason to cross legally. Thankfully, Livernois Avenue is currently being redesigned to balance active transit and vehicular traffic by reducing each direction to a single lane with a continuous left turn lane between, increasing the sidewalk widths to 23 ft, up from the current 7 ft, as well as adding a protected bike lane as part of a seven-part corridor revamp project (Nagl, 2019). In projects such as this which begin to whittle away at the

stronghold of personal automobile travel are still met with contempt by some, but a majority of people are welcome to the idea, but how will they respond when it comes time to repurpose expressway and arterial thoroughfares.

[SPEED FACTOR]

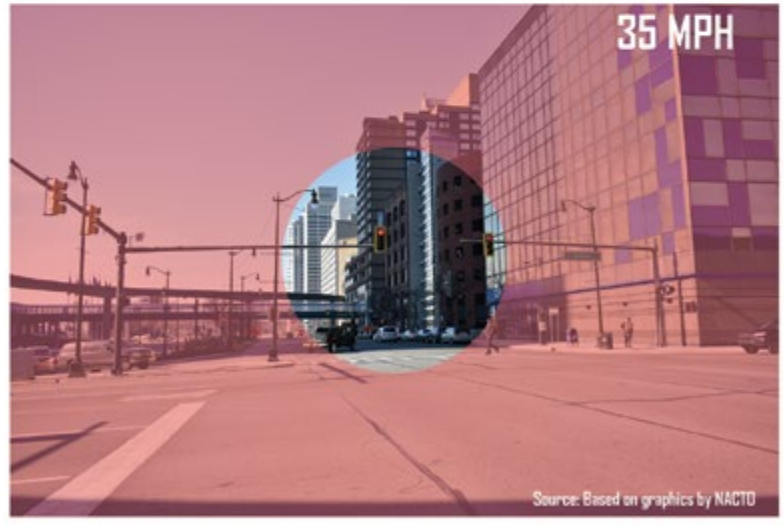
Speed is one of the most terrifying parts of crossing a busy street as a pedestrian. As you are in the middle of crossing, a car comes rushing toward you with nothing to protect you beside your pant leg. When a driver begins accelerating, the range of focus they maintain steadily decreases. Naturally, the eye only is able to focus on a small pinprick area at any given time; however, speed accentuates the hazards which come along with it.

Common arterial thoroughfare design involves two to five lanes of one-way vehicular traffic. This becomes an issue due to this decrease in view range caused by speed. By 35 mph, a driver can only see approximately two lanes which means that there are one to three other lanes a driver is unable to keep track of. Likewise, it means that there are one to three lanes over which a vulnerable pedestrian or cyclist may be using to cross the street.


20 MPH


25 MPH


30 MPH


35 MPH
Source: Based on graphics by NACTO

3 THE AUTOMOBILE - DETROIT'S MISTRESS

Forty-nine thousand, three hundred and forty. That's the number people hit and killed in the United States in a period of nine years with most of the deaths occurring in 2016 and 2017. In Detroit alone, 757 pedestrians were fatally struck making it the 18th deadliest for pedestrians (Smart Growth America, 2019).

Since car-ownership has become an essential part of modern society, nearly 88% of the adult American population owns their own car. Similarly, Germany reported 85% in car ownership. Of that same study population, some 53% Americans owned bicycles in comparison to the 80% in Germany (Poushter, 2015). As a result, most automobiles in Detroit carry a singular passenger thus increasing the number of vehicles on the road.

Home to the Underground Railroad, Motown, electronic music, the North American International Auto Show, Hitsville, USA., and the Big 3 with legendary speakeasies and water serpents which terrorizing fur traders along the Detroit River, Detroit has had and continues to experience economic turbulence along with a vibrant cultural array, but nothing has influenced the urban fabric of Detroit as much as the invention of the automobile with its introduction forming an unrelenting car culture in the Midwest. The automobile brought with it a personal freedom that few had experienced before and with that freedom came the very essence of the Midwest, a car culture. As personal travel was accomplished at increasing rates by individually owned automobiles, problems began to arise.

On a city scale, planners had to determine how to accommodate the personal vehicles of not only those who lived within the city but also of those who were visiting as well to create a quick changeover between residential districts and downtown. This spurred a revolution of how streets were designed not only in their scale but also their location. Analyzing historical images and aerial photographs shows a great number of homes and businesses were torn down to accommodate new and continuous widening of expressways and other primary arterials and parking lots. Thoroughfares began slicing between primarily residential and economic center in downtown Detroit fragmenting the city into sectors which are near impossible to move between without a car. In some areas, like the border between Corktown and Mexicantown, the only option for crossing involves walking on treacherous overpasses of I-75. Observing many of these overpasses in the Detroit area, most are crumbling with pedestrians walking in uncomfortable proximity to the vehicle lanes. This creates a nerve wrecking experience as pedestrians feel the constant rumble of traffic under their feet and the rush of cars speeding past. There was certainly racially biased policy making involved with regard to the selection of areas to be demolished for thoroughfares, but we cannot be solely focused on this one aspect of city planning in the creation of expressways or any other type of Detroit thoroughfare. Looking at the functional purpose of these car-based projects, they were designed to expedite the flow of traffic into as quickly as possible and then send them back out as quickly as possible. Attempting to expedite traffic out of the city systematically drains consumer traffic to downtown businesses and places those utilizing active transit in harm's way.

Consistently, city planners have had little regard for how the creation and widening of thoroughfares impacts the surrounding districts with cultural heritage becoming a target of expansion as seen with the current widening of I-94. In 2017, Antonio Seba, an energy and transportation disruption expert, predicted that by 2030 most Americans will not own a car. Instead, Seba states they will instead be traveling via shared, autonomous vehicles. He backs his prediction by studying the habits of current car owners. Many of whom he studied sold or didn't replace their current vehicle in favor of utilizing ride-share options such as Lyft or Uber. This shift from personal transit to shared, Seba says, is a direct result of car owner never fully realizing benefits offsetting the high cost of car ownership as a car sits idle 90% of the time. So if personal car transit will be an outdated phenomenon within our lifetime, is expanding existing road infrastructure really the best use of tax revenue? Instead, we should begin investing public funds into transforming obsolete road infrastructure into publicly beneficial projects.

In addition to getting drivers from Point A to Point B, how to efficiently store vehicles when not in use within the city deeply affected the city's fabric in ways that would last for generations to come. Whole neighborhoods were obliterated for expressways with the intent of facilitating automotive travel in a timesaving manner. As a result, it was not uncommon for historic structures to be razed for parking lots in the pursuit of car-dependency (Jakle & Sculle, 2004). Now, where Detroit used to have high urban density areas are severely punctuated by large expanses of open asphalted space void for the sole purpose of auto storage. If the shift to shared, autonomous transportation and active transit is accomplished as Seba and other experts have predicted, the City of Detroit will have acres of prime downtown real estate to transform into public social space or new construction.

1949

1956

1961

1981

1997

2019

4 TRANSFORMING SPACES - CASE STUDIES

Prepping for an uncertain future starts with working with what we have. Drawing inspiration from the past to transform the present for a better future. Place-making, a tacky word for an important concept, is essential for cities like Detroit who are undergoing an identity and cultural shift. To position a public social space for the greatest potential for success, understanding what makes a place different from any other is key for longevity. Gentrification, a word with negative connotation for design that does not embody the true essence of the people who live in the area but instead favors a bland middle-ground. Detroit is certainly not lacking in the cultural vibrancy department, take the Heidelberg Project and the Campus Martius Beach as examples of the range of tastes in Detroit each bringing their own unique style contributing to Detroit's eclectic urban tapestry.

In addition to understanding place, keeping location in mind is equally important. If a location is too far outside where individuals live, work, or play or is too difficult to access or otherwise unbecoming, the likelihood of the space being used regularly by residents decreases tremendously as discussed earlier. Access is vital for anything, public social spaces especially, to succeed. If the only way to get to a point of interest is to cross ten lanes of speeding traffic, pedestrians and cyclists may attempt to cross but death and injury will be a common occurrence. Oppositely, if a point of interest is directly accessible to pedestrians and cyclists with no need to cross lanes of vehicle traffic, the likelihood of incidental recreational activity will occur as observed with public exercise equipment installed along the Dequinder Cut between Eastern Market and the Detroit River. Manhattan, NY has begun experimenting with narrowing street widths to provide outdoor café seating and recreational activities with some becoming permeant most notably the design of Washington Square Park. The park originally contained a roundabout surrounding the park's fountain for drivers to view the fountain. City planners redesigned the park as pedestrian-only with restroom facilities, a dog-run, playscapes, and an abundance of urban furniture. With only two moderately sized lanes of vehicular traffic running along the park edge. Hourly observations witnessed the steady gathering of people beginning in the wee hours of the morning well into the evening with activities categorizable as transitory and staying. Transitory activities include running and walking through the park to reach another area of the city. Staying, activities where the individual resided in the park for longer than 10 – 15 minutes, included chess players, musicians, vendors selling their wares, children and their parents on the playscapes, students of cinema creating a movie, groups of young adults playing lawn games in

grassy areas, dogs and their owners using the dog run, as well as people seated on benches and the fountain talking amongst each other and people watching. This combination of spatial purpose, easy access, variety of activity and movement made Washington Square Park a place to which locals and visitors alike return to again and again (Field interviews, 2018).

Many western countries, notably Denmark and other Scandinavian countries, have come to favor predominantly active and public transit. As a result, they have begun transforming spaces which had been originally designed to facilitate personal vehicle traffic into public social spaces. Transforming these spaces does not mean that they no longer have car ownership but rather that they prefer and want to encourage healthy lives involving regular social recreational activity which in turn will develop a happier and healthier population. To understand how cities transformed these spaces, six case study projects were selected for further inspection.

The projects selected are:

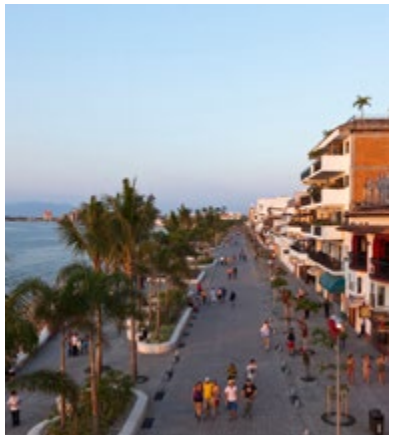
- The Puerto Vallarta coastline in Puerto Vallarta, JAL, Mexico
- The Afghan Bazaar District in Melbourne, VIC, Australia
- The Castle District in Sopron, Hungary
- Mercado del Born Square in Barcelona, Spain
- Täby Torg Square in Täby, Sweden
- Portsoken Pavilion in London, England

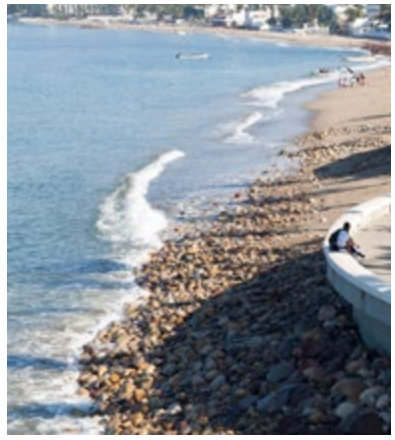
Puerto Vallarta

Location: Puerto Vallarta, JAL, Mexico
Year: 2011

"For many years the automobile had become the principal user of the malecon, therefore, it was dangerous an uncomfortable for the pedestrians. A car barrier crossed the malecon in its entire route distorting the original purpose of it, a great area by the sea."

Trama Arquitectos





Afghan Bazaar

Location: Melbourne VIC, Australia
Year: 2014

"The City of Greater Dandenong, and Office of Multicultural Affairs and Citizenship, have invested significantly in enhancements to the precinct's core in Thomas Street, aspiring to recast the street as an authentic venue for public life, community identity, unity and pride."

HASSELL

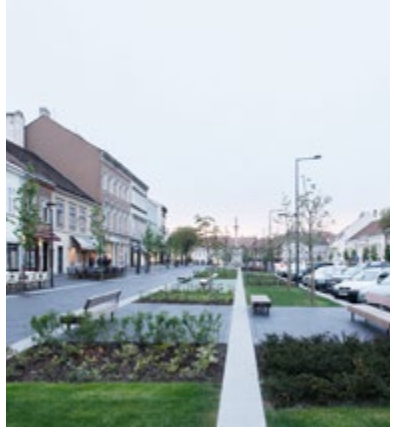
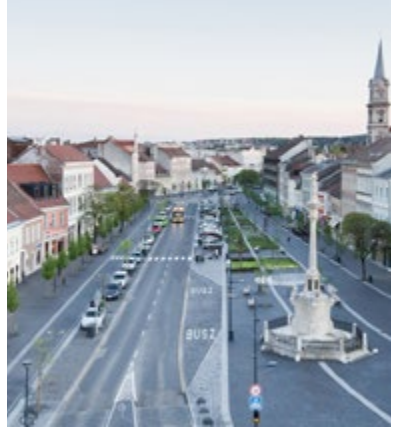


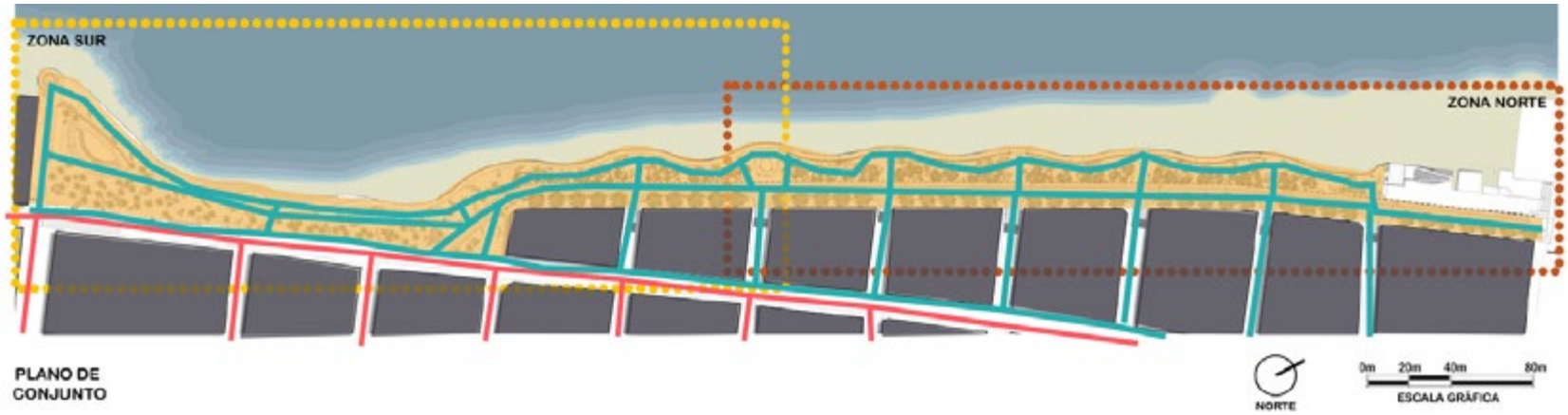
Sopron Castle District

Location: Sopron, Hungary
Year: 2015

"Prior to the conversion, actually the whole Castle District was one contiguous parking lot... The key concept was that when standing at any point of the Castle District one should know and feel that he/she is in this very part of the area."

Hetedik Müterem


ZONA SUR
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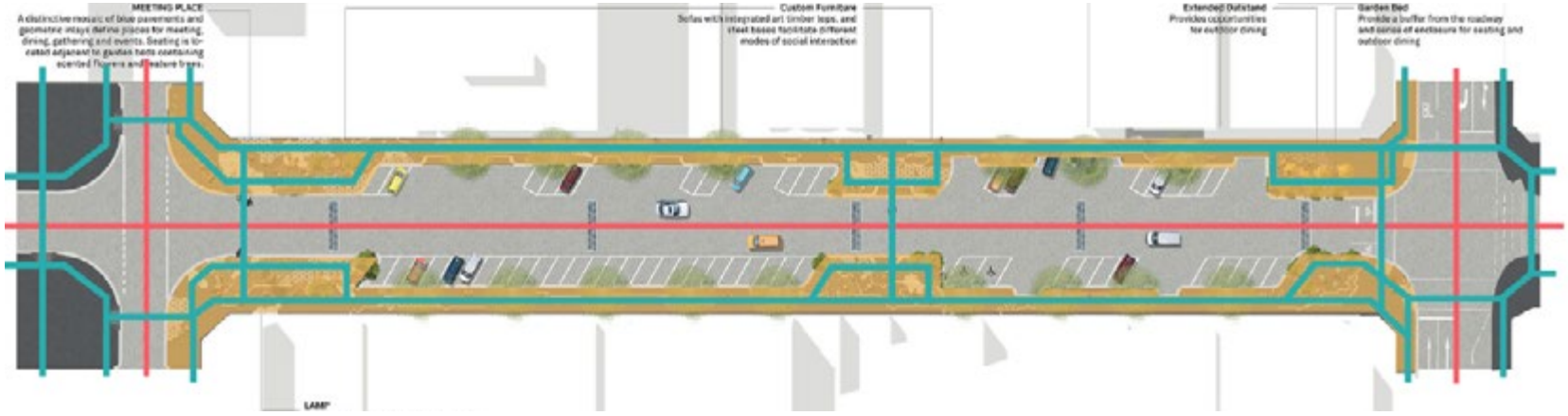
0m 20m 40m 80m
ESCALA GRÁFICA

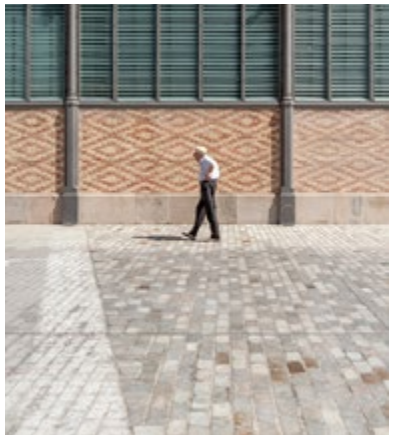

MEETING PLACE
Custom Furniture
Extended Outstand
Garden Bed

Mercado del Born

Location: Barcelona, Spain
Year: 2013

"The project was defined with the premise to promote maximum diversity of uses. With the launch of BornCC the current uses were intensified and new ones appeared. The open space, the single platform and the character of the plaza strengthen this diversity."

Vora

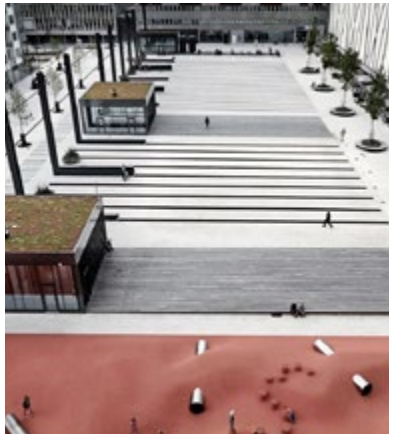
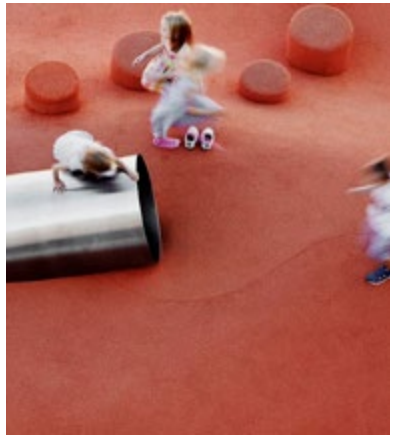


Täby Torg

Location: Täby, Sweden
Year: 2015

"The linear bar code-pattern allows each of the six zones its own identity while still being connected to one another... This dynamic everyday space is created both for the big events and for the small everyday activities – An open invitation for urban life."

Polyform

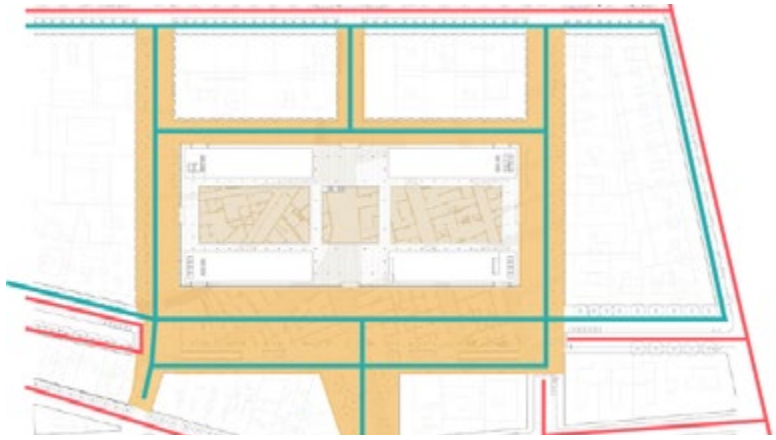

Portsoken Pavilion

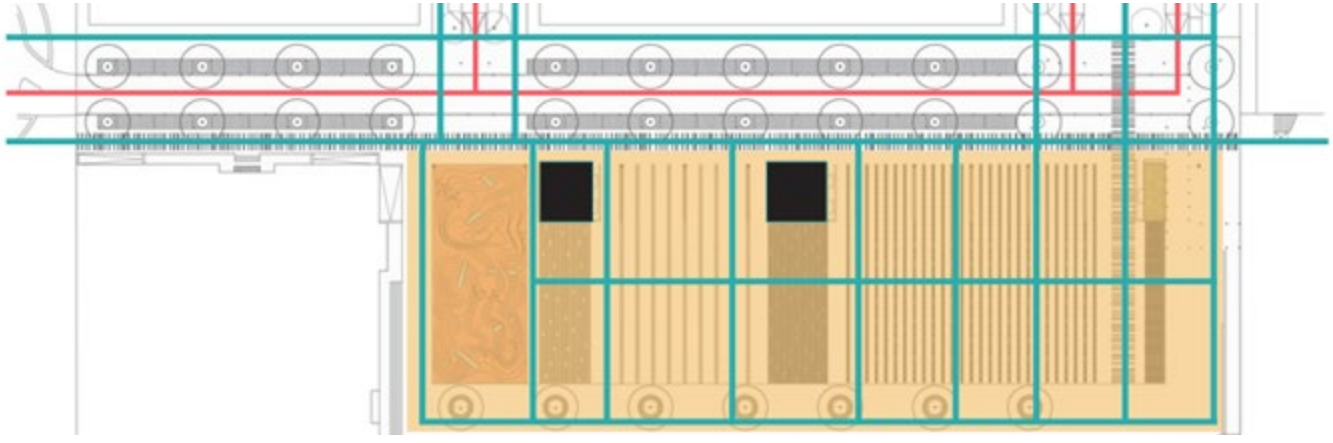
Location: London, United Kingdom
Year: 2015

"Portsoken Pavilion is the centrepiece structure in a new landscaped public square...that has replaced a former gyratory...The small building is a part of a larger civic aim to provide space for events and leisure, improve wellbeing and provide natural surveillance."

Make Architects








Aldgate High Street

Puerto Vallarta

At Puerto Vallarta, a bustling historic city center was severed from the beautiful coast by a busy malecon. The city determined this environment had become too hostile for pedestrians trying to enjoy the coastline boardwalk due to vehicles steadily claiming the malecon which they stated had distorted the original purpose of the boardwalk. As a response, a half-mile section of the boardwalk was closed off from vehicular traffic entirely then redesigned as a half-mile esplanade filled with bronze sculptures and paved with mosaics in the shapes of cosmological characters to reflect the local Huichol Indian culture the remainder was kept as a slow speed street with dominating sidewalks making the car the intruder in the space (Trama Arquitectos, 2014). The primary goals for this project include:

I. Give the space back to its original owner, the pedestrian
II. Make the space comfortable all day through shadows created by landscaping
III. Accessibility between the historic center and the coastline
IV. Reflect the undulating shape of ocean waves
V. Reflect the local culture in aesthetic design decisions
VI. Designing for enjoyment including the implementation of street furniture
VII. Create a safe space for families

Afghan Bazaar

The Afghan Bazaar in Melbourne was fragmented into halves by a multi-lane street which lent little space for social activity on the side-walks. This project, one of many projects to be undertaken in Melbourne, to create "an authentic venue for public life, community identity, unity and pride". Designers of the transformation actively sought community input on how best to balance the sidewalk life and the vehicle traffic needed to draw in visitors. The resulting design pulled from the local and broad Afghan culture through artistic expression, the color blue, a centerpiece, and celebration with elements inspired by the tiling at the Blue Mosque. Reinterpretation of familiar elements, such as the dais, introducing texture, color, and pattern form intricate forms to emphasize gathering spaces with abstracted geometries generating spatial forms and shaping seating arrangements. Differentiation between pedestrian and vehicular through color and texture gives unequivocal spatial ownership to pedestrians (HASSELL, 2015). The primary goals for this project include:

I. Create a comfortable gathering space for casual socializing
II. Encourage community events
III. Celebrate local Afghani cultural expression
IV. Enliven the street
V. Narrow roadway to give additional space to footpaths
VI. Design an improved public space by improving infrastructure
VII. Celebrate the street as an important space for movement, business exchange, as well as social and cultural interactions

Sopron Castle District

Before the transformation, the boulevard encircling the sloped Sopron Castle District was used only as a street and parking. Originally based on Pál Boronkai's plans with retaining walls, articulated and separated traffic routes with minimal dedicated space for pedestrians creating an unwelcoming environment for staying. Buildings surrounding the boulevard are predominately hospitality, cafés, hotels, among others but lacking the corresponding public social spaces. To create a sense of identity for the space, the architects joined the statue of Virgin Mary and the Fountain of Loyalty to give the most important space in Sopron the justice it deserves. Since the boulevard is an exceptionally long project site, it was designed with varying cross-sections to generate the feeling that when in an area within the space, you feel like you truly are in that area. To prevent the impression of competition between the newly created public space and the historical facades of the surrounding buildings, a moderate design approach was taken for the public space. Finally, it was important for this public space to provide necessary facilities as it is a popular stop on cycling and walking trips due to the nearby businesses and cultural significance. As such, a small pavilion was added to the site to provide all the functions of a rest stop (Hetedik MŰterem, 2016). Primary goals for this project include:

I. Reclaim vehicular space to create cultural space
II. Provide complementary space to the existing built environment
III. Create a relaxing plaza through nature, i.e. water fountains and landscaping
IV. Promote staying by providing outdoor seating and facilities
V. Be the first phase of a continuing city renewal project
VI. Visual organization between areas within the space and from vehicular traffic
VII. Evoke materiality of monumental reconstruction occurring during the 20th century

Mercado del Born

The space surrounding the historic market had previously been used for vehicular traffic but has been since closed off for pedestrian use. By leaving the space around the market empty, it emphasizes the monumentality of the historic market building while permitting diverse multi-use around its base. Minimal landscaping and urban furniture ensure negligible issues for large events such as weekly markets or festivals. Paving stone harkening to the area's history while providing a platform for new activities (Vora, 2015). Primary goals for this project include:

I. A flexible space for diverse usage
II. Connectivity in pedestrian space
III. Permeability through the commercial districts
IV. Centrality in the space
V. Create a sense of identity
VI. Minimal artistic interpretation to promote functionality
VII. A single platform for all activities to occur

Täby Torg

Active transit has become commonplace across Sweden and as such the need for open swaths of asphalt parking is decreasing. This particular lot is located in the middle of a housing project adjacent to a shopping mall near the center of the city. Part of the Million Programme to meet the housing demands of the 1960s, housing projects were left without any spaces for gathering. As a response to a response, this parking lot was transformed into a square subdivided into six narrower squares each with a focal point ranging from a playscape to fountains to pavilions. Täby Torg was designed to be read as a whole comprised of complemental elements that can be used for a wide range of activities. To make the dark winter days of Sweden a bit more enjoyable, over 500 lighting units divided into six zones give an impressive light show that varies depending on the time of year, day or occasion (Polyform, 2016). Primary goals for this project include:

I. Usable year round
II. Create a space for daily life in Täby to unfold onto
III. Promote gathering of residents
IV. Encourage staying by providing ample urban furniture
V. Multi-use space
VI. Boost moral during winter months
VII. Create "an invitation for urban life"

Portsoken Pavilion

In an effort by the City of London to begin providing space for public social activities, the Portsoken Pavilion is located in Aldgate Square on what used to be a gyratory and subway forming a plaza between two heritage sites: the St Botolph without Aldgate church and Sir John Cass's Foundation Primary School. This new square with its pavilion is designed to promote leisure activities and boost natural surveillance of the surrounding areas. The pavilion itself it key in providing this natural surveillance. Designed in such a way that there is no rear entrance in respect to key pedestrian approaches. Visually, the materiality of the pavilion complements the colors and materials of the two historic buildings flanking the square while pulling from the more modern commercial buildings. The full glass curtain walls not only assist in natural surveillance but also seamlessly allows for overflow seating into the square (Make Architects, 2018). Primary goals for this project include:

I. Natural surveillance
II. Improve well-being through leisure
III. Provide space for events
IV. Create a connection between two heritage sites
V. Use materiality and style for unification of the pavilion to itself surroundings
VI. Interaction visually and spatially from the interior to exterior of the pavilion
VII. Reduce footprint of the pavilion by utilizing ground temps to regulate interior temps

[Case Study Summary]

In each of these projects, access, materiality, spatial arrangement, and the local culture influenced the overall design in varying degrees. Frequently, the case studies rerouted vehicular traffic to create a pedestrian-only zone which was then differentiated from vehicular lanes through the application of materiality and vegetation. The materials selected for each project directly reflected the cultural symbolism or elements of historical significance. Contemporary elements of the projects were typically the urban furniture and lighting designs with the urban furniture begin more often than not designed with a corresponding sheltered area provided by either landscaping, awning, or pavilion. Less obvious than the elements previously listed is the sense of movement, movement occurred not solely by people passing through the site but also created by design elements. In Puerto Vallarta, it was the undulation of the esplanade mimicking the markings left by waves on the beach. At the Afghan Bazaar, alternating patterns and materials makes the sidewalk addition appear to be sliding or twisting. Sopron Castle District has water features and alternating materials and textures. Mercado de Born is unlike the others as it does not possess an element contributing a sense of movement, but this lack of elemental movement was intentional to a vacuous environment. Täby Torg, like the Sopron Castle District, has alternating materials to divide the space with water features to break the flatness of the site. Portsoken Pavilion in its newly designed square is the element of movement. The roofline gives the appearance of soaring wings with the walls of glass reflecting the sky and the street life surrounding it.
Frequency of design factors expressed in percentages:

Access:
50% – completely eliminated vehicular traffic
50% – permitted limited vehicular traffic
100% – widened sidewalks and narrowed vehicular lanes
100% – altered vehicular flow around the site

Materiality:
85% - landscaping defines and protects the pedestrian space
100% - materials reflect local culture and environment
100% - selected materials with symbolic meaning
100% - differing materials to divide pedestrian from vehicular

Spatial arrangement:
85% - used voids to break linear arrangement
33% - created a new focal point
50% - reused an existing element as a focal point
16% - did not have a formal focal point

Local culture:
33% - explicitly used cultural symbolism in patterning
100% - scaled the new social spaces based on desired functionality
100% - balanced transit accessibility based on local values

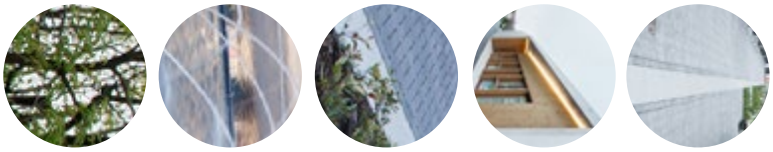
SOFT

RANGE OF MATERIALITY

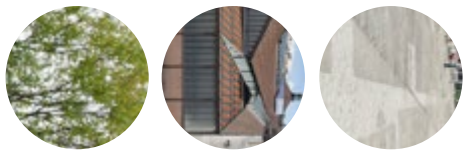
HARD

PUERTO VALLARTA

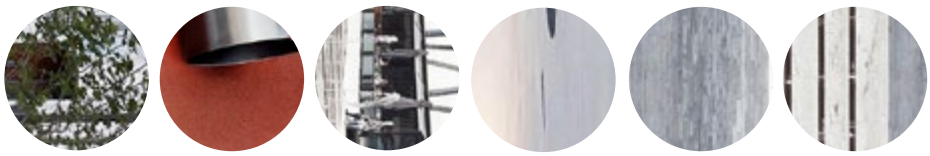
AFGHAN BAZAAR



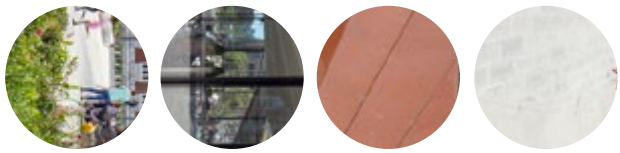
SOPRON CASTLE DISTRICT



MERCARDO DEL BORN SQUARE



TÄBY TORG



PORTSOKEN PAVILION

JEFFERSON AVENUE

5 FIELD OBSERVATIONS

[Site Selection]

Selecting a project site in Detroit is difficult, not for the lack of viable locations for a transformation but just the opposite, there are too many options. At all of the crosswalks visited during numerous visits to Detroit's entertainment district were plagued with similar driver behavior: rolling right-turns through red lights without yielding to pedestrians and cyclists in the crosswalk, running red lights, aggressive creeping and/or lurching toward those in the crosswalk being among the worst observed. Using the case studies in the last chapter as guides, a location that was selected that fit similar criteria. A site close to Detroit's historic, economic center, that by existing severed the city from a major focal point and created hostile conditions for pedestrians, in addition to being overdesigned for its vehicular volume and thus promoting risky driver behavior. After several walking trips around downtown Detroit, Jefferson Avenue became the clear choice. With an average lane width of 14 ft and an average of five lanes in each direction, not including street parking or turn lanes, it is a dangerous crossing point for pedestrians wishing to walk from Campus Martius to Riverwalk Park. There have been negative reactions since announcing this selection but if there is going to be a revolution in North American street design then what better location than directly in front of the GM headquarters? In subsequent visits, the following studies were conducted: comparison studies of actual pedestrian crossing time versus allotted crossing times, studies of how many people are currently crossing from downtown to Hart Plaza and Riverwalk Park, what types of activities are occurring in Hart Plaza. These studies are to be considered scientific but instead to assist in design development through understanding of current site conditions.

Crossing Time Study

Method: Record personal lap time crossings at varying speeds

Conclusion: This study found that a majority of the legal crosswalks along Jefferson Avenue between M-10 and I-375 resulted a 50/50 chance that a pedestrian will be vulnerably trapped on the median. As families with young children and the elderly being the most common to be stranded on the median assumedly due to their slower crossing pace.

Pedestrian Crossing Times Over Jefferson Avenue at:

	Beaubien			Brush		Randolph	Woodward				Griswold
Sidewalk to Median	0' 27"	0' 27"	0' 38"	0' 27"	0' 27"	0' 22"	0' 38"	0' 45"	0' 39"	0' 44"	0' 36"
Wait Time at Median	1' 11"	1' 17"	-	1' 05"	1' 18"	1' 11"	-	-	-	-	-
Median to Sidewalk	0' 16"	0' 12"	0' 42"	0' 18"	0' 56"	0' 15"	-	-	-	-	-
Total Crossing Time	1' 54"	1' 56"	1' 34"	1' 50"	1' 34"	1' 48"	0' 38"	0' 45"	0' 39"	0' 44"	0' 36"

Crossing Time Study

*Times noted as "-" indicate no stopping at the crosswalk

**Traffic officers during commute rush hours eliminated pedestrians waiting on median crossing from Spirit of Detorit Plaza

Crossing Volume Study

Method 1: Observe group volumes crossing from Spirit of Detroit Plaza to Hart Plaza**
Method 2: Compare number of individuals crossing Jefferson Ave. at Brush St. vs those in skywalk
Conclusion 1: This study found that a majority of the legal crosswalks along Jefferson Avenue between M-10 and I-375 resulted a 50/50 chance that a pedestrian will be trapped on the median.
Conclusion 2: When a safe crossing condition is available and accessible in a daily routine, it is the preferable method for crossing as observed with only 1 individual crosses Jefferson Ave via the crosswalk for every 9.3 individuals using the skywalk

*Existing crossing points were identified with popular points selected for study. Spirit of Detroit Plaza to Hart Plaza was found to be the most popular with Brush Street to the Renaissance Center being the second.

Jefferson Avenue at Spirit of Detroit Plaza

Group #	1	2	3	4	5	6
Group Volume	15	4	13	9	8	12
Do Not Fully Cross	2	2	5	7	2	4
Crossed for Garage	-	2	-	5	2	2
Fully Crossed	13	2	8	2	6	8

Crossing Volume Study
*Times noted as "-" indicate a null volume
**Average wait time on median = 42 seconds

Activity Study

Method: Observe and document activity
Conclusion: Approximately 75% of those who enter Hart Plaza are heading for Riverwalk Park.
Of those staying in Hart Plaza, 25% were skateboarders, 25% were viewing the historical sculpture, and the remaining 50% were sitting.

[Other Observations]

In addition to the intentional studies conducted around Jefferson Avenue, it was observed that during 3:00 pm and 6:00 pm on various days of the work week, that the existing road infrastructure never reached a volume that would require the existence of 4 lanes of vehicular traffic. In fact, drivers appear to naturally form continuous lines of traffic in just two of the four lanes.

[Summary]

Crossing Jefferson Avenue or any of the similarly overdesigned thoroughfares in the city is not only visually perceived as dangerous but is as well. This alienating environment toward pedestrians is fostered by road overdesign which lends itself to speeding cars whose drivers are unable or otherwise unwilling to stop at marked crosswalks. Time allotment to cross Jefferson Avenue legally is insufficient and carries much of the same risks as crossing illegally removing most of the intended benefits of marked crosswalks.

Two benefits of transforming Jefferson Avenue are its location to close to popular attractions, restaurants, Campus Martius, Riverwalk Park, bars, retail, and offices, and its role as a transitional space between downtown and the Detroit River. By reclaiming most of the unnecessary vehicular lanes, a safer, more vibrant environment for pedestrians and cyclists can be created.

6 SITE DESIGN + DEVELOPMENT

[Jefferson Avenue]

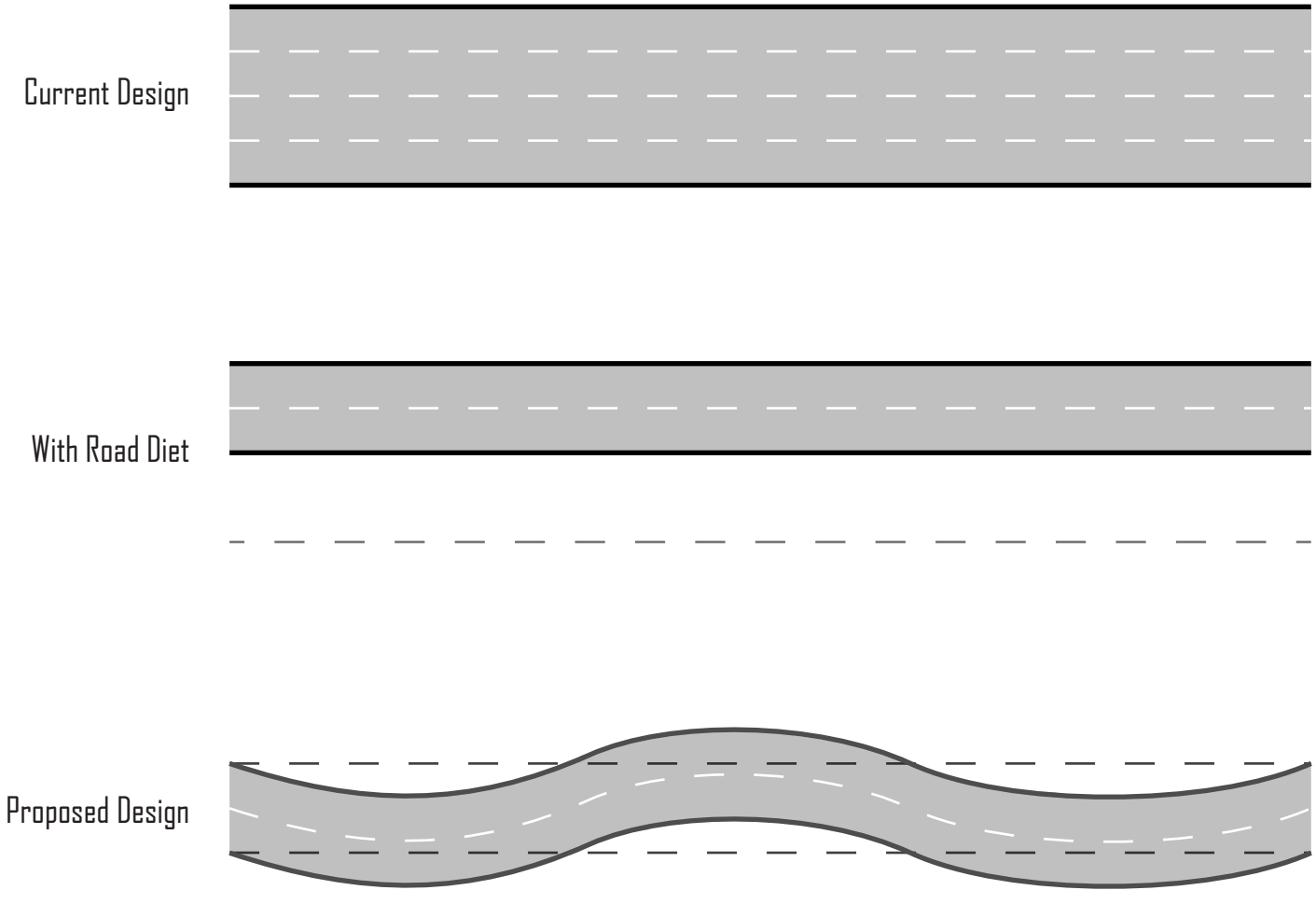
After dozens of trips to Jefferson Avenue and its surrounding areas, the process of transformation began. Before any design decisions could be made, project goals had to be set to ensure the best possible outcome for the project. Corresponding with the characteristics of the case studies in Chapter 4, access, materiality, spatial arrangement, and the influence of the local culture would also assist in determining the design elements of the transformation to achieve harmony between modes of transit. Starting with markers and trace paper, several options were created to push the idea of what Jefferson Avenue could become.

For a good number of the potential designs for Jefferson Avenue, they did not adequately address the safety concerns that Dewan Karim had identified in his article. Particularly the number of lanes an individual would have to cross with no median to interrupt the directions of vehicular traffic or traffic calming interventions to slow traffic entering and exiting the flanking expressways. Taking a step back and starting with a single element. The existing condition that posed the greatest threat to pedestrian safety and the connection between downtown and the riverfront was the width and number of lanes which needed to be crossed in order to reach other side.

Reducing each direction to the maximum road width for safety of 22 ft, or two 11 ft lanes, then separating the two directions by a massive median permits the continuing flow of vehicular traffic from expressway to expressway while providing the necessary elements to ensure the safety of those on foot. Keeping the layout of the Rose Fitzgerald Kennedy Greenway over Boston's Big Dig project, it was decided to eliminate all non-essential vehicular crossing points to further reduce occurrence of negative pedestrian-driver interactions. By forcing drivers to continue in a certain direction, it reduces the number of directions both the pedestrian and driver must track to ensure safe crossing. This reduction of vehicular crossing also reduces the fragmentation of the pedestrian median allowing the median to operate as a unified whole. The only vehicular crossing point is at the Detroit-Windsor Tunnel. Its location is approximately half way between M-10 and I-375 which will allow emergency vehicles to quickly change directions to respond to calls as well as continue the flow of international traffic between the two downtowns.

To force people driving to reduce their speed through this section of Jefferson Avenue, traffic-calming techniques were added. Methods of traffic-calming most people are used to seeing along the edges of long, straight roads are not overly exciting aesthetically pleasing usually involving bulbs projecting from the road edge with little effort to blend it into its context. For the transformation of Jefferson Avenue, a different approach was taken to make the street look intentionally designed instead of an afterthought. Pulling on myths of a sea serpent which used to torment sailors from Lake Erie to ports along the Detroit River as well as the waves upon the serpent would swim, Jefferson Avenue's vehicular traffic would operate in a similar fashion following the undulating curves of the newly widened sidewalks and

Jefferson Avenue



Street Development
*Indictive of one-way traffic flow.

bike lanes. Undulating the road layout will function similarly to the traffic-calming bulbs. Drivers will now have to keep their eyes focused on the road to successfully maneuver the narrow curves. This might not stop everyone from operating their vehicles in an unsafe manner, but it will significantly reduce the number of people under the Peltzman Effect. Once autonomous vehicles become more commonplace, the undulation becomes an aesthetic feature rather than a safety measure.

The crosswalks, whose length is shortened by more than half but now widened substantially, can be placed in locations where pedestrians frequently cross even if those locations are not currently legal. Most crosswalks are placed at existing street intersections to simplify road infrastructure layout, but the locations of crosswalks typically only consider where the car are crossing, not the people on foot. Using the information collected during site visits, popular crossing point were identified and were given crosswalks to appropriately support existing pedestrian flow.

For the transformed Jefferson Avenue, crosswalk design follows the same source of inspiration as the road itself. Off the meandering foot paths running the length of the median, small paths break off to form crosswalks for Jefferson Avenue. Taking a creative approach to marking where crosswalks overlay the vehicular lanes, each crossing point receives its own unique graffiti treatment inspired and created by local artists. Changing up how crossing point are marked by utilizing vibrant colors and wild designs on a wider area makes them more visible all year to drivers.

The foot paths within the median are created from the same material, concrete, but interpreted in two different ways. One path is formed from cast-in-place concrete with little change from existing sidewalk pouring techniques. The other, is still concrete but colored and imprinted to give the appearance of wood planking. These two paths represent not only the intertwining connection between downtown Detroit to the river but also symbolizes the reconnection of the people of Detroit to each other and to their city as healing continues.

Flowing, intertwined with the foot paths, is a shallow, slow-moving stream representing the essential importance of the Detroit River in the founding of the fort which would evolve into the city as we know it. Like a river, time also continues to flow and evolve to adapt to new conditions as Detroit must. The river does not only serve an aesthetic function, but a mental one as well. It is widely known that the sight, sound, and texture of water assists in muscle relaxation as well as stress reduction. As this median is to transcend a traditional median by becoming a meaningful part of the city's fabric as a public social space, this "river" will serve as an experiential anchor for the rest of the space.

Weaving of the two foot paths and the river intersect at irregular intervals along the length of the space. These intersections become

key in occurrence of spontaneous social interactions as well as providing the opportunity for walkers to change direction to experience the space with a completely different vantage point. In the spaces formed in the voids formed by the intertwining, small gathering spaces begin to appear laying claim to their own area through materiality. Gathering spaces are differentiated by switching from concrete to crushed brick giving these spaces the appearance of being a public room whose edges are defined by trees providing shelter and shade to seating upon which to rest. The change in texture interrupts the monotonous solid, ungiving structure of concrete allowing visitors to directly influence their surroundings in a passive manner. Even the seating can be rearranged in particular gathering spaces. Informal gathering spaces are also accessible along the winding paths. These spaces differ from the formal spaces by replacing crushed brick with grass and removing any forced types usage by eliminating all urban furniture with flat, grassy areas upon which to play lawn games, eat picnic meals, or other publicly acceptable forms enjoyment. Varying the scale, materiality, and intended usage of the spaces gives the visitor the flexibility to choose what kind of environment they wish to be in ranging from as close to full nature immersion as one can get in Detroit to meditative spaces along the river to walking a traditional pedestrian foot path as well as increasing or reducing the potential for social interactions.

Buffering these new public social spaces from the unpredictable operation of vehicles are thirty local species of flowers, shrubs, and trees whose benefits were discussed in Chapter one. In addition to the aforementioned benefits of urban street trees for mental health, these plants were selected to also offer butterflies and bees a source of nutrition in an otherwise barren cityscape devoid of vegetation.

Accessibility is not limit to only pedestrians and drivers. On the north and south sides of Jefferson Avenue, the new road design makes available to users of bike share stands, personal bikes, and dockless scooters a dedicated space in which they can ride with minimal concern as to whether a vehicle will hit them or they themselves hit a vehicle or pedestrian. As dedicated bike lanes become more prevalent in the city, Detroit like European cities such as Copenhagen will begin fostering an active transit population gaining all the benefits that an active culture brings.

The river, since it is to embody the local current and historical culture of Detroit, as art installations within it. In some points, what appears to be a sail of a sea serpent rises and falls breaking the water's surface. In the east "lake", eight large tentacles symbolizing the eight victories needed to win the Stanley Cup traditionally represented by the eight tentacles of the Red Wing octopus (Pepper, 1984), reach out for the People Mover to give a cheering display in support of the Red Wings' next attempt at the Stanley Cup.

Future Transformations

Moving toward the future it is the hope that the transformation of Jefferson Avenue will inspire other street transformations around

downtown Detroit eventually spreading into the surrounding neighborhoods forming a connection between downtown and the formerly severed neighborhoods. Future interventions will most likely, and hopefully, differ in their functionality and style as they respond the various contexts in which they will be located.

As for the street adaption of arterial thoroughfares like Jefferson Avenue for autonomous vehicle usage, it would be relatively simple as they operate in a similar environment to traditional vehicles. Even in the event that A.V. does not become the golden goose many are hoping for, redesigning thoroughfares such as Jefferson Avenue or Gratiot Avenue will ultimately be the first step toward North American cities developing a healthy urban street culture where a person does not have to drive into the city and search for extended lengths of time for a parking spot for which they have to pay outrageous amounts of money. Instead, they will be able to walk, bike, or scooter to points of interest.

LANDSCAPING SCHEDULE


LAVENDER


RHODODENDRON


WHITE CLOVER


COTONEASTER


HEATHER


TOADFLAX


BACHELOR BUTTON


BELLFLOWER


THYME


FORGET-ME-NOT


YELLOW MUSTARD


SAGE


ESCALLONIA


CRANESBILL


ASTER


ENGLISH DAISY


ROSE


CALENDULA


LILLY-OF-THE-VALLEY


HEBE


RUBUS


FOXGLOVE


WHITE SPRUCE


LILAC


RED MAPLE

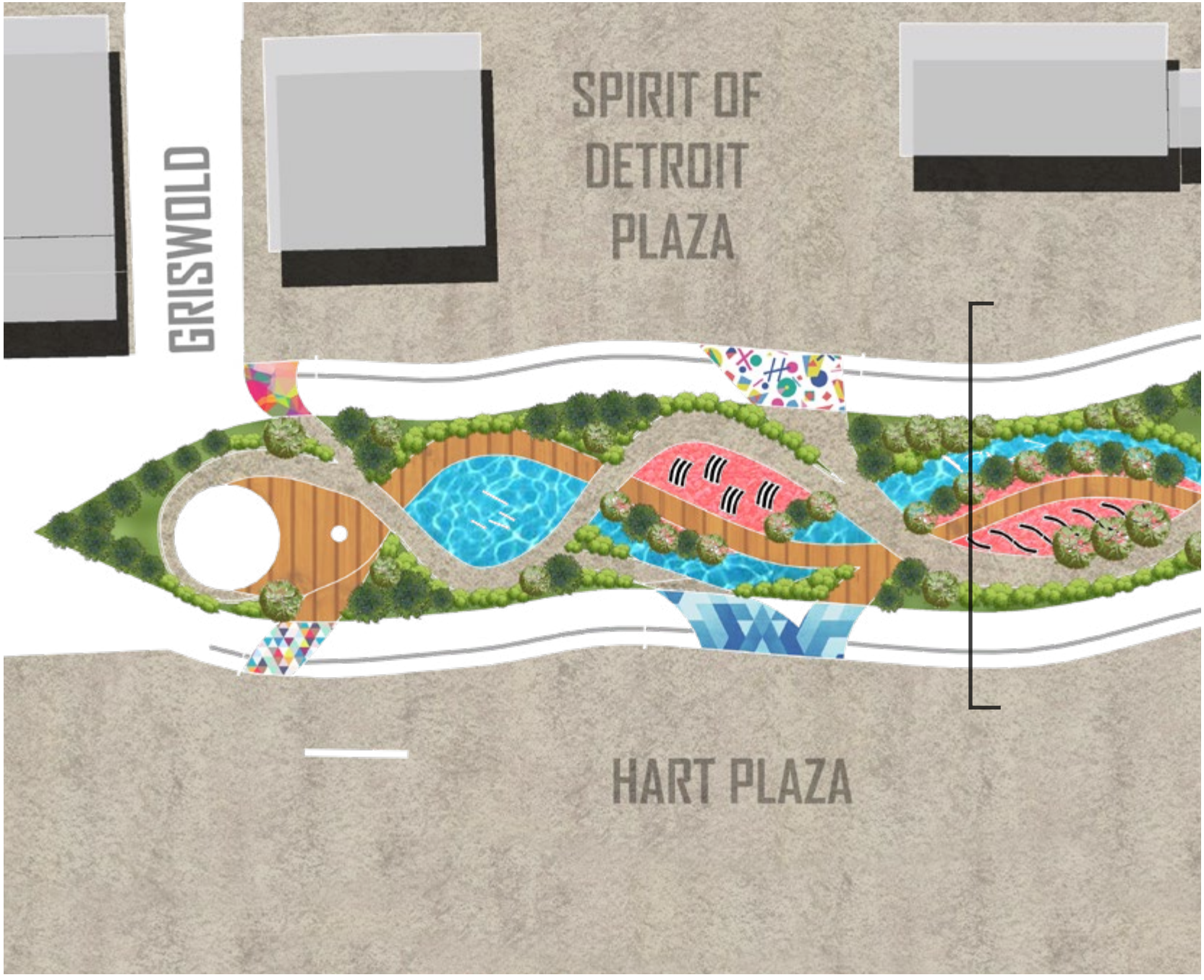

CHERRY


WHITE PINE


PUSSY WILLOW

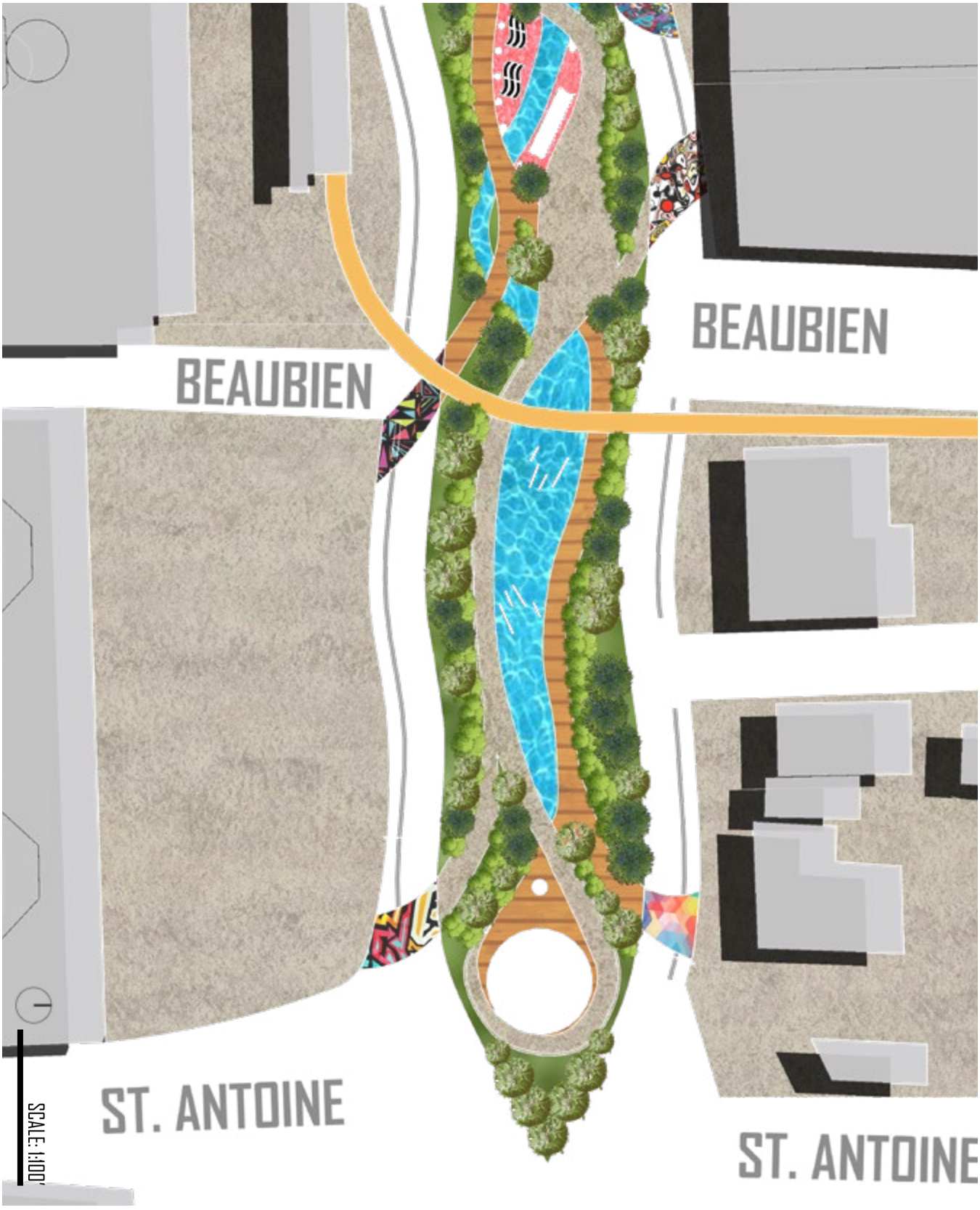

RED OAK


BIRCH


GRISWOLD
SPIRIT OF
DETROIT
PLAZA
HART PLAZA

RANDOLPH
RENAISSANCE
SCALE: 1:100'

RANDOLPH
BRUSH
RENAISSANCE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BEAUBIEN
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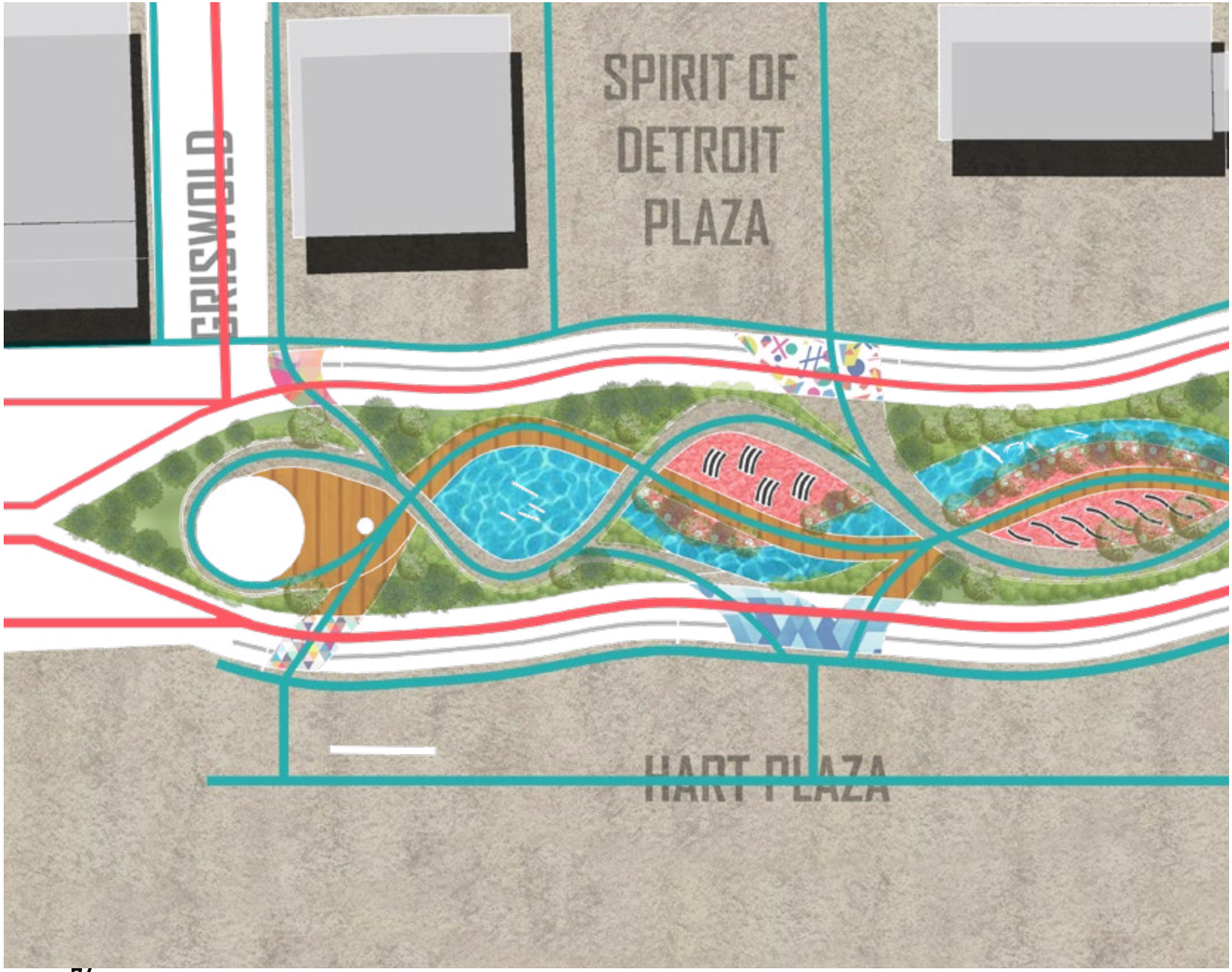
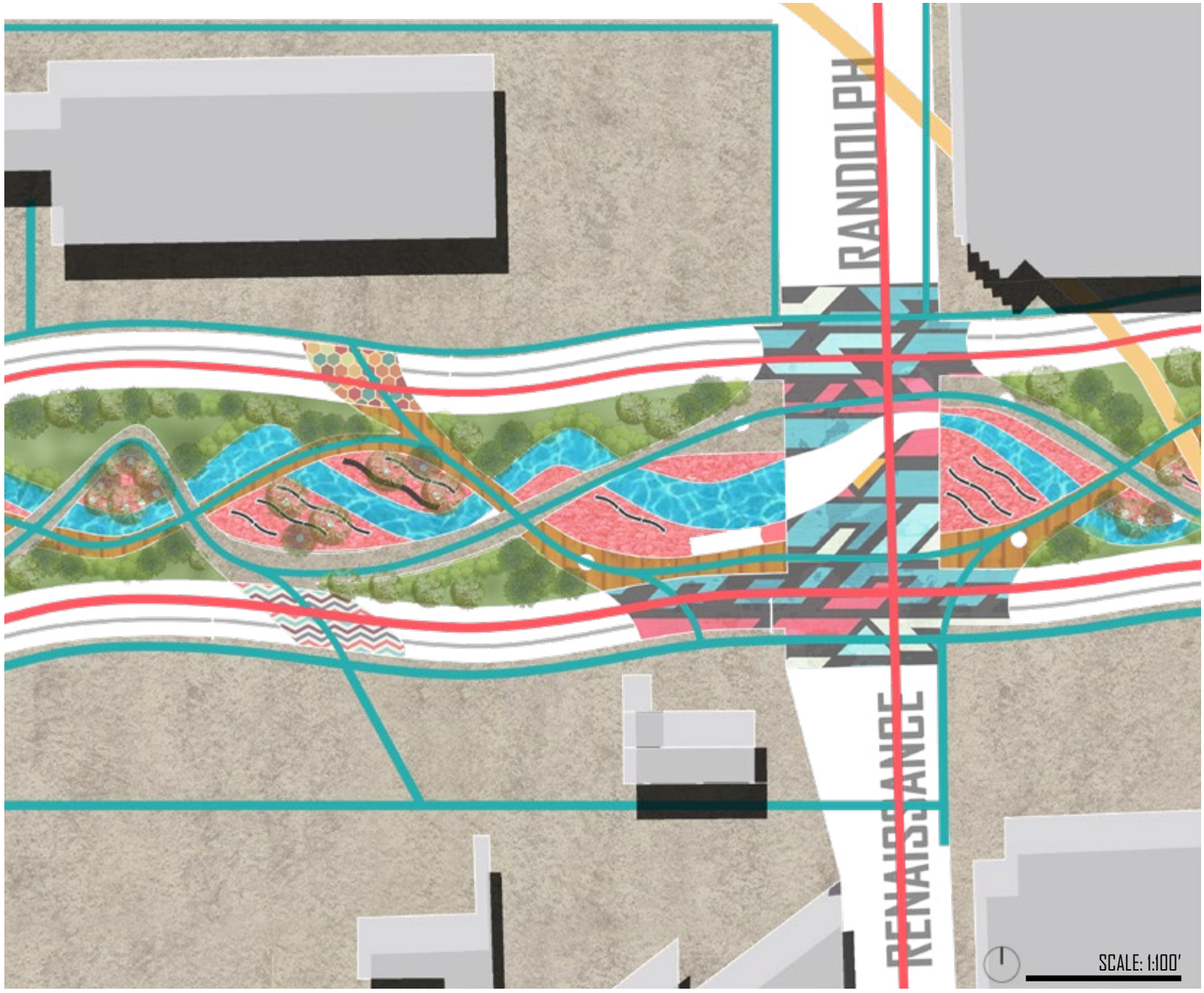
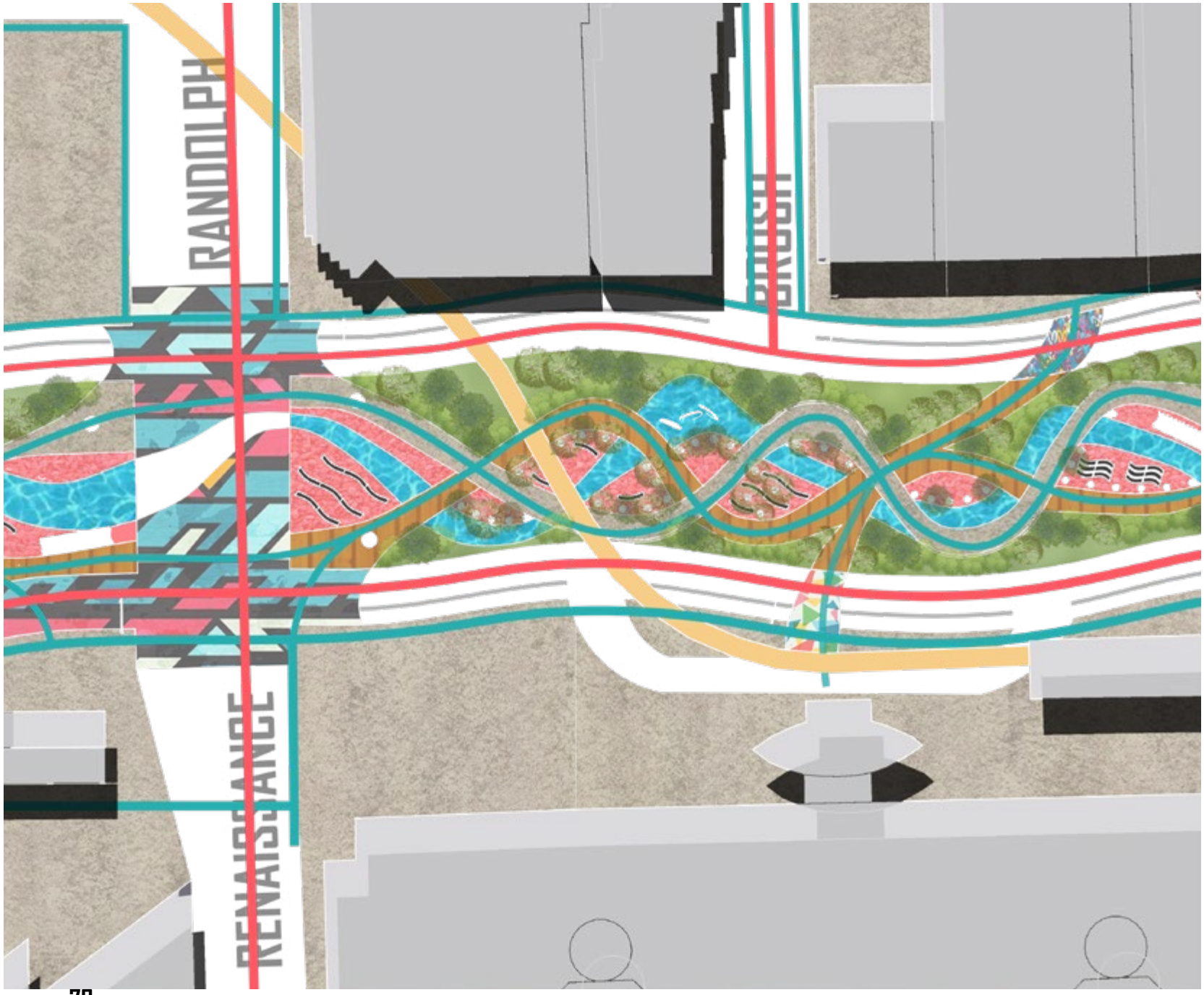

GRISWOLD
SPIRIT OF
DETROIT
PLAZA
HART PLAZA


RANDOLPH
RENAISSANCE
SCALE: 1:100'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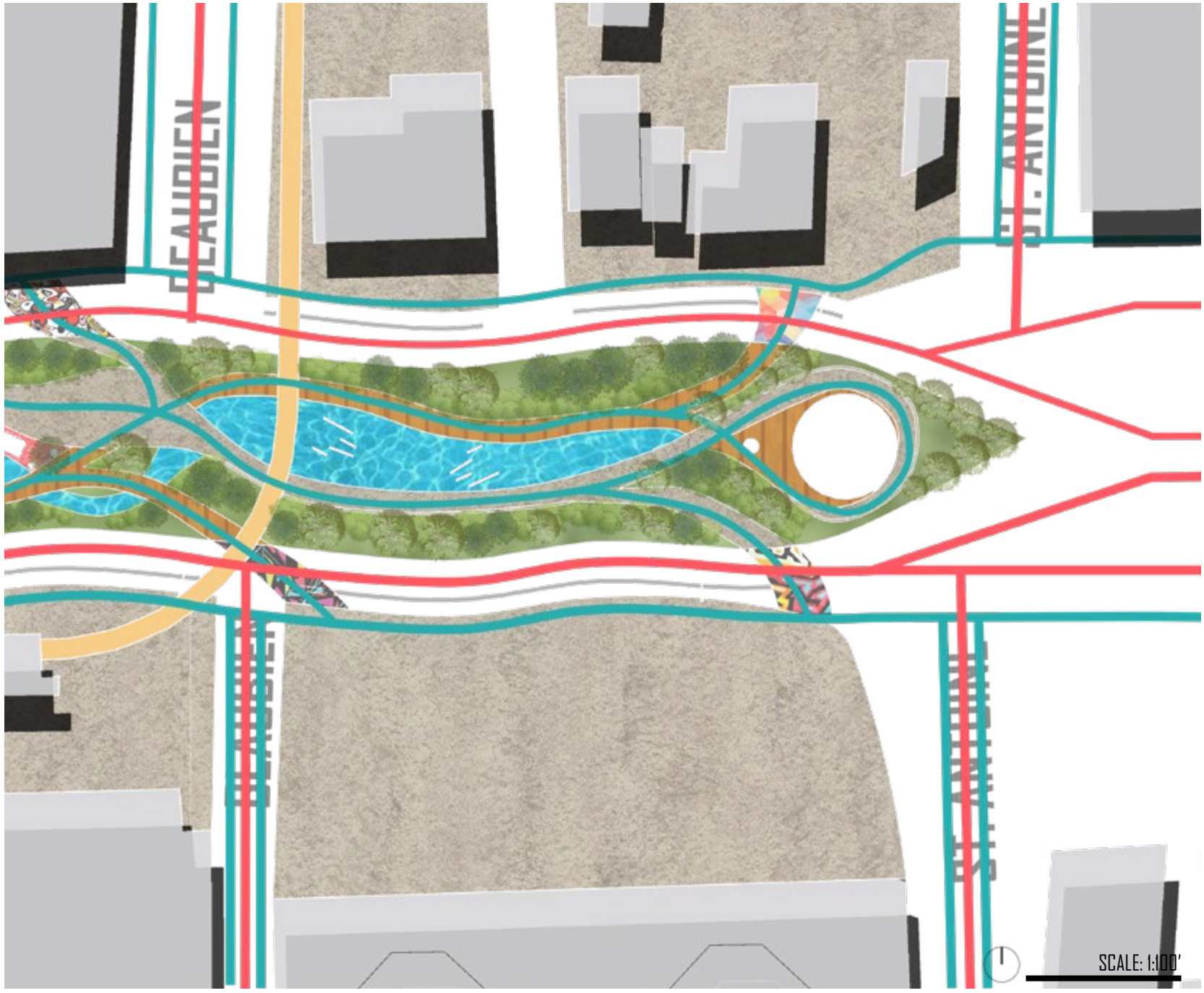
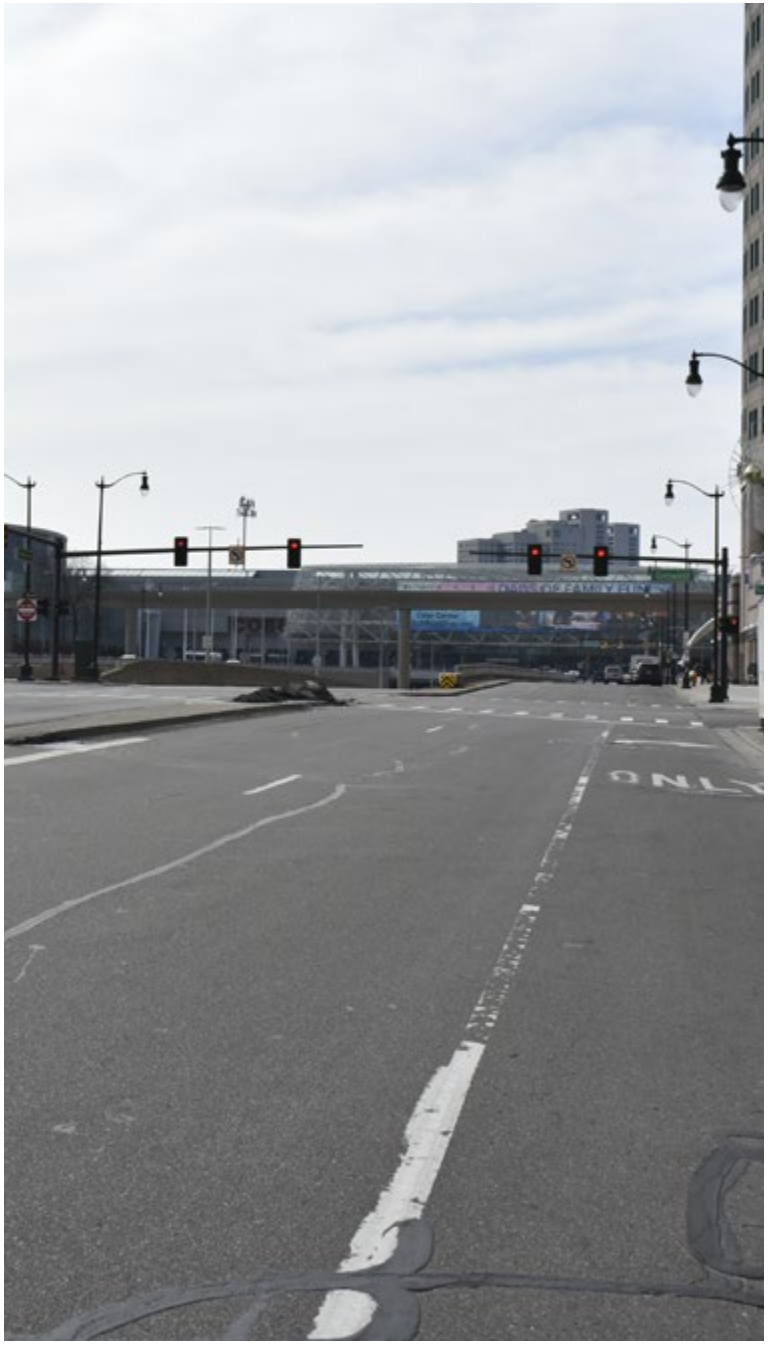

BEAUBIEN
ST. ANTOINE
SCALE: 1:100'




NO STANDING
To Woodward


SMOKE
EDIBLES

7 FINAL THOUGHTS

As social spaces within a city are created, people will gradually begin to gather in these spaces which encourages spontaneous connections with strangers. Casual meetings such as these foster understanding between groups of people and innovation. Social spaces, or any form of public space really, have become all but extinct in North America. As result, the city has become culturally and socially fragmented. Even spaces which initially appear as public spaces are fallacies. Campus Martius like many of Detroit's public spaces is privately operated as it was sold to the Detroit 300 Conservancy by the city during an economic decline. During one visit to downtown, I visited Campus Martius. I was not there long before I was approached by a security officer by whom I was told to vacate the premises. Why? Because my camera was mounted to my grandfather's tripod. The officer informed me that due to rules set forth by the owners, the only individuals permitted to use a tripod in the park were pre-approved journalists and by using one I was in violation. This may simply appear at first to be just odd, but it reveals a horrifying reality. Detroit lacks a space for people to assemble freely void of regulation beyond local law.

In the course of field studies I conducted over the past several weeks for this thesis, I was almost struck by a car four times, had to divert from the marked crosswalk due to drivers stopping on it a minimum of ten times, and had to walk in the street as a result of the sidewalk being blocked by vehicles parked on them or construction three times. There is no reverence for the man on the street much of which sparks from a car-centric culture. I travelling to Boston, Massachusetts to personally see how the cap of the Big Dig project was being used. The Rose Fitzgerald Kennedy Greenway itself was pleasant with beautiful gardens, bubbling fountains that shot water into the air, and fun hanging benches that would swing under a pergola structure, but there was not a large amount of people in the space other than those who were transiently moving through. As a result of my experience there, I believe that the lack of park users is connected to the park being too fragmented due to frequent vehicular crossing points that causing the park to not feel like the expansive public space that it is. Constantly having to wait for vehicles to pass so that you can continue walking in the park is tiring and interrupts any meditative, stress-releasing flow people in the park could experience. If every other vehicle crossing was closed and traffic rerouted to the next, park visitors would be able to easily double the area of public social space they can enjoy before having to cross another street with minimal delay on the behalf of drivers.

A year ago, it never would have crossed my mind that my semester abroad would spur a two-semester long investigation into how lacking North American cities are when it comes to efficient, harmonious transportation within the urban condition and how we as designers can reclaim space from overdesigned thoroughfares and subsequently transform that reclaimed space into vibrant public social spaces. There were several people who reacted poorly to the idea of "right-sizing" Jefferson Avenue but in the long run, I believe that it will serve as an example for other North American cities, particularly those negatively affected by sprawl, that there can still be a functional car-culture while providing safe and efficient active transit options to those who wish to commute in that manner.

As transit steadily moves toward autonomous vehicles for intra-urban transportation, Detroit is in a prime location for the transition as it is one of few cities currently experimenting heavily with autonomous vehicles (Krebs, 2016) in combination with the advantage of the city's longstanding history as the Motor City. Once A.V. takes hold, planners and designers must be prepared to transform these now obsolete spaces into useful projects that will continue to strengthen the city. Even if A.V. doesn't succeed as some have predicted, this typology of street transformation will continue to be applicable. I guess we will just have to wait and see what awaits...

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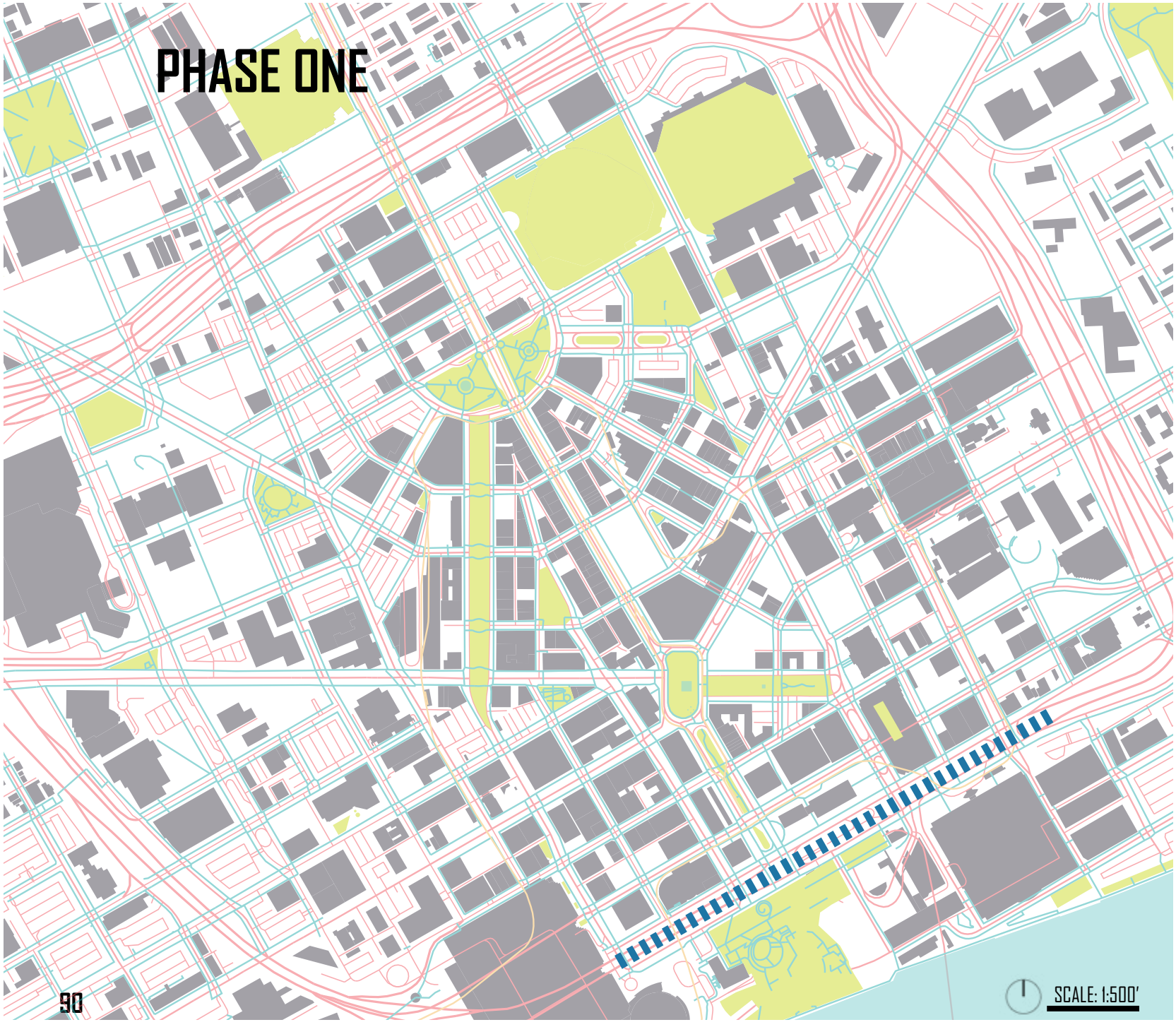
PHASE ONE



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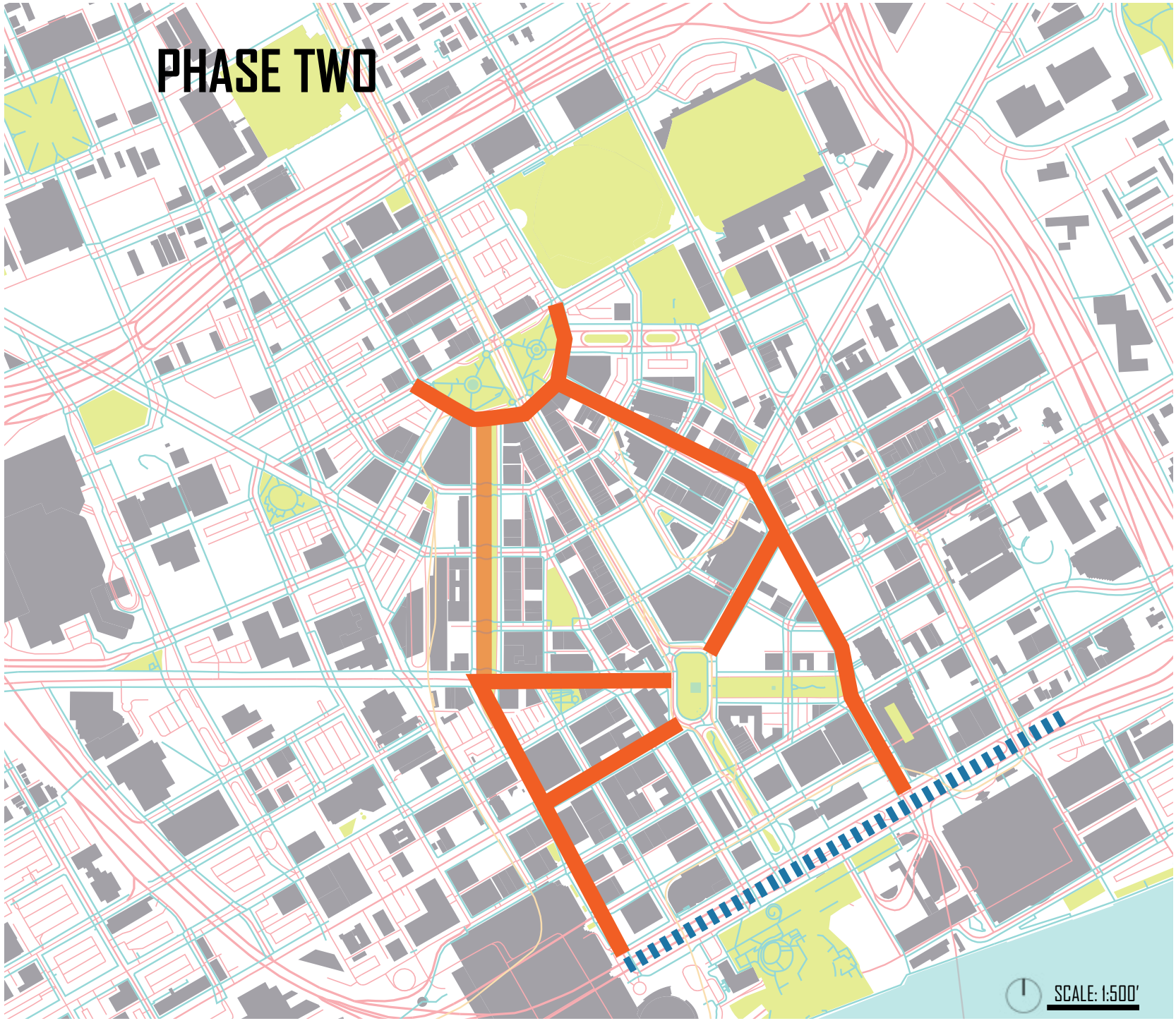

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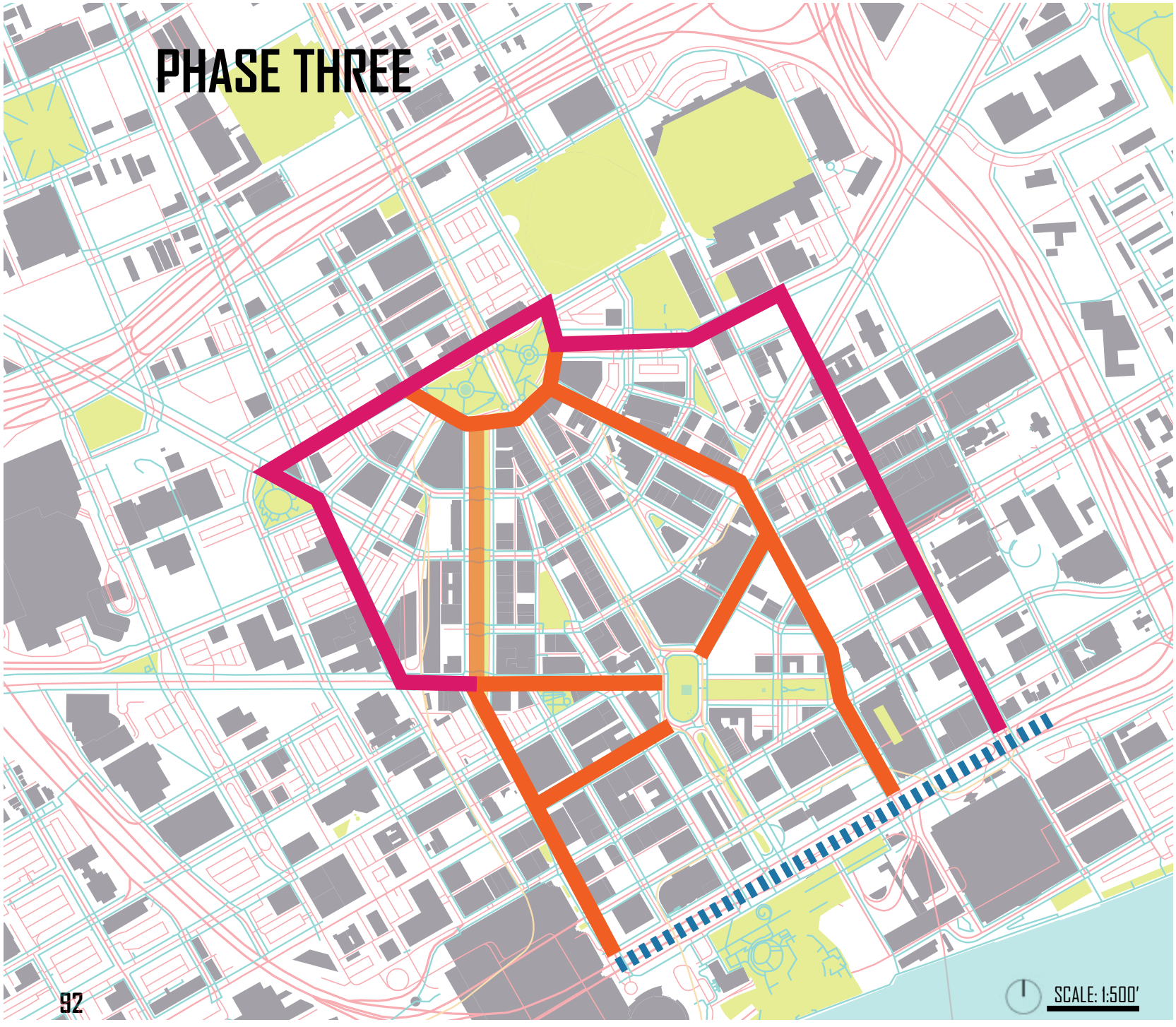

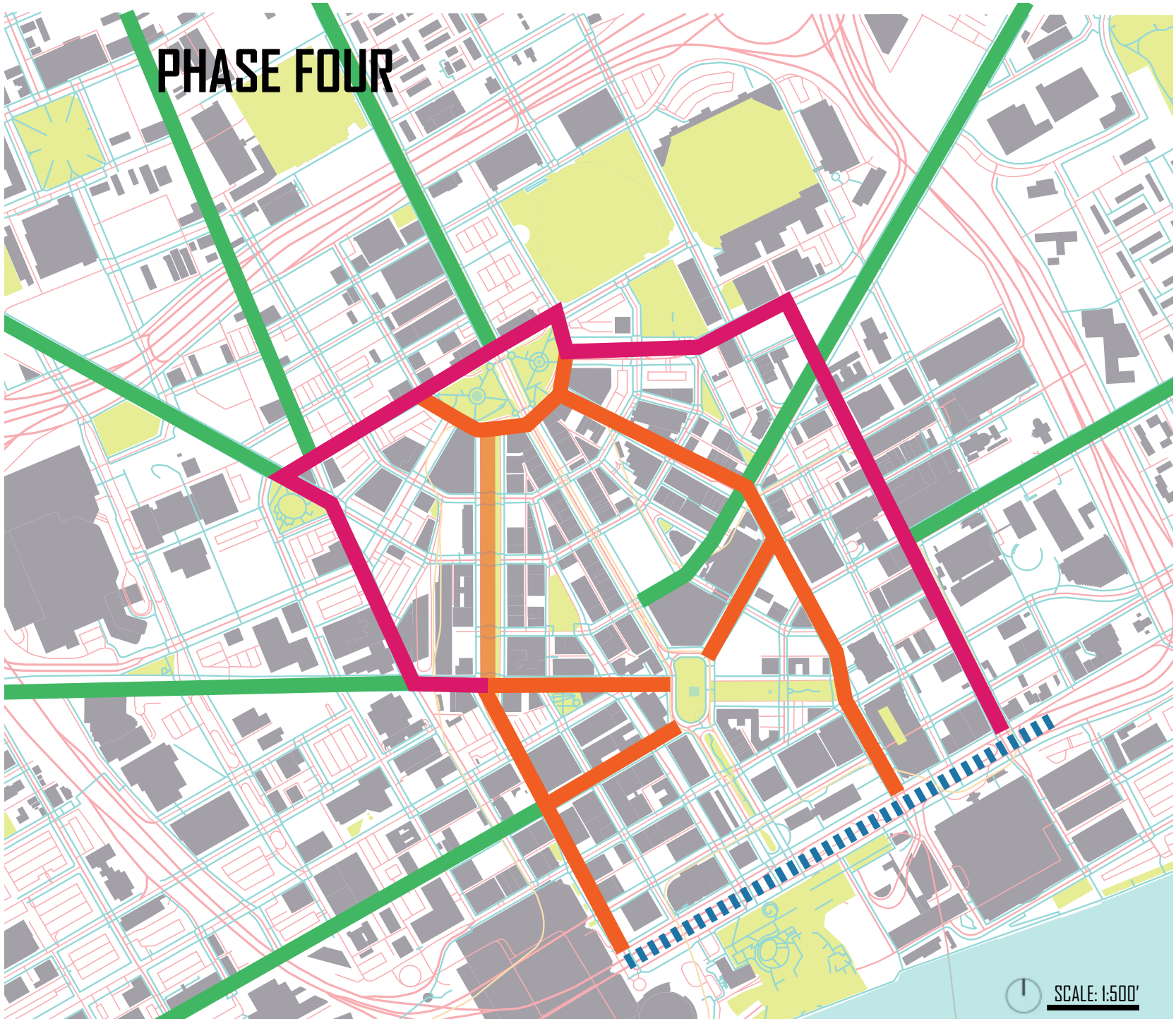
PHASE FOUR
SCALE: 1:500'

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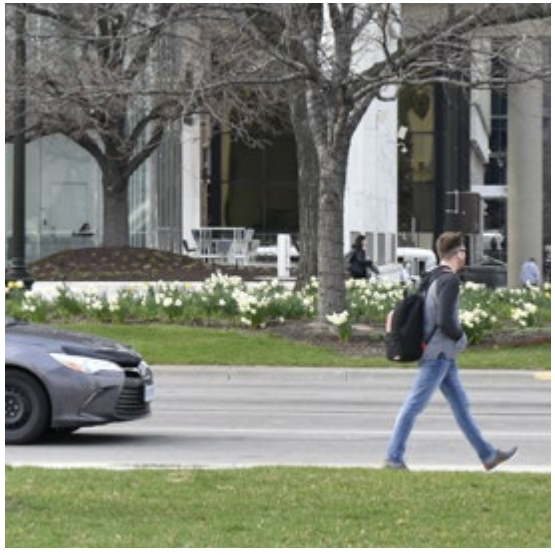
APPENDIX

[HART PLAZA + JEFFERSON AVENUE ACTIVITIES]




Hart Plaza


UNIVERSITY OF DETROIT MERCY
MASTERS OF ARCHITECTURE THESIS