

## ABSTRACT

Title of Thesis:

INTEGRATING INFRASTRUCTURE  
SOUTH OF THE CAPITOL

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This thesis looks at the role that infrastructure plays as it relates to the city. It is about taking an area of uninhabitable and divisive infrastructure and elevating it to something civic. It focuses in an area just south and west of the U.S. Capitol Building. It aims to embrace railroad and highway infrastructure as elements that serve multiple city needs, as part of the everyday, while adding artistic and monumental attributes to Washington D.C. It accepts the premises that the presence of, and the need for, the infrastructure will remain. This thesis proposes a master plan, involving the redevelopment of portions of Interstate 395, 695, and 295 highways and the railroads, to provide better use of valuable land, reconnection of neighborhoods, and to create place, experienced through a series of civic spaces. Ultimately this thesis aims to set a new ideal that embraces infrastructure and elevates it to civic quality.

INTEGRATING INFRASTRUCTURE SOUTH OF THE CAPITOL

by

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# Chapter 1: History

## Intro

This thesis aims to address and respond to a way of thinking, which has been part of our society throughout history. This way of thinking is one that is rushed, and perhaps greedy for expediency, and seems to have disregard for planning and designing for people, their history, and their place. When an opportunity for growth arises, all efforts go into one purpose only, ignoring all other potential benefits and downfalls. Infrastructure in our cities have often been built this way; without providing what a city and its people need. It has left scars, while serving only the purpose of its most basic form.

## L'Enfant

The history of Washington D.C. begins with an idealized vision. The L'Enfant Plan of 1791 can be strongly experienced today. It consisted of a vast integrated system of public open spaces to express democratic ideals of a new nation.<sup>1</sup> Monumental buildings and grand squares were placed according to the most advantageous locations. Avenues connected the squares, enabling them to be reciprocally viewed. The plan was then overlaid with a grid of blocks of different sizes.<sup>1</sup>

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<sup>1</sup> Bednar, Michael J. *L'Enfant's Legacy: Public Open Spaces in Washington, D.C.* Baltimore Md.: Johns Hopkins University Press, 2006. Print. pg.11-12.



*Figure 1: L'Enfant Plan, 1791 (Source: Kohler, Sue A.)*

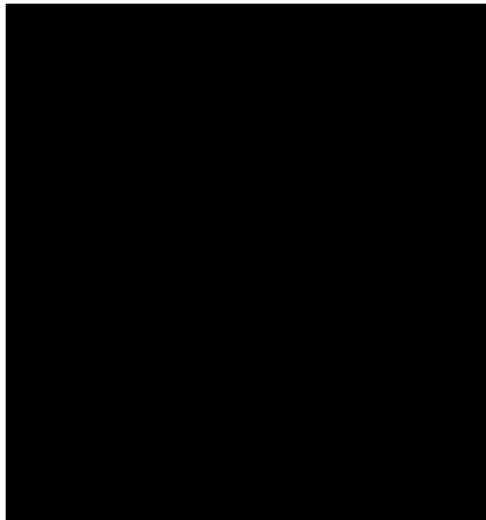
The Capitol Building was placed at the highest point, Jenkins Hill, with 8 diagonal avenues leading to it. To the west of it forming a major axis was a 400ft. wide esplanade.<sup>2</sup> There were 15 public space squares designated to each of the 15 states in the union at the time. The states never adopted the squares, rather they became the centers of neighborhoods as public parks. The squares were points of orientation, being viewed from one to the other. L'Enfant intended the avenues to be linear green spaces totaling 160 ft. wide.<sup>3</sup> L'Enfant also attempted to bring elements of the natural environment into the heart of the city.<sup>4</sup>

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<sup>2</sup> Bednar, Michael J. *L'Enfant's Legacy: Public Open Spaces in Washington, D.C.* Baltimore Md.: Johns Hopkins University Press, 2006. Print. pg.11-12.

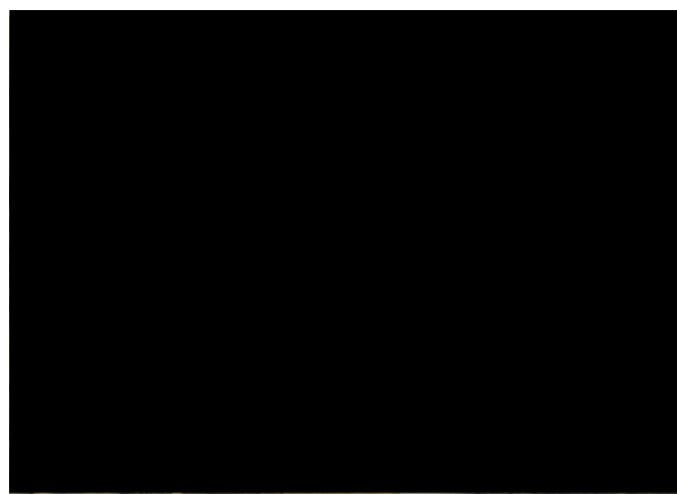
<sup>3</sup> Bednar, Michael J. *L'Enfant's Legacy: Public Open Spaces in Washington, D.C.* Baltimore Md.: Johns Hopkins University Press, 2006. Print. pg.13-15.

<sup>4</sup> Bednar, Michael J. *L'Enfant's Legacy: Public Open Spaces in Washington, D.C.* Baltimore Md.: Johns Hopkins University Press, 2006. Print. pg.13-15.

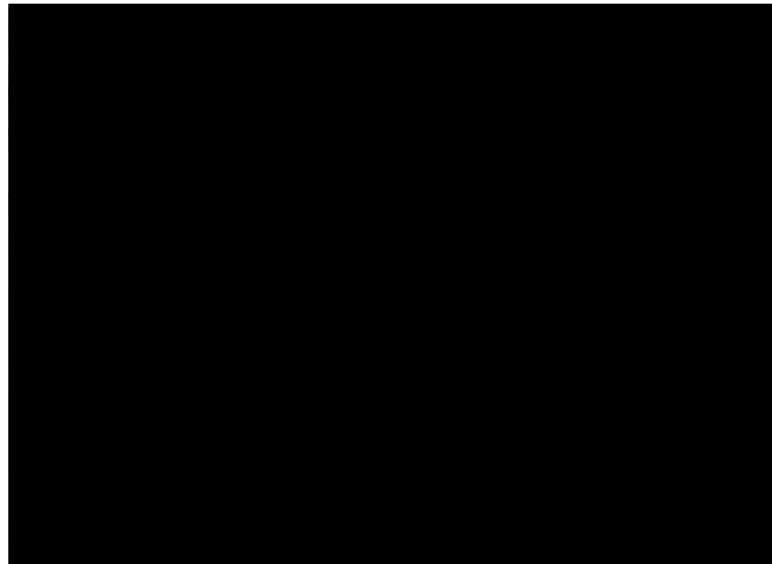


*Figure 2: Water and Space Diagram of L'Enfant Plan Diagram (Source: Author, Camargo)*

Within the formal L'Enfant plan, there was integration of Washington City Canal, which served as infrastructure for water transportation and sewer (*Figure 2*). The canal once ran parallel and adjacent to the mall, turning south in front of the Capitol Building. It was part of the urban design and part of the everyday life. What we see in the L'Enfant plan is the integration of natural elements into the design. Spaces were planned to respond to the water element. This canal, is not visible today, but it has left corridors open which have been turned into streets, highways, and sometimes areas without clear definition or purpose.

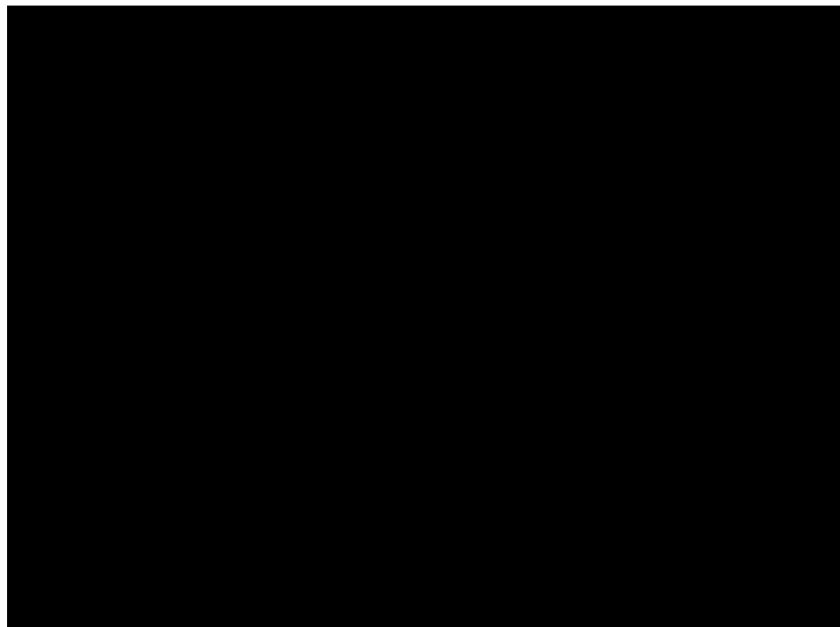


*Figure 3: Rendering of the Mall showing canal 1856 (Source: Sachse, Edward)*



*Figure 4: 1861 Topographical Map (Source: Author, Camargo)*

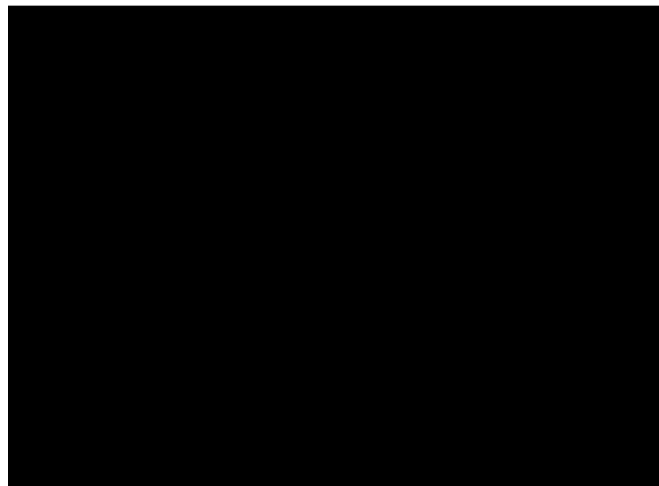
Seventy years later (*Figure 4*), not much of the design was changed since the original plan. It is clear, that the development was focused around the White House, especially between that and the Capitol Building. The squares have begun to form edges, the canal is present, and development follows the general idea of the plan.



*Figure 5: 1802 Pictorial Map (Source: Reps, John)*

In 1892, (*Figure 5*) certain developments were questionable. The L'Enfant Plan did not predict the use of trains in the city, and therefore did not plan for it. As trains worked their way into the city they were built to provide transport of goods, materials, and people, and had little regard for the plan of the city and its places.

Railroads were built and persisted near the Capitol. The first station, The Baltimore and Ohio Station (later named Pennsylvania), was opened as early as 1852 at the intersection of New Jersey Avenue and C Street NW.<sup>5</sup>



*Figure 6: 1866 Image of Railroad in front of the Capitol (Source: Reps, John)*

The city proceeded to provide a connection to the south, and with the support of business interest the Long Bridge was built in 1854 across the Potomac. This allowed for the Alexandria and Washington Railroad. By 1866 tracks were laid on 1<sup>st</sup> Street in front of the Capitol Building (*Figure 6*), illustrating the disregard for the public environment and the lack of proper judgement. In 1872 congress permitted railroad right of way across the National Mall on 6<sup>th</sup>

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<sup>5</sup> Reps, John William. *Monumental Washington: The Planning and Development of the Capital Center*. Princeton, N.J.: Princeton University Press, 1967. Print. pg. 66.

Street, connecting to a terminal.<sup>6</sup> This railroad also extended eastward down Virginia Avenue past South Capitol Street. A railyard was evident just south of what is now Garfield Park.

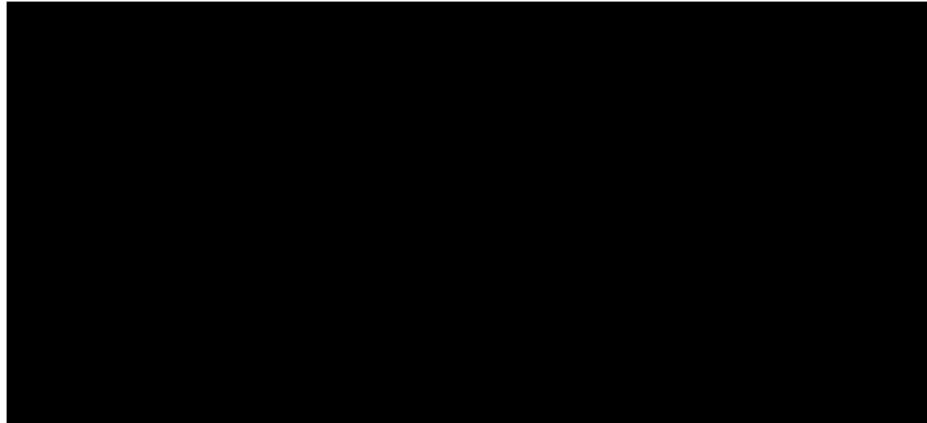


Figure 7: View of the Mall from the Washington Monument, 1906 (Source: Reps, John)

An aerial view of the Mall of 1906 (Figure 7) shows the railroad south of the capitol now disconnected from the Mall. There were no signs of it being removed. We also find, near its destination, the Capitol Power Plant.

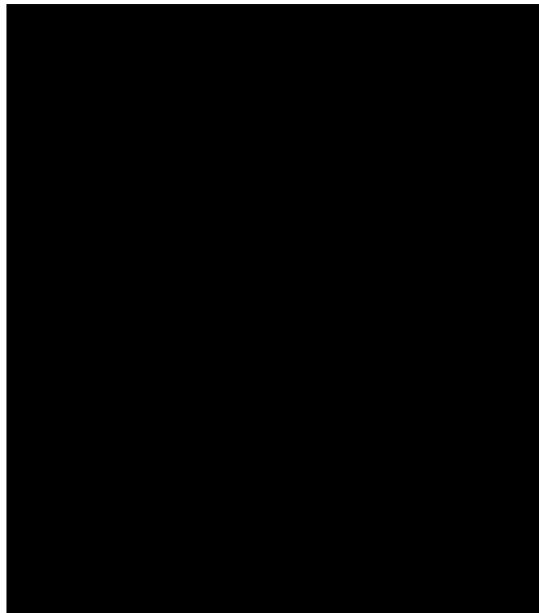


Figure 8: Capitol Power Plant (Source: United States)

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<sup>6</sup> Reps, John William. *Monumental Washington: The Planning and Development of the Capital Center*. Princeton, N.J.: Princeton University Press, 1967. Print. pg. 66.

Another example of the disregard for the city plan and the importance of the environment near the Capitol is the Capitol Power Plant. In 1904, it (*Figure 8*) was authorized to support new office buildings from early planning stages.<sup>7</sup> These facilities are now known as the Cannon House Office Building and the Russel Senate Office Building, which required substantial heating and electrical supplies. The U.S. Capitol and the Library of Congress were also to be supplied by the plant along with all future buildings planned for the Capitol campus.<sup>7</sup> The Capitol Power Plant was one of the earliest 25-cycle alternating current electric-generating facilities in the nation.

As time went on the power plant was updated and expanded as new federal buildings were added and technologies improved. At the start of the new millennium, the Architect of the Capitol has awarded a Utility Energy Service contract to Washington Gas to design and build a cogeneration facility at the power plant.**Error! Bookmark not defined.** This cogeneration system will use a natural gas to simultaneously produce electricity and heat, improving reliability and efficiency, while being more environmentally friendly.<sup>8</sup>

### McMillan Plan

At the turn of the nineteenth century, a joint committee was formed by Congress and held its first meeting in February 1900, with Senator McMillan as Chairman and Charles Moore as Secretary.<sup>9</sup> Plans were put forward for the redevelopment of the Mall. The American Institute of Architects, (AIA) joined in, and envisioned the expressions of the ideals of the City Beautiful

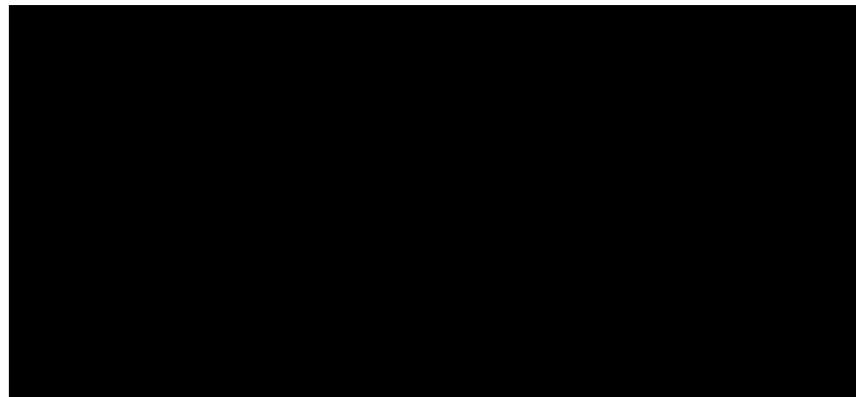
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<sup>7</sup> Architect of the Capitol. Web (Accessed December 2016)

<sup>8</sup> Reps, John William. *Monumental Washington: The Planning and Development of the Capital Center*. Princeton, N.J.: Princeton University Press, 1967. Print. pg. 66.

<sup>9</sup> National Park Service. "The L'Enfant and McMillan Plans". Accessed November 2016. Web

movement promoted by the 1893 World's Columbian Exposition in Chicago and its Beaux Arts classical architecture.<sup>10</sup>



*Figure 9: McMillan Plan 1900 (Source: U.S. Senate Park Commission)*

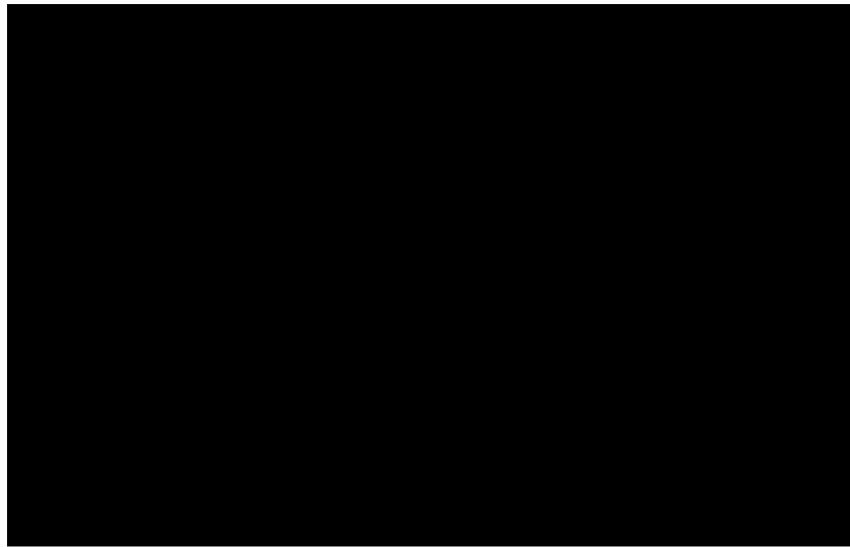
The Senate Commission was formed in 1901 to plan a design for the city (*Figure 9*). The committee was comprised by Daniel Burnham, landscape architect Frederick law Olmsted, Jr. Architect Charles F. McKim, and Sculptor Augustus St. Gaudens.<sup>11</sup> The McMillan Commission called for: re-landscaping the ceremonial core, consisting of the Capitol Grounds and Mall, including new extensions west and south of the Washington Monument; consolidating city railways and alleviating at-grade crossings; clearing slums; designing a coordinated municipal office complex in the triangle formed by Pennsylvanian Avenue, 15th Street, and the Mall, and establishing a comprehensive recreation and park system that would preserve the ring of Civil War fortifications around the city.<sup>12</sup>

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<sup>10</sup> Architect of the Capitol. Web (Accessed December 2016)

<sup>11</sup> Architect of the Capitol. Web (Accessed December 2016)

<sup>12</sup> Architect of the Capitol. Web (Accessed December 2016)



*Figure 10: Union Station circa 1925 (Source: Breuker & Kessler Co.)*

As planned by Burnham, in 1906 Union Station (*Figure 10*) was built north of the Capitol Building, as a formal and idealized version of infrastructure. This monumental building acting as the gateway to the city was perhaps a celebration of the railroad infrastructure, and ultimately serves more than just that purpose.

### *Urban Renewal*

Although perhaps less successful as the previous urban plans, Southwest urban renewal was another idealized vision for the city of Washington. Between 1879 and 1945 Southwest was faced with the need for more and better housing. Many lived in neighborhood alley dwellings, often badly constructed and neglected by off-site owners.<sup>13</sup> Beginning in 1872, Board of Health condemned and repaired hundreds of alley dwellings.<sup>13</sup>

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<sup>13</sup> Ammon, Francesca. "Commemoration Amid Criticism: The Mixed Legacy of Urban Renewal in Southwest Washington D.C." Yale University. *Journal of Planning History OnlineFirst..* (July, 2009). Pg. 4-8. Accessed November 2016.

In the 1930s, the Capper-Norton Alley Dwelling Bill of 1934 created the Alley Dwelling Act, ADA, and the Alley Dwelling Authority, which had the ability to condemn and convert alley property for private or commercial use.<sup>14</sup>

The expansion of the federal government, after the World War II, created farther need for proper housing and office buildings to serve new employees.<sup>15</sup> The southwest area of the District was determined to be blight, and the living conditions to be unhealthy and immoral. Urban renewal was intended to beautify community and alleviate congestion.<sup>16</sup> Urban renewal in Washington D.C. began in 1945 with the Redevelopment Act, which created the Redevelopment Land Agency.<sup>13</sup> The process of demolition and redevelopment carried through the 1950s and 1960s. By 1973, virtually all planned development was completed.

In the mid-twentieth century, Southwest was an example of decay in increasingly African-American communities, which affected many other cities in the country. Nearly 70% of residents were black, with nearly 90% low income residents, and about half of heads of households unemployed. <sup>17</sup>

In 1945 the Redevelopment Act gave power to public-private entities to remove blighted buildings and redevelop areas of the city.<sup>18</sup> The Housing Act of 1949 established a federal program of loans and grants for redevelopment to stimulate the renovation of blighted areas.

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<sup>14</sup> Reps, John William. *Monumental Washington: The Planning and Development of the Capital Center*. Princeton, N.J.: Princeton University Press, 1967. Print. pg. 66.

<sup>15</sup> Reps, John William. *Monumental Washington: The Planning and Development of the Capital Center*. Princeton, N.J.: Princeton University Press, 1967. Print. pg. 66.

<sup>16</sup> Reps, John William. *Monumental Washington: The Planning and Development of the Capital Center*. Princeton, N.J.: Princeton University Press, 1967. Print. pg. 66.

<sup>17</sup> Reps, John William. *Monumental Washington: The Planning and Development of the Capital Center*. Princeton, N.J.: Princeton University Press, 1967. Print. pg. 66.

<sup>18</sup> Reps, John William. *Monumental Washington: The Planning and Development of the Capital Center*. Princeton, N.J.: Princeton University Press, 1967. Print. pg. 66.

Later, this supplementation was re-enforced by the Housing Act of 1954, and the Supreme Court ruled that property could be condemned and taken by the federal government if they were determined to be blight.<sup>19</sup>

Southwest was transformed from a predominantly residential flat fabric to mostly large multi-family residential, commercial and office buildings. Urban renewal removed almost all buildings in the quadrant, displacing families to various parts of the city.

According to the Health and Welfare Council of the National Capitol Area, in 1966, urban renewal was a success in terms of physical improvements.<sup>20</sup> Relocated families found themselves in new structure with indoor plumbing and central heating.<sup>21</sup> They found their new homes to be more spacious, in many cases, apartments, and homes with 6 or more rooms.<sup>22</sup> They also enjoyed telephones, radios, and television sets.<sup>20</sup> The council determined that they did not take the slums with them. In other words, they did not destroy their new homes.<sup>23</sup>

Other aspects of the Urban Renewal were not so successful. Many of those relocated found their rent had increased and they were often farther away from work, which caused some to lose their jobs due to transportation complication and cost increase.<sup>24</sup> Very few found better job opportunity.

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<sup>19</sup> Ammon, Francesca. "Commemoration Amid Criticism: The Mixed Legacy of Urban Renewal in Southwest Washington D.C." Yale University. *Journal of Planning History OnlineFirst..* (July, 2009). Pg. 4-8. Accessed November 2016.

<sup>20</sup> Thursz, Daniel., and Health and Welfare Council of the National Capital Area. *Where Are They Now? A Study of the Impact of Relocation on Former Residents of Southwest Washington, Who Were Served in an HWC Demonstration Project.* Washington: Health and Welfare Council of the National Capital Area, 1966. Print.

<sup>21</sup> Architect of the Capitol. Web (Accessed December 2016)

<sup>22</sup> Architect of the Capitol. Web (Accessed December 2016)

<sup>23</sup> Architect of the Capitol. Web (Accessed December 2016)

<sup>24</sup> Architect of the Capitol. Web (Accessed December 2016)

Along with other issues, concerning moving to new dwellings, such as public housing and apartments with difficult landlords, problems of the old southwest continued to haunt them.<sup>25</sup> Appropriate housing provided for those in need in the southwest was proportionally small, and most families were dispersed all over the city. This made it difficult for social networks to stay in touch and for people to find social support.<sup>26</sup> They were often not welcomed in their new communities, and most remained unaware of agencies providing social support. “It is one thing to provide bathrooms and central heating; it is another thing to provide the social environment which makes it possible for individuals to grow new roots in a new community.”<sup>27</sup>

Before urban renewal, the blight issue was evident and living conditions were a real concern. However, the building alley character once invited human activity as an extension of backyards, which was not preserved. What we gained behind and around buildings are asphalt streets with the main purpose of allow cars to go around and or parking. Therefor neighborhoods were designed for cars and not for people. The new building typology was based on modernist ideas in architecture and urban planning.

During the years of urban renewal, plans for a freeway system were set out to direct patterns of new growth, and to ultimately become an interloop around the Capitol, which was never fully realized. This time infrastructure was not added after the ideal vision but was part of it. This time it was done recklessly, eventhough there was a clean slate and ample opportunity to design it as an ideal and celebratory element that support the city. Instead it was built for only one purpose;

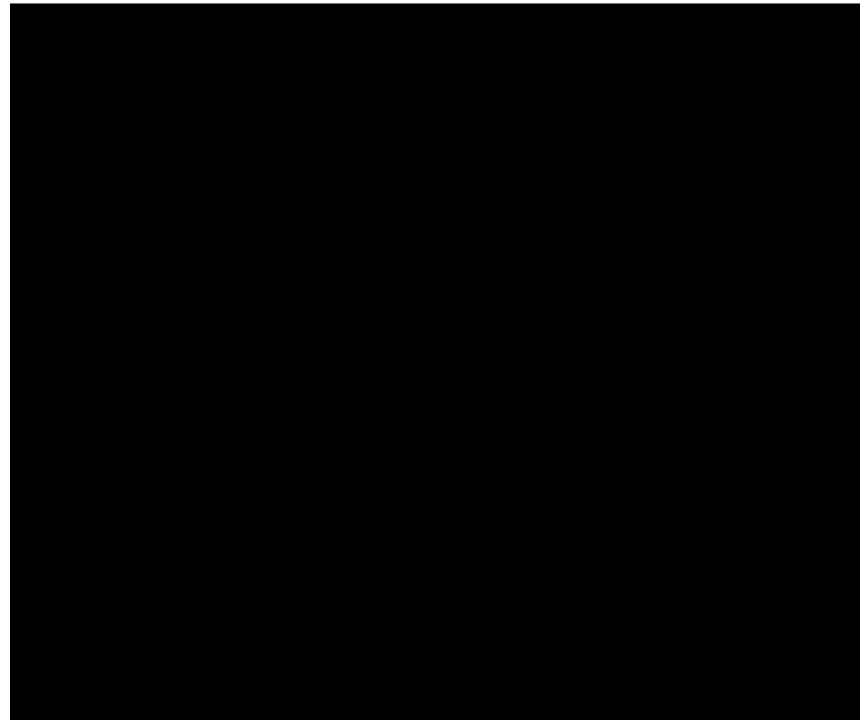
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<sup>25</sup> Architect of the Capitol. Web (Accessed December 2016)

<sup>26</sup> Architect of the Capitol. Web (Accessed December 2016)

<sup>27</sup> Thursz, Daniel., and Health and Welfare Council of the National Capital Area. *Where Are They Now? A Study of the Impact of Relocation on Former Residents of Southwest Washington, Who Were Served in an HWC Demonstration Project*. Washington: Health and Welfare Council of the National Capital Area, 1966. Print.

vehicular speed. It cut through the city, taking over a massive amount of land, and creating division, between neighborhoods.



*Figure 11: Plan of Freeway, 1958 (Source: U.S. National Capitol Planning Commission)*

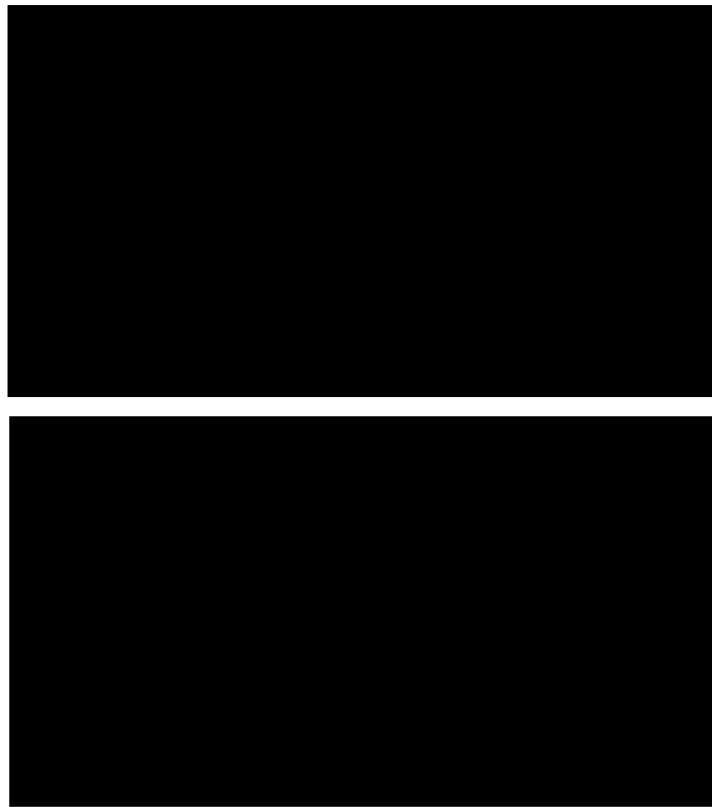
In 1955, the extension of I-95, now known as I-395, was constructed to connect I-295 and I-95 across the city. Later the Southeast freeway was constructed in 1968. Extensions from I-695 were added to connect to I-295. This facilitated long distance travel across the city by car, but also the even longer distance traveling from outside of the city. This effect ultimately encourages people employed in the city to live elsewhere, often in sprawl developments in suburbs.<sup>28</sup>

The biggest and most obvious impact of the freeway system is the division of neighborhoods and districts, physically and visually. It has made it difficult, and sometimes impossible, for different sectors to respond and relate to each other. The freeway is not designed for people and the

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<sup>28</sup> De Leuw, Cather Associates, and Harry Weese and Associates. *District of Columbia Interstate System, 1971*. Washington: The Associates, 1971. Print.

functions of an urban environment. It breaks the city apart, wherever it runs through, while exit-ramps spread out farther damage.



*Figure 12: 1949 and 1988 Aerial Comparison (Source: Google Earth)*

The difference in the building fabric and character of Southwest (*Figures 15 and 17*). The combination of railroads, urban renewal designs, and the freeway system, were each meant to solve specific problems, but have resulted in a very damaged section of the city in such a large scale and level of complexity that fixing them seem to be a century away.

### Conclusion

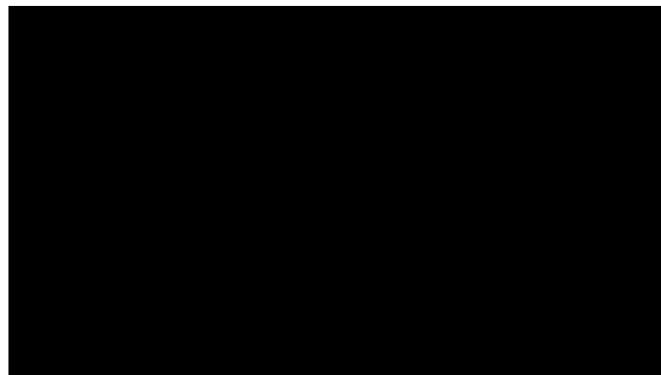
Throughout the history of Washington, D.C., there have been ideals of urban design to create visionary places. These were long term ideals and visions, that could not have predicted what followed them. Technological advancements such as trains and cars were not seen as threats at their humble beginnings. Ideas of efficiency in vehicular flows and industries were dreams that

masked the bigger picture visions that preceded them. Repeatedly, infrastructure carved away from the idealized urban fabric. In the end, higher efficiency of speed and flow at the expense of its surrounding fabric, causes division and inefficiency throughout the city, and lowers the value of place. Building infrastructure does not have to be regarded as a separate element from the rest of the city. It can be multifunctional, and assist past visions in creating better places.

## Chapter 2: Precedents

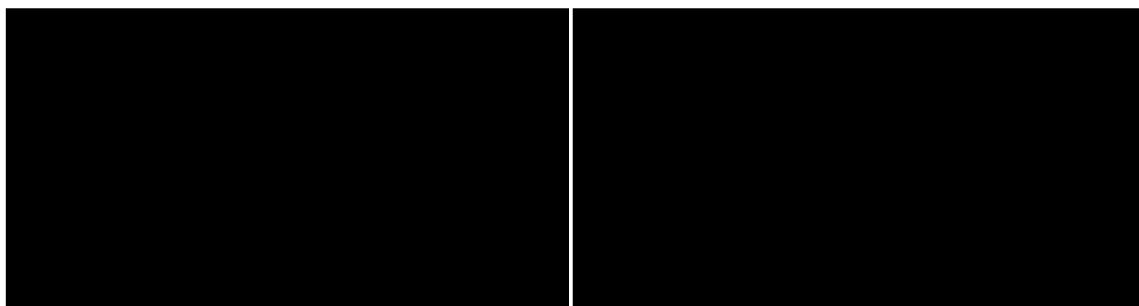
### Promenade Plantée

Dealing with challenges imposed by mass transportation infrastructure is nothing new. For many centuries cities around the world have dealt with the effects of railroads passing through, and since the mid twentieth century, have dealt with the ever more abundant expressways, as well as the effects of parking.



*Figure 13: Aerial View Promenade Plantée, Paris (Source: Google Earth)*

Infrastructure can be designed to interact with the street and urban blocks. In Paris, the Promenade Plantée, a park like pedestrian viaduct, makes use of its underlying space for commercial spaces that provide a functional street edge. In this sense, it acts as an urban block, and not as a wall.



*Figure 14 (Left): Street View 1, Promenade Plantée, Paris (Source: Google Earth)*

*Figure 15 (Right): Street View 2, Promenade Plantée, Paris (Source: Google Earth)*

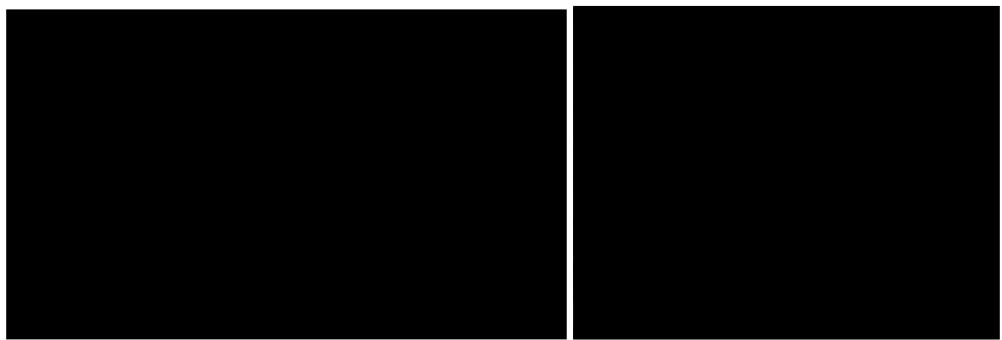
In *Figure 31*, one can see a narrow alley space is left between its structure and adjacent buildings. The viaduct becomes one with the street block, making it one with the urban fabric. The experience of moving under and around the structure is seamless.

### *Queensboro Bridge*



*Figure 16: Aerial View, Queensboro Bridge, NY (Source: Google Earth)*

The intermingling of functions is a strong idea that improves efficiency of space and the quality of streets. A great example of this is the Queensboro Bridge in New York City. The structure includes a double stacked expressway, power lines overtop, and commercial space underneath. Here, we once again, see the infrastructure creating a functional street edge, and the double stacking above makes it much narrower than otherwise, having much less impact on the urban fabric.

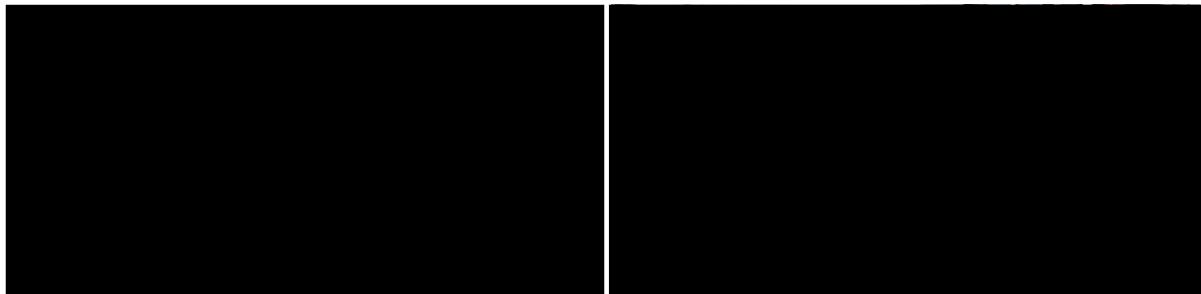


*Figure 17 (Left): Street View of Market, Queensboro Bridge, NY (Source: Google Earth)*

*Figure 18 (Right): Interior of Market, Queensboro Bridge, NY (Source: Archdaily)*

If planned as an element of urban design, infrastructure can provide unique spaces that provide function, and unique character, as seen in *Figure 34*.

#### *Markthalle im Viadukt*

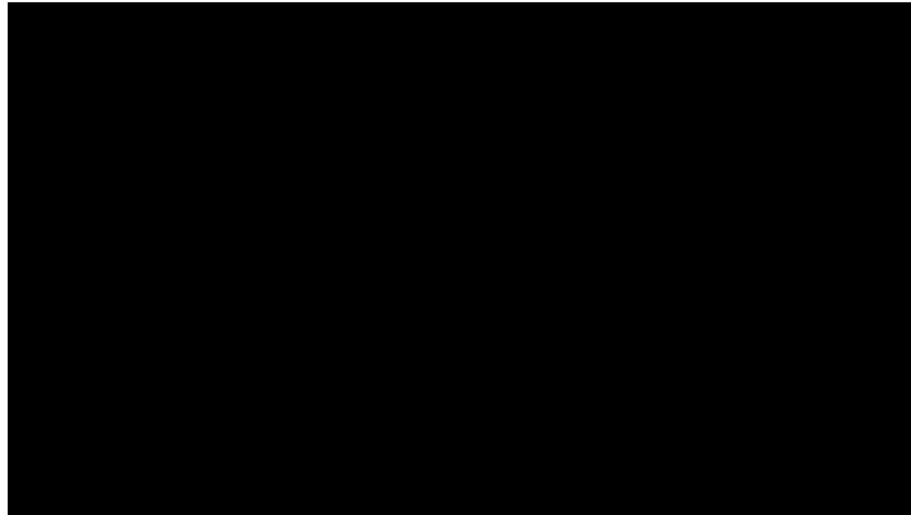


*Figure 19 (Left): Aerial View, Markthalle im Viadukt, Zurich (Source: Google Earth)*

*Figure 20 (Right): Street View, Markthalle im Viadukt, Zurich (Source: Google Earth)*

The Markthalle im Viadukt in the city of Zurich deals with two viaducts; one pedestrian and one for railroad. This project has used the underlying spaces of the structures to create building spaces that stretch from one viaduct to the other, while also creating functional street edges. Figure 35 shows that this project used under-utilized space and created a functional triangular street block, with three active edges.

### Grand Central Terminal



*Figure 21: Aerial View, Grand Central Terminal, NY (Source: Google Earth)*

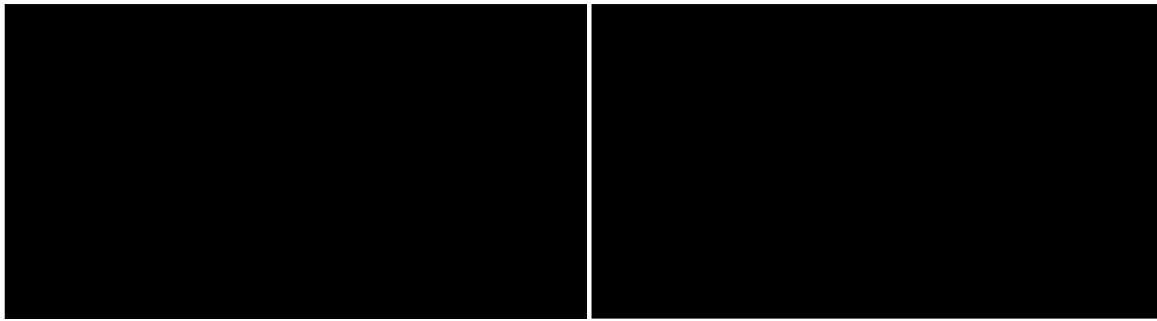
Infrastructure and urban blocks can have more complex relationships. At Grand Central Terminal, in New York City, there is a similar condition to the one previously mentioned. Park Avenue Viaduct acts as a street block with commercial space underneath (*Figure 38*).



*Figure 22 (Left): Street View 1, Grand Central Terminal, NY (Source: Google Earth)*

*Figure 23 (Right): Street View 2, Grand Central Terminal, NY (Source: Google Earth)*

The block, formed by the Terminal and the MetLife building, supports the continuation of the viaduct, which breaks apart in each driving direction, with commercial space underneath, while elevated from streets below (*Figure 39*).



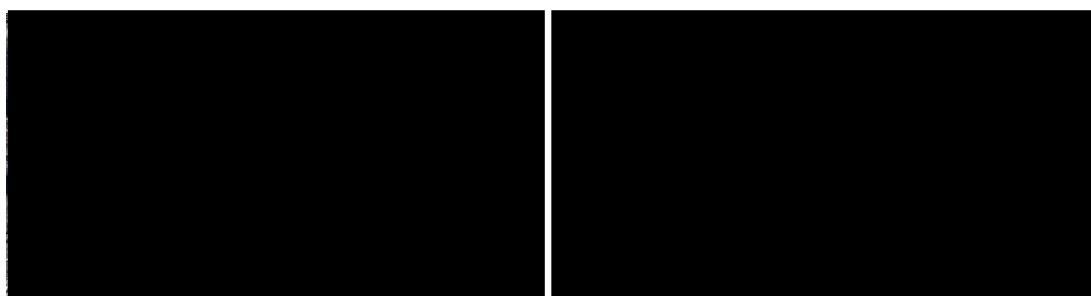
*Figure 24 (Left): Street View 3, Grand Central Terminal, NY (Source: Google Earth)*

*Figure 25 (Right): Street View 3, Grand Central Terminal, NY (Source: Google Earth)*

As the highway continues above ground and around the Grand Central Terminal, it crosses over East 45<sup>th</sup> Street and enters through the Helmsley Building at its corners (*figure 40*). Park Avenue and its continuous traffic flow is released through monumental arches at the crossing of East 46<sup>th</sup> Street (*Figure 41*).

#### Gate Tower Building In Osaka Japan

The value and scarcity of land promote a closer relationship between infrastructure and buildings. There are other cases like Grand Central Terminal. In Osaka, Japan, the Gate Tower Building was built around the expressway. The infrastructure seems to be piercing through the cylindrical skyscraper (*Figure 42 and Figure 43*). This building becomes a monument representative of the achievement of complex technology and construction.



*Figure 26 (Left): Aerial View, Gate Tower Building, Osaka, Japan (Source: Google Earth)*

*Figure 27 (Right): Street View, Gate Tower Building, Osaka, Japan (Source: Google Earth)*

### Ohashi Junction

While looking to improve vehicular traffic system of elevated and tunneled express ways, Tokyo, Japan, did more than just that. It sought opportunity to create place amid the complexities of vehicular infrastructure.

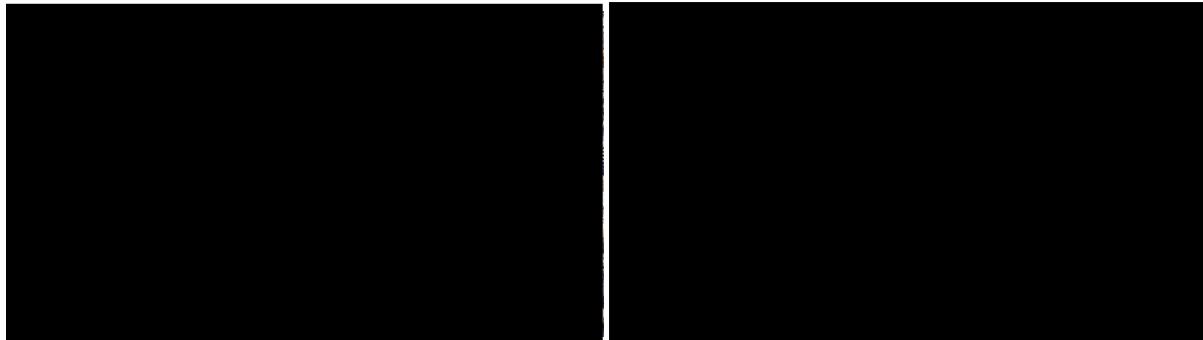
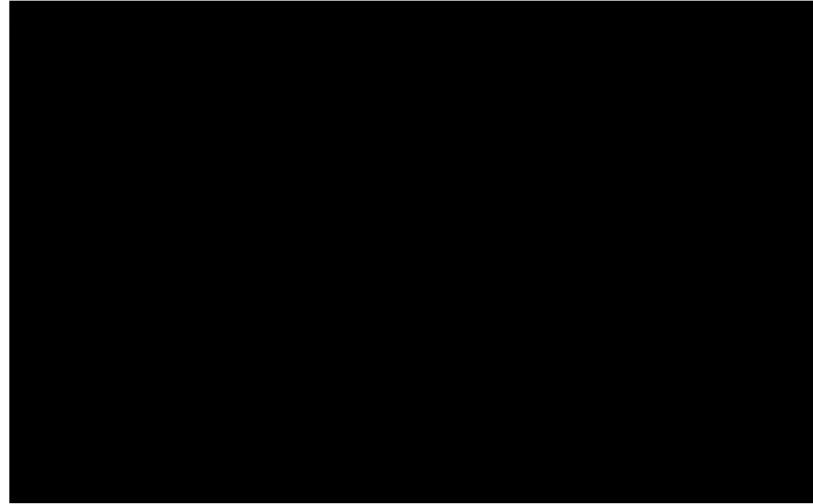


Figure 28 (Left): Aerial View, Ohashi Junction, Tokyo, Japan (Source: Google Earth)

Figure 29 (Right): Street View, Ohashi Junction, Tokyo, Japan (Source: Google Earth)

The Ohashi Junction Loop in Tokyo is a mixture of building and vehicular infrastructure (Figure 44). It is a monument of its own kind. The structure guides traffic from the elevated expressway into a loop and down into underground tunnels. It provides the city with the Meguro Sky Garden above, and a recreation park within. This project looked to redevelop an area that was occupied by small houses and alleys, and no open space. In addition to the circular shaped structure, two high density residential skyscrapers provide a total of 900 households.

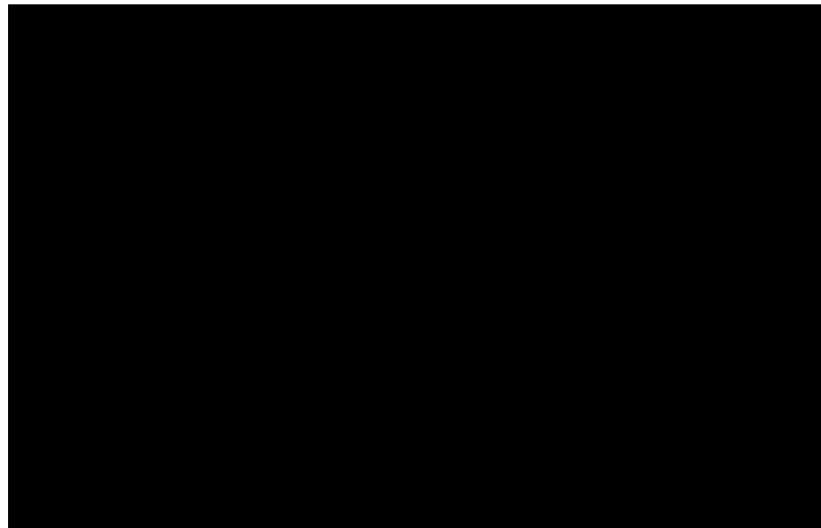


*Figure 30: Diagram of Configuration of Ohashi Junction, Tokyo, Japan (Source: Shutoko)*

The Ohashi Junction Loop (*Figure 46*) is part of a highly complex vehicular system. Exit ramp loops run through double stacked, and perform two loops before entering the tunnels. As vehicles make their way down the exhaust can have an impact in the surrounding area. For this reason, the building includes a large ventilation system along with a purification system to eliminate poisonous gases.



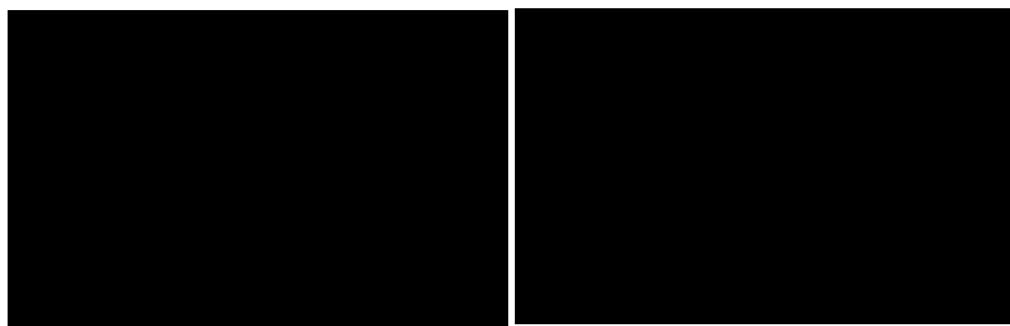
*Figure 31: Diagram Section of Ventilation System, Ohashi Junction, Tokyo (Source: Shutoko)*



*Figure 32: Diagram of Land Use, Ohashi Junction, Tokyo, Japan (Source: Shutoko)*

### Torre Howe

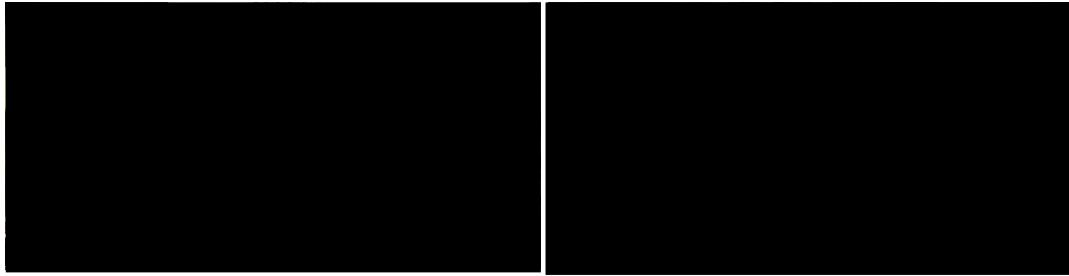
There are also many design proposals that serve as inspiration, by providing visions of underpass space activation and buildings and spaces that interact with infrastructure. The Vancouver House project is an urban design proposal for the city of Vancouver by Bjarke Ingels Group. It consists of a 49-story residential tower and a podium like mixed-use urban village composed of four



*Figure 33(Left): Diagram of Site, Vancouver House, Vancouver (Source: Archdaily)*

*Figure 34 (Right): Diagram of Program Massing, Vancouver House (Source: Archdaily)*

triangular structures. The tower is located according to setback regulations, away from noise and pollution, and is shaped to preserve views and promote pedestrian mobility. The triangular buildings explore and challenge the setback, and celebrate motion and shape of the freeway, while activating areas underneath it, with spaces for work, shopping, and leisure.



*Figure 35 (Left): Street view Rendering 1, Vancouver House, Vancouver (Source: Archdaily)*

*Figure 36 (Right): Street view Rendering 2, Vancouver House, Vancouver (Source: Archdaily)*

Spaces underneath and adjacent to elevated expressways can be seen in a new light. Such spaces possess unique opportunities in terms of character and location, and can be used as a continuation of urban life rather than a dividing element.

Transportation infrastructure can have tremendous impact on urbanism. It is often disruptive of urban fabric, its flows, and its functionality. It can separate people by income, status, and even race, by creating difficult and unpleasant crossings, physical barriers, and unused space. This is the case, when its design and construction aims solely to provide highspeed flows, often at the cost of surrounding environments, but it does not have to be this way. We can design its structure to interact with and reinforce urbanism. It can provide high speed flows of traffic and create places. Building should not have to turn away from infrastructure, if it is designed to respond to them. Infrastructure can have functional street edges, function as part of urban block, and blend in with the grid.

## Chapter 3: Site Analysis

The process of this project begins with defining itself. It looks to define problems, opportunities, and goals; to determine the site area and the scope of design.

A clear urban grid and diagonal corridors with consistent street edges, as planned by L'Enfant, can be seen around the Capitol to the north and the East. South of the Capitol in the other hand, it has lost its urban DNA, and the impact of infrastructure is made dramatic (*Figure 17*).



*Figure 37: Figure Ground Diagram (Source: Author, Camargo)*

The area just south of the Capitol is particularly complex, mainly because of the amount of infrastructure converging in one area. Its location in relation to the Capitol makes it prominent site for a proposal and a vision of raising infrastructure to a higher state.

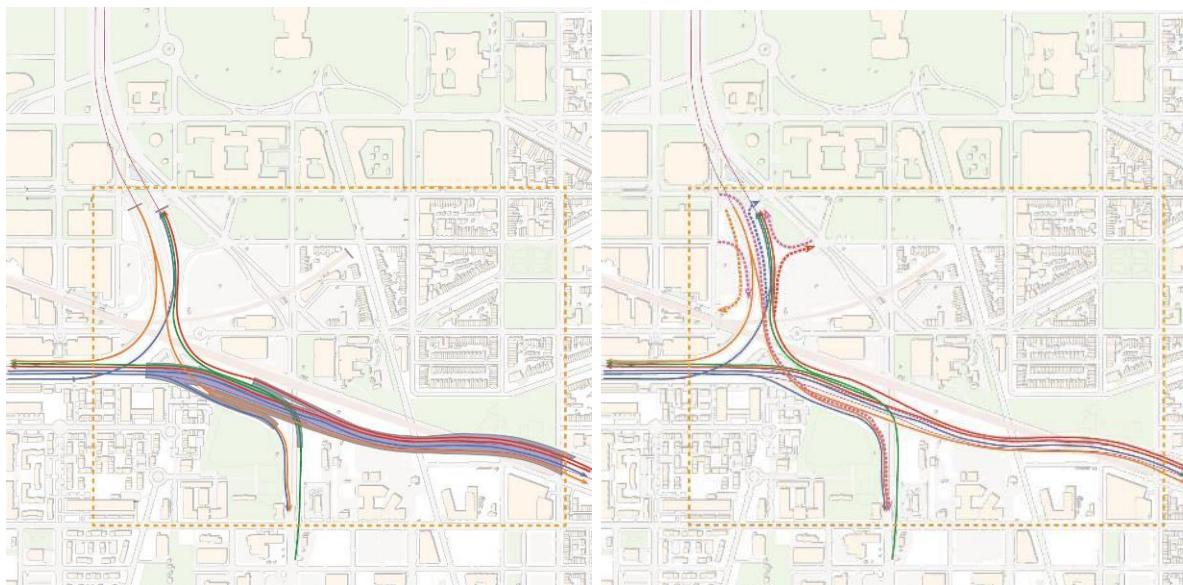
Firstly, we must define what it is that the current infrastructure achieves, but we must also define the problems and goals that the area faces, which may have been caused by the infrastructure, but also other major problems that could be addressed.



*Figure 38: Existing Railroad (Source: Author, Camargo)*

*Figure 39: Existing Railroad 3D (Source: Author, Camargo)*

Amtrak and Freight train railroads cross over highway ramps and South Capitol Street going Eastward. They are split with Amtrak curving north to Union Station and the Freight Train continuing in the southeast direction (*Figure 47 and 48*). Both slope downward to enter tunnels after crossing South Capitol Street. Much development and financial investment have recently been made over the freight train tunnel east of South Capitol Street. The area marked in *Figure 47* shows a potential area for the improvement of the railroad as it bridges and meets the ground.



*Figure 40: Interstate Highway Flows and Bridge (Source: Author, Camargo)*

*Figure 41: Interstate Highway Local Distribution (Source: Author, Camargo)*

The interstate highway bridges over the extent of several blocks, marking a large potential area of improvement. It also impacts the site going north through on and off ramps, which go from the elevation of the highway bridge down into the underground tunnels that cross the National Mall, leaving a large amount of unutilized land in between. One of the major constraints is that as the railroad slopes down into the ground the highway bridge must go over it and in the same direction, creating a constraint for tunneling the highway under. The impact, of the highway, is increased by the multiplicity of local on and off ramps (*Figure 50*), which provide direct access to and from Canal Street, South Capitol Street and the Health and Human Services area to the west.



*Figure 42: Infrastructure Mounds Plan (Source: Author, Camargo)*

*Figure 43: A look at Infrastructure Mounds (Source: Author, Camargo)*

In addition to land taken by the freeway and the railroad, the area is marked by the supporting mounds that elevate them between bridges (*Figure 51 and 52*). They impose the site with massive amounts of retaining walls that cut through blocks.

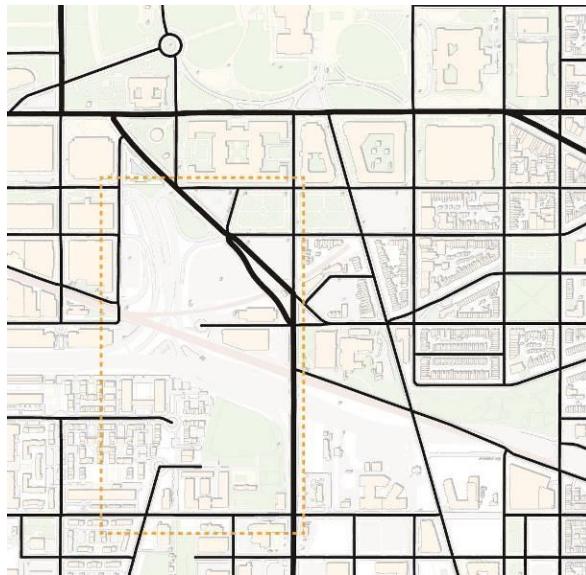
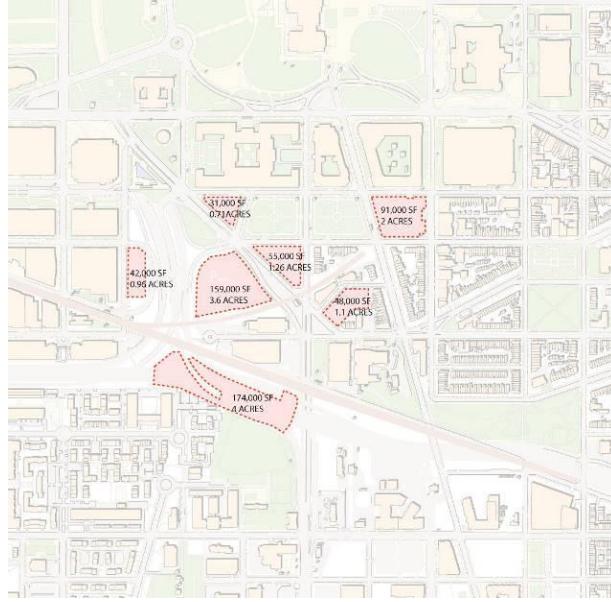


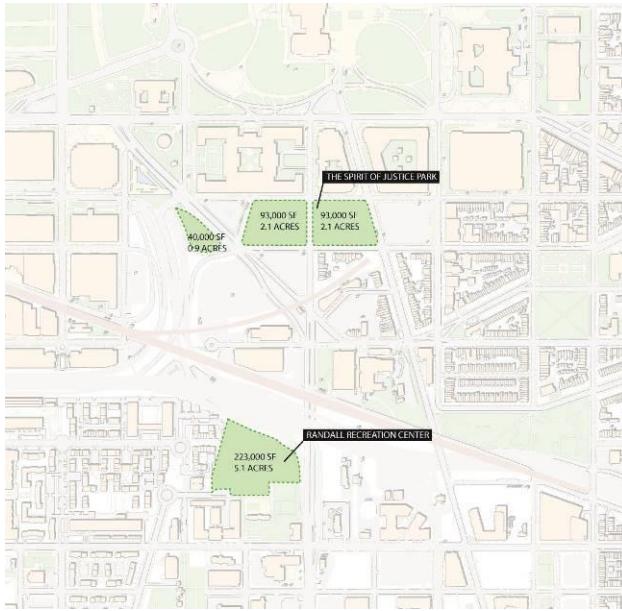
Figure 44: Local Roads (Source: Author, Camargo)

The impact of infrastructure on the functionality of this area is quite large. The streets grid is broken, including Delaware Avenue, which was originally intended to be one of the eight axes from the Capitol building, and would make it for a great connector of Southwest Neighborhoods to the Capitol area (*Figure 53*). Delaware Avenue is first blocked by the Rayburn Building, then it is further interrupted by the distribution of highways and railroad structure. Not only are the roads disconnected but also pedestrian access. Therefore, flows rely heavily on South Capitol Street.



*Figure 45: Parking Lot Areas (Source: Author, Camargo)*

The execution of the highway speaks of the car oriented ideas for development, which is reinforced by the vast amounts of parking lots distributed in the general area. In this area of interest, parking covers about 600 acres of land, with 174 acres located under the highway bridge (*Figure 54*). This has great impact on the quality of place, in fact, it removes that sense. It makes the area unfriendly to pedestrians, without definition of space and everyday activity throughout large amounts of land. It also has great environmental impact, providing large amounts impermeable land, and heat retaining asphalt.



*Figure 46: Green Spaces Possibly Impacted (Source: Author, Camargo)*

The major green space, in the area of interest, is the Spirit of Justice Park located adjacent to, and south of, the House buildings (*Figure 55*). The issue described in plan is the lack of space definition, and the fact that several parking lots surround it. What makes it most ineffective is its elevated condition. Land slopes up going west and the park tries to take advantage of the level change by allowing for entrances into garages underneath. In actuality, over half of the park blocks are elevated, and in parts, experienced as walls by those walking on the sidewalk, without vision connection to the green space. In a meeting with the Architect of the Capitol, urban designers mentioned a proposal to build office space over those green spaces. They shared that the parking garage structure was built to support a vertical extension. This is an opportunity that can included in this study.

The green space to the west of the Spirit of Justice Park, is a residual space between Washington Avenue and the expressways going north. It is therefore not an effective space. To the south, just below the freeway, is the Randall Recreation Center, which provides a baseball field and other

sporting amenities for the local communities. If affected by urban design, it should be replaced or compensated.

After looking at the problems, the area of focus begins to emerge and goals can be set in place to give the project direction. The initial goals are: to rationalize highway system and minimize its area of impact; to rebuild highway and railroad bridges to incorporate multifunction and allow for the street grid to resurface; to minimize parking areas; to provide adequate green space; and to provide a new development plan to make better use of the land, and provide a sense of place.

## Chapter 5: People and Uses

### People

In the past decade, Washington D.C. has been experiencing a boom in construction and a rise in population. In the 2000s the city grew in population for the first time in 50 years. Between 2000 and 2013 it saw 74,000 new residents.<sup>29</sup> The housing demand has been caused, largely, by the influx of millennials and families with higher education.<sup>30</sup> Cost of homes and rentals have gone up, and helped the District become one of the most expensive places to live in the country.<sup>31</sup> The city has become unaffordable for many current and new residents.<sup>29</sup> Lower income residents especially, are getting priced out of the market.<sup>32</sup>

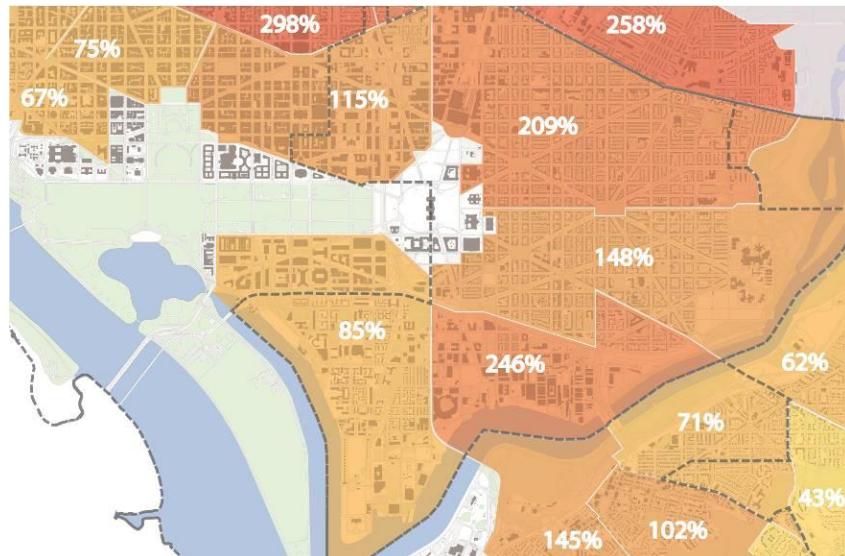


Figure 47: Home Sale Price Increase from 2000 to 2013 (Source: Author, Camargo)

<sup>29</sup> Tatian, Peter and Lei, Serena. "Our Changing City: Housing". Web. (Accessed December 2016)

<sup>30</sup> Architect of the Capitol. Web (Accessed December 2016)

<sup>31</sup> Architect of the Capitol. Web (Accessed December 2016)

<sup>32</sup> Architect of the Capitol. Web (Accessed December 2016)

All wards in D.C. have experienced home price increases. Within Ward 2 and 3 there were areas with more than a 250% increase on home prices, while the large majority of the city increased over 50%. All of Southwest D.C. has had home prices increase by 85% between 2000 and 2013, with Capitol Hill at 148%, and Navy Yards, reaching to South Capitol Street, having a 246% increase. Price increase also affected rental units, which are important for residents looking for more affordable options for living.<sup>33</sup>

For families living pay check to pay check, this can have an irreversible impact. This market change may encourage developers to replace assisted housing with luxury apartments, making it difficult to provide new assisted housing in these neighborhoods. Close to 8,000 families live in public housing and 10,500 receive federal housing vouchers.<sup>34</sup> Roughly 28,000 more residents live in privately owned assisted housing.<sup>35</sup> Over 67,000 households are in line for a voucher or public housing.<sup>29</sup> Meanwhile, Federal spending on assisted housing has decreased, leaving the District to use its own resources to fill the gap.<sup>36</sup>

Mayor Grey's housing task force and the city administration both agree that, to maintain Washington D.C. as a diverse and inclusive, housing must meet the needs of residents of all income levels.<sup>37</sup> Mayor Gray has pledged \$100 million towards creating and preserving 10,000 new subsidized housing units by 2020. With just under 6,000 units built or under construction they are halfway there.<sup>38</sup>

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<sup>33</sup> Architect of the Capitol. Web (Accessed December 2016)

<sup>34</sup> Architect of the Capitol. Web (Accessed December 2016)

<sup>35</sup> Architect of the Capitol. Web (Accessed December 2016)

<sup>36</sup> Architect of the Capitol. Web (Accessed December 2016)

<sup>37</sup> Architect of the Capitol. Web (Accessed December 2016)

<sup>38</sup> Architect of the Capitol. Web (Accessed December 2016)

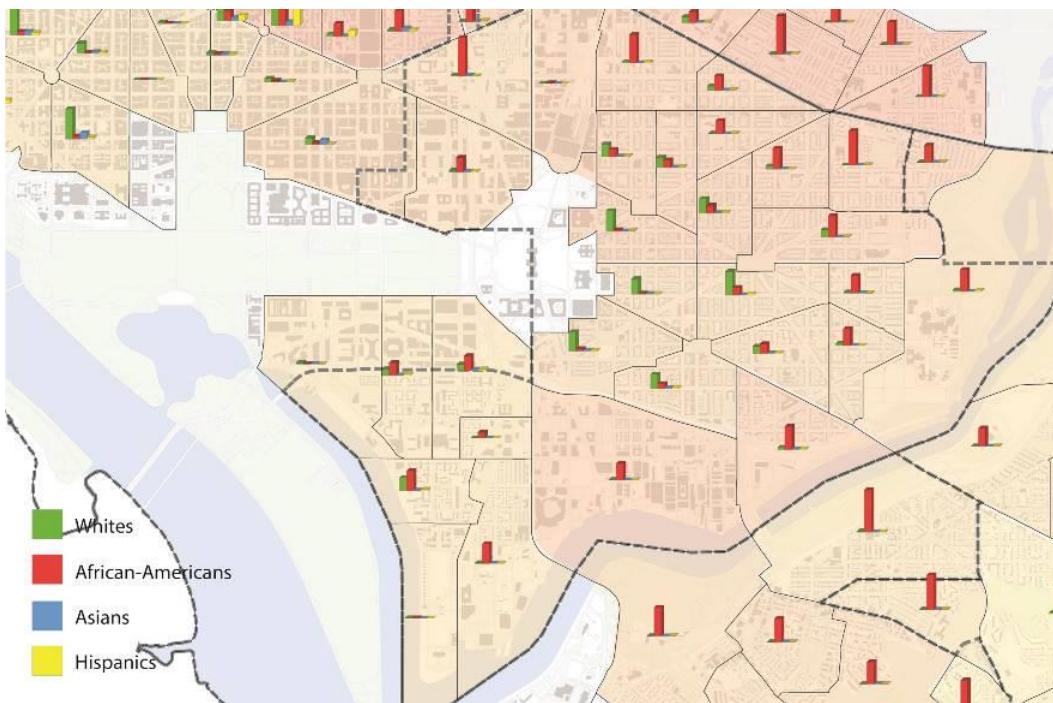


Figure 48: Population by Race in 2000 (Source: Author, Camargo)

Driving the housing demand, are the young and highly educated newcomers. Nearly 67 percent of people that moved to the city in 2011 were ages 18 to 34, compared to the 30% of existing residents in that age range.<sup>39</sup> Most newcomers were two-person households without children, and have bachelor's or graduate degrees, all of which proportionally outnumber existing residents in those circumstances.<sup>40</sup> Although most of newcomers were in the middle and high income categories, with few with low income, most were starting out in the job market and should see income increase.<sup>41</sup>

<sup>39</sup> Tatian, Peter and Lei, Serena. "Our Changing City: Demographics". Web. (Accessed December 2016)

<sup>40</sup> Ammon, Francesca. "Commemoration Amid Criticism: The Mixed Legacy of Urban Renewal in Southwest Washington D.C." Yale University. *Journal of Planning History OnlineFirst..* (July, 2009). Pg. 4-8. Accessed November 2016.

<sup>41</sup> Ammon, Francesca. "Commemoration Amid Criticism: The Mixed Legacy of Urban Renewal in Southwest Washington D.C." Yale University. *Journal of Planning History OnlineFirst..* (July, 2009). Pg. 4-8. Accessed November 2016.

Since 2000 the population has grown mainly in numbers of whites, but also Latinos and Asians, while African-American households have been decreasing.<sup>42</sup> The city began with almost all whites, but by the 1950s white were leaving to suburbs, leaving the city composed mostly of African-Americans.<sup>43</sup> After Martin Luther King Jr. was assassinated and five days of riots, much of the local businesses and homes were destroyed, causing African Americans and middle class workers to leave the city.<sup>44</sup> The population of African-Americans fell from 538,000 in 1970 to 309,000 in 2010, and are now continuing to decline.<sup>39</sup>

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<sup>42</sup> Ammon, Francesca. "Commemoration Amid Criticism: The Mixed Legacy of Urban Renewal in Southwest Washington D.C." Yale University. *Journal of Planning History OnlineFirst..* (July, 2009). Pg. 4-8. Accessed November 2016.

<sup>43</sup> Ammon, Francesca. "Commemoration Amid Criticism: The Mixed Legacy of Urban Renewal in Southwest Washington D.C." Yale University. *Journal of Planning History OnlineFirst..* (July, 2009). Pg. 4-8. Accessed November 2016.

<sup>44</sup> Ammon, Francesca. "Commemoration Amid Criticism: The Mixed Legacy of Urban Renewal in Southwest Washington D.C." Yale University. *Journal of Planning History OnlineFirst..* (July, 2009). Pg. 4-8. Accessed November 2016.



Figure 49: User Groups Diagram (Source: Author, Camargo)

The area of study is located at a pinch point between Southwest, Southwest Employment Area, Southeast, Capitol Hill, and Navy Yards. It is also located at a pinch point of the federal employment areas as well as sub-downtown areas.

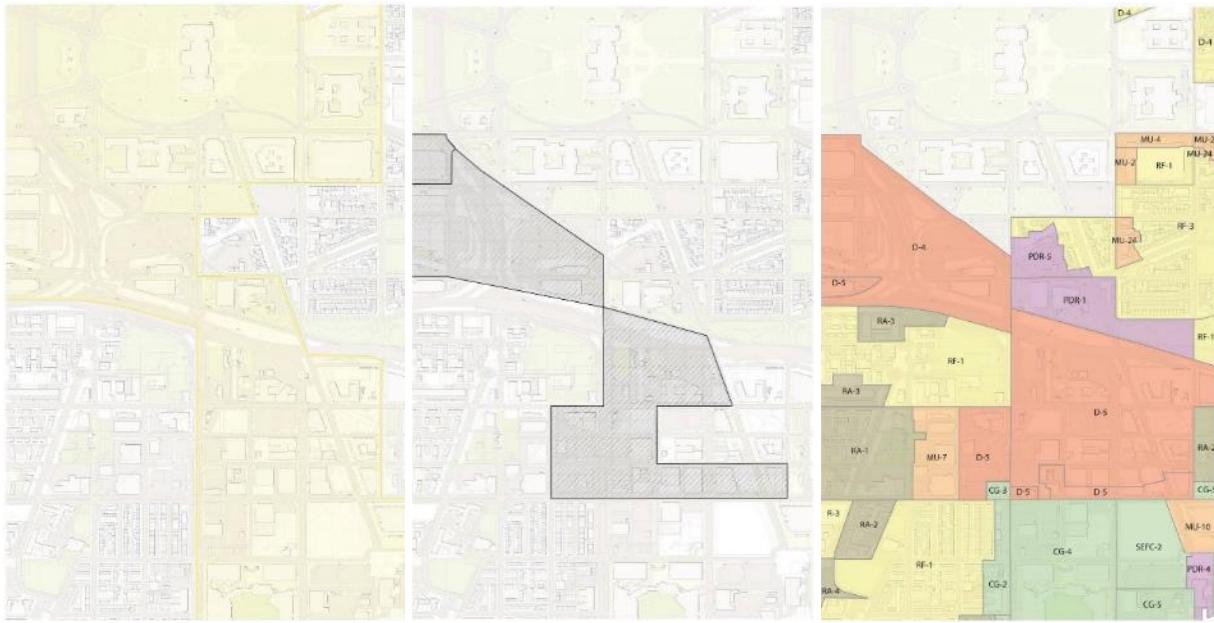


Figure 50 (Left): Federal Employment Area (Source: Author, Camargo)

Figure 51 (Middle): Sub Downtown Areas (Source: Author, Camargo)

Figure 52 (Right): 2026 Zoning (Source: Author, Camargo)

The Southwest region population consists mostly of African-Americans, who are being priced out of the market and find themselves having to move out of the city. They were families raised in D.C., with Medium-Low to low incomes.

Millennials are replacing many of these families. They, along with existing families who can afford to stay, are mostly middle to high income households, predominantly with no children. Millennials have been extensively populating Southeast near Navy Yards, but generally impacting everywhere.

The site area is also located at the meeting point between I-695, I395, and I-295, where Generation X families and older, of medium to high income, pass through to and through D.C. from Maryland and Virginia. These are families who have moved to suburbs to raise families, but continue to work in or across the city.

## Uses

This area is characterized by a diverse mix of building uses, which seem disconnected. They are disconnected by the residual void created by the infrastructure, but they are disconnected in the sense that each area is concentrated in a particular use. The Southwest neighborhood has a clear division, created by Southwest freeway, of offices to the north and residential to the south. Although both are essential, the clear separation causes each place is not used to its full potential. The office area in the north of Southwest is used through the work day, but it is a dead zone to the night, because it does not contain enough of the other uses to support life at all times.

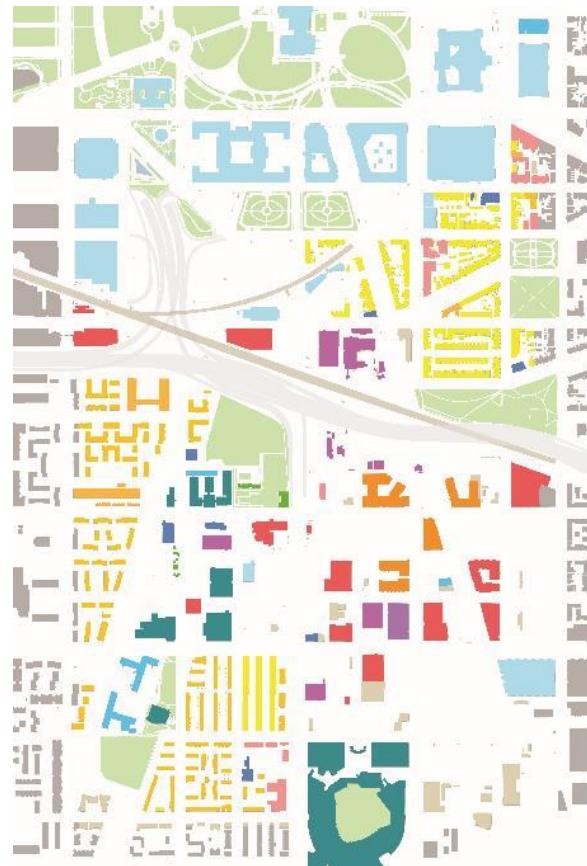


Figure 53: Existing Building Uses (Source: Author, Camargo)

The area of study can potentially provide a mix of uses and connect the life of the neighborhood from the south to the north of the Southwest neighborhood.

## Chapter 4: Primary Urban Strategy

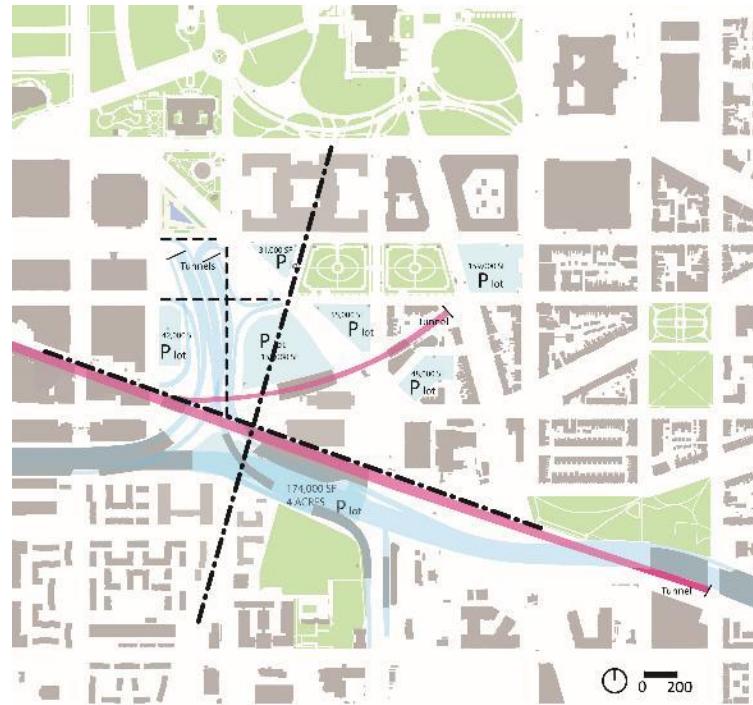


Figure 54: Diagonal Axes and the Street Grid Overlaid on Existing Condition (Source: Author, Camargo)

This design begins with imagining that we can reconnect Delaware Avenue and the street grid

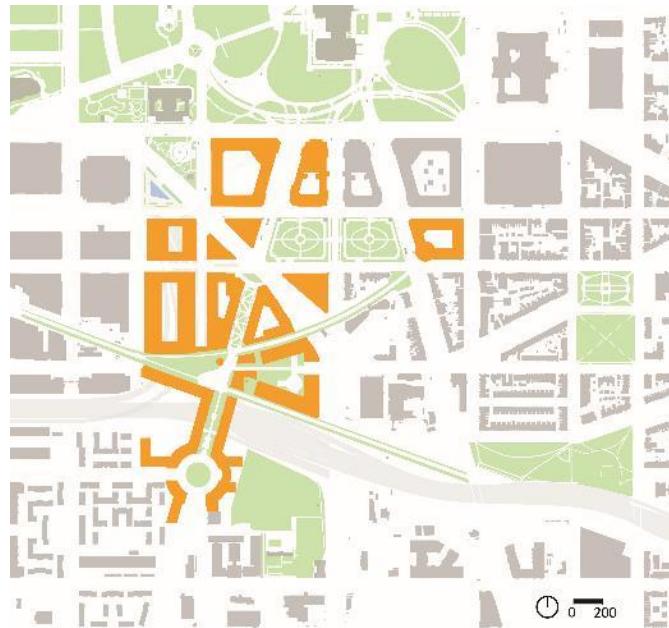


Figure 55: Proposed Buildings Intervention (Source: Author, Camargo)

It imagines that we can overcome the obstruction of freeway, rail, parking, and high volume roads, and create a place that is urbanized and inhabited by people

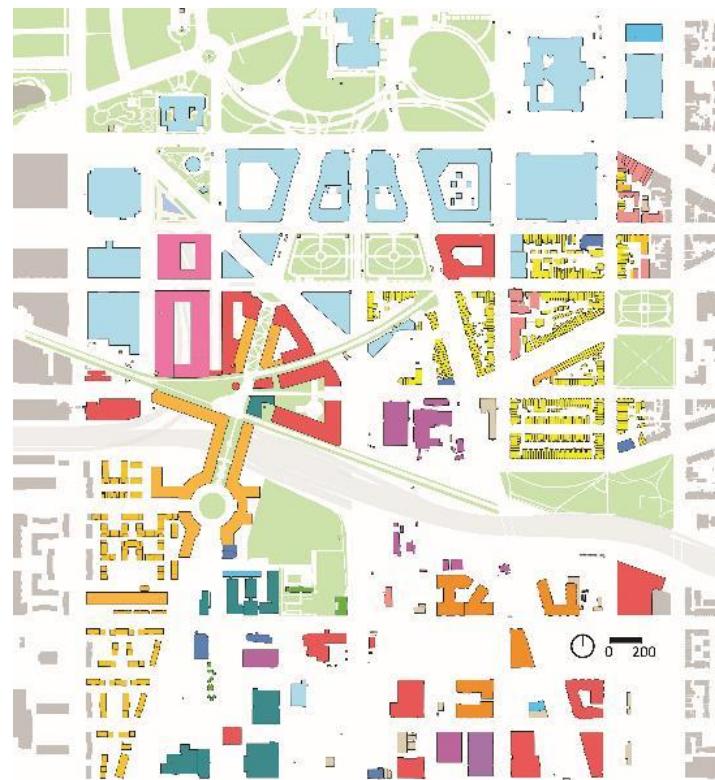


Figure 56: Proposed Building Uses (Source: Author, Camargo)

Value can be brought to this, currently unusable, real-estate with residential connecting the south and north portions of Southwest, along with mixed-use and office development anchored by a museum.



Figure 57: Delaware Axis overlaid on Existing Condition (Source: Author, Camargo)

The driver, and idea that ties this project together, is to reconnect one of L'Enfant's original diagonal axes, Delaware Avenue. It connects Southwest to the most important building in the most important cities in the United States, the U.S. Capitol Building.

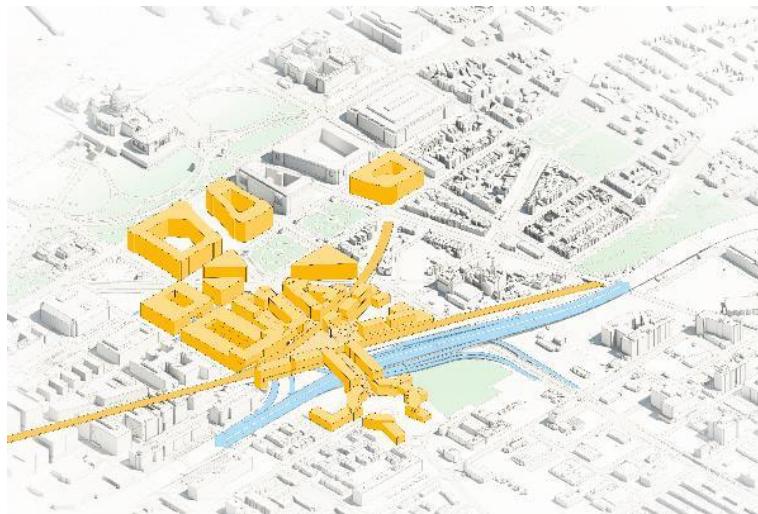


Figure 58: Proposed Development (Source: Author, Camargo)

This design imagines that we can overcome the extreme circumstance of this area of the city and create something of civic quality.



*Figure 59: Proposed Overall Vision (Source: Author, Camargo)*

## Chapter 4: Design Strategies

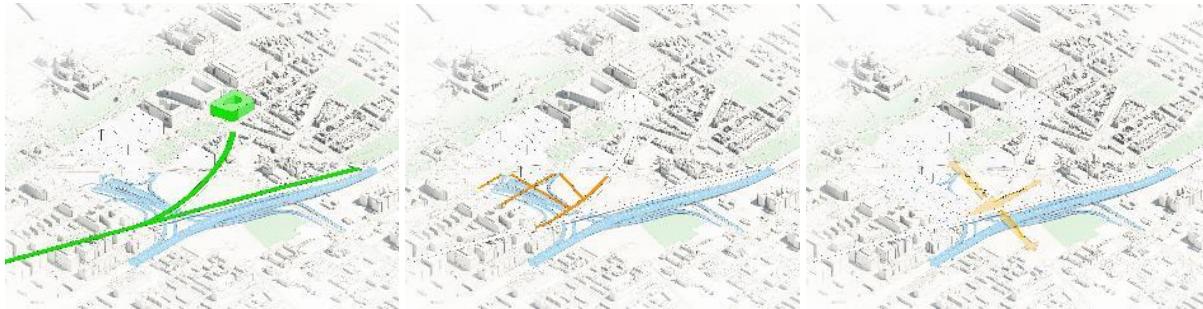


Figure 60: High Line (Source: Author, Camargo)

Figure 61: Reconnecting the Grid (Source: Author, Camargo)

Figure 62: Three Civic Spaces and Approaches (Source: Author, Camargo)

This design proposal is achieved through three strategies: The High Line, connecting people across the region; reconnecting the street grid; and providing three civic spaces and approaches to a central urban space.

### High Line: Connecting People Across the Region

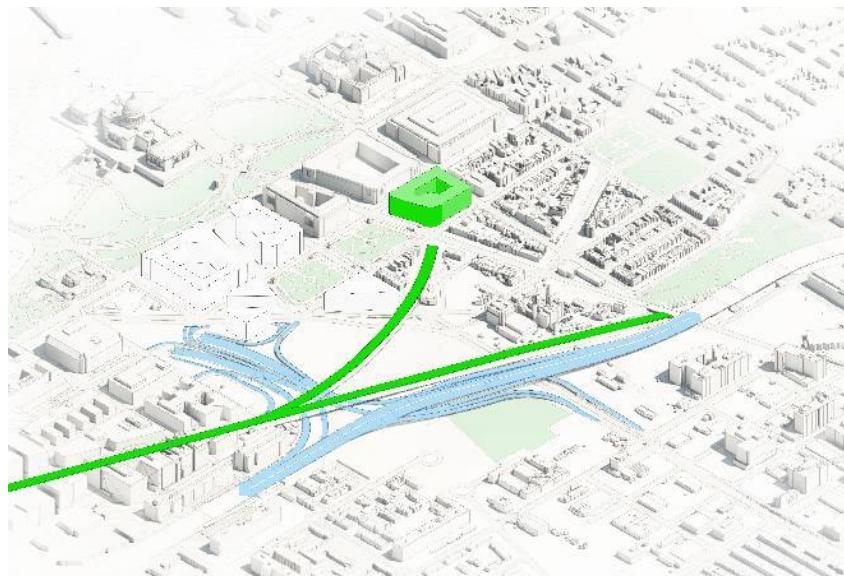


Figure 63: High Line; Connecting People Across the Region (Source: Author, Camargo)

The High Line flips the rail infrastructure from an element that is divisive and anti-civic to an element of connection for people. Civic infrastructure is built over top and along the path of the

rail, connecting down to the existing ground at the moments where the rail tracks tunnel underground. It provides a path for pedestrians and bikers across the region. Also, a mixed-use building is placed on an existing parking lot, providing a new entrance to Capitol South Metro Station.

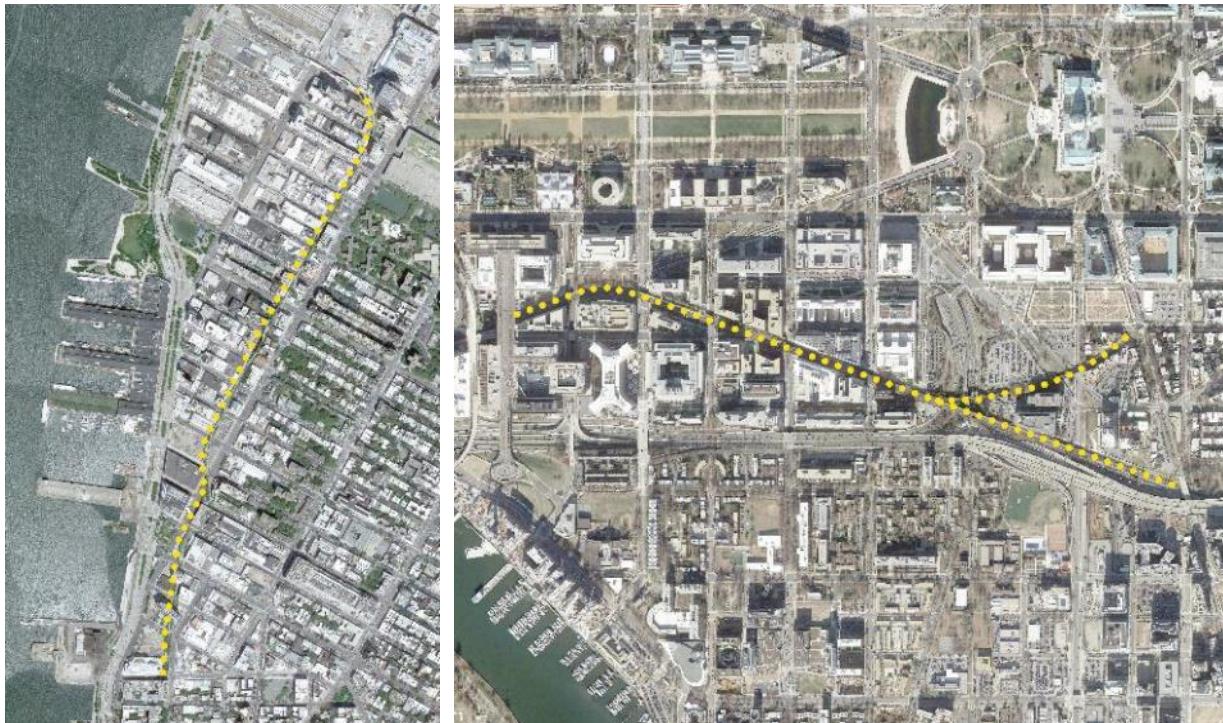


Figure 64: Diagram of High Line In New York City (Source: Author, Camargo)

Figure 65: Diagram of Proposed High Line in D.C. (Source: Author, Camargo)

This High Line is similar in length and form to the High Line in New York City. Which provides an elevated pedestrian path that is landscaped, allowing for community gardens, and for moments of engagement with buildings along the way. And one of the more important factors that they share in common is high density, which keeps the highline in use and in demand.

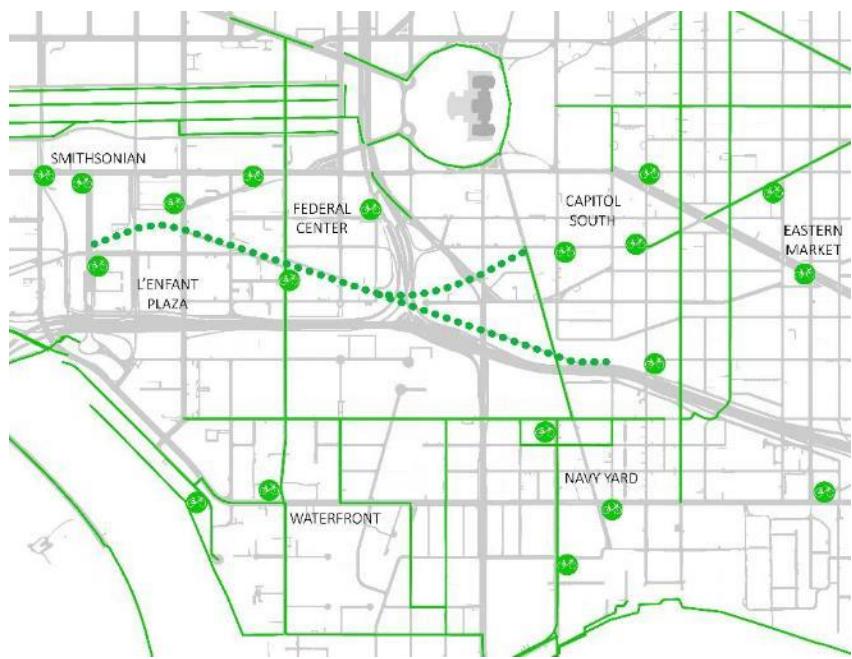


Figure 66: Proposed High Line Connection to Biking Network (Source: Author, Camargo)

The High Line takes the existing biking network, which is now scarce in this area of Southwest, and connects it at its weakest moments. It helps to connect the three major neighborhoods in the area.

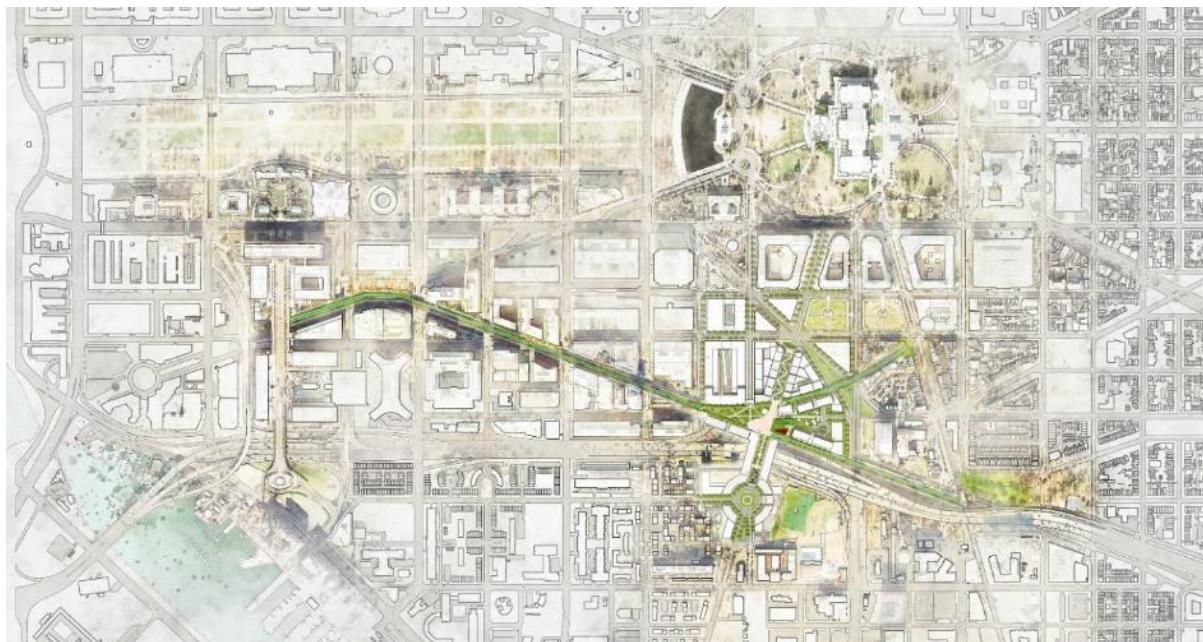


Figure 67: Plan the Entire Proposed Region Showing Full Extend of the High Line (Source: Author, Camargo)

Ultimately the High Line Connects South Capitol Metro, in Capitol Hill, to Garfield Park, at the northern edge of Navy Yards, to L'Enfant Plaza and its Metro Station, in the West portion of Southwest.

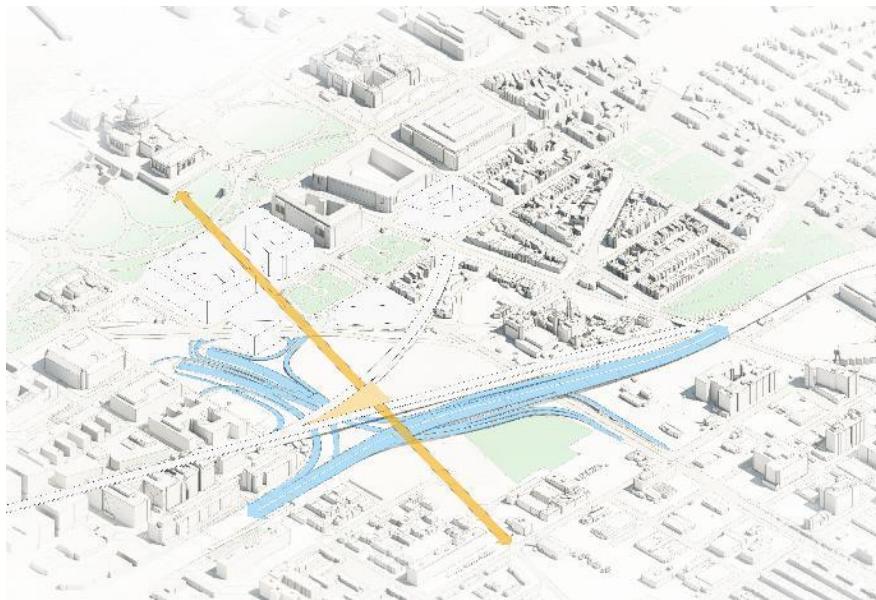


Figure 68: High Line Overlaid with Delaware Axis (Source: Author, Camargo)

The High Line overlaid by the Delaware axis begins to form a wedge-shape of what might be an elevated plaza.

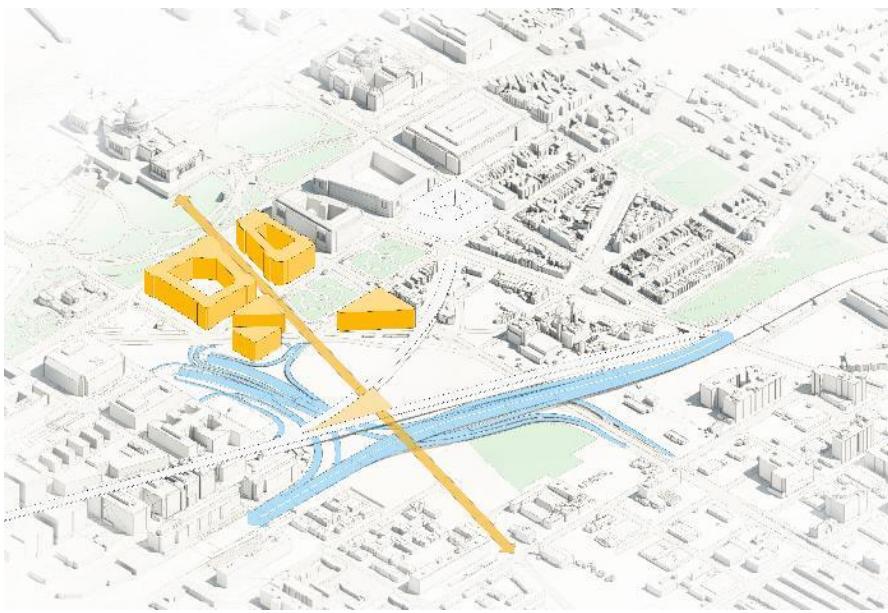


Figure 69: Proposed Federal Building Massings (Source: Author, Camargo)

Currently where the Rayburn Office Building exists; this design proposal imagines that federal buildings allow for an open axis to the Capitol Buildings.

#### Strategy 2: Reconnecting The Street Grid

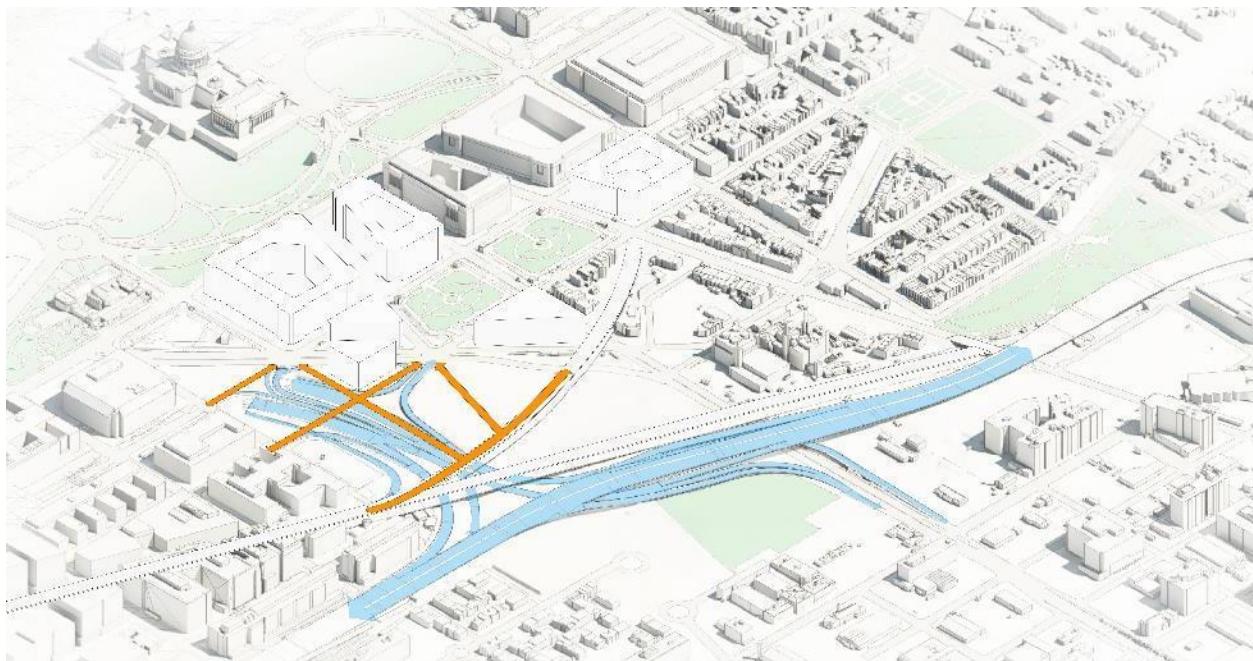
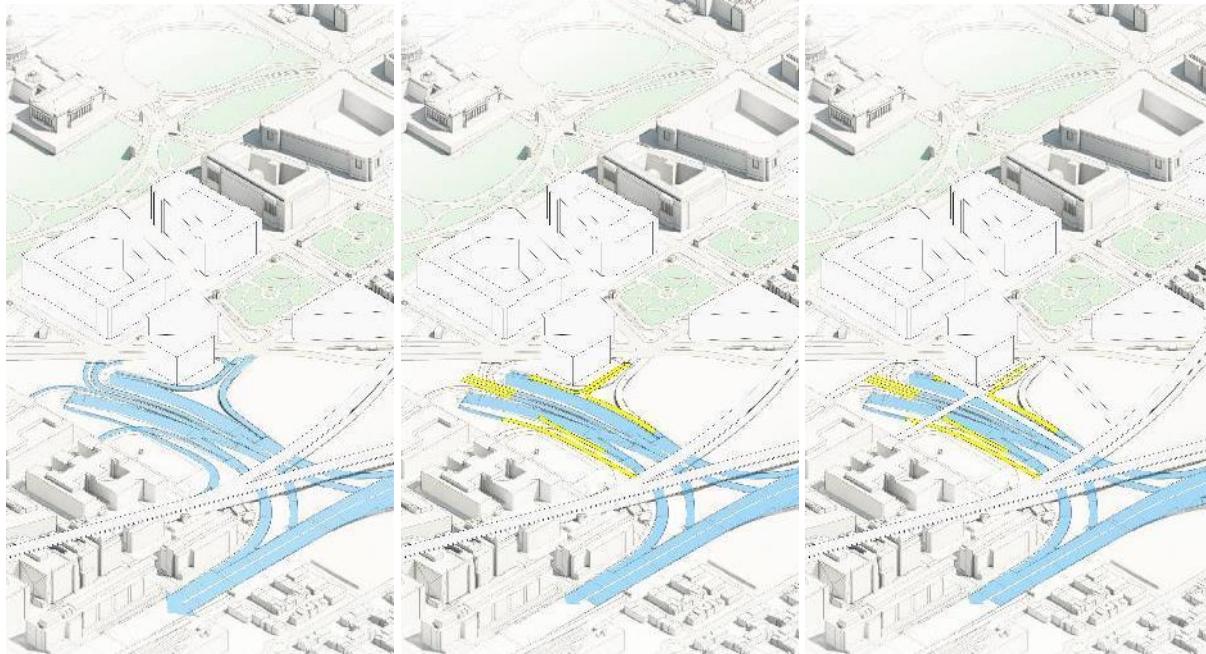


Figure 70: Reconnecting the Streets Grid (Source: Author, Camargo)

The Second design strategy is to reconnect the street grid. This is done where the freeway infrastructure is relatively low, just before it tunnels under, going north across the National Mall.



*Figure 71: Sequence Diagrams of Freeway Ramps Alteration to Regain Street Intersections (Source: Author, Camargo)*

In order to do this the intersections, currently occupied by the highway exit ramps, must be reclaimed. Therefore, the ends of those ramps must be modified, to emerge in line with proposed streets and perpendicular to the proposed streets, emerging through the center of the blocks. This allows for the street grid to be fully reconnected. The ramps then adjust to the street, and not the other way around.

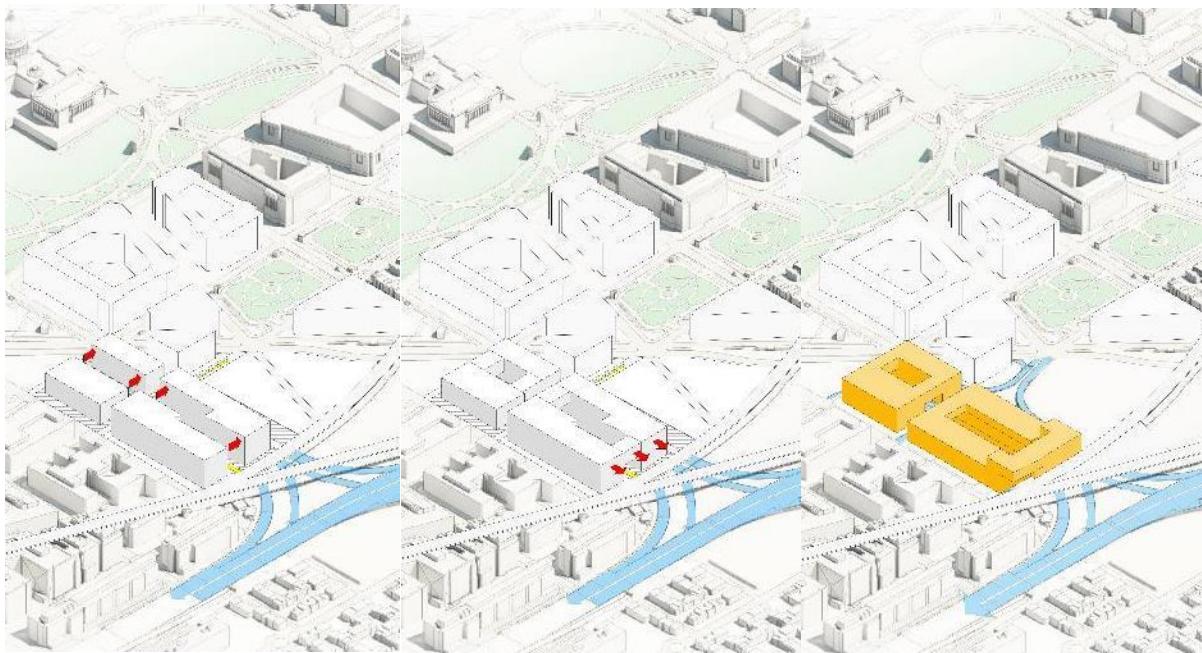


Figure 72: Sequence Diagrams of Building Massings over Exit Ramps (Source: Author, Camargo)

After decking over the freeway, where necessary to complete the blocks, the buildings can then bridge over those exit ramps to maximize the use of air-rights, and to provide continuity to the blocks' edge. Farther more, the buildings can extend over the proposed street, running along the rail line, to engage with the elevated plaza.

Strategy 3: Three civic Spaces and Approaches to a Central Plaza

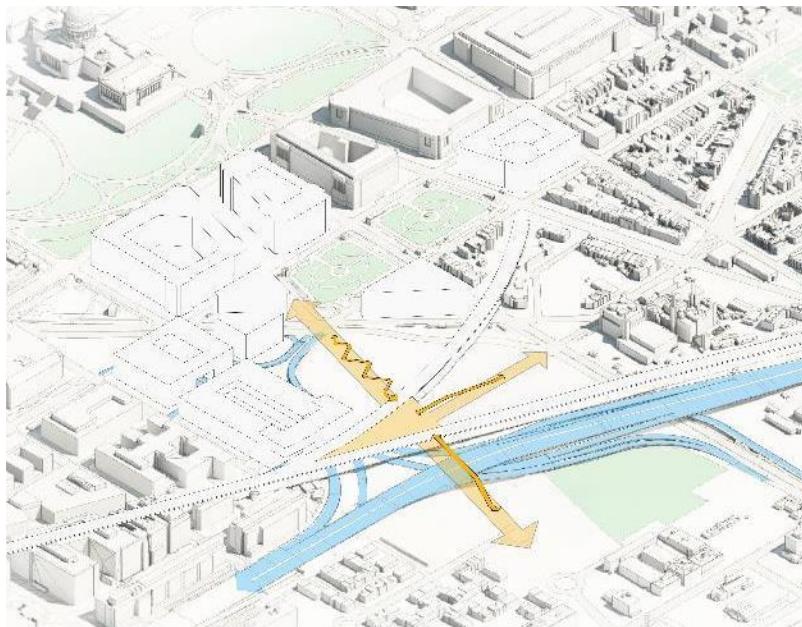


Figure 73: Three Approaches to a Central Plaza (Source: Author, Camargo)

The third urban design strategy, is to complete connections, through 3 civic spaces and approaches to the elevated plaza.

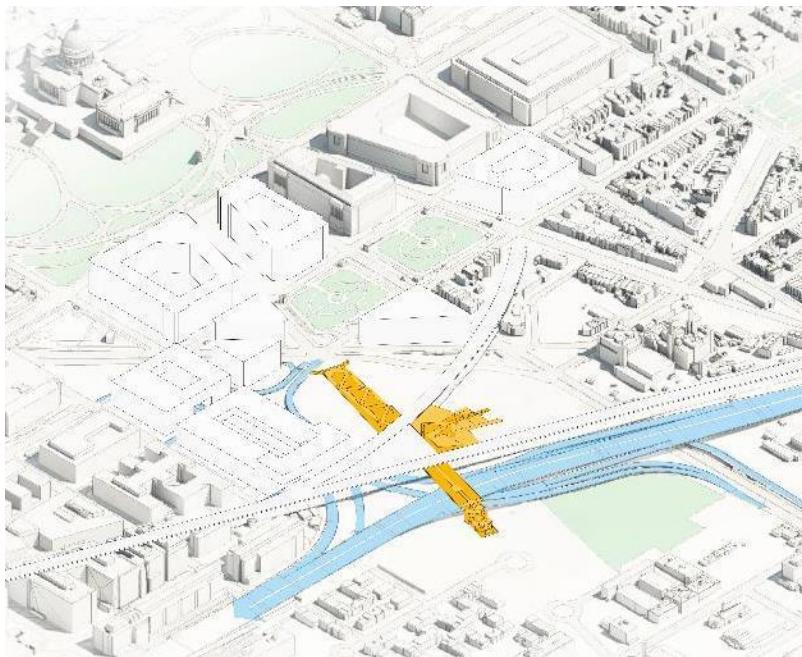
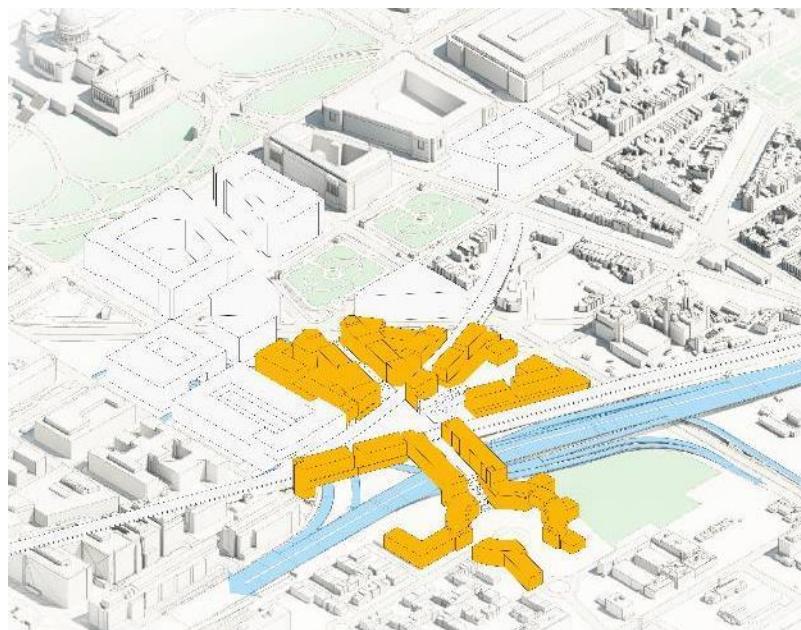


Figure 74: Three Unique Changes in Elevation (Source: Author, Camargo)

This proposal incorporates three unique ways to change elevation, and three unique sequences of civic spaces, shaped by their respective buildings.



*Figure 75: Three Unique Spaces (Source: Author, Camargo)*

It provides a winding street at North Delaware, an office courtyard at E Street to the east, and a residential circle at Delaware South.

## Chapter 4: Civic Spaces

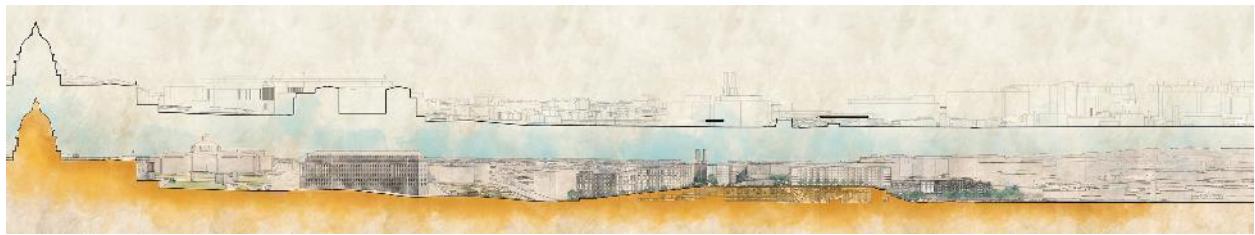


Figure 76: Section Drawing through Capitol Building, Delaware Avenue, Existing and Proposed (Source: Author, Camargo)

The primary strategy of this design proposal, to reconnect the Delaware axis, overcomes the challenges of the site by creating a second layer of ground, and of civic infrastructure. Crossing over passenger and freight rail and freeway infrastructure, while allowing for parking, service and parking access, and street to function underneath. This allows for the civic experience to take place above, free from those constraints.

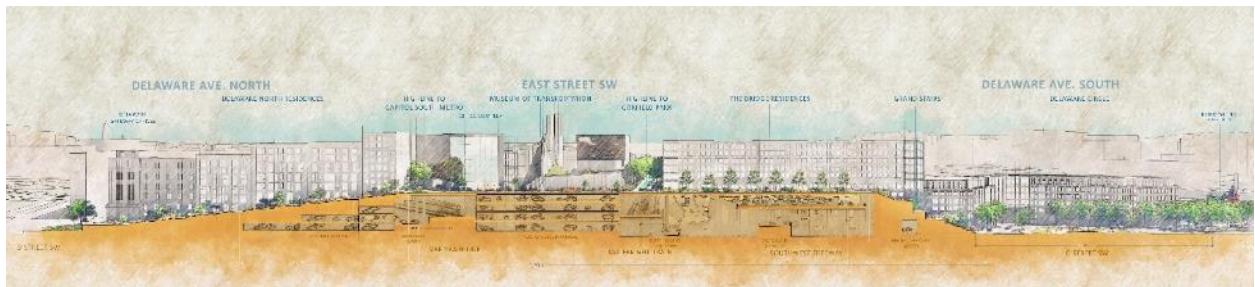


Figure 77: Section Drawing of Delaware Avenue (Source: Author, Camargo)

### Delaware North

Delaware North is inspired by Lombard Street's winding road section. Although at a much greater slope of twenty seven percent, compared to twelve percent overall slope at the proposed site, they are similar in form and scale, as well as purpose.



Figure 78: Aerial of Delaware North (Source: Author, Camargo)

Delaware north focuses on moving pedestrians and bikers up and down easily, while providing intimate entry spaces for the buildings along the way



Figure 79: Street View of Delaware North (Source: Author, Camargo)

It creates a winding path shaped by landscaping, that is both inviting and intimate, providing a unique place for residents and for people moving through.



Figure 80: Section Perspective Drawing of Delaware North (Source: Author, Camargo)

The slope is made easier by dividing the length into six bends. Parking for residents and the public is accommodated underneath, along with a proposed road, running alongside the passenger rail line, for access to parking and services to the adjacent blocks. The buildings along Delaware North can be further accessed with entry from Washington Avenue, to enter the blocks courtyard from which residents and visitors can more easily access the cores of their buildings of destination.

### E St and Museum of Transportation



Figure 81: Aerial of E Street Approach (Source: Author, Camargo)

At E Street, we find an office courtyard anchored by the proposed Museum of Transportation. Buildings also engage the High Line along on two of its legs, to achieve street condition and provide a sense of arrival to a place.

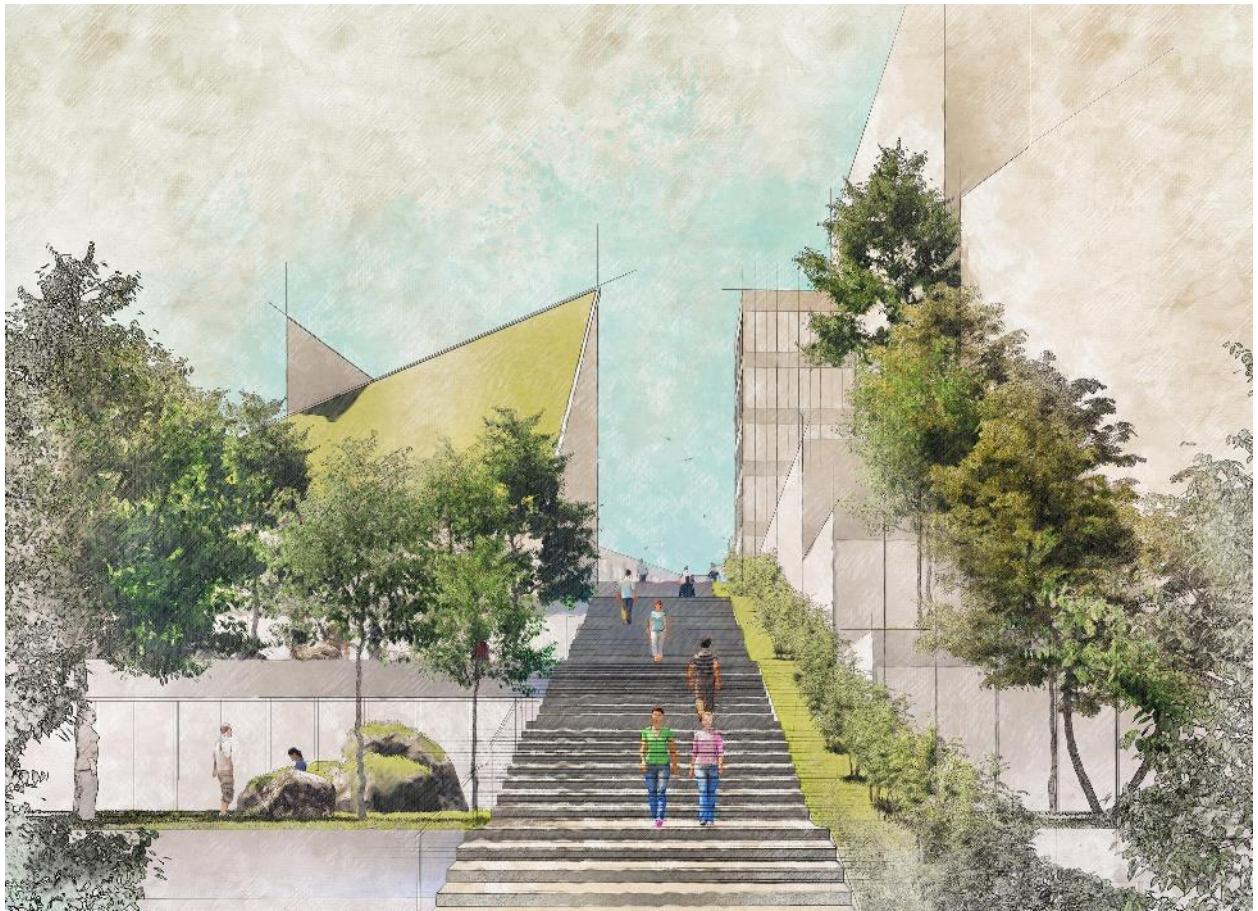


Figure 82: View of Stairs and Terraces at the E St. Approach (Source: Author, Camargo)

In this case, the slope is made dramatic with the continuous set of stairs leading up to the plaza. This is compounded by the dramatic shape and point of the museum building. Along the way up, there are garden terraces to be enjoyed by office workers and the general public.

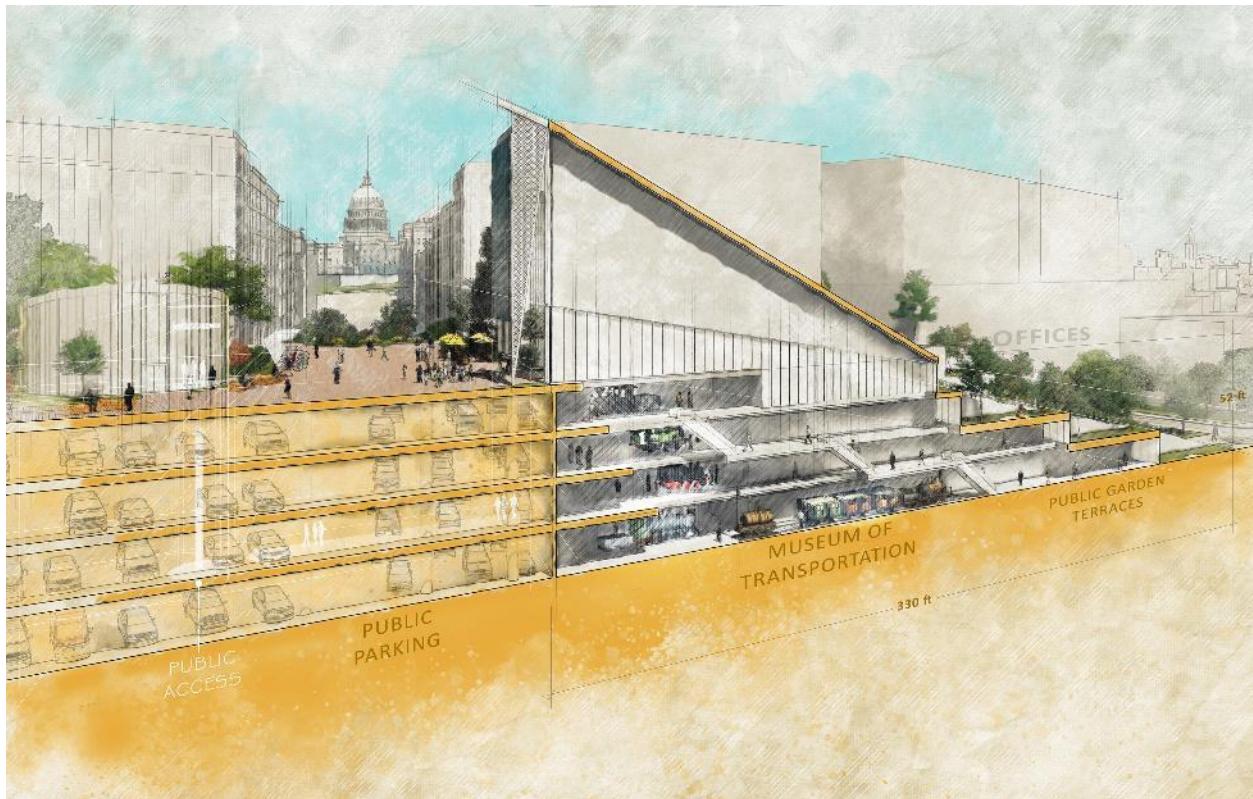


Figure 83: Section Perspective Drawing of E St and Museum of Transportation (Source: Author, Camargo)

The condition created here is important to this thesis proposition, as it is a moment where, building and infrastructure are indistinguishable. Here Building and infrastructure work together to provide spatial and transitional experience for people. The Museum is activated by providing easier upwards movement through escalators, bringing the public inside to experience the exhibition. Parking is integrated under the plaza with an elevator providing direct access to the plaza, where at the top, circular building, one exits through a bike shop and storage facility.



Figure 84: View at Plaza Level of Museum of Transportation Amphitheater Roof (Source: Author, Camargo)

At plaza level the Museum of Transportation engages the public by bending down its roof form, and creating an amphitheater aimed at museum screen, which faces the plaza to the west.

### Delaware South

At the approach to Delaware South the view and axis to the Capitol Building is enforced.



Figure 85: Street View of Capitol Building Axis Towards South Delaware Proposal (Source: Author, Camargo)



Figure 86: South Delaware Aerial (Source: Author, Camargo)

Inspired by – and matching in diameter – the Circus of Bath in the U.K., Delaware Circle is a major node in the city. It is a point of arrival and transition. The public moves through and up Delaware Avenue, through a set of grand stairs and elevator at a glass volume on the east side of the circle.



Figure 87: View at Ground in center of Delaware Circle (Source: Author, Camargo)



Figure 88: Section Perspective Drawing of Delaware South (Source: Author, Camargo)

A public elevator reaches the plaza level, where people can continue along the circle, to reach the bridge over the freeway. Parking and service access is provided through a road behind the buildings, underneath and across the grand stairs. The upper buildings along the bridge over the freeway are accessed through cores located where those building masses overlap with the buildings at ground level, which residents and visitors can access through an arcade on the along the edge of the circle.

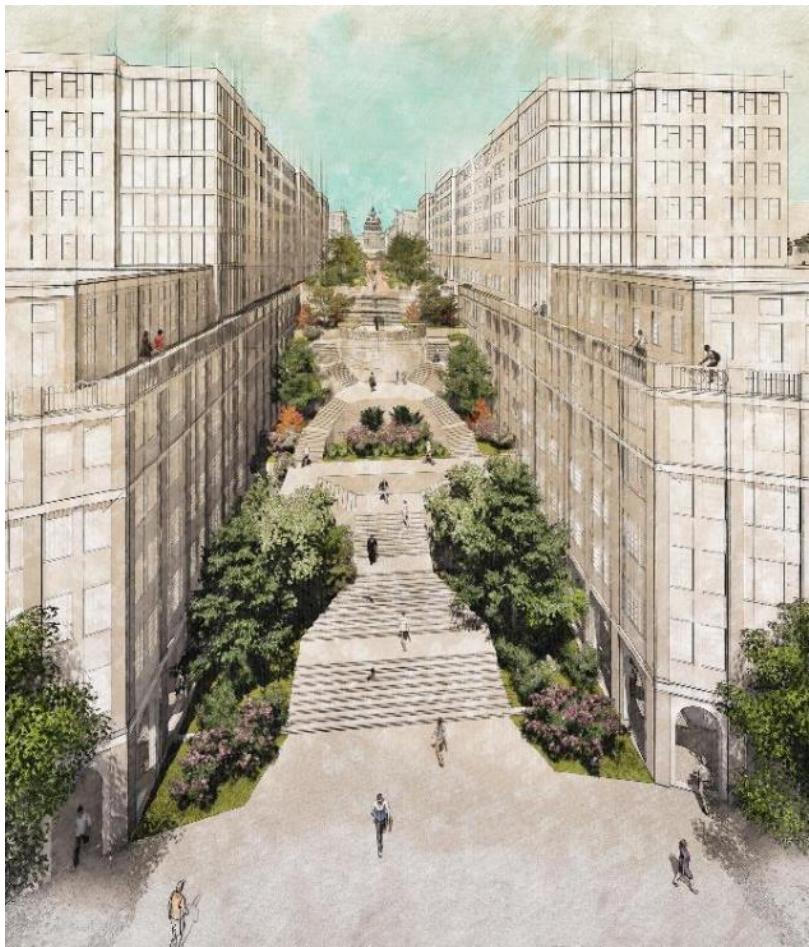


Figure 89: Aerial View of Grand Stairs at Delaware South (Source: Author, Camargo)

Figure 90: View at Top of Grand Stairs Looking Towards Potomac River (Source: Author, Camargo)

The change in elevation, in this case, is much more rapid than in the other two civic spaces.

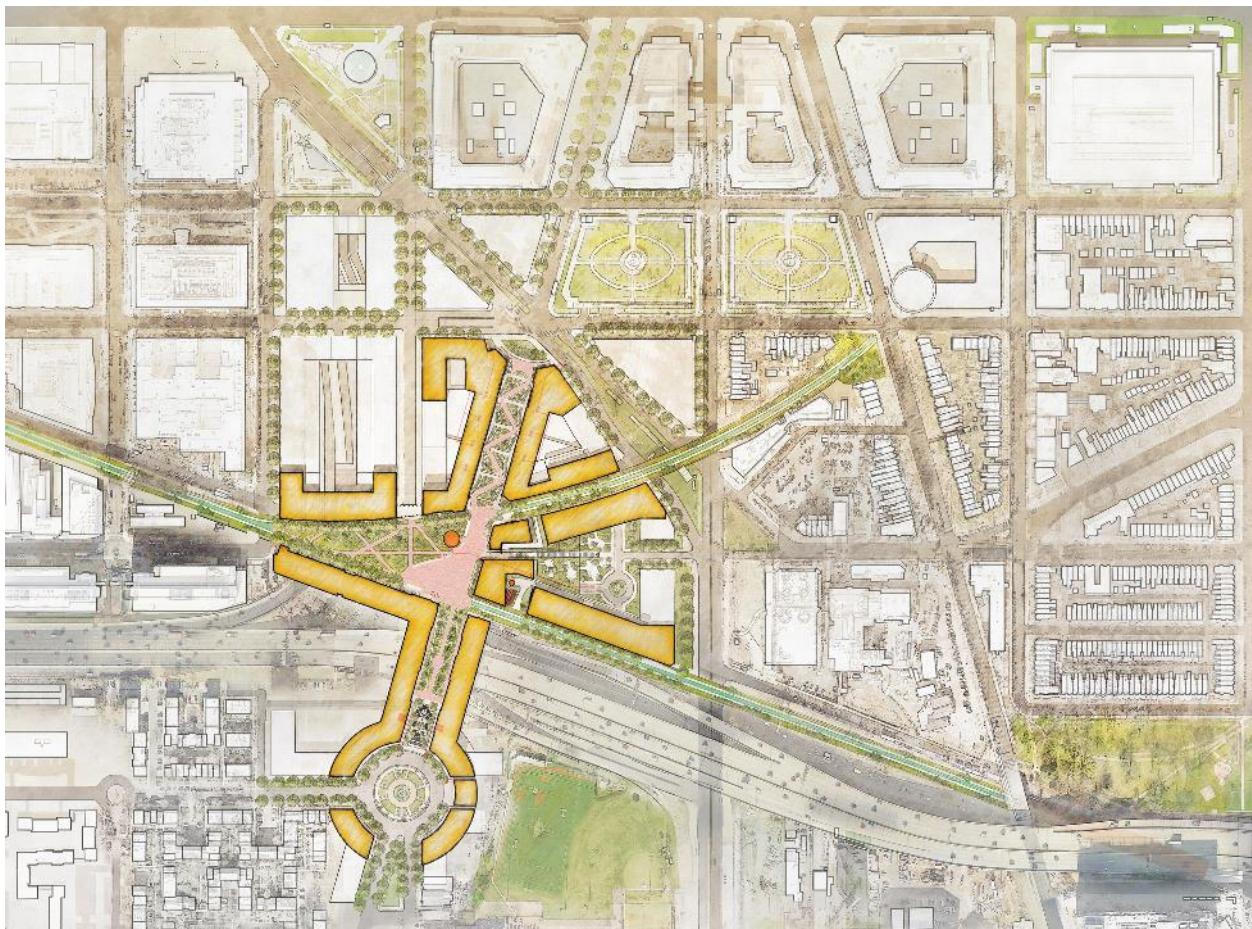
Inspired by the Spanish Steps in Rome, the Grand Stairs at Delaware manipulate the stairs of create spaces as one moves up, to make it more inviting, and less intimidating as one looks upwards. The view at the top of the stairs looking south towards the sun and the Potomac River, is something to be excited about.



*Figure 91: View of Capitol Building Axis at the Bridge over Freeway (Source: Author, Camargo)*

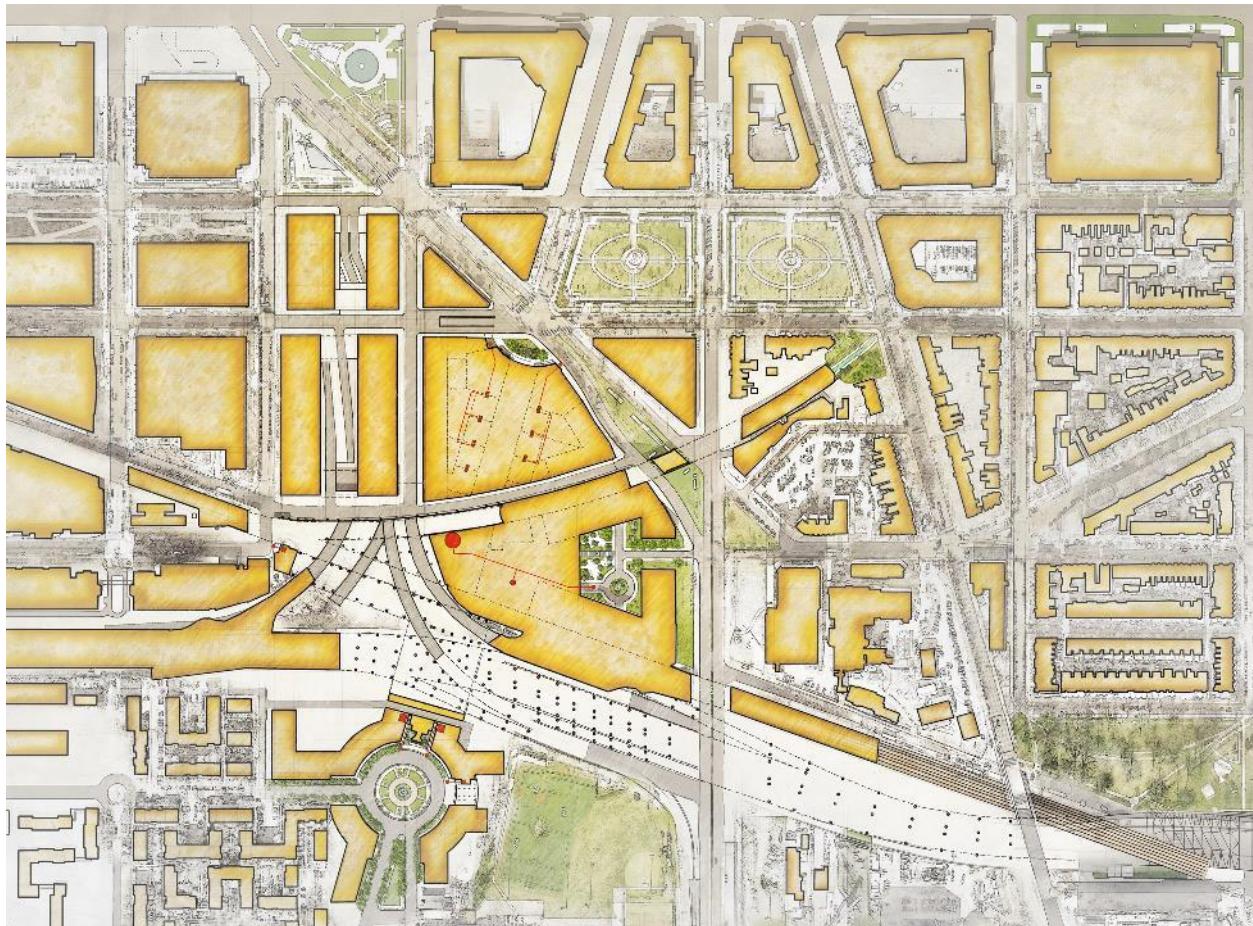
Continuing towards the plaza, we find yet another landscaped space, to be shared by residents and people passing by.

## Delaware Plaza



*Figure 92: Plan Drawing at Plaza Level (Source: Author, Camargo)*

These three civic spaces culminate at a central wedge-shaped urban space, shaped by buildings that bridge over the freeway, and buildings that meet existing ground level



*Figure 93: Plan Drawing at Existing Ground Level (Source: Author, Camargo)*

A plan drawing, cut at existing ground level (Figure 94) shows the proposed network of streets, built over the Center Leg Freeway, I 395. It shows how there are opportunities for access to these building blocks, which ensures accessibility, for residents, workers, parking and service.



*Figure 94: Aerial View of Delaware Plaza (Source: Author, Camargo)*

Delaware Plaza is a place where residents, workers, visitors, tourists, and commuters come together to enjoy park space.



*Figure 95: Street View at Delaware Plaza Looking South (Source: Author, Camargo)*

It is a place where people can meet at a café, take their bike to get fixed or stored, and to enjoy the proposed Museum of Transportation.



*Figure 96: Street View at Delaware Plaza of Capitol Building Axis (Source: Author, Camargo)*

It is experience on axis with U.S. Capitol Buildings, along Delaware Avenue, now reconnected.



Figure 97: Street View at Delaware Plaza of Washington Monument Axis (Source: Author, Camargo)

It is also experience on axis with the Washington Monument, along Virginia Avenue, now raised by the High Line and the Plaza itself.



Figure 98: Street View of Delaware Plaza on Axis with Museum of Transportation (Source: Author, Camargo)

Finally, one can also experience a new axis created by the Museum of Transportation.

In conclusion, this design proposal is meant to raise question about how the city of Washington D.C. plans and designs infrastructure, by challenging and overcoming restraints caused by previous infrastructure planning decisions. It concludes that infrastructure and the civic realm ought to be planned together and more closely related. It creates a vision focused on providing experiences for people, through places for living, working, visiting, and commuting. It is a vision that puts the people first, while still accommodating for vehicular movement to co-exist. It is perhaps the type of approach to design that Washington D.C. should use in the Twenty First Century and beyond.

## RECOVERING CIVIC SPACE: Highway and Rail Infrastructure and the City

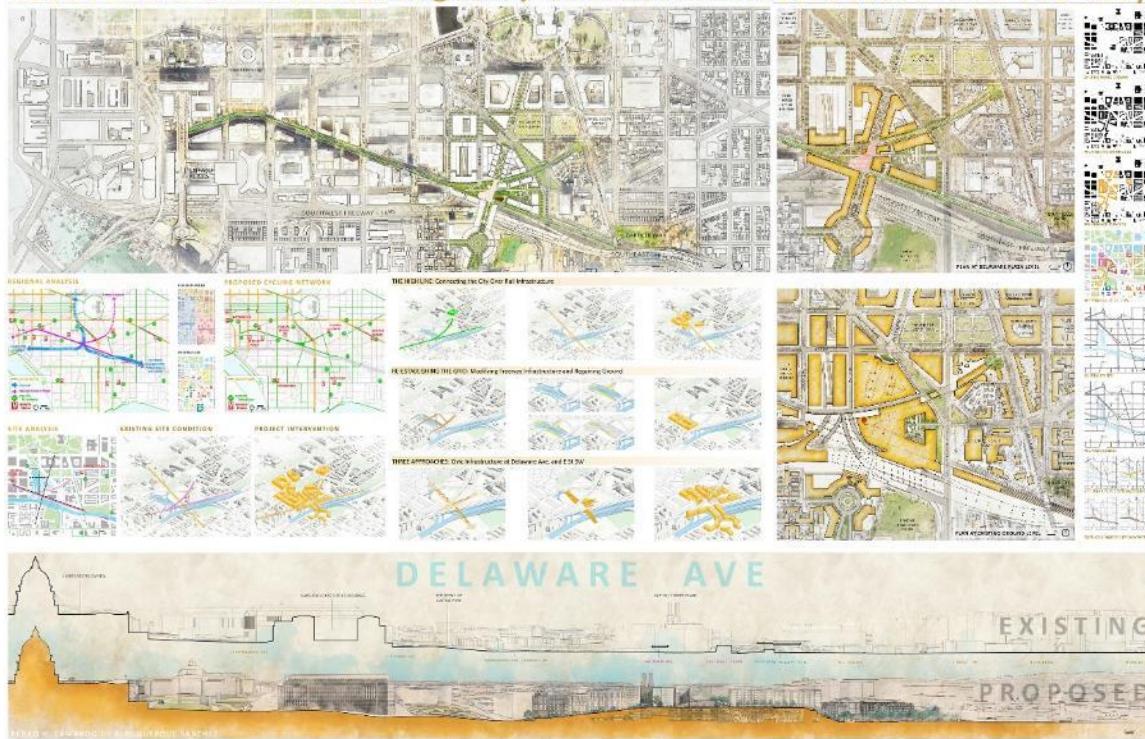


Figure 99: Thesis Presentation Spread 1

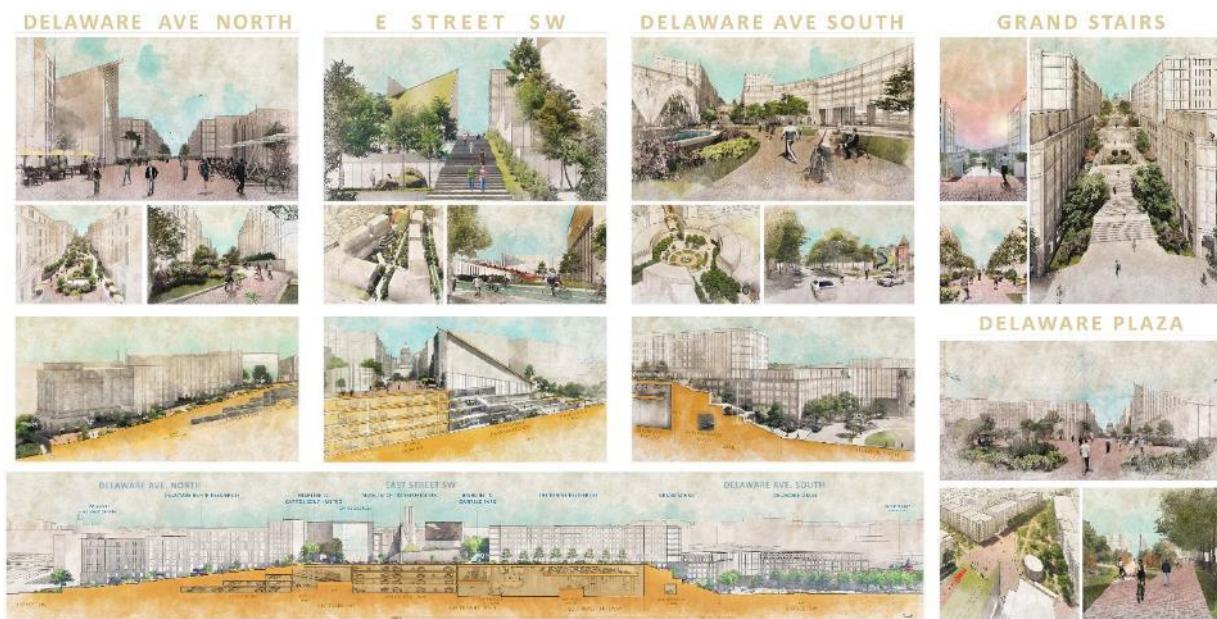


Figure 100: Thesis Presentation Spread 2

## Appendices

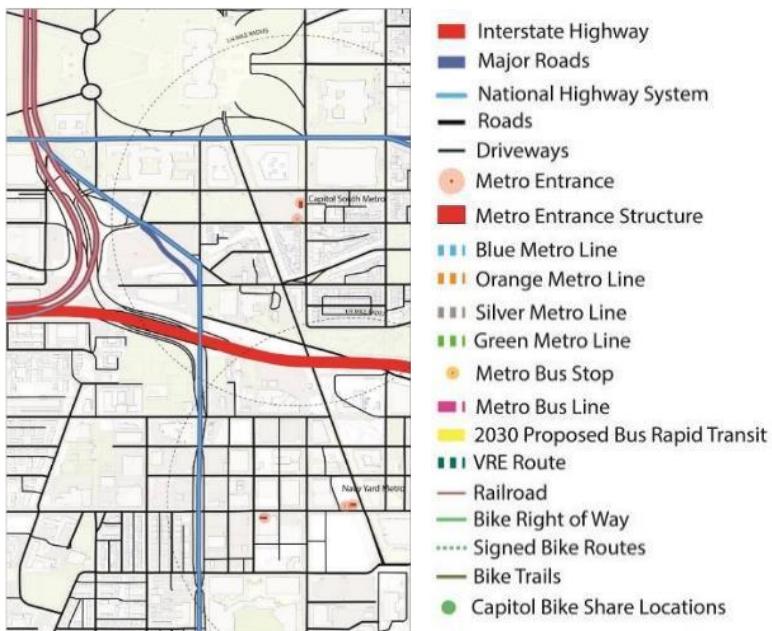


Figure 101: Vehicular Flows (Source: Author, Camargo)

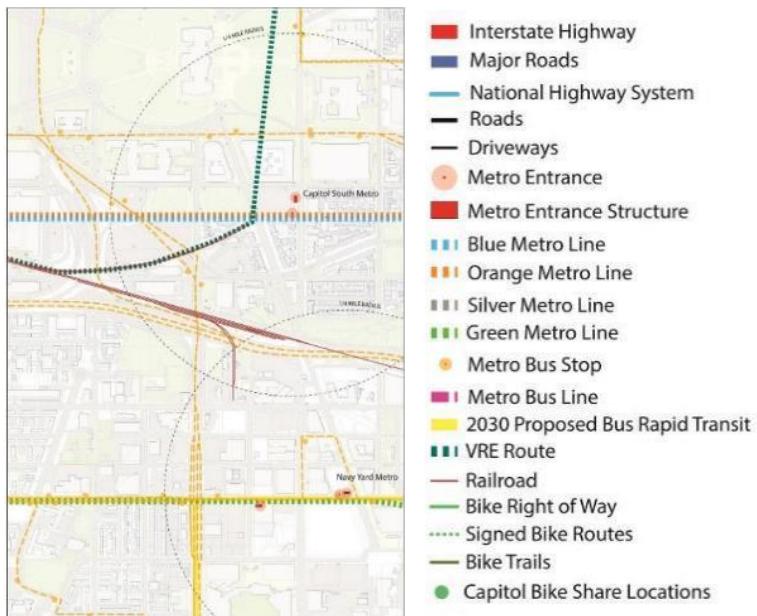


Figure 102: Transit (Source: Author, Camargo)

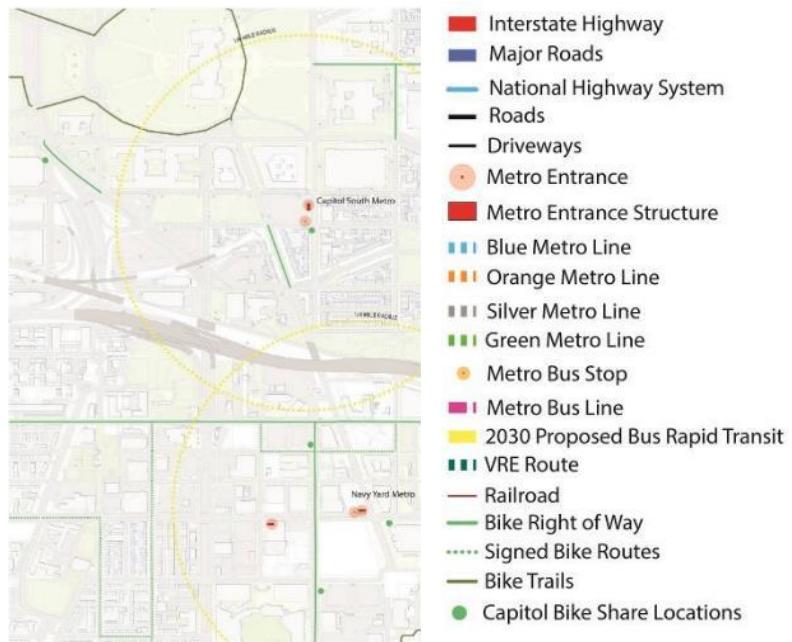


Figure 103: Biking (Source: Author, Camargo)

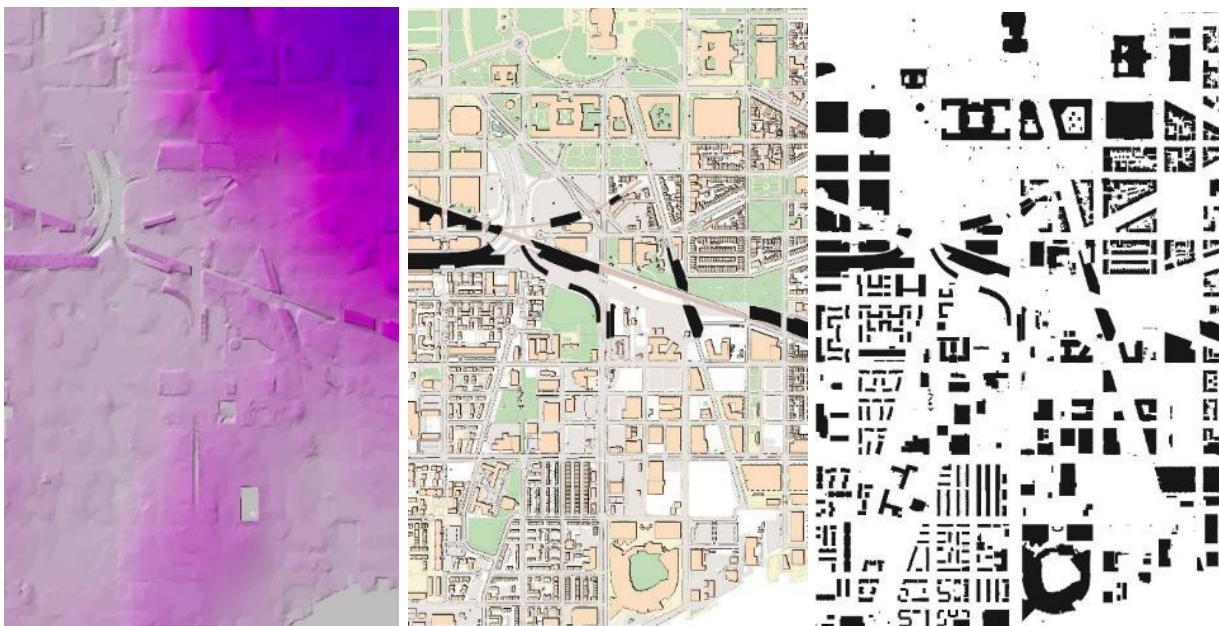


Figure 104: Topography (Source: Author, Camargo)

Figure 105: Infrastructure Mounds (Source: Author, Camargo)

Figure 106: Infrastructure Figure Ground (Source: Author, Camargo)

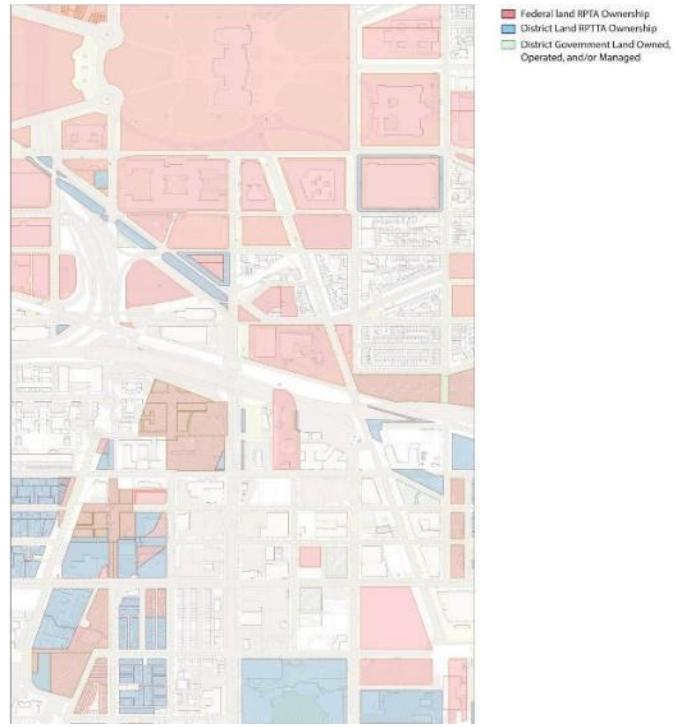


Figure 107: Land Ownership (Source: Author, Camargo)

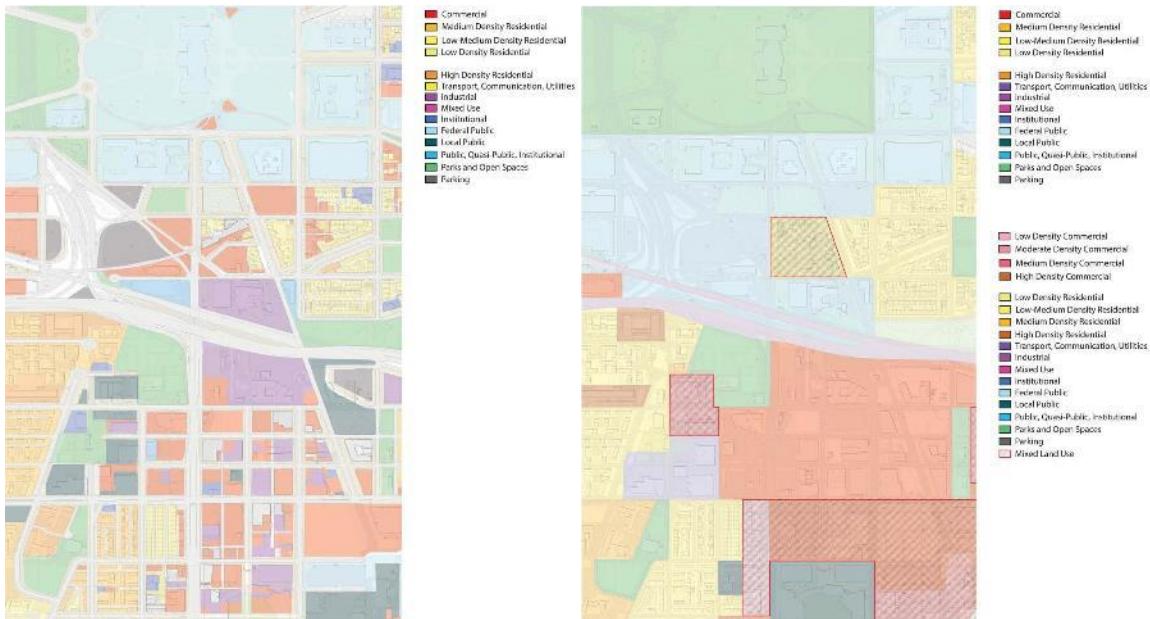


Figure 108: Existing Land Use (Source: Author, Camargo)

Figure 109: Future Land Use (Source: Author, Camargo)

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