Emerging Connections

Developing transit corridors in Minneapolis - St Paul

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Emerging Connections

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A design thesis submitted to the Department
of Architecture and Landscape Architecture of
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by

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in partial fulfillment of the requirement for the
degree of Master of Architecture

and by

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Abstract

There is a new era coming to University Avenue on the rails of the new Green Line light rail extension. In position to create an important connection between Minneapolis and St. Paul, and to enhance the already existing urban fabric of the neighboring regions, this avenue seeks to capitalize on the projected transformations that the Green Line transit way may create. Stemming from this envisioned growth and development, our thesis, Emerging Connections, focuses on the prosperity of establishing identity through creating place and by analyzing what it means to create a destination rather than a route. As a collaboration between architecture and landscape architecture, we seek to accomplish this research analysis through the incorporation of a cohesively-designed public square and an 80,800 square foot transit station. In the end, our design will capitalize on the forthcoming transit-oriented development, allowing the University Avenue corridor to generate its own unique places rather than serving as a mere linkage between the two downtown centers of Minneapolis and St. Paul.

Key Words: connection, urban fabric, transformations, growth, identity, sense of place, linkage

Problem Statement

What defines architectural identity, and how can environmental design capitalize on it to induce growth through transit-oriented development in a historically, transit-based neighborhood?
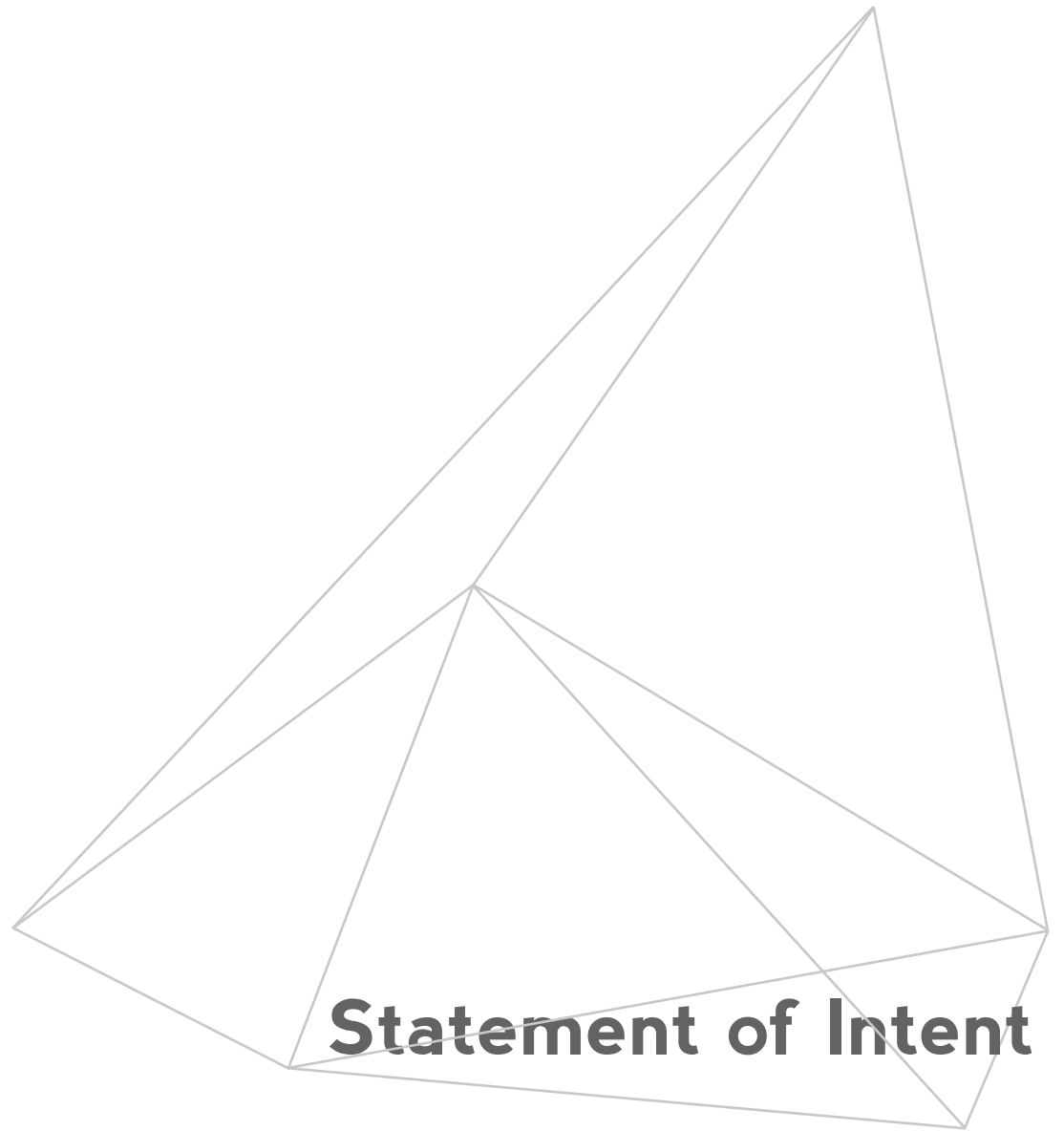
Statement of Intent

Typology

A 80,800 sf Multi-Modal Transit Hub and Public Square at 1301 University Avenue, St. Paul, MN

Claim

By capitalizing on the benefits of public transportation through transit-oriented development, a better neighborhood can be created and a more established urban core can be developed.

> **Actors:** Cities of Minneapolis and St. Paul, as well as the neighborhoods associated around University and Hamline Avenue
> **Action:** Develop a cultural linkage between the cities of Minneapolis and St. Paul and capitalize on transit-oriented development benefits
> **Object:** Those directly influenced by the expansion of the Green Line light rail, including commuters, employees, residents etc.

Supporting Premises

"The era of the dominance of the automobile will finally end. Expect a rapid "de-authorization" of our culture over the next twenty years despite the introduction of better electric vehicles and hybrids. " - "...the original mechanical horse--the bicycle--will emerge as the world's transportation vehicle of choice even here in the United States as it is already in many places (McLennan, 2012)." Transit-oriented design will become a primary focus for urban planners in the near future. With our current supply of materials, resources, and fossil fuels diminishing, a look towards public transit, walkable cities and mixed use neighborhoods is a must.

Transit lines spur economic stimulus. Increased populations support economic development and growth. Where there are abundance of people, there are also needs for jobs and services.

An increase in development density will occur with population increase within inner-city locations. Because there is no room for growth outward, the increase in density will put a strain on community and transportation needs. Transit-oriented development will need to become a necessity.

Unifying Idea

Transit-oriented design plays a crucial role in creating cultural connections within a city. Through the utilization of mixed usage neighborhoods, pedestrian friendly streetscapes and public mass transit, communities can be created without interference from the personal automobile. Instead, urban centers can be created and identities formed to develop the crucial cultural connections that our cities lack.

Project Justification

In recent years, transit-oriented design has become a primary focus for urban designers and city planners. Because our current cities are developed around the personal automobile, communities have lost character and neighborhoods have become disconnected with one another. In addition to this, we lack the sustainable infrastructure and methods of travel that our current futures are in need of. Therefore, a special attention is needed to be placed toward the betterment of our cities, our communities and the systems within them. A high level of priority must go toward the establishment of culturally-rich communities focused on sustainable methods of travel, enhanced community access and increased cultural character.
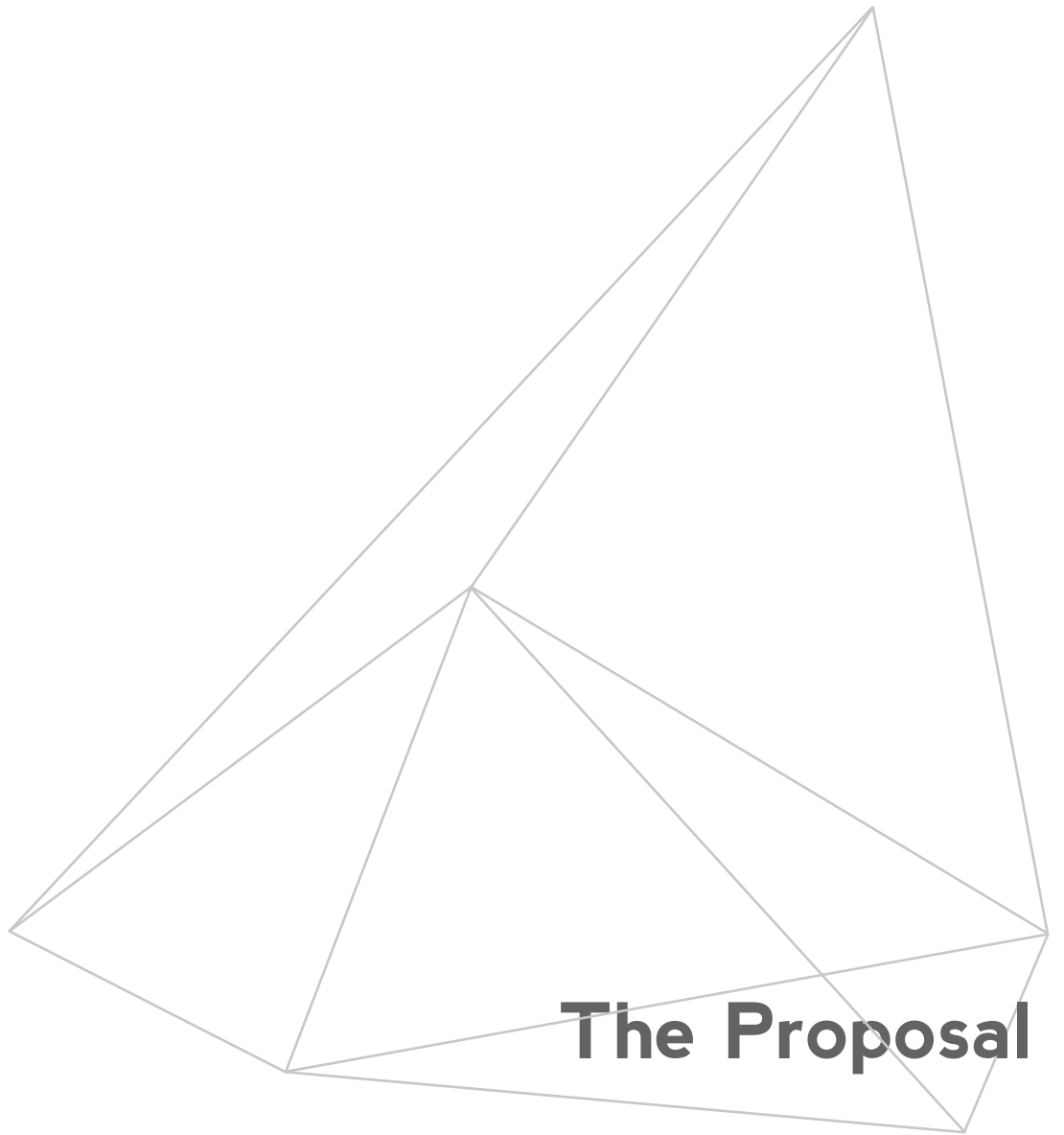
The Proposal

Narrative

St. Paul's University Avenue corridor defines the boundary between the Hamline-Midway and Merriam Park neighborhoods. Although it serves as the main traffic artery for the neighborhoods, the University Avenue corridor is currently suffering from scars of urban blight. Buildings have been removed from the street-side to make room for at-grade parking, strip malls and fast-food restaurants have replaced locally owned and operated shops and stores, and vehicular traffic pervades throughout. Even the closely-knit and traditionally planned residential areas that currently exist mere blocks away are blocked by views of diminishing retail zones that divide the region. The corridor itself has been transformed by the influence of the personal vehicle. It lacks the essential characteristics that bring importance to community, to cultural identity and to spirit of place.

A new era is coming to Hamline-Midway and Merriam Park on the rails of the new Green Line light rail extension. With rail transit connecting both Minneapolis and St. Paul, bringing more commuters than ever through the University Avenue corridor, there is vast potential for economic development along the transit way. With the influx of commuters will come an opportunity for these neighborhoods to become a destination – a place to go to, instead of a place to go through. There will be an opportunity to orient this growth towards developing the neighborhoods themselves using smarter growth principles. It is through the regions struggling call for help, and its now showcased potential, that we feel a design intervention could capitalize within this particular region. A well-developed proposal could initiate the rebuild of the community, creating a connection to the past, building the corridor's character once again.

Linking Hamline-Midway and Merriam Park to the light rail will prove to be a boon to both the neighborhoods and to the metropolitan region. Using the potential growth of the light rail extension to bring a spark of renewal to these long-standing, traditional neighborhoods will harbor the creation of a new urban gem in the Minneapolis-St. Paul region. It will also reignite the historical framework of mass transit that the metro region once had with their streetcar system. (Diers & Isaacs, 2007). This same renewal will bolster the neighborhood economy, bringing direct benefits to the residents of Hamline-Midway and Merriam Park. If quality design interventions take place here, the University Avenue corridor can begin to reflect the character of the neighborhoods to which it belongs.

The opportunities on this site allow us to apply our chosen typology – public square

'But Douglas, standing on the lawn, was seeing how it would be tomorrow, when the men would pour hot tar over the silver tracks so you would never know a trolley had ever run this way. He knew it would take as many years as he could think of now to forget the tracks, no matter how deeply buried.'

Ray Bradbury, Dandelion Wine

and transit station – to the exact type of neighborhood we wish to work in. Through *transit-oriented development*, we will be able to explore ways in which our typology cannot only be integrated with the surrounding neighborhood, but also help it to flourish and develop its own sense of place, creating a community identity as well as bind the two larger Cities of Minneapolis and St. Paul. As a site, we feel this location, landing midway between the two urban centers of Minneapolis and St. Paul, creates a unique circumstance for community growth and design. The site's location on the Green Line and along a very high-traffic corridor that abuts several historic, transit-oriented residential neighborhoods, allows for a chance for us to further enhance the neighborhood's possibilities to provide potential spurs in economic development within the region.

While the opportunities prove worthwhile, challenges of working at the intersection of University Avenue and Hamline Avenue are present. Site-level layout tasks may become a burden with the narrow site footprint currently present, and trying to incorporate a successful public square into a high-traffic corridor in a safe and effective manner will be a great obstacle. Also, addressing neighborhood scale within our design will be another challenge. With the vast measures of retail development as well as the nearby residential, finding a way to address each of these scales will be another significant challenge to be overcome.

Conclusion

Personally, we as design team partners have found interests in urban design and development, and are motivated to work within the Hamline-Midway and Merriam Park neighborhoods. We value the need for pedestrian friendly neighborhoods and transit-oriented growth in metro regions. Through our travels spanning the world, from London to Dubai, we as a pair have witnessed outstanding examples of community design as well as some that could be enhanced by better design realization and implementation. Through the influence of these experiences, we have found interest in working toward a project that develops a strong, tight-knit community, and we feel that transit-oriented development can fill the crucial role as medium for this exploration. It is through our design thesis typology, its related research and studies, and the application for which it can be applied that we feel we can find answers for the future of urban design and community planning. Answers to how we can utilize environmental design to ground connections between two distinct places, create senses of place and address prospects offered by transit-oriented development.

As our urban and suburban areas continue to grow, we must avoid the design principles of the past, and design for the personal vehicle must become no more. Rather, we must strive to live, work and play within transit-oriented developments where good design grounds place as destination - a go to rather a go through.

Above: Figure 1.

User & Client Description

Our design is projected to be a collaboration between public and private owners. For this reason, the client for the project will be multi-faceted.

The City of St. Paul and the Metropolitan Council will be the primary clients and owners of the transit station and public space design project, but a collaboration with private developers, as well as local shop and business owners, will also be necessary.

Public and private collaboration in transit-oriented development design in the Twin Cities is specified in the Metropolitan Council's Transit-Oriented Development Strategic Action Plan (Bell, 2013). While the Metropolitan Council specifies sites for potential transit-oriented developments in the Twin Cities region, and provides planning for those sites, it relies on private developers to see these plans come to fruition. As such, a public and private client in this case is optimal not only for the needs of our project, but per the recommendations of the Metropolitan Council (Bell, 2013).

While the client(s) will have a prominent role in usage of the site, the most significant users, as an over-arching group, will primarily be residents of the Hamline-Midway neighborhood, as well as those utilizing the transit line for the convenience of travel to and from their jobs located within the Hamline-Midway neighborhood. Those visiting the region through the usage of public transit, to access nearby retail commodities such as Midway Center, one of St. Paul's chief shopping outlets, will furthermore fill a crucial role in site usage numbers. (Metropolitan Council, 2012).

While prominent usage times on the site are predicted to vary do to inconsistent scheduling of its users. It could be predicted that the highest occupancy numbers on the site will spike in the early morning and late afternoon to accommodate those utilizing the rail line as their primary transportation for work commutes.

Major Project Elements

1. On Site Parking
2. Small Restaurant/Coffee Shop/Retail
3. Atrium
4. Exterior Urban Public Square
5. Interior and Exterior Courtyard
6. Interior and Exterior Waiting
7. Enhanced Pedestrian Walk Paths
8. Bus Stall (In-Route)
9. Bicycle Rental Station
10. Men's & Women's Locker rooms
11. Lounge
12. Administrative Offices
13. Light Rail Platform
14. Ticket & Information
15. Art Exhibition
16. Fitness Center
17. Help Center

Site Information: Macro
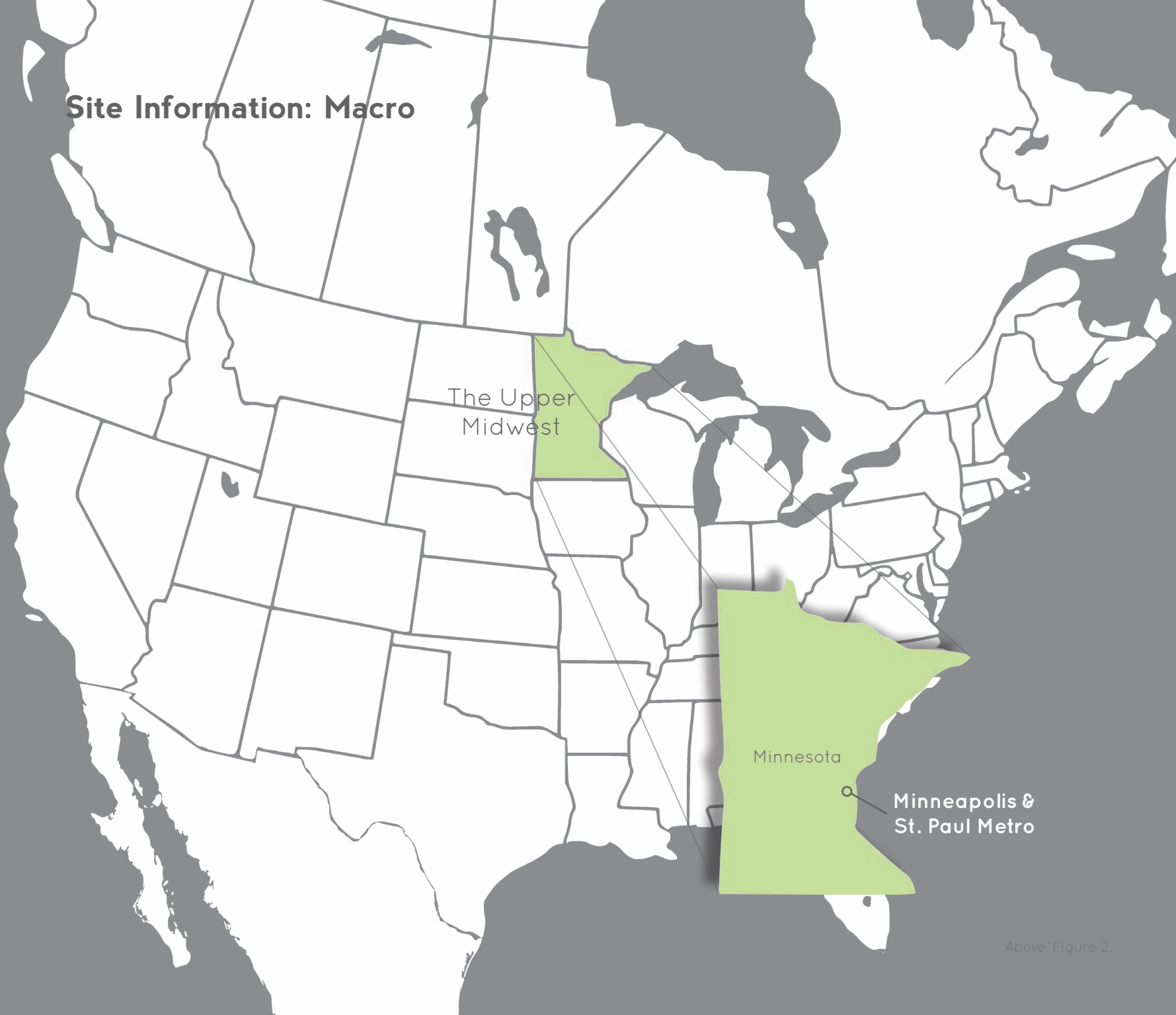
The Upper Midwest

Minnesota

Minneapolis & St. Paul Metro

Site Information: Micro

The chosen site for our project is a former used car lot and auto repair shop. The lot is located on the southern edge of St. Paul's Hamline-Midway neighborhood along University Avenue and between Hamline Avenue and Syndicate Street.

Here, the new Green Line light rail corridor is in the final stages of its construction and will soon be providing rail transit service to Hamline-Midway, connecting it with both downtown Minneapolis and downtown St. Paul. This was the primary factor that we took into account when we began searching for our site.

The site itself provides its own opportunities and challenges. As the site is currently vacant, we will be able to treat it as a mostly clean slate when beginning our design work. Also, its direct connection to the Green Line is ideal for creating a transit station. On the other hand, we will face challenges in dealing with the immense amount of traffic that utilizes University Avenue. We will also be challenged to cope with three very different scales of development near our site - residential, local retail, and regional retail.

Downtown Minneapolis

Downtown St. Paul

Note: The light green color represents our primary site boundary while the darker shade represents regions of secondary design influence and altercations.

Dashed line represents current Green Line location in relation to proposed site.

W Charles Ave

Sherburne Ave

N Syndicate St.

Proposed Site

Hamline Ave N

University Ave W
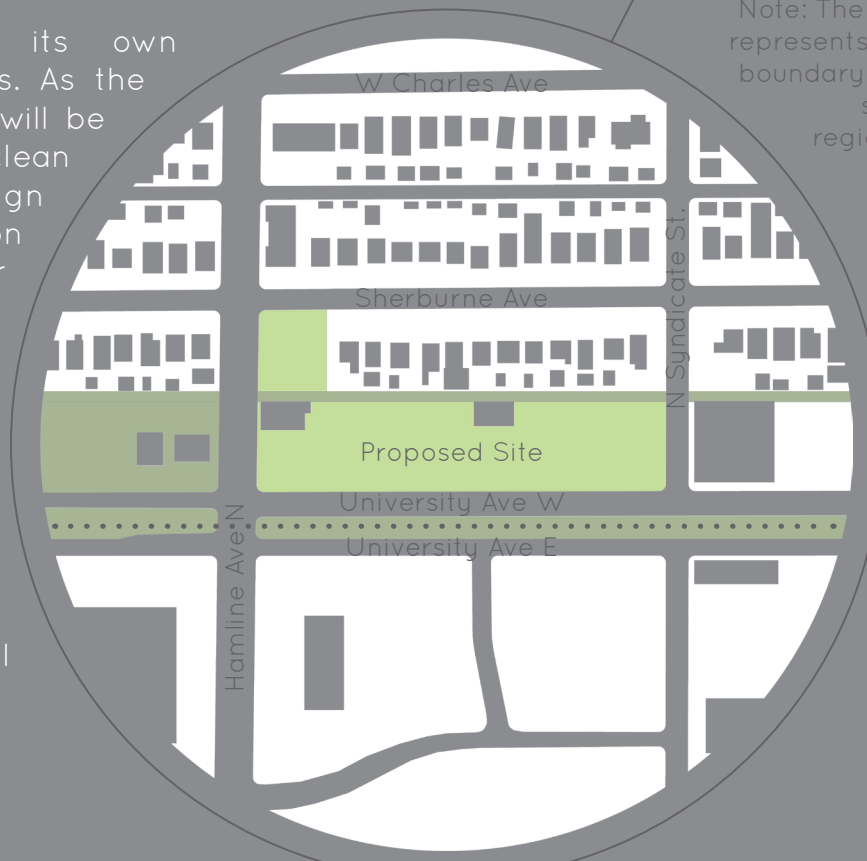
University Ave E

Above: Figure 3.
Left: Figure 4.

Choosing the Site

Before the site on University Avenue came into fruition, we, as a paired partnership of architect and landscape architect, decided our site needed to fulfill three over-arching selection principles. First, we initiated a search for a metropolitan region that was currently focusing on expanding its rail transit infrastructure. Minneapolis-St. Paul appealed to us because of the recent installment of its light rail and commuter rail lines, and because of the fairly large amount of planned extension to both of those systems. Also, the region has become an interest to us as designers because of our frequent travels there in the past, and we felt that expanding on a system that was currently in place would be the best option for the current bustling metro. From there, we began to narrow down our search again by investigating the planned light rail extensions in the Minneapolis-St. Paul region. The soon-to-be-opened Green Line unlocked a number of potential sites that met our criteria.

For our second principle, we wanted our site to relate to past historical models that have proven to work sustainably and efficiently. The Green Line is currently a new transit corridor spanning University Avenue; however, it follows the historic paths of past transit. According to the Ramsey County Historical Society, University Avenue was one of the forerunners in streetcar growth and development within the metro region. This growth rose exponentially, creating lines down Snelling, Lexington, Thomas, Hamline, and Minnehaha Avenues as well (Ramsey County Historical Society, 2012). This factor, we thought, was important to include in our site selection efforts, as we knew it would allow us the chance to foster new connections with past history. Ultimately, the University Avenue corridor met the expectations of our second principle as well, and we narrowed the Green Line transit way as the best option for our design thesis.

Once the corridor was selected, we concluded our search for a site that met our third and final criteria: a vacant space in an area that was both suffering from urban blight, and one lacked quality urban public space in the vicinity. We scoured the University Avenue corridor for such a site, and it was presented to us in the form of the intersection of University Avenue and Hamline Avenue. To the north, historical, residential neighborhoods abut the chosen site and the Green Line transit rail. While to the east, west and south, a unique juxtaposition occurs amid old, abandoned storefronts, local small-scale retail and newer, large-scale regional retail buildings.

The image above captures the many levels of transit beginning to surface within the region. From the Green Line transit rail and the Metro bus system, to the pedestrian and bicycle travel, urban development must be appreciated to capitalize on the breadth of travel diversity.

Project Emphasis

The research conducted by this design thesis will examine the ways through which the inclusion of an urban public square and transit station can influence and encourage transit-oriented design. Our work will be delegated into two parts. Through Colby's primary research efforts, we intend to discover how identity informs urban spaces and the advantages that they may create. Through Nathan's, we aim to understand which methods of design spur economic development, and how it can be applied to transit-oriented design. Together, we look to understand the underlying characteristics that develop sense of place, and how these principles may be applied elsewhere given similar design typologies.

Secondly, we look to understand what scales of transit-oriented development are aided through design intervention, and how we should utilize these designs to achieve the type that we deem best fit for the Hamline-Midway Neighborhood. We also will investigate ways to fit new transit-based design principles into a community that was historically planned around similar modes of transit in attempts to design a space that capitalizes on the benefits of transit-oriented development.

This research will be used to help Hamline-Midway and other neighborhoods alike to avoid acting as only a conduit between larger urban centers, such as the downtowns of both Minneapolis and St. Paul. Our findings will be applicable to neighborhoods in cities around the world that lie between the focal points of metropolitan regions.

At a societal level, our research will serve to bolster the feasibility and reputability of rail transit expansion in urban areas. We live in a world with an exploding population and ever-dwindling reserves of natural resources. As such, developing design solutions that promote a shift away from fossil fuel consumption toward a future of resource conservation and renewable energy growth are favorable to those that perpetuate current standards in design and energy consumption.

Finally, our research will examine the collaboration among architects and landscape architects. We hope to develop an integrated approach between the two professions, to create more holistic design solutions, and therefore more complete and better able to serve the needs of their users. Our model will be documented through the process of our design's development and will contribute to the collaboration of professionals in our respective fields.

Research Direction

Research and studies for this thesis will be guided throughout the entirety of the project. Research will primarily be conducted with special focus toward the greater understanding of our theoretical premise/unifying idea. Secondary research will be placed on project typology, further investigations of the site, existing buildings, historical context, and the programmatic requirements of this particular design typology. Emphasis will also be put into understanding the key aspects of collaborative works and the benefits that can result from such efforts.

Design Methodology

Our design methodology will follow a mixed method approach with both quantitative and qualitative research procedures. These methods will be conducted in an attempt to find resolutions for our design problems. Quantitative data types will help us begin to draw parallels with similar data sets from past successful transit-oriented development case studies while qualitative data sets will provide compliant and personal, site specific design applications individualistic to our problem statement. Through a concurrent transformative strategy, these methods will also utilize graphic analyses, physical and digital model analyses and statistical analyses.

Documentation

Documentation of process, research and design work will be compiled digitally for future reference. Initially, the work will be captured through the listed mediums of design. I plan to record and assemble all work weekly through scanned drawings, text documents, bookmarked webpages and saved images. Beyond the recorded work, I will retain a sketchbook that is solely devoted to all thoughts, research and information pertaining to the design project completed this thesis year.
1.	Sketchbook Journal
2.	Text Documents
3.	Sketches & Illustrations
4.	Photography
5.	Physical & Digital Models
6.	Video & Oral Recordings

Date	Task
1.14 - 2.3	Context Analysis
1.17 - 2.27	Conceptual Analysis
1.24 - 1.30	ECS Passive Analysis
1.24 - 2.13	Spatial Analysis
1.29 - 2.13	Floor Plan Development
2.4 - 2.17	Structural Development
2.10 - 3.4	Section Development
2.19 - 3.4	ECS Active Development
2.19 - 3.6	Envelope Development
2.19 - 3.10	Materials Development
2.25 - 3.10	Structural Redevelopment
2.28 - 3.10	Context Redevelopment
3.10 - 3.14	Midterm Reviews
3.10 - 4.11	Project Revisions
3.17 - 3.21	Spring Break
3.21 - 4.30	Preparation for Presentations
3.31 - 4.11	Energy Modeling
3.31 - 4.23	Renderings
3.31 - 4.23	Physical Model Building
4.18 - 4.23	Presentation Layout
4.24	Digital Presentation Due
4.24 - 4.27	Plotting
4.28	Exhibits Installed on 5th Floor
4.28 - 4.30	Thesis Exhibit
5.1 - 5.8	Final Thesis Reviews
5.12	CD Due to Thesis Advisor
5.16	Final Thesis Project Due
5.17	Commencement
1.14 - 5.8	Design Project Documentation
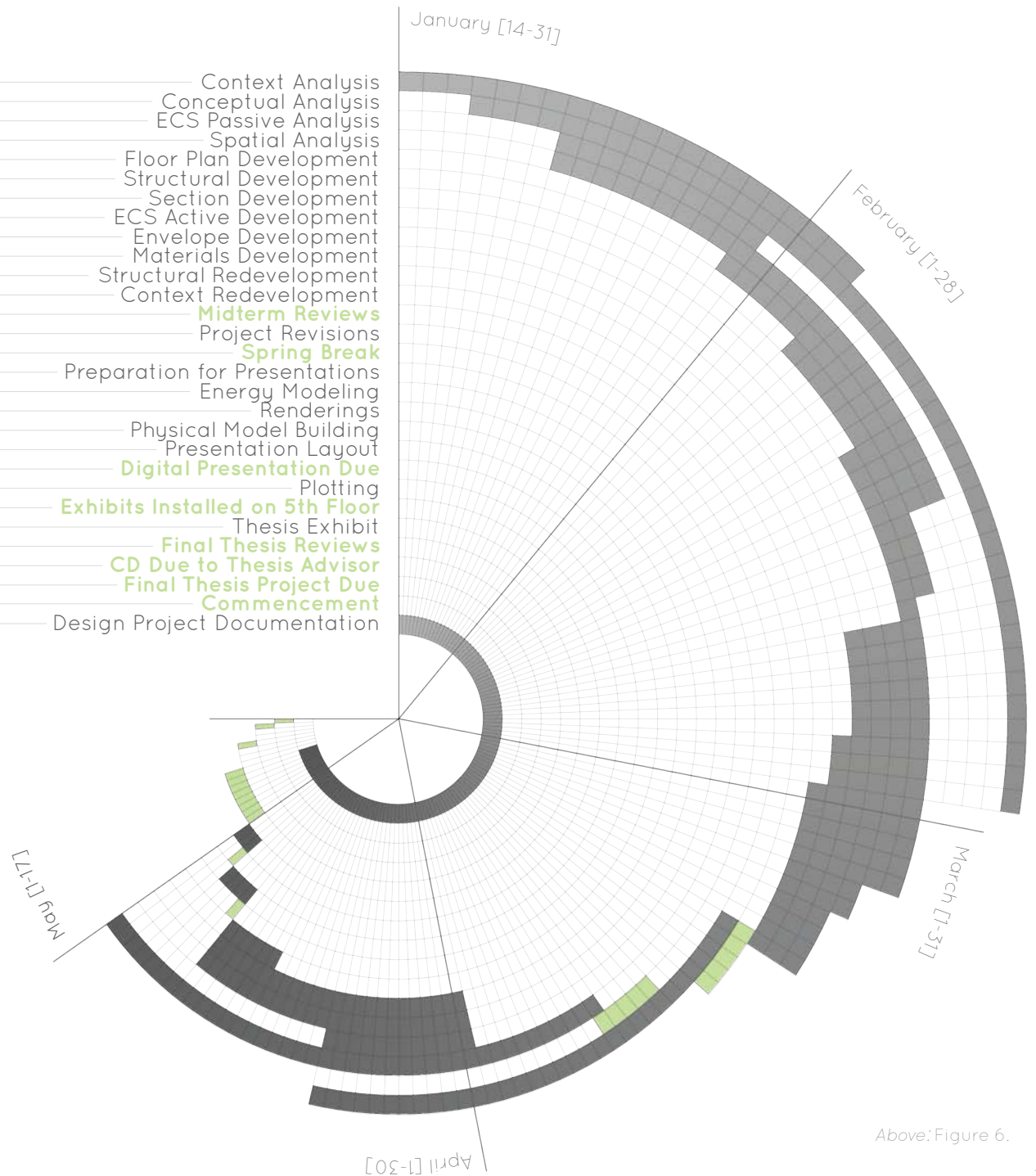
Schedule

Above: Figure 6.

Previous Studio Experience: Colby Judovsky

2nd Year   Fall 2010, Darryl Booker
-A Place for Tea: Tea House
      Fargo, North Dakota
-Minneapolis Rowing Club: Boathouse
      Minneapolis, Minnesota

Spring 2011, Joan Vorderbruggen
-Montessori School
      Fargo, North Dakota
-Pritzker Architect Birdhouse
-Unconventional Dwelling
      Cripple Creek, Colorado

3rd Year   Fall 2011, Regin Schwaen
-Zombie Safehouse
      Monument Valley, Utah
-Snow Symposium Sculpture
Winnipeg, Canada
-Artist in Residence: Artist Cabins & Studios
      McCanna, North Dakota

Spring 2012, Milton Yergens
-Agriculture Research Facility: Sunflower
      Goodland, Kansas
-Urban Infill: The Ivy Lounge
      Fargo, North Dakota

Summer 2012, Jason Kost
-Unicorn Park: Urban Prairie
      Fargo, North Dakota

4th Year   Fall 2012, Cindy Urness, Don Faulkner & Bakr Aly Ahmed
           -High Rise Competition
                  San Francisco, California
           -DLR Design Competition

           Spring 2013, Don Faulkner & Frank Kratky
           -Hope's Journey School Campus
                  Jema, Ghana, Africa
           -Marvin Windows Competition
                  Jema, Ghana, Africa

5th Year   Fall 2013, Mark Barnhouse
           -Water Resource Experiment Station
                  Ulen, Minnesota

Previous Studio Experience: Nathan Stottler

2nd Year

Fall 2010, Kathleen Pepple
-Tea House
  Fargo, North Dakota
-Sons of Norway Parking Lot
  Fargo, North Dakota

Spring 2011, Jay Kost
-Orlady Park
  Jamestown, North Dakota
-Lions Conservancy Park
  Fargo, North Dakota
-Woodlawn Park
  Moorhead, Minnesota

3rd Year

Fall 2011, Stevie Famulari
-Fargo Public Library
  Fargo, North Dakota
-Snow Symposium Sculpture
  Winnipeg, Canada
-East River Esplanade
  New York, New York

Spring 2012, Jay Kost
-Sundance Village
  Fargo, North Dakota
-Roosevelt Neighborhood
  Fargo, North Dakota

4th Year   Fall 2012, Jay Kost
            -Sense of Place Sculpture
                    Canary Wharf, London, United Kingdom
            -Figure Ground Study
                    Trafalgar Square, London, United Kingdom
            -Transect Study
                    Fargo, North Dakota
            -Union Square Market
                    Denver, Colorado

            Spring 2013, Dominic Fischer
            -Owaka Park
                    St. Paul, Minnesota

5th Year   Fall 2013, Dominic Fischer
            -Douglas Creek Progressive Watershed Management Area
                    Garrison, North Dakota
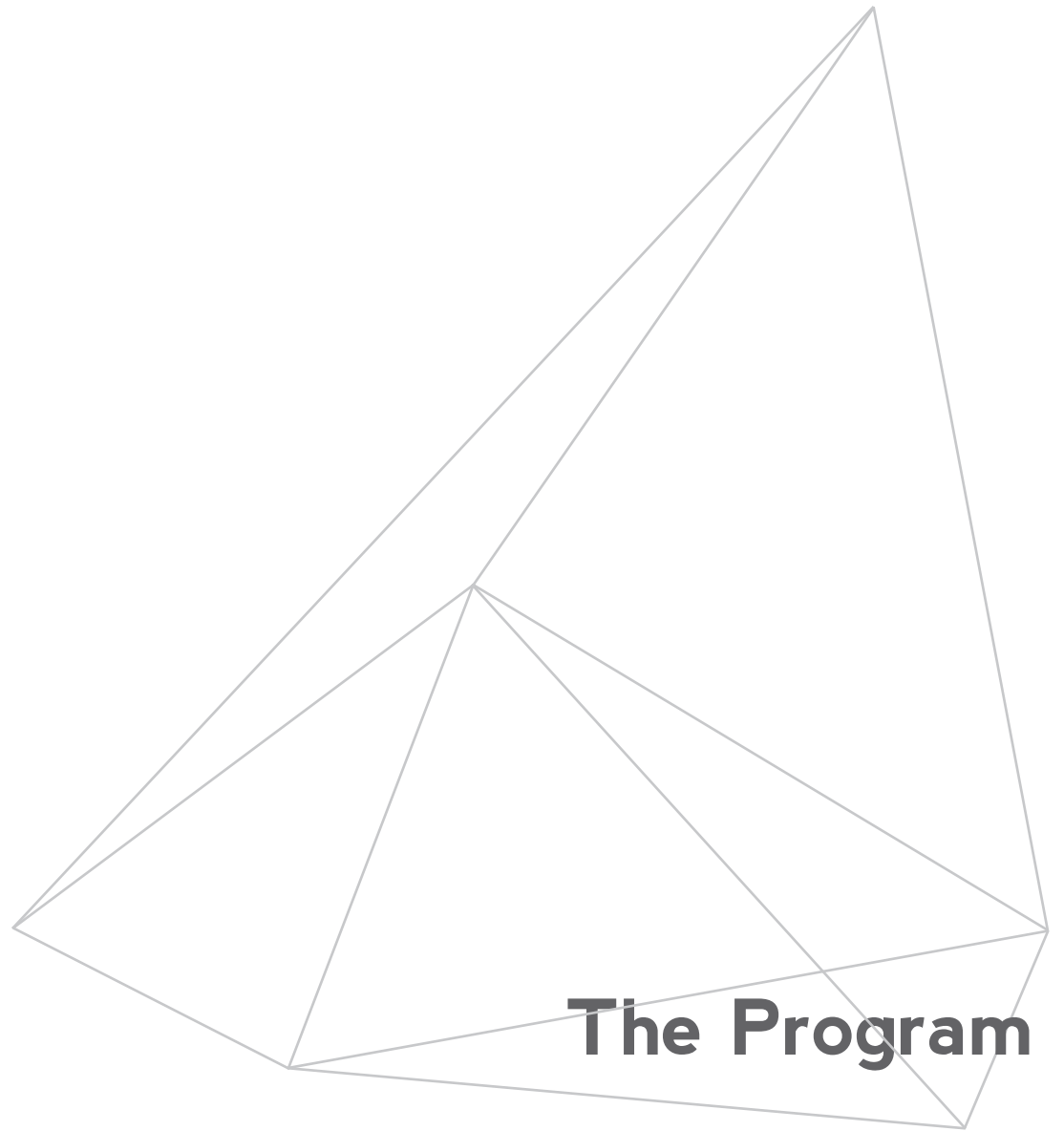
The Program

Unifying Idea Research

The Problem

As Americans, we have become accustomed to the freedoms that we share as citizens. We hold with arrogance the liberty to decide where we live, where we work and where we play. We purchase because we can, and leave no thoughts as to the harm that these decisions may cause. Our culture continues to develop itself on the notions of more is better, and our cities have corresponded to reflect this philosophy as well. Although this lifestyle has put our planet in jeopardy, we still fail to recognize the fact that we need to make a change—that we must break the habits of our modern selves and solve the problems that have plagued our populations.

In 2007, the populations of our cities surpassed, for the first time, the populations of our rural areas (Hanlon, 2007). For comparison, the rural population of our country in 1910 was nearly 72% of the total (Nusca, 2011). This statistic informs us of the increasing demand of urban areas. Although the moment back in 2007 can be seen as a national milestone, it does place a strain on designers and planners of urban, public areas. [Figure 7]

In the American city today, the absence of place is ever apparent. From big-box retail to the expanses of pavement, our communities lack the identity that neighborhoods once had.

The weakening of place has been accredited to the globalization of our economies, standardization of our products and by the creation of generic environments with little to no connections to their landscape, history or their culture (Shamsuddin and Ujang, 2008). In general, this 'copy and paste' concept of planning and development has led to the reduction of identity within place. "Place identity is linked to meanings and perception held by the people in relation to their environment. The loss of identity weakens the depth of meaning, attachment and diversity of place experience" (Ujang, 2010).

For the average person, it becomes obvious that new construction alters the feelings and associations that we have with place because it changes the attachment and meanings that we derive from it. Bad development and attachment is apparent in the large shopping districts that scatter our nation. In contrast to our traditional main streets, with local shops and hometown vendors, these retail zones lack local distinction. Rather, their image is replaced with a façade of globalization and an atmosphere of efficiency and consumerism. A change must occur in development like the one described because supporting the essence and character of urban neighborhoods is essential to community identity, neighborhood association and sense of place (Ujang, 2010).

Place

The notion of place is something that we have all experienced in some way or another. Whether this experience was good or bad, safe or unsafe, dreamt or reality, we can agree and recognize the fact that place and its experiences have lasting impressions on us. Lately, place has become a term of frequent use. It is attached to architecture and design, and the word itself is often misused in association with the same community developments we try to negate. "Place as opposed to space, expresses a strong affective bond between a person and a particular setting" (Najafi and Shariff, 2011). In other words, place is not simply the physical setting, but also the interaction of what is there and what has happened there. "Place is a space endowed with meaning (Lewicka, 2008).

Places are developed through three related aspects that give meaning to place: the physical location or space, an individual's connection to that location or space and the social context surrounding both the individual and the location or space (Shamsuddin and Ujang, 2008). Meaning of place is most often assigned to the perceptional and emotional bond attached to a location, and it may constitute a wide variety of significance for people, for example, meanings of harmony, peace, home, danger or sanctity (Casakin
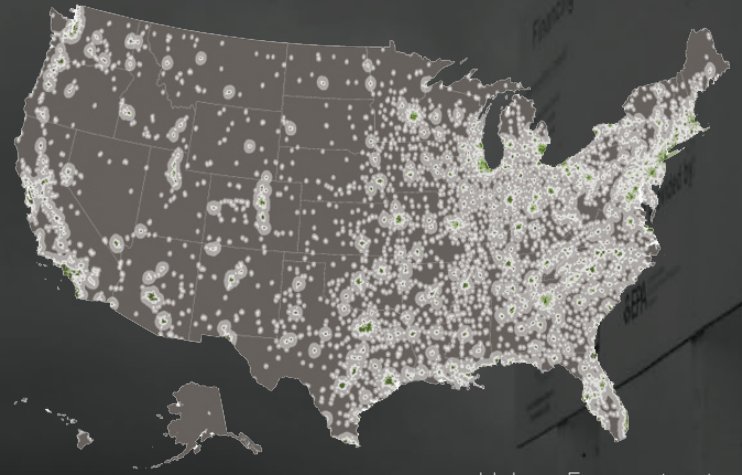
Urban Expansion in the United States.
Above: Figure 7.
Behind: Figure 8.

and Kreitler, 2008).

While some researchers disagree about the methods of measurement for meaning of place, majorities believe that place influenced bonds are essential to an emotional equilibrium (Rowles, 1990). They also agree that by finding meaning in place, people can become more stable in our fluctuating world, they can establish identity by grounding themselves in their context and can be more apt to be involved. Also, no matter how mobile a being may be, some form of attachment is always present (Lewicka, 2008). In order to categorize the meanings associated with place, two widely known concepts have been established: place attachment and place identity.

Place Attachment

Place attachment is characterized as the formation of ties or relations between individuals and locations (Lewicka, 2008). In both large (nation, city, etc.) and small scale (neighborhood, workplace, bedroom, etc.) instances, Individuals are able to recognize themselves within places once their attachment to a particular place flourishes (Hauge, 2007). Attachment typically occurs in many forms. Some individuals may be strongly influenced by the practical, emotional and societal connections of place while others may link themselves to the physical, social and identifiable conditions (Shamsuddin and Ujang, 2008). Manzo and Perkins wrote that other findings indicate attachment can occur due to length of residency or even renewal efforts within communities. Accordingly, place attachment, when affecting both individuals and groups of people, has the opportunity to influence communities. (Manzo and Perkins, 2006).

"Apart from the demographic (residence length) and social (social ties in residence place) factors, place exerts its influence on place attachment through physical features and symbolic meanings" (Lewicka, 2008). However, for some people, it is not the built and designed environment that creates attachment; rather, it is the thoughts and instances of human interactions from past and present (Fleming, 2007). Fleming (2007) states, that although "good physical design should aid that interaction, it is the recollection of patterns of life lived in a particular building or space that creates the 'cornerstones' of mental association and gives such places the patina of affection." Historical sites, especially those with continuous usage, create a well-established linkage to the past (Lewicka, 2008).

While attachment can be seen as a good

thing for design, it can be seen as a setback too. No matter the place—big or small, sterile or dirty, safe or unsafe—opposition can occur when change takes place. According to Manzo and Perkins (2006), "proposed development projects can be perceived by some community members as a threat to place attachments because they will change the physical fabric of the neighborhood. Those who feel their relationships to their community places are threatened by redevelopment may consequently resist a proposal regardless of its potential value." It is important to acknowledge the reasoning on both sides of the argument; place can occur anywhere and at anytime, no matter the condition.

Designing for Place Attachment
Place attachment cannot be designed. Instead, it can be envisioned through the efforts of design. "Activity is the most influential components associated with place attachment and the sense of place" (Shamsuddin and Ujang, 2008). Since architecture has the opportunity to elicit activity, considerations must be made in order to promote it. Research has proven that interaction enhances our feelings related to area, and this relation improves its sense of place. "The success of the streets is influenced by the ability of places to effectively accommodate human activity (Shamsuddin and Ujang, 2008).

Design for place attachment, for the purpose of this research, will be addressed through a list of significant attributes that will need to be considered through design. Proposed and studied by two design professors, these points follow their work through the study of place making in the streets of Malaysia. They'll be listed without an importance to the order in which they are presented, and will be introduced as only considerations and not as requirements. Enforced by other research, these design attributes can be suggested for both personal and group interaction, and although presented as broad categories, they do elicit design considerations.

Accessibility and Legibility
The attributes of accessibility and legibility both play a significant role in increasing the capacity for places to function as areas of attraction (Shamsuddin and Ujang, 2008). Accessibility, referring to something other than universal design, refers to the access that a site has in relation to other places. A well accessible site benefits from transportation nodes, pedestrian linkages and good proximity to other amenities. Legibility on the other hand, refers to the identifiable features of a site that distinguish it apart from the rest (Shamsuddin and Ujang, 2008). "Architectural legibility deals with the understanding of built

space" (Wurzer, Hinneberg, Illera, Swoboda & Jonas, 2013). It is the ability for site inhabitants to understand where they are at.

Vitality and Diversity

"The density, diversity and choice of products, people and uses have been the main reasons for attraction and engagement" (Shamsuddin and Ujang, 2008). Pedestrian activity and closeness to public transit also have a sizeable influence on the promotion of activity. Vitality, as defined by the Merriam-Webster dictionary, refers to the power or ability to continue to live or be successful, and through its inclusion and consideration, space can be adapted to time. "Vitality refers to the positive feeling marked by the subjective experience of having energy" (Kark and Carmeli, 2008). It can continue site engagement in a strong and lively manner. The other characteristic, diversity, refers to a variety of things. The diversity of products and services create site appeal and reliance, while the diversity of space and activity create wellbeing and comfort.

Transaction, Distinction and Comfort

Activity can be influenced through the processes of transaction. Direct interaction occurs through means of communication between buyers and sellers while indirect interaction occurs from people watching and browsing of goods and services (Shamsuddin and Ujang, 2008). Places that serve as staples for shopping and leisurely activity have convincing connections between the functional and emotional attachment associated with place (Shamsuddin and Ujang, 2008). As an added benefit, distinction, similar to diversity, creates uniqueness in place but it also warrants identity, which will be talked about later. Comfort was the final attribute that was acknowledged by the two professors. It was most notably analyzed in terms of scale through their discussions of corridors, sidewalks and building height. They found that through the usage of broad corridors, wide sidewalks and vernacular building heights, a sense of comfort and security is achieved.

Place Identity (Sense of Place)

As a cohort to the principle of place attachment, place identity, or sense of place, is another term used to categorize the meanings associated with place. In the research presented, it is also the term that I have chosen to place a special focus on. Identity defines locality, and locality is something that is missing in our recent architecture.

Place identity can be recognized in one of two ways. In the first definition, as defined in the research article titled "Place

Attachment, Place Identity and Place Memory: Restoring the Forgotten City Past, " written by Maria Lewicka, place identity refers to the unique, physical characteristics of place that give it distinction over another space. While the second definition is related, it is stated opposite. The second description of place identity, as categorized by the same reading, defines "place identity as those dimensions of self that define the individual's personal identity in relation to the physical environment" (Lewicka).

For the purposes of this research, place identity is recognized through both definitions. I feel that in order to understand place, both the physical and the spiritual desires need to be addressed. Also, through using both of the explanations, I am able to a.) better understand our wants and desires from place through further research of the psych and b.) understand how to create place through the formation of a physical identity. Nonetheless, in order to design for identity, we must first understand locality.

Locality, Identity and Sense of Place

Juhani Pallasmaa, both an architect and a philosopher, has been credited with saying "cultural identity, a sense of rootedness and belong is an irreplaceable ground of our very humanity." Nowadays, this quote is becoming more and more important to us as designers. We live in an age where constant communication has blended our ideas into one. The globalization of our products has removed the key characteristics that make them different from others. This makes our craving for locality and identity ever more appealing. In our built environment, we not only want a place to know where we are, but a place where we can physically and spiritually belong (Castle, 2012). The focus now is on architecture. How can design answer the lack of identity in the built environment, and how can place address the desires of humans to belong?

Today, space is designed at a rapid pace. The globalization of our societies has left our lives in a constant state of flux, and "we have every reason to believe that the human alienation so common today, to a high extent is due to the scarce-possibilities of orientation and identification offered by the modern environment." "The development of individual and social identify is a slow process, which cannot take place in a continuously changing environment (Norberg-Schulz, 1980).

Our built surroundings have led to fragmented shifts in trends and ideals. Things are still created, but they are done so without a cultural background to support them

(Architectural Design, 2012). Architecture, like that witnessed in big box retail or cheap public housing especially, lacks the meanings that are needed to define it. In the past, architecture was designed in a way that it brought forth cultural values and knowledge (Architectural Design, 2012). Those who built it did so in a way according to the values that they hold for themselves. The architecture created was conceived as a symbol of their heritage. However, in today's age, the globalized professionals of the world are designing oppositely - they build according to the values that they themselves hold for others (Architectural Design, 2012). "As migration and interaction with other cultures creates new values and aspirations, planning and design professionals with a carefully attuned sensibility to place and context have new and sometimes surprising opportunities to develop notions of locality and identity" (Architectural Design, 2012).

Christian Norberg-Schulz, a well-known architect and theorist, recognizes the need for a new local. In his book, Genius Loci: Towards a Phenomenology of Architecture, he describes the importance that locality and place have for us as individuals. Place, In Norberg-Schulz' eyes, is described in terms of 'landscape' – the natural – and 'settlement' – the built. It is analyzed by the means and

categories of 'space' and 'character,' where space represents the physical makeup and character represents the atmosphere (Norberg-Schulz, 1980). Together, the two principles of analysis form Genius loci, or spirit of place.

An Ancient roman term, Genius loci means every place has essence or character (Norberg-Schulz, 1980). It must be "understood that it is an existential necessity to come to terms with the 'genius' of the locality where life takes place" (Norberg-Schulz, 1980), and in order to understand it, we must be able to identify with it. "To identify with a place primarily means to be open to its character or 'genius loci' and to have a place in common means to share the experience of the local character. To respect the place, finally, means to adapt new buildings to this character" (Norberg-Schulz, 1980). Design must follow place and locality.

Designing for Identity and Sense of Place
Architecture can be understood as the medium for which we perceive sense of place. "Architecture means to visualize the 'genius loci', and the task of the architect is to create meaningful places, whereby he helps man to dwell" (Norberg-Schulz, 1980). Today, although it is disrupted, sense of place is still attainable. By designing for identity, with respect to locality, place can be achieved

once again.

Because identity is such a broad term, many things have to be considered when planning for it. According to Norberg-Schulz, who looks at place in two ways, through landscape and settlement, designing for place and identity can be a tough task. "Such a character is never simple, and in our time it is certainly full of complexities and contradictions, but this does not mean that it is without structure or meaning" (Norberg-Schulz, 1980).

Architecture as we know it is a physical thing. It can be measured and scaled and designed down to its last detail. Along with it being foreseeable, we can plan its discourse. We can analyze its features, and predict its futures. It is quantitative.

With sense of place, it is not the same. Sense of place is not a tangible creation. We cannot design it or plan it, measure it or prevent it. We can attempt to introduce it, but we can never be certain. Sense of place is qualitative.

Because of this issue, detailed design proceedings regarding place are impossible to suggest. Instead, we can only explore analysis for its consideration. Norberg-Schulz, who is one of few that has made a difference in the study of place, seeks methods for analyzing

it instead of applying it. He understands that sense of place is qualitative, and that in order to employ it, we have to look at design from a broader angle.

Norberg-Schulz divides his analysis for design identity into three categories each with their own defining attributes. The first category relates to his ideas regarding landscape, or the first half of his definition for place. The second category looks at settlement, or the second half of place. The third looks at process in design, and how the application of the built environment relates to the natural context. All together, these three categories form a list of analysis attributes that need to be addressed before beginning design. And unlike the attributes of place attachment, they are crucial and need to be maintained.

Landscape (Natural Place)
Landscape is divided into five attributes: Things, Cosmic Order, Character, Light and Temporal Rhythms (Norberg-Schulz, 1980). The first attribute, things, speaks of the objects of the natural world. Every landscape is made up of concrete natural elements that must not be departed from (Norberg-Schulz, 1980). These elements are noted by their characteristics, too. For instance, a rock adds value of hardness and longevity while a mountain adds detail of height and mass.

Water and vegetation are other examples in the mix. "Being the primary natural 'things', rocks vegetation and water make a place meaningful or 'sacred'" (Norberg-Schulz, 1980).

Cosmic order is the second attribute and it refers to the ability to understand order in constant states of flux. "Such order is usually based on the course of the sun" (Norberg-Schulz, 1980). Emphasis is placed on the cardinal points, and in some places it may also be related to the "geographical structure, in Egypt, where the south-north direction of the Nile constitutes a primary element of man's orientation" (Norberg-Schulz, 1980).

The third attribute for analysis is character. Character refers to making the most of the site and all that it is worth. For example, fertile soil thirsts for farmland; mountaintops reach to the gods; valleys sing to their hillsides. "What does the land want to be?"

The fourth analysis attribute is light. Light refers to more than one thing. It is a source of illumination but also a symbol of the divine. It is a sacred piece that "penetrates the universe according to its dignity" (Norberg-Schulz, 1980).

The fifth and final attribute for landscape analysis is temporal rhythms. Temporal rhythms are the natural things that constantly change: vegetation, light, seasons. "The phenomena which distinguish a natural place cannot be separated from these rhythms" (Norberg-Schulz, 1980).

Settlement (Man-Made Place)
"The man-made place visualizes, complements and symbolizes man's understanding of his environment" (Norberg-Schulz, 1980). In other words, the constructed environment must reflect its surrounding landscape. Norberg-Schulz took an in-depth look when analyzing man-made places. He began his analysis by stating that architecture, over anything else, is a distinction of enclosure, and it must remain that way. "Enclosure primarily means a distinct area which is separated from the surroundings by means of a built boundary" (Norberg-Schulz, 1980). He then went on to say that all of the attributes that applied to his analysis for landscape, except that of temporal rhythms, also apply to buildings. He found a loophole with the fourth attribute, light. In some instances in the past and present, light is and can be created through usage of it as metaphor, as a representation of religion and the divine.

His work continues to define the main, basic urban elements as being centers and paths,

with an urban square being the center and a street being the path. As subsets of enclosure, these spaces create domains, and domains define a boundary of importance as well (Norberg-Schulz, 1980). With the formation of paths, man-made place's first attribute of analysis is created, time. Time denotes phenomenal succession and change (Norberg-Schulz, 1980). "Man has succeeded in 'building' time, by translating basic temporal structures into spatial properties. Primarily life is 'movement', and as such it possesses 'direction' and 'rhythm'" (Norberg-Schulz, 1980).

Other man-made analysis attributes that are developed beyond the landscapes' list include location, spatial configuration and characterizing articulation. The first attribute, location, has to be decided before beginning construction of a building or built environment. Its assessment is crucial into developing sense of place, and it must not be neglected. "Some places get their identity from a particularly interesting location, whereas the man-made components are rather insignificant. Others, instead, may be situated in a dull landscape, but possess a well-defined configuration and a distinct character. When all the components seem to embody basic existential meanings, we may talk about a 'strong' place" (Norberg-Schulz, 1980).

The second attribute, spatial configuration, refers to the combination of multiple spaces and multiple enclosures. Through orientation, these spaces arrange themselves in ways that alter our senses and feelings. Spatial configuration can either promote or weaken the chance for activity.

The final analysis topic for the man-made environment is articulation. Articulation requires the usage of known cultural symbolism such as language. It can be a unique, but very strong way to inform place, especially if language is important to culture.

Man-Made and Nature
Man-Made places are related to nature in three basic ways (Norberg-Schulz, 1980), and through these applications, a design process is created. Firstly, designers want to visualize their understandings with nature, "expressing the existential foothold gained" (Norberg-Schulz, 1980). In order to fulfill this, the designer builds what he has seen. "Where nature suggests a delimited space he builds an enclosure; where nature appears 'centralized', he erects a Mal, where nature indicates a direction, he makes a path" (Norberg-Schulz, 1980). Secondly, designer has to complement the condition, by adding what is missing. Finally, the designer must

symbolize his identifications in nature and him/herself. "The purpose of symbolization is to free the meaning from the immediate situation, whereby it becomes a "cultural object", which may from part of a more complex situation, or be moved to another place" (Norberg-Schulz, 1980).

Through the three presented categories of analysis attributes - landscape, man-made and man-made and nature - a better understanding of design recommendations is presented. Norberg-Schulz identifies, through an in-depth look, the means to categorize the qualitative analysis required for sense of place, and it should be reminded; these categories are crucial to forming identity. By understanding the landscape and the man-made, and knowing how to apply the two together, locality can be understood and sense of place can be achieved. Identity in design is possible if all attributes are addressed.

Research Summary

After the advent of the personal Automobile especially, the infrastructure of the United States has witnessed a profound change for the worse. The qualities and intrinsic values that were once the makeups of our neighborhoods and communities is now erased, and places that once stood as anecdotes to locality are obliterated. Even if most of the same architecture still stands today, the feel of our towns have been changed due to the car.

Today, we may be starting to understand the fallbacks of our mistakes; however, the infrastructure in place leaves us with little to no hope for change. Placelessness ravages throughout. From the big-box retail to the expanses of pavement, our communities lack the identity that their historical neighbors once had. Now, well though-out design decisions are needed more than ever. In order to fix the world that we live in, place must be addressed, and the ideals for local identity must become robust again.

Within this research, I explored what it takes to reestablish neighborhoods and a sense of identity. I investigated a number of theories, combed through a quantity of facts and reviewed a batch of example cases. I looked to the roots of what it takes to bring back sense of place. Through my studies, I found interests in the ideas from a number of authors and historians, philosophers and architects, psychologists and theorists. This in return focused my work. Based on their research, I was able to establish many things. Firstly, sense of place is a difficult thing. Because it is not quantifiable, we cannot measure it. Secondly, place is widely studied through two forms of measurement: place attachment and

place identity. Thirdly, design considerations can be based on these two means of measurement. Both place attachment and place identity warrant ideas for the lost place. Finally, research has provided proof that place can be recreated - the barren streets of the typical commercial block can be fixed.

Sense of place is a qualitative property. Unlike architecture, where measurement and analysis can occur, it resides in our spirits and emotional psyche. Identity, which is closely related to sense of place, can occur anywhere. However, it becomes the process of understanding which identities we need and want to keep that becomes important. Sense of place is also related strongly to the economic and societal activity along with cultural character. Both of which are incalculable in terms of design quality or significance.

Not only is sense of place immeasurable though, it is vague in its own definition. Some research describes sense of place as the physical qualities that make up a spaces well being. While other research defines sense of place as the connection to activity and interaction. Lewicka pointed out that sense of place follows symbolic meanings while Fleming moved it one step further and said place is the result of cultural pattern.

As pointed out in my research, place attachment and place identity are terms that have been widely regarded as means for measurement of sense of place. Place attachment, which is defined by the connections or ties between individuals and locations, elicits differing connotations from different people. Some individuals, like those studied by Shamsuddin and Ujang, pointed out that their connections with place are strongly influenced by the practical, emotional and societal connections that they have with site while other participants, under the same method of study, were more attached to the physical, social and identifiable conditions.

Place attachment cannot always be received as a good thing, though. As recorded by Manzo and Perkins, some design projects can be perceived as a threat to place. Individuals with connections to site, no matter the quality of it, can disregard change in replacement for keeping things the way they were.

Place identity was defined as two-fold. It can either refer to the physical characteristics of a site that make it distinguishable from other places, or it can be the psychological characteristic of the humans that allow them to relate himself/herself to site.

By applying these two concepts, researches were able to obtain fundamental design attributes that enhance our focus for the creation of space and space identity. According to Shamsuddin and Ujang, whose work involved the study of place attachment, design can elicit place attachment if specific principles are followed. These principles include accessibility and legibility, vitality and diversity, and transaction, distinction and comfort. Conversely, Norberg-Schulz studied place identity and the ideas of locality. Through his research, he found three characteristics that designers should be conscious of when attempting for place creation. These categories, defined in my research as Landscape, Settlement and Man-made and Nature, break down into their own elements. Through landscape analysis, designers must caution Things, Cosmic Order, Character, Light and Temporal Rhythms. With settlement, not only do designers need to understand the landscape, but they must also understand enclosure, domain, and time along with location, spatial configuration and articulation.

Sense of place can remain unquantifiable. Because through the applied research of those that have studied place attachment and place identity, one should have reason to believe that sense of place is something obtainable in design. By analyzing the efforts of many qualified professions, I have begun to understand the basis for place design. I know what is needed in order to develop identity. Come next semester, as I apply their work, I intend to do so in a way that follows their ideals presented. I am to fix the bleakness of our nation's cities, and I plan to provide an answer that solves the problems of urban sprawl. By designing space with the intention of place, a sense of locality will be achieved and identity will be restored.
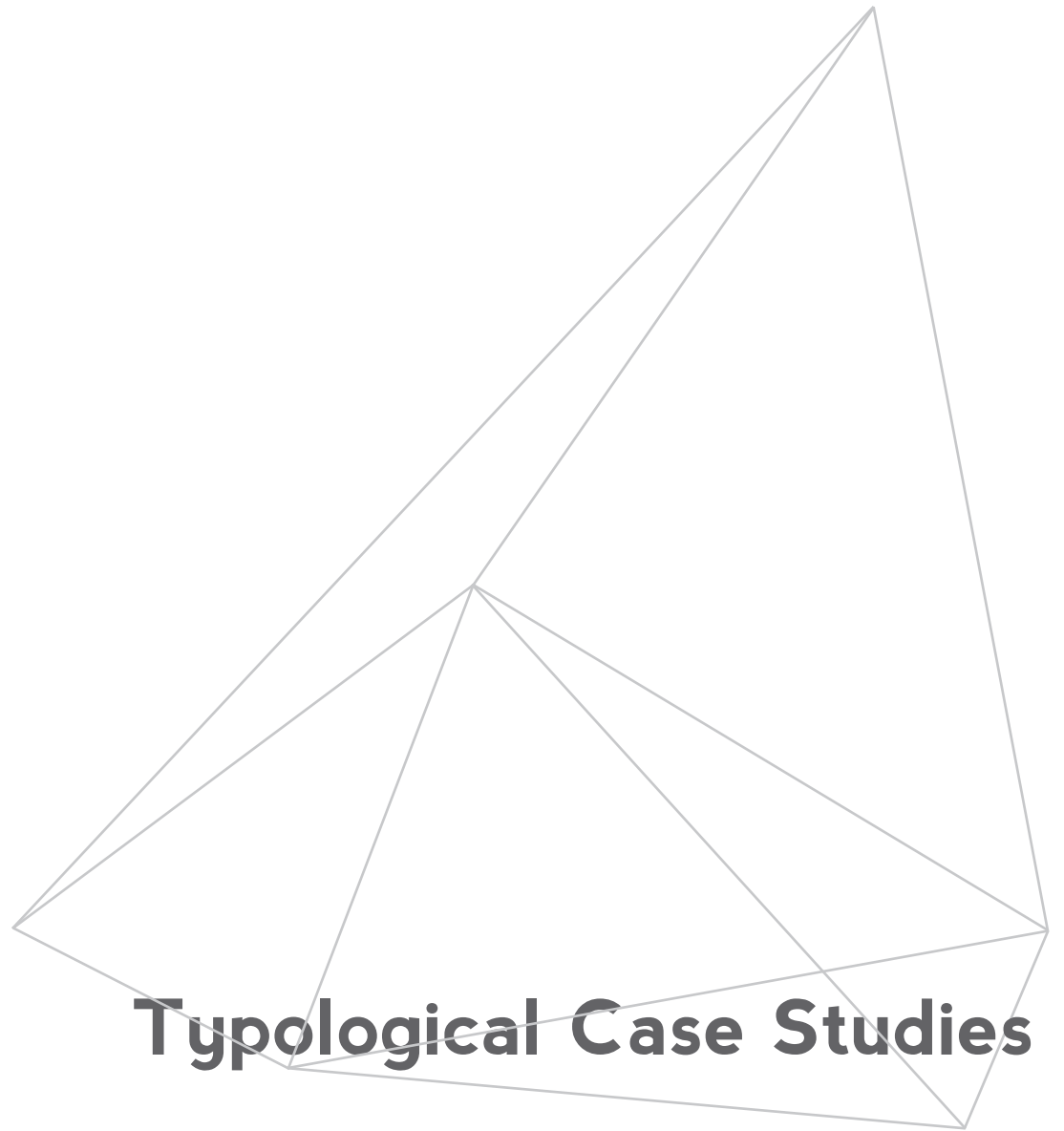
Typological Case Studies

01 Case Study: RATP Bus Center in Thiais

Architects:
Emmanuel Combarel Dominique Marrec
Location:
Thiais, France
Client:
PARIS HABITAT
Program:
Transit Administration Building
Project year:
2003-2007
Constructed Area:
2,450 sqm [26,370 sqft]

RATP Bus Center
Situated in Thiais, a southern suburb of Paris, the RATP Bus Center stands as a monolith within its context. Mirroring the developed makeup of the nearby region – a region dominated by urban sprawl and industrial development – the center pays homage to the blends of asphalt and concrete surfaces surrounding it. The designers aimed to create an integrated building that fit into its environment all while still being an aesthetic focal point for the region.

RATP Bus Center

The site consists of two main buildings, the administrative building with its interior courtyard and surrounding public spaces and a bus 'evolution' area where the transit vehicles are stored. The evolution bus shelter is closely situated to the admin building and takes similar form to it as well. The layouts of the buildings, especially the administrative one, rely heavily on the programs within them. Dividing into unique and separate areas, the spaces and their programs are identifiable by brightly colored panes of glass on the exterior. While the bus exhibition was placed to not interfere with the workings of the admin building, it is still a crucial portion of the site's program and spatial layout.

The administrative building is 26,000 square feet split into two levels and is situated along the broad boulevards and street interchanges within the industrial neighborhood. Because the primary focus for the design was to create a building that formed a spatial continuity with its surrounding context, the adjacent areas, full of industrial cues to the region, helped influence the form and function of the building. Standing on a raised platform, far above the ground level itself, the administration building forms up as if it is growing out of the earth like an extension of its setting. The form has neither a start nor a finish. With rounded edges and stark voids, the building's material folds out of the landscape and around the structure's surface as one delicate piece. Made from concrete panels, the shell forms a crust that covers both the administrative building and bus exhibition. And like a LEGO blanket, it is perforated with a non-slippery texture of dots that contribute to the overall kinetic composition and feel.
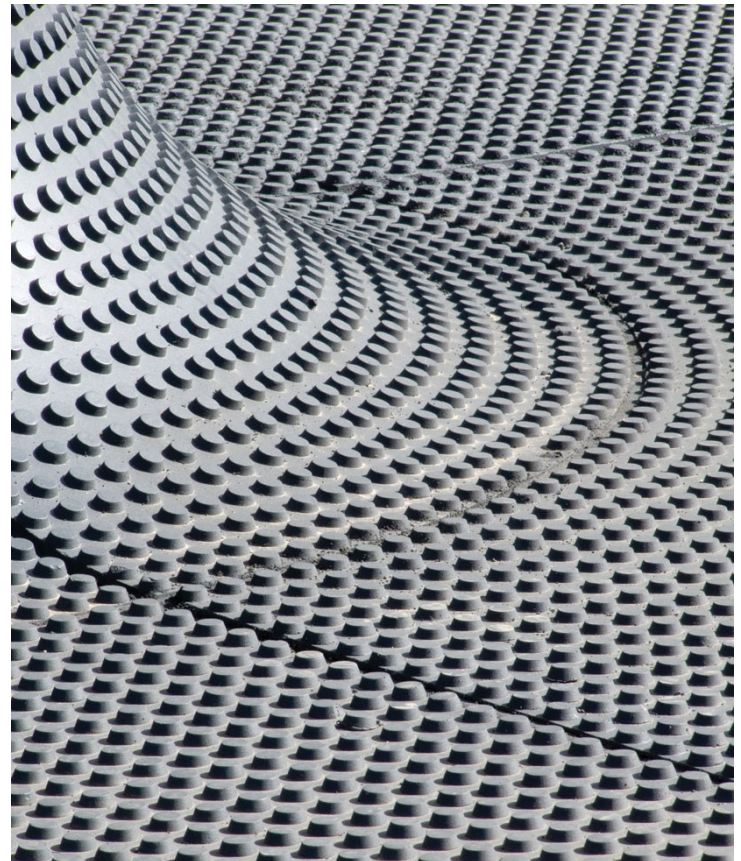
Right : Figure 10.

01 Case Study: RATP Bus Center in Thiais

Besides beings a control station for over 300 daily buses, the administration building also serves as a recreational and relaxation site for over 800 bus drivers and administrative personnel plus security workers and maintenance staff. The program surrounds itself around a central, courtyard core. From there, it divides itself into distinct units of space including offices, security and transit support. It also includes hidden plazas and a sheltered bike station.

A unique feature that the administration building has its demarcation of programmed spaces. Based on the usages on the inside, the outside colors itself with brightly colored neon panes of glass to signify the difference in program. Contrasted against the dark concrete, the panes create an aesthetic focus for the building.
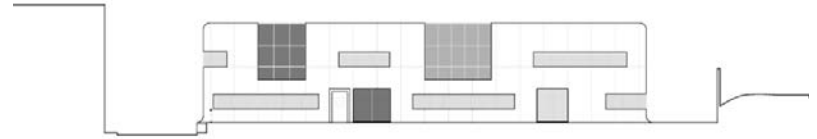
South Elevation
Above: Figure 12.

Right: Figure 11.

Main Floor Plan
Above: Figure 13.

Section
Below: Figure 14.

RATP Bus Center

A Study of Transit Administration

As an investigation into transit programming, this project was selected to explore the makeup of transit administration. The design itself also lends ideas to creating identity, a crucial portion of my design thesis.

Structure
Above: Figure 19.

Geometry
Above: Figure 15.

Hierarchy
Above: Figure 17.

Circulation
Above: Figure 20.

Interior / Exterior Greenspace
Above: Figure 16.

Natural Light
Above: Figure 18.

Massing
Above: Figure 21.

01 Case Study: RATP Bus Center in Thiais

Above: Figure 22.
Left: Figure 23.
Top: Figure 24.

'The concrete-clad Thiais Bus Center is designed to fit into its industrial surroundings, but vivid colors of glazing within the simple grey exterior make this building stand out from the rest..'

ECDM Architects, Architectural Record

02 Case Study: Transit Station in Baeza

Architects:
DTR Studio Architects
Location:
Baeza, Spain
Client:
City of Baeza
Program:
Transit Building
Project year:
2012
Constructed Area:
1,800 sqm [19,375 sqft]

Transit Station
Located in Baeza, a UNESCO World Heritage site in Southern Spain, the bus Transit Station, designed and developed by DTR Studio, stands as one of the first structures recognized upon entering the town. Situated on the edge alongside a high-capacity urban road, it stands between two different zoning regions: commercial and residential. In reflection of its context, the structure works to mirror the neighborhood while reflecting the scales between human and their transit.

Transit Station

The site consists of a well-organized plan that forms itself around the motion of traffic. Just off of a main arterial road, the building is open to view by many passersby and the housing developments to the north. Though the site is small, the building lies close to the property line borders to make use of as much space as possible. To the south, a small road connects the station to traffic. Busses utilize the road as their primary entrance onto the site and into the station, and taxis or other use it as a transit-rider drop-off location. In contrast to the north elevation, it is open – completely exposed to a public garden and views of commercial activity.

The project itself is just less than 20,000 square feet and it consists of three program subdivisions: the interior passenger, the exterior passenger and the bus area. The interior passenger includes space for waiting, ticket information, and transit support. Designed as a glass box, the indoor area has partial controlled access, and it includes and open hall area with a trapezoidal layout. The exterior pedestrian area lies underneath a large, folded-roof shelter and is open to the elements on three of the four sides. The north elevation features long louvers to divide the exterior waiting area from the high-value road. To the south, the area is open to the arrival of eight bus stops and a garden across the road. The building as a whole is smashed between two white screens that make up both the east and the west elevations.

Right : Figure 26.

02 Case Study: Transit Station in Baeza

The material composition of the Transit Station is divided into four primary choices: concrete, glass, aluminum and steel. Structurally, the building is comprised of numerous slender concrete columns as well as two structural walls on each end. The concrete is colored white to match the surrounding context, while the two metals, aluminum and steel, are darker in color to create contrast with the roofing plane.

An importance was placed on creating a building that allowed for the greatest views of the scenery and neighborhoods that surrounded it. From the open louver system located adjacent to the exterior waiting, to the glass-box interior space that encloses the western side, the building respects its context in all aspects possible.
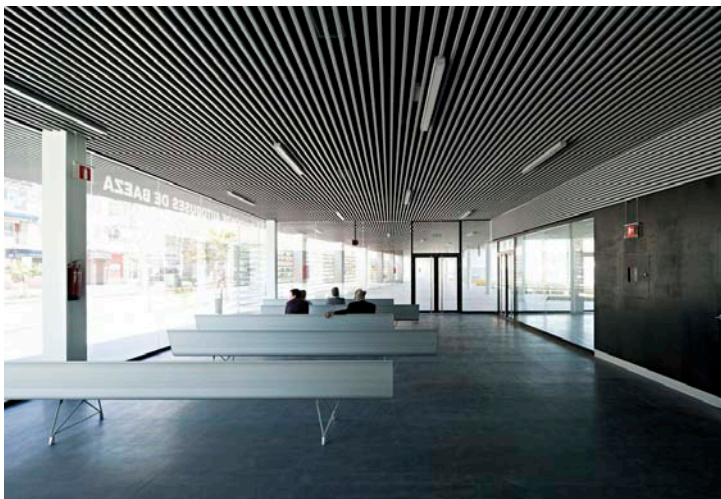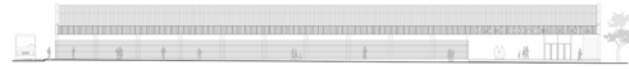
South Elevation
Above: Figure 28.
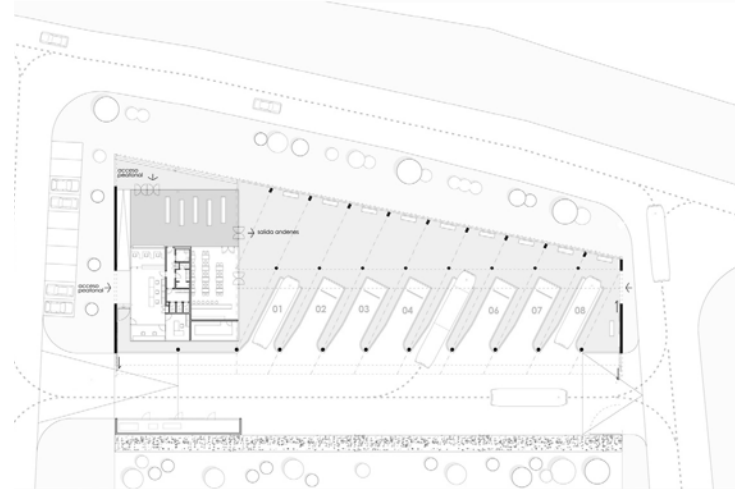
Main Floor Plan
Above: Figure 29.

Section
Below: Figure 30.

Right : Figure 27.

Transit Station

A Study of Transit Programming

To better understand the programming of bus and rail stations, this study was chosen because of the buildings relation to the greater transit system. It provides a glimpse as to how spatial layout should be addressed in design.
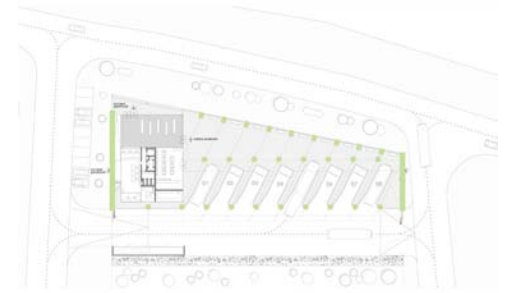
Structure
Above: Figure 35.

Geometry
Above: Figure 31.

Hierarchy
Above: Figure 33.
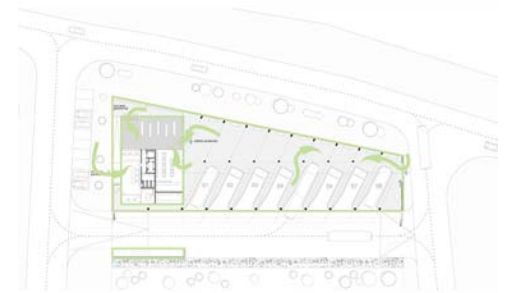
Circulation
Above: Figure 36.

Transit vs Building Space
Above: Figure 32.

Natural Light
Above: Figure 34.

Massing
Above: Figure 37.

02 Case Study: Transit Station in Baeza

03 Case Study: Conference Center in Corporate Campus

Architects:
ADP Architects
Location:
Adeldoorn, The Netherlands
Client:
Achmea
Program:
Conference Center
Project year:
2012
Constructed Area:
9,600 sqm [103,330 sqft]

Conference Center
The Achmea Conference Center, located in Adeldoorn, Netherlands, and designed by ADP Architects, stands as one of the most important buildings on Corporate Campus. Situated at the central most point, the building poses itself as a refuge for interaction and communication. Each floor, being open to below, capitalizes on views of the exterior. However, it is the interior, adorned with natural light and interior landscaping that make the building unlike any other.

Conference Center

Although it is centrally located, the Conference Center is still one of the first buildings witnessed while arriving the campus. The circular building acts as a gate to the public with meeting space for both staff and visitors. On top of that, a 900 seat restaurant also adds to the program. Upon entering the building itself, visitors are met with an overwhelming sense space, form and aesthetics. On the lower level, views of the natural form a barrier between you and the spaces behind it. Above, holes of light provide views of the rest of the building while also connecting you to the outside.

The Conference Center is spatially organized around a tall, central atrium space that houses the primary circulation core for the building. With high ceilings, large spans of glass and open-planned balconies, the core also serves as an excellent light shaft for the building and its interior. Looking up, one can witness the space and form in its totality. From conference rooms and offices to lounge spaces and restaurants, the buildings program pervades throughout. It is over 100,000 square feet in total with 4,000 different workstations. It is intended to be flexible, yet designed to be personal.

On the ground level and elevating to the second, nature and design can be seen morphing into one. A large expanse of green space, with full-sized trees and plantings, brings swatches of color into the white-lit interior. The plantings, which move through the building's core, glow from the natural light above and provide a needed boost of character that office environments often demand. By placing nature at the core, the designers were able to reflect the building's symbolism.

It was the intention of the designers all along

Right : Figure 42.

03 Case Study: Conference Center in Corporate Campus

to create a space that fused the natural with the created. The architects wanted to 'catch' the environment and embrace the outside. In their eyes, on a campus surrounded by forest and undisturbed landscape, it seemed like the right thing to do.

In our buildings today, there is little to no relation to the natural - our connections to the outside world is lost. A separation is created and our landscape's significance becomes absent. However, the Conference Center located in Adeldoorn changes that perception. It brings witness to the natural and places the landscape as an equal to the built. It bridges the gap not only between architecture and landscape architecture, but between those professions and the environment.
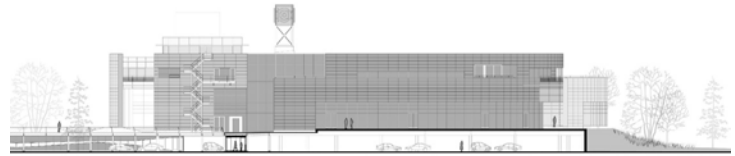
South Elevation
Above: Figure 44.

Right: Figure 43.
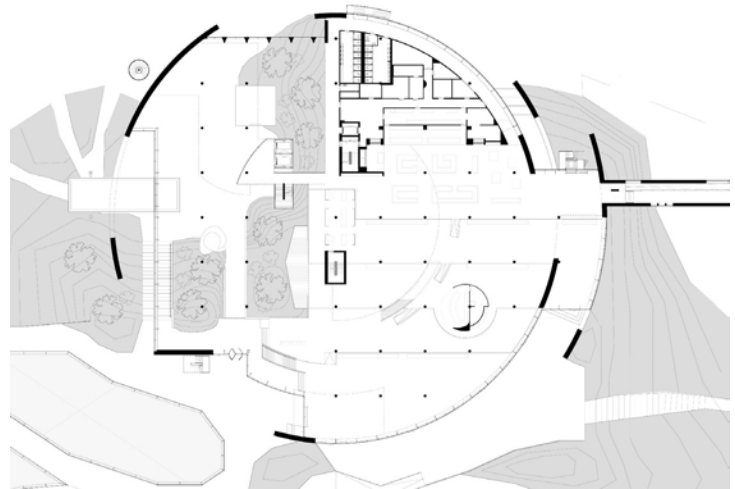
Main Floor Plan
Above: Figure 45.

Section
Below: Figure 46.
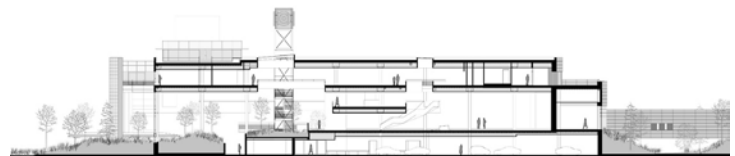
Conference Center

A Study of Interior vs Exterior

In order to further comprehend the relation between interior and exterior, this project was chosen because of its unique usage of nature within design. It acts as an analysis of architecture and landscape architecture.

Structure
Above: Figure 51.
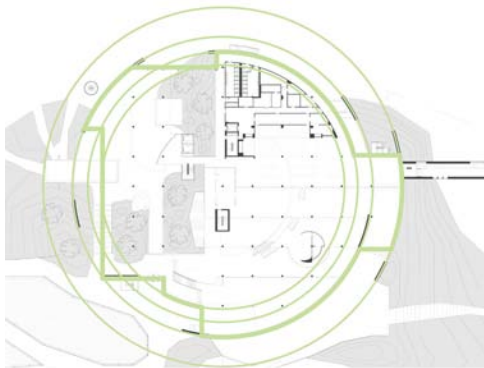
Geometry
Above: Figure 47.
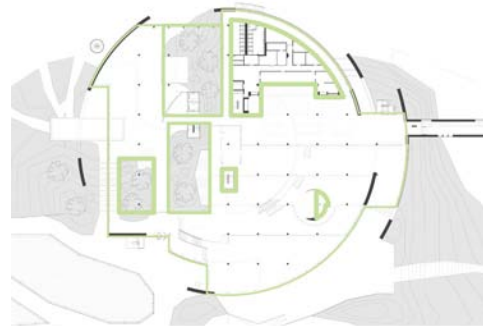
Hierarchy
Above: Figure 49.

Circulation
Above: Figure 52.
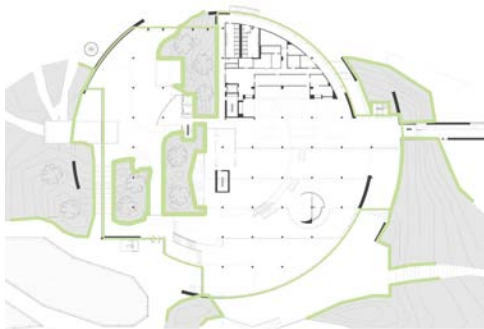
Interior / Exterior Greenspace
Above: Figure 48.

Natural Light
Above: Figure 50.

Massing
Above: Figure 53.

03 Case Study: Conference Center in Corporate Campus

Above: Figure 54.
Left: Figure 55.
Top: Figure 56.

Typological Case Study Summary

Through analyzing many case studies, and with these three in particular, I've realized the range of possibility associated with transit-oriented design. Not only that, through the combination of architecture and landscape architecture, great things are possible for both the built and unbuilt environments. As I approached each case study, I wanted to get a better understanding of three things: how the program organizes itself in both plan and on the site, how innovation in design makes building's unique in their own respects and how the combination of the two professions – architecture and landscape architecture – can influence programming and the greater design.

I decided to use three similar but dissimilar project typologies as cases for study. The first, The RATP Bus Center, looks at the programming of transit administration and how it works with the greater system. The second case study, the bus transit station in Baeza, looks at how the building as an object relates to the movement of the transportation on the site. The final study, while unrelated to transportation, looks at the combination of natural and unnatural environments. These three together gave me a good understanding of what the program for my final design should entail, as well as some of the key characteristics that I must understand as I move forward with my project. Also, with the

Above: Figure 57.

projects being from different locations around the globe, it gave me a brief glimpse as to how to tailor my design specifically to site – how to find inspiration from the surrounding context.

RATP Bus Center

The RATP Bus Center, which is located in an industrial neighborhood just south of Paris, stands as a monument that mirrors its context. Through materiality and form, the building pays tribute to the built environment around it, and it acknowledges its position in terms of location. Not only is it nestled, though, it also stand out. Being a focal point

for the site and for the greater neighborhood, its usage of color gives the building a pop. An important design technique, this color signifies programmatic makeup on the exterior. With each pane of glass that differs in color, a new usage of space is present on the inside. Finally, the building also brings the outside in with an interior courtyard. While bland in depiction, the courtyard does follow the overall aesthetic quality of the greater whole. It brings green space inside while still maintaining the industrial feel.

Transit Station

The bus station in Baeza moves transit effectively and efficiently around the site and the station. Juxtaposed between two differently zoned neighborhoods, the building acts as a merger between commercial and residential. This means scale had a large influence in the final designed product. Another problem that the station faced during design was its location just off of a high-volume road. The arterial highway, which witnesses thousands of vehicles daily, was thought of as hazard in terms of site entry and exiting. Instead, the station needed to address the issue by collecting the busses from their routes through the addition of secondary roadways with their own site entries and exits. By removing the bus lanes from the heavy flow of traffic, site maneuvering was not interrupted and transit is effectively managed while still maintaining efficiency of use.

Conference Center

The Conference Center on Achmea's Corporate Campus stands as a portal between city and institution. Its environment - built and unbuilt, natural and unnatural - merges the professions of landscape architecture and architecture. Its usage of interior plantings makes it unlike any other building. It capitalizes on views of the exterior and maximizes its usages of natural light. It puts what is necessary first and hides everything else. The site itself does a good job at portraying this. Surrounded by scenic forests and delicate landscape, the building stands as a mirror of the natural world. In order to maintain this image, they located all of the parking and mechanical underground. The building also pays tribute to its program. By standing on the first floor of the interior atrium space, one can witness the building in its entirety. A view of every programmatic

Above: Figure 58.

connection is present, and views to the outside create connections to nature too. As a study of professional collaboration and design integration, this building blends the lines between the natural and unnatural.

In relation to my unifying research, these case studies confirmed the direction that I wanted to travel. They make it a point to create an identity of their own even if they are well integrated into their context. Through their usage and acknowledgement of site-related values, and with their integration of architecture and landscape design, these buildings open the range of possibilities for transit typologies. The commonalties between each of the three projects I studied guided me to design considerations I must make in my own application of ideas. However, the differences also brought attention considerations that must be made. Each building had a different context geographical makeup. They also were different in their own usages and functions. For example, the RATP Administration building was almost strictly office with a separate terminal for the bus transit while the bus station in Baeza combined the two into one structure. It will be my primary focus next semester to find a design relation between all three projects, and to create something that speaks of both identity and place, but also aesthetics and function.
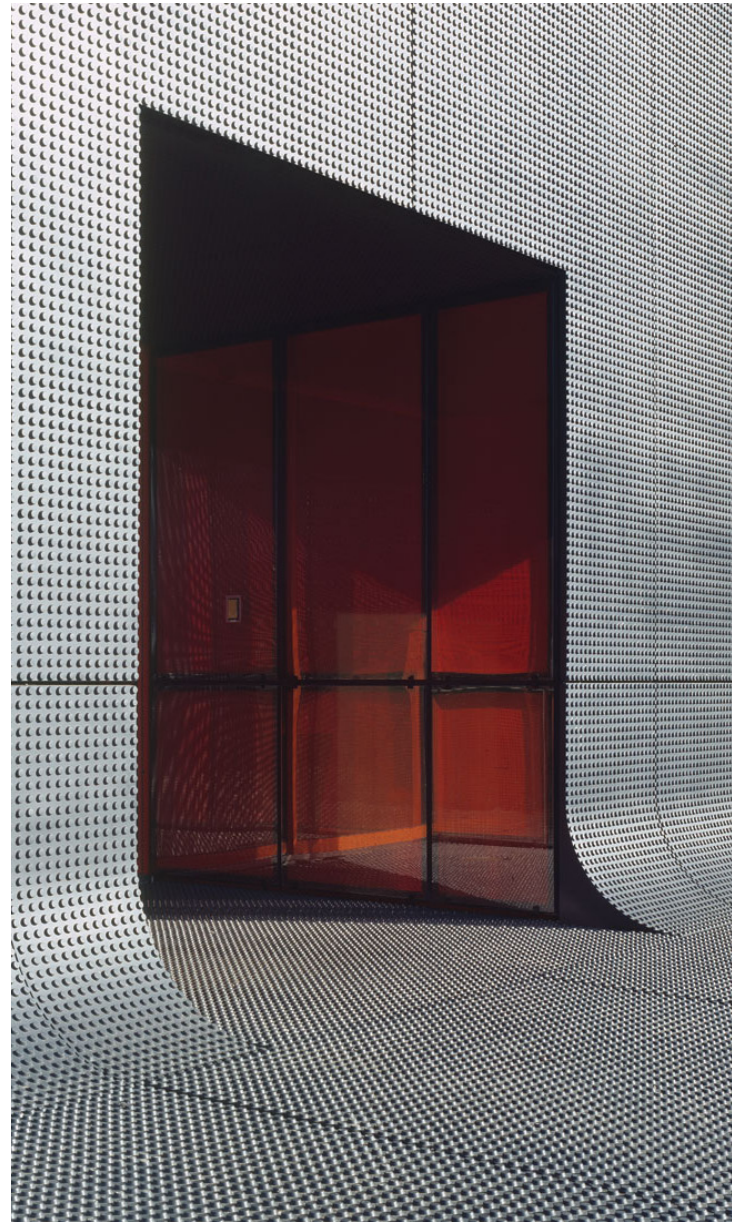
Above: Figure 59.
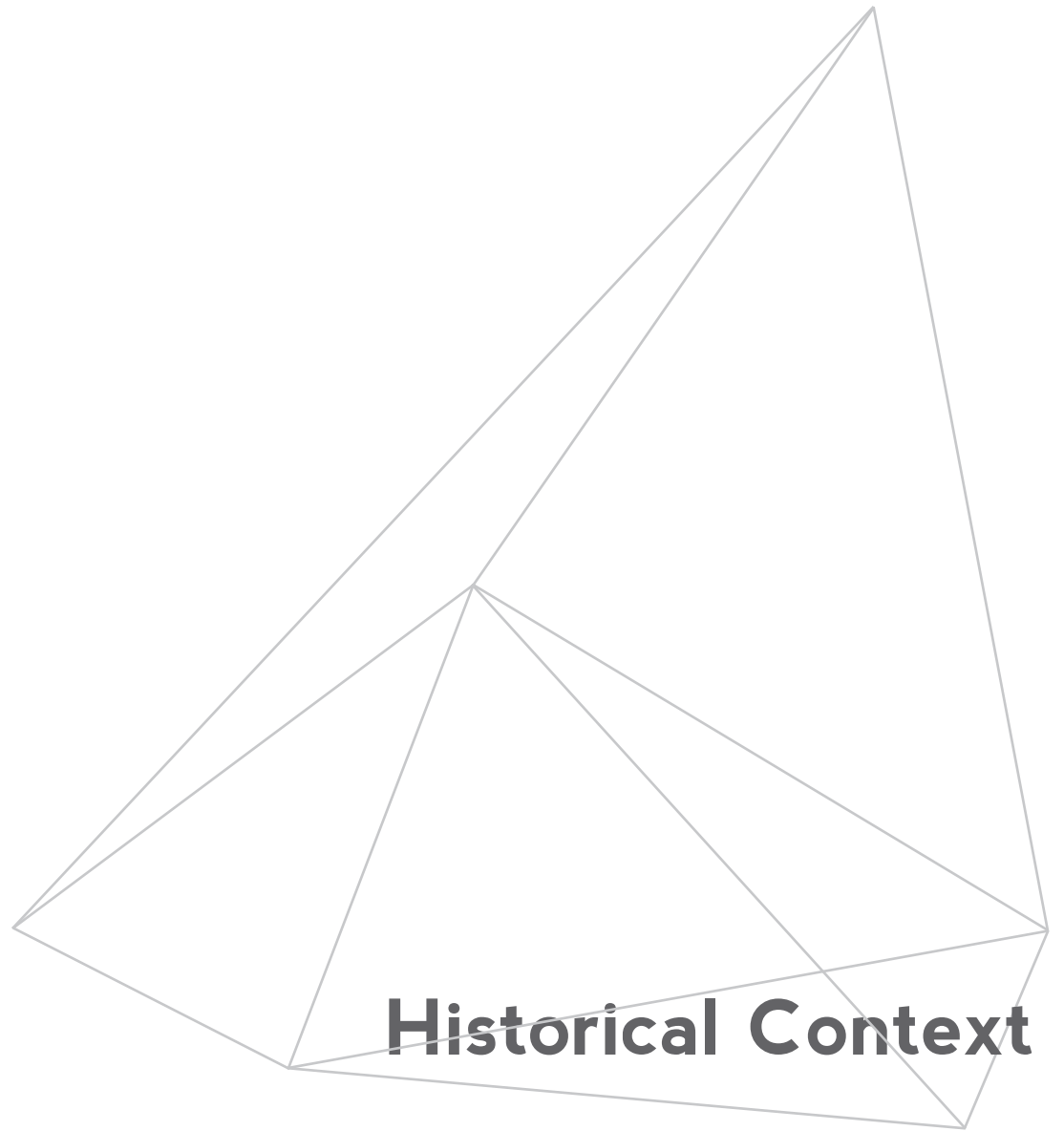
Historical Context

The Rise and Fall and Rise Again

Modern public transit can be seen as one of the many byproducts of the industrial revolution (Minnesota Street Car Museum, 2013), and its history can be credited to the cultural and technological advancements that our country has witnessed through the ages. It is something heavily discussed in city planning and development today, and it is becoming an ever-needed necessity as we progress into the future.

The Beginnings
Public transit's beginnings can be traced back to the early 1800s. During this time, public transit was concentrated around the usage of horse-drawn carriages called omnibuses. They operated under private ownership, and these modes of transit carried as many as 25-50 people through the muddy streets of the typical progressive city (Schofer, 2013). The first of these animal-driven vehicles made an appearance in the United States in New York City in 1829 – spreading to Philadelphia and Boston years later (Garrett, 2004). Although the service found itself to be quicker than walking, it did offer an unpleasant ride through the cold weather and uneven, cobblestone streets. The horses pulling the carriages were also known to become a hazard for the typical walking pedestrian.

In an effort to improve the comfort and

Lakes Street at Blaisdell Avenue, looking east toward the major transfer point at Nicollet Avenue. Only one building in this photo survives, but the relocated Yukon Club is still open a couple of blocks to the west. Photograph by Norton & Peel; Courtesy of the Minnesota Historical Society. [Figure 60]

efficiency of travel, cities introduced rails alongside the city streets. With their origins again being in New York City, these new rail systems minimized the energy required by the horses - drastically improving the nature of city travel as a whole. As a result of its success, this new method of travel took off in popularity, becoming the earliest form of mass light-rail transit within the United States (Garrett, 2004).

The usage of rails improved the quality of life for city inhabitants immensely. The rails provided a smoother and sturdier ride for all

travelers, and due to the carts reduced friction on the rails, it cut down on travel times as well (Schofer, 2013). Fares began to drop to as low as 10 to 15 cents per trip (Garrett, 2004). Also, cabins were able to become bulkier and more insolated because of the ease of their pull.

The systems were not only an improvement for the passenger, though; they improved the city as well. The streetscapes themselves found advantages with the newly created lanes of travel. The widened streets allowed for more at-grade interaction, and the usage of rails also made for easy to recognize differences in paths of traffic (Garrett, 2004). The horse-drawn railcars, with their own lane and right away, did not interrupt pedestrian movement as it had in the past, allowing the average walking individual to reclaim their ground in the travel community.

Horse-drawn rail transit did have its shortcomings though. One of the biggest problems that the rail system faced was the raised elevation of the tracks in comparison to the standard street level. Sticking several inches up, off of the surface, the rails created an obstacle for all forms of traffic within the city (Garrett, 2004). Standing as a tripping hazard for pedestrians and as a barrier for other carts, the rails became more and more of a hazard. It wasn't until the early 1850s that a rail was developed to lie flush with the paved surface (Garrett, 2004).

By the 1870's, horsecars usage within the United States took a pause, becoming obsolete with the introduction of the cable car (Schofer, 2013). Initially developed in the 1860s, cable cars relied on mechanical means of propulsion through the usage of large steam engines that moved underground cables (Garrett, 2004). They were able to move passengers further and at a faster pace through tougher terrains. They became very popular in cities like San Francisco where the topography limited travel.

Cable cars had a short-lived duration, which concluded by 1900. They ran in many large cities within America (Minnesota Street Car Museum, 2013), but they were drastically more expensive than the horse-pulled system. As a result, cable car operations were limited to just the most heavily traveled routes, and soon were removed all together in favor of the horse car again (Garrett, 2004).

Within the following decades, advancements in technology changed the rail system drastically. Beginning in 1880s, electric streetcars began operation (Melosi, 2010). They ran much cheaper than the cable car and much cleaner than the horse car. By 1900, heavy-rail systems that ran on their

own right of way pushed the United States into having the best public transportation system in the world (Garrett, 2004). However, the title did not last long, as the near future brought the personal automobile, and public transit has not been the same since.

The Fallback
In the beginning of the 20th century, the personal automobile entered the market as a toy for the rich American (Schofer, 2013). It became more and more popular as its prices became cheaper. It offered a never-ending list of freedoms for the American citizen. Unlike mass transit, the automobile provided a personal sanctuary for travel. Rather than having to walk to a rail station, the car increased our instant mobility, cutting time for travel drastically. It provided a refuge for storage while traveling, and the Americans life became much more efficient.

Beginning in 1910 and lasting for the next half century, demand for public transportation decreased (Garrett, 2004), and the usage of the automobile began to abolish the forms of the streetcar city (Melosi, 2010). People now, with the luxury of their own vehicles, were able to live further from the city's central core while still maintaining the benefits that the urban environment provided. This shift decentralized the American city; it weakened the downtown

center and moved the average inhabitant away from the close-knit social and cultural life. (Melosi, 2010). "In some respects, the advent of the automobile continued the process of metropolitan growth promoted by the electric streetcars—hastening the decentralization of the population and pushing the suburbs further into the hinterland" (Melosi, 2010).

The automobile brought unfavorable consequences to the American city, and with the addition of roads, highways and even interstates, communities lost their significance. Neighborhoods became separated, the residential function of urban cores declined, housing stock was reduced and the well being of the poor was made even worse (Melosi, 2010). "The construction of a highway or freeway through an existing neighborhood, by its very act disrupted, degraded, and in some cases destroyed a community. Property values plummeted, but more significantly people were displaced and their neighborhood attachments undermined. One person's blight and slum clearance was another's life ripped asunder" (Melosi, 2010).

In the 1950s, people began realizing the problems associated with automobile-based design. They started to acknowledge the fact that communities were getting destroyed and the environment was getting polluted.

An eastbound PCC Car on Minnehaha Avenue crosses Snelling Avenue. Image courtesy of the Minnesota Historical Society [Figure 61]

Luckily, the following decade brought the need for change, and people lobbied to bring back mass transit (Garrett, 2004).

The Revitalization

Beginning in the 1960s, the increased need for change revitalized the efforts of the rail public transit. (Garrett, 2004). Rail systems were seen as a new alternate means for travel, and it aided in the decreased usage of the personal automobile. "As more American cities began to experience increased traffic congestion and pollution, transit experts once again turned to rail as a possible cure" (Garrett, 2004). Not only were they seen as a means to cure the congestion and pollution, but they were also seen as a means for creating economic development with collaboration of well thought out urban design. This interest for transit-oriented development, along with the interests from city officials and citizens, is what spurred the rebirth of the rail system (Garrett, 2004).

Fortunately, most cities already had rail infrastructure in place from their past streetcar days. In fact, many cities in the United States, particularly those that

experienced their greatest growth from the 1880s to the mid-1940s, can be classified as streetcar cities (Condon, 2010). For the case of rail transit development, this made the addition of new systems easily obtainable.

The Future

At one point, no more than a patch of prairie stood between Minneapolis and St. Paul. However, as time progressed, growth of the two downtown centers influenced the development of smaller neighborhoods at their in between. Today, the two cities are known for their historical streetcar pasts (Diers & Isaacs, 2007). The downtown areas of the two were the first in the region to install the streetcar systems, and the University Avenue corridor, which spans between them, was the first to carry a streetcar line that linked the two downtowns.

The growth of the Hamline-Midway neighborhood, which was ultimately influenced by the expansion of the streetcar system, grew jointly with the university corridor. When the University Avenue streetcar line was built in 1890, the region flourished with a number of other out-growing streetcar suburbs as well (Ramsey County Historical Society, 2012). Lines were built in the neighborhoods along Snelling, Lexington, Thomas, Hamline, and Minnehaha Avenues

(Ramsey County Historical Society, 2012), and a major streetcar servicing station was located just south of University Avenue on the site of the present day Midway Shopping Center (Ramsey County Historical Society, 2012).

During its peak year of performance in 1922, the streetcar system – owned and operated by the Twin City Rapid Transit Company – operated over 900 streetcars during rush hours and carried more than 200 million passengers annually (Lowry, 1979). However,

A southbound Snelling car crosses the Hamline Line at Minnehaha Avenue. Image courtesy of the Minnesota Historical Society.
[Figure 62]

in the 1940s, the region saw the demise of the streetcar as a mode of transit, and cities across America were running into the same problems. The introduction of the bus system, along with the usage of the personal car, made public rail transit a part of the past.

The conversion to bus in the Twin Cities began in 1951 when Fred Ossanna took over as President of Twin City Rapid Transit Company (Lowry, 1979). General Motors financed the purchase of over 500 buses to replace the streetcars, and the conversion was complete by 1953 (Lowry, 1979). In fact, General Motors, along with Firestone and Philips Petroleum, owned a company called National City Lines, which was indicted in 1949 for creating a monopoly that took over the U.S. street car system in order to create a captive market for buses (Condon, 2010).

Although the conversion of transit from the streetcar to the bus remain unclear, facts still stand that by the 1950s, the city that the streetcar built was now stripped down to its foundational skeleton. On top of the paths that once were rails, pavement for the automobile takes its place.

Although the rails are gone from the city streets, the urban fabric that defined a way of life a century ago is still present, and the streetcar city is still able to inform a new way of life as we move into the future (Condon, 2010). Currently, The Hamline-Midway neighborhood is undergoing a transformation at the rails of the new Green Line light rail system. Because the neighborhood was designed around the streetcar, it is primed and ready for a renaissance era.

With the re-introduction of the Green Line light rail extension on University Avenue, looking to the past will prove to be successful. By re-instituting at-grade transit in Minneapolis and St. Paul, the shift toward a new era of development oriented to public transit will soon begin. It can move into the future as a powerful example of successful transit-oriented development that is tailored directly to the regions around it. The observance of the historical will help design move forward, and provide a framework for the upcoming years of the Green Line light rail. Designs that are molded to the existing urban form, rather than working against it, will prove to be more successful (Condon, 2010).

Project Goals

As a Student

Academically, this project should express the progress and development that I have achieved as a student and as a designer. As a culmination of all my efforts, I intend for this thesis to act as an opportunity to display my knowledge and understandings of architecture through a completed product of design. This project will aim to not only prove the legitimacy of my architectural education, but also the department from which I received it. I intend to fulfill the education requirements set fourth by the department and the university, and ultimately advance with a graduate degree in architecture – leaving the institution proud of my accomplishments.

I want to push myself to success. If questions arise, I would like to be able to answer them with confidence and assure others that I understand both my research and my design. I imagine my work to serve as a future case study within the design fields. In the academic world especially, I intend for this project to be a foundation for further research by upcoming students. I hope it serves as a resource for both typological and investigative studies, and have the opportunity to provide a framework for future analyses.

Because this is an academic environment and not a professional one, I would like this thesis to focus on the application and introduction of new ideas, new concepts and new technologies – to explore the range of possibilities allowed through environmental design without the constraints and limitations of the professional world. I intend for the project to still be completed in a professional manner, opening the door to real life application possibilities. Bypassing concerns of time and budget, academically, I would like this project to improve our current state of innovation and design.

As a Professional

Professionally, I hope to use this project to display my interests in architecture and the built environment. I want use the results of my work as a display of my own personal talents - to show potential employers the abilities that I have in design.

I hope this project acts as a framework of my interests. I want it to drive me forward with further sustainable thinking, and propel me into the professional world with the new design considerations. Ultimately, I hope this project allows me to adapt to the constantly changing world, and help me further explore my interests in urban design and place making.

Finally, I hope I am able to utilize the knowledge that I gain on this project to help me with

my future plans of becoming a registered architect. I want to engage the public and the profession with new ideas - ideas that work to solve design problems and to create a better built environment.

As a Person
Personally, I want this project to be a test of my own design ability. I want it to be a struggle all the way up until end – until I am satisfied with what has produced.

I am my own worst critic. I want to achieve on all levels of design. From architectural to graphic, I want to produce something that I am proud of when it is all said and done. I want something that I can look back on and feel a sense of accomplishment.

Through the completion of this thesis, I wish to merge aesthetics and functionality into one cohesive project. I hope to understand the possibilities in design, and realize the consequences of our actions. I want this thesis to become the stepping-stone to my future, and have it direct me towards my interests. Propelling me into the professional world, I hope this project helps me grow as a designer, and understand my relationship to nature and the built world.

Finally, I hope I learn something. It is always a desire of mine to gain new knowledge. It is my intention to try new things – to increase my competency in architectural design – to become better at the skills that I lack. I would like this thesis project to open my skill set to a new array of possibilities, ones that will make me a better person and designer on all levels. I want to finish a changed person.

As a Collaboration
Collectively , this project should be produced at its highest level, addressing as many aspects of design as possible. Through architecture and landscape architecture, I want this thesis to mend the broken relationship between site and structure. I want to merge the professions into one holistic thought process.

As a pair, I want to learn to collaborate to the best of my abilities, to improve my communication skills and to understand how to move forward with problems. I want to gain experience with collaborative design processes before I reach the professional world, and understand how to overcome issues as they may occur. Finally, I hope we as a pair become an influence for the academic environment as well as the professional environment - to teach the benefits of design integration and teamwork.

Qualitative and Quantitative Analysis

Qualitative Analysis: Site Narrative

Entering the site by foot means approaching from the residential streets to the north. Under the shaded canopies of the ancient elm trees that line the streets and sidewalks of Hamline-Midway, these residences are insulated from the bustling activity of University Avenue. Along Hamline Avenue, halfway between Sherburne Avenue and University Avenue, a narrow alleyway splits the block, creating a sharp edge between the residential neighborhood to the north and the clearly defined commercial corridor to the south.

Once the alleyway has been passed, the peace and quiet of the residential streets is left behind. Ahead, the roar of University Avenue begins to rise as four lanes of cars and trucks blur past. A decrepit old building of whitewashed cinder blocks and bare, empty windows sits just off the sidewalk - the first view of our site. A bare asphalt lot, pocked and riven, stretches before the building, paving the ground all the way to University Avenue.

Moving closer to University Avenue reveals the first views around the corner of the building, exposing the bare asphalt lot's entire, sweeping stretch down the full length of the block. A small rise creates an elevated platform 1/3 of the way down the block, and another building sits centered upon this platform. Across University Avenue, the open

Above: Figure 63.

space continues in the form of a parking lot, leading to a small, square building that houses a Subway restaurant.

University Avenue falls away to the east, dipping down before it rises again in the distance, drawing the eye to a vista of the shining white dome of the Minnesota State Capitol building. It's elegant lines can be seen rising from between the poles and wires of the yet-to-be-opened light rail line that splits the lanes of University Avenue.

Shops and stores line the avenue between

the site and the Capitol, most separated from the street by oversized signs and a maze of parking lots. This sea of signs, light posts, telephone poles, cars, and parking lots continues all the way to the site and beyond to the west, disappearing in the distance without a change. All pedestrian scale is lost along the street, and the sidewalk is exposed to the elements from all angles.

The windswept urban landscape is barren of life, here on the brink between residential and commercial developments. A few small trees on the boulevard and neglected, isolated patches of grass in parking lot islands across University Avenue are all the vegetation that is to be seen from the site.

An extensive shopping mall – the Midway Marketplace – can be seen across the sea of parking lots on the other side of University Avenue. Big-name stores stick brightly colored signs high into the air, reaching out to the traffic speeding past. No clear route to the Marketplace reveals itself to the pedestrian – University Avenue is a wall of traffic that can only be crossed at stoplight-controlled corners. Even past University, few sidewalks exist to guide people to the stores – only vehicles are planned for this development.

Back on the site, a tall, white fence separates the viewer from the residential alleyway that forms the site's northern boundary. The site turns its back on the warm, welcoming streets of the neighborhood, facing itself outward and beckoning towards the street, much as it always has during its long life as an automobile sales lot. Now devoid of vehicles, the dead, empty windows of the showroom and the boarded up doors to the garage stare blankly across the bare pavement, devoid of purpose or need.

Discomfort presses in on the pedestrian from all sides. Nothing welcomes a person here, nothing accommodates, nothing holds. All elements of the site are repellent – nobody stays, everybody walks quickly through, on their way to someplace more comfortable, more welcoming. The empty light rail platform prepares to dump its passengers on an island in a sea of traffic. Yet when they reach safer shores, what is there to welcome them to Hamline-Midway? Nothing.

Geology and Soils

Ramsey County's superficial geology and soil makeup is attributed to the movement, stagnation and waste from two different glacial ice lobes—the Superior lobe and Grantsburg sublobe. Our site, which is located within the St. Paul Sand Flats subregion, is primarily composed of three soil categories: Meltwater Stream Sediment, Till, and Till with Stream-Modification.

SG – Meltwater Stream Sediment – Medium to course sand with pebbles. Sand predominantly quarts; distinguished from Superior lobe sand by presence of Cretaceous shale, limestone, and rare lignite grains. Shale and lignite common in course-sand fraction; may be concentrated in layers. In channels and outwash plains.

TG – Till – Typically loam-textured till; ranges from loamy sand to clay. Gray, oxidizes to yellow brown. Commonly banded with reddish-brown Superior lobe till or sand. Thick yellow-brown (or gray) bands, with thin red stringers, near land surface; with depth, yellow bands thin as red layers thicken.

TMG – Till with Stream-Modified Surface – till topography modified by running water; locally fluvially eroded and streamlined. Covered in some places with thin, discontinuous sand and gravel.

Water Table

According to the Minnesota Department of Natural Resources' website, water below the Earth's surface is separated into two zones: the unsaturated zone and the saturated zone. The upper portion of the saturated zone is typically considered the water table. The depth of the water table can be highly variable; however, in Minnesota, the water table is usually close to the land's surface, lying at depths of a few tens of feet.

Utilities

Utilities near the site are located directly to the north in the block-dividing alleyway and to the east along the N Syndicate's streetside. According to the city of St. Paul's website, utilities are provided at low cost and are easily adaptable to growth.

Water
Water accommodations for the city of St. Paul are managed and operated by the Saint Paul Regional Water Services. St. Paul and the surrounding communities benefit from dependable, high quality water at reasonable costs to owners.

Recycling
Waste recycling is managed through a third-party operation called Eureka! Recycling. The organization serves the greater metro, servicing Minneapolis, St. Paul and the surrounding communities.

Gas and Electricity
Power for the City of St. Paul is distributed by Xcel Energy. The company itself is one of the largest owned and operated with over 18,000 miles of transmission lines and nearly 900 substations. Xcel Energy also purchases gas from major interstate providers and distributes it locally.

Garbage and Refuse Services
The city of St. Paul does not provide garbage and refuse collection services to their residents. Instead, property owners must contact a third-party licensed company for service.

Cable Television
St. Paul manages cable television services through a contractual agreement with the third-party franchise Comcast. The agreement was granted from 1988-2013. Renewal of the contract has not yet been presented.
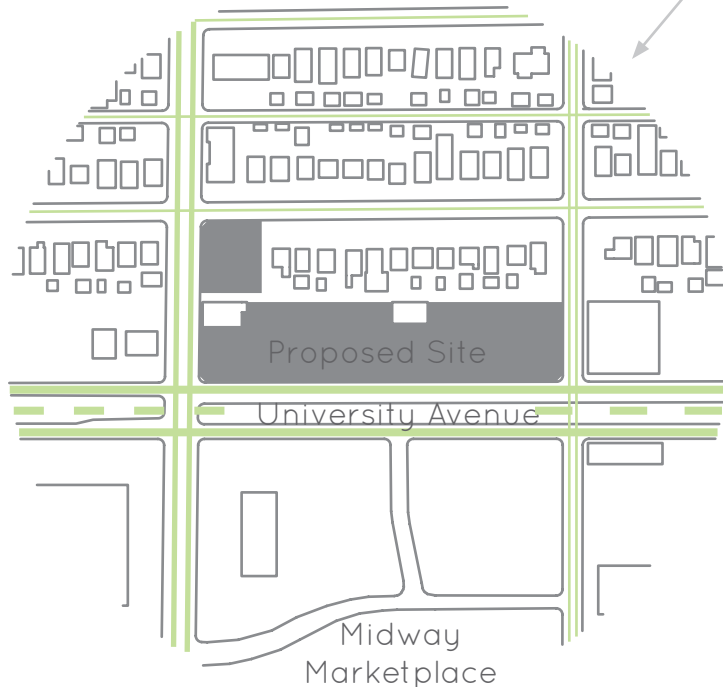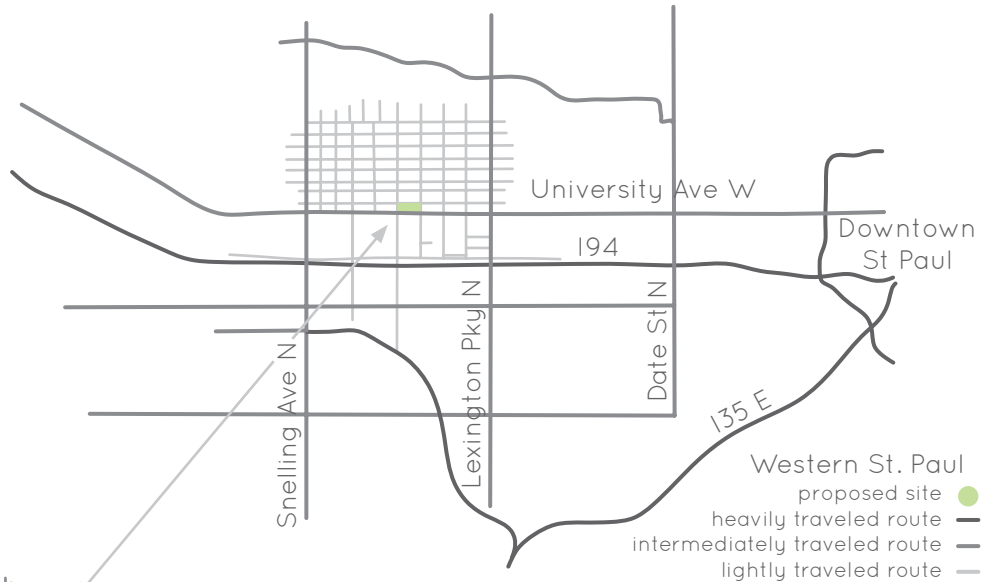
Vehicular and Pedestrian Traffic

Daily Vehicule Count

University Ave	158,000
Snelling Ave	46,000
Interstate 94	23,800

Pedestrian Traffic

The surrounding neighborhood is becoming more and more walkable as the benefits of the new light rail system come into fruition. Wit traditional residential being a block to the north, the area calls for a stable, walkable community.

Western St. Paul
- proposed site ●
- heavily traveled route ▬
- intermediately traveled route ▬
- lightly traveled route ▬

Traffic within the Hamline-Midway neighborhood is strongly focused around the activities that occur along University Ave. Lying directly south of our site, the street itself links both downtown St Paul and downtown Minneapolis. It is not the most walkable; however, it is becoming increasingly better with the advent of the new Green Line light rail system. South of University lies one of the largest shopping districts in the metro, Midway Marketplace. This retail outlet places a great strain on University, increasing the amount of traffic the street witnesses drastically. With the Green Line light rail splitting the avenue, traffic counts will hopefully drop in favor of mass-transit travel.

Above: Figure 64.
Left: Figure 65.

Topography and Slope

Nearly 75% of the site stands above the ground and elevated on a platform. There is a sharp slope between the sidewalk on University, just south of the site, and the southern border of our site. This slope limits pedestrian travel and needs to be addressed. On the western side of the site, and nearly 1/4 of the length in, the site gradually declines to Hamline Avenue. Sloping down to at grade, this portion of the site presents a good opportunity for vehicle access.

Above: Figure 66.

Site Character

Above: Figure 67.
Left: Figure 68.
Right: Figure 69.

Site Map

The dashed line represents the upcoming lane for the new Green Line light rail system. Each marker represents photo taken on the site of unsightly views or vistas. The neighborhood to the north of our site is single-family residential. The neighborhood to the south of the site is big-box retail with small-scale commercial. To the east down University Avenue, views of downtown St. Paul are pleasant. To the west down University Avenue, views of never-ending commercial and empty parking space is create an unsightly glimpse of urban decay.

Above: Figure 70.

Site Photogrid

1. Looking east down the sidewalk along University Avenue from just south of the site.
2. Looking southeast toward University Avenue and the Midway Shopping Center. Located at the western edge of our site.
3. Looking across the entirety of the parking lot from the western most side of our site.
4. Looking north from the middle of our site. A view of old, abandoned car garage.
5. Looking east down the rails from the median of University Avenue.

Above: Figure 71.
Bottom: Figure 73.

Above: Figure 74.
Middle: Figure 75.
Bottom: Figure 76.

6. Looking west down the rails from the median of University Avenue.

7. Looking north toward our site from the median of University Avenue.

8. Looking northwest across both University Avenue and Hamline Avenue away from our site.

9. Looking northwest from on our site toward the old car showroom.

10. Looking west down the alley located to the north of our site.

Above: Figure 77.
Middle: Figure 78.
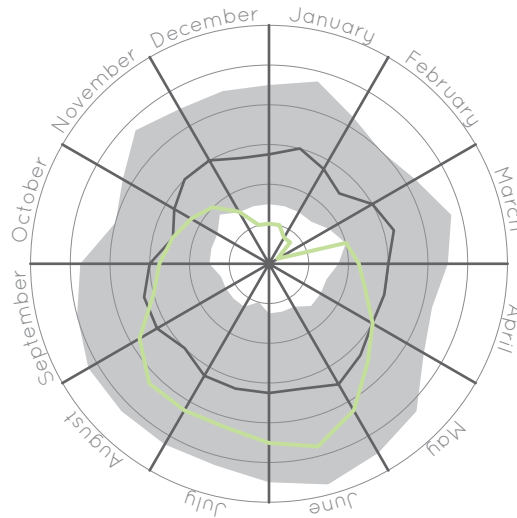*Bottom:* Figure 79.

Above: Figure 80.
Middle: Figure 81.

Temperature, Precipitation, Humidity

On average, St. Paul's warmest month of the year is July and the city's coolest month is January. The highest ever recorded temperature was 105°F in 1988 with the lowest recorded temperature at -32°F in 1996.

Typically St. Paul is more humid in the later part of the afternoons in comparison to the early mornings. The summer months of July, August and September are the most humid with March and January being the least.

precipitation [0-6 in]
— city average
● US average

temperature [0-100 deg F]
— city average
● temperature range

St. Paul witnesses extremes in precipitation. In the summer months, precipitation is high and above the national average. However, in late winter/early spring, precipitation is dangerously low, far short the national average.
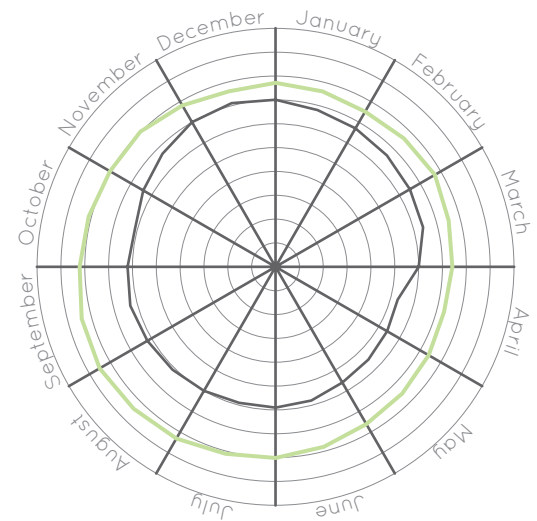
humidity [30-100%]
— city morning
— city afternoon

Left: Figure 82.
Middle: Figure 83.
Right: Figure 84.

Wind Speed, Snowfall, Sunshine
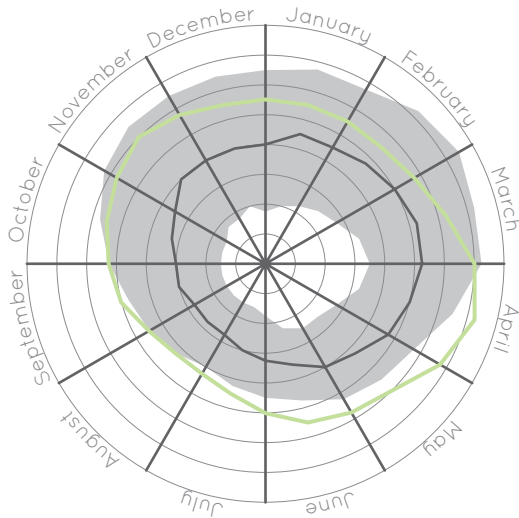
wind speed [5-13 mph]
— city average
⬤ US average

St. Paul's windspeed remains above the national average all year around. The spring months of March, April and May receive the highest windspeeds while the summer months of July and August receive the least.

Snowfall within St. Paul remains above the national average. Snow typically begins in November and ends in early April; however, it is also not uncommon for it to begin in October and end in late April into May.
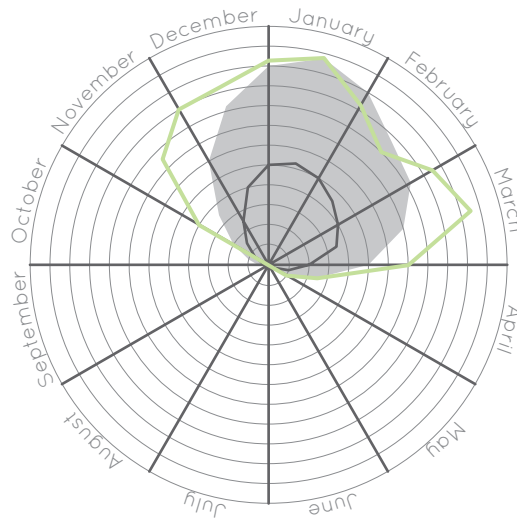
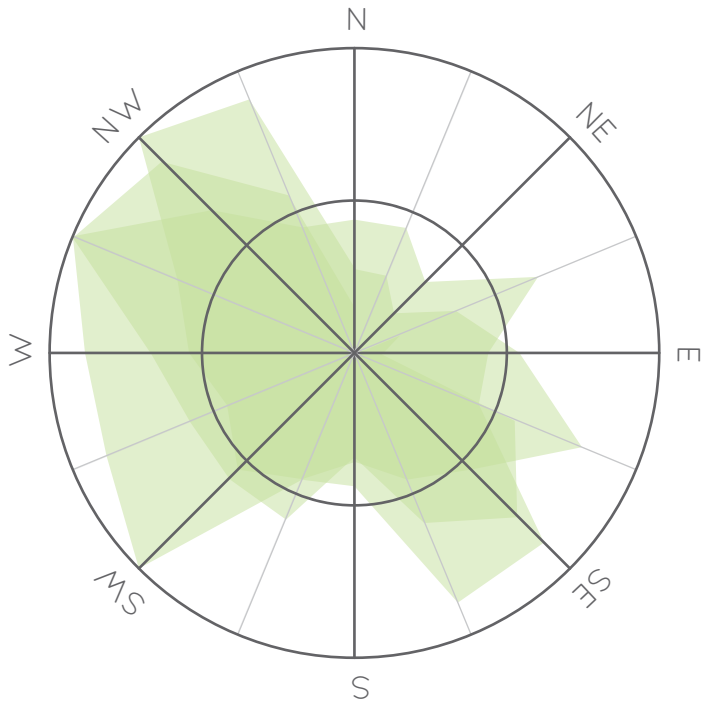snowfall [0-12 in]
— city average
⬤ US average
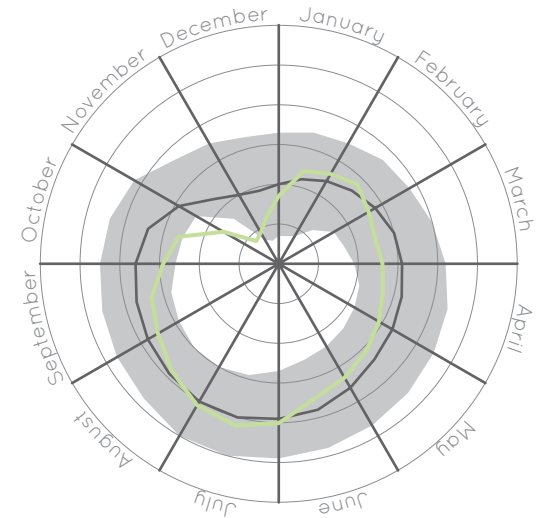
sunshine [30-90%]
— city average
⬤ US average

St. Paul's sunshine remains pretty consistent most of the year alongside the national average. However, in later November and into December, it does fall short dropping to nearly 28% sunshine.
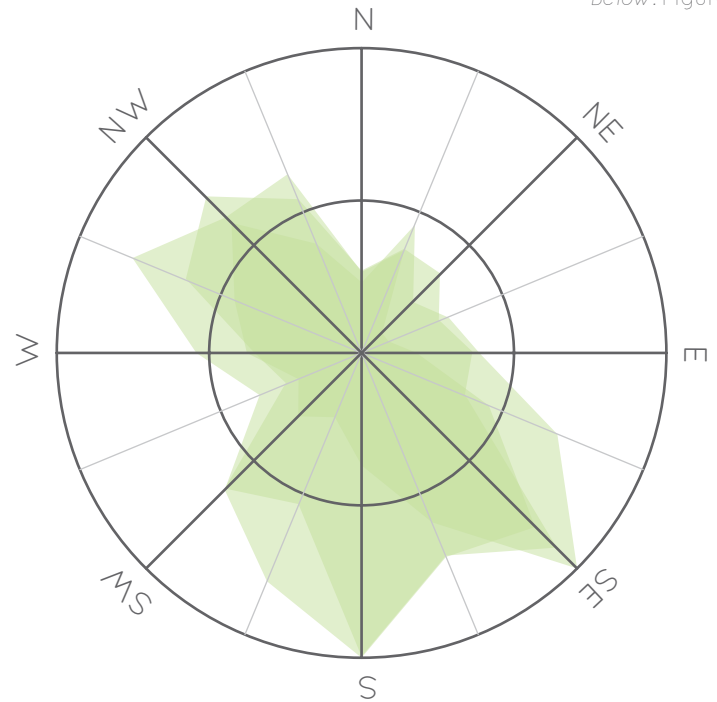
Left: Figure 85.
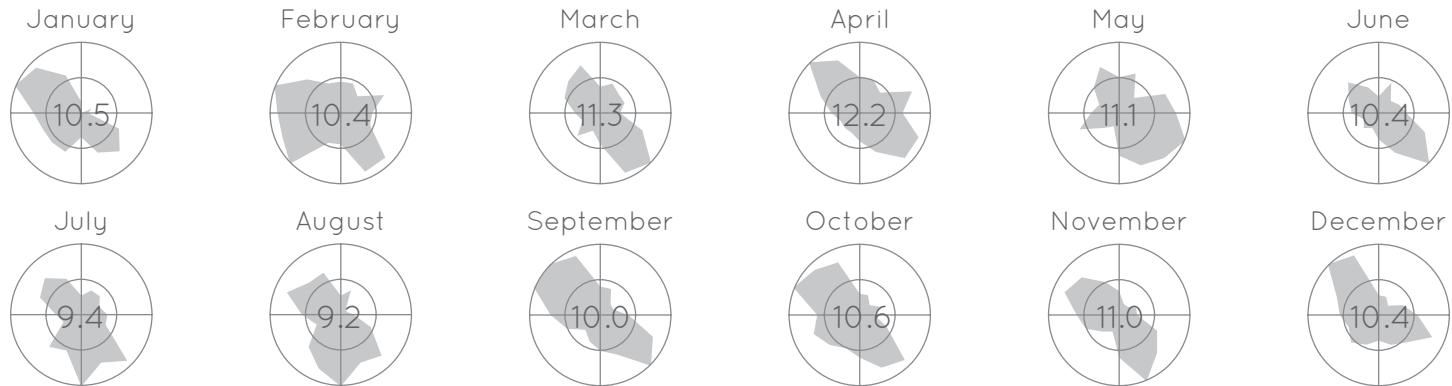*Middle:* Figure 86.
Right: Figure 87.

Wind Speed and Direction

wind direction: winter
[December-February]

wind direction: summer
[June-August]

January	February	March	April	May	June
10.5	10.4	11.3	12.2	11.1	10.4

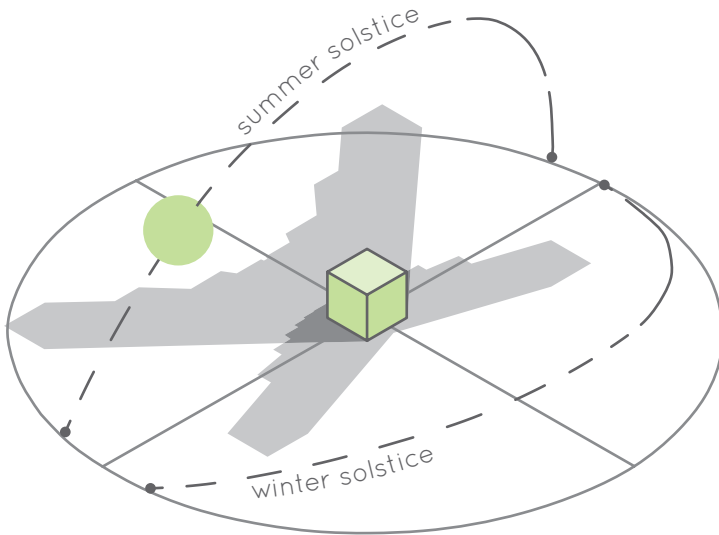| July	August	September	October	November	December
9.4	9.2	10.0	10.6	11.0	10.4

Sunshine and Shading

Latitude: +44.89
[44°53'34.008"N]

Longitude: -93.03
[93°02'04.992"W]

Time Zone:
UTC - 6 Hours

St. Paul Sun Path Diagram [+44.89]

- ● daylight hours
- — sun path solstice [06.21 and 12.21]
- — sun path equinox [03.20 and 09.23]
- ● important times of day

St. Paul Shade Diagram [+44.89]

- ● 1 x 1 cube
- — solstice sun paths [06.21 and 12.21]
- ● solstice shadows

summer noon time high altitude	68.21° degrees from horizon
winter noon time high altitude	21.61° degrees from horizon

Left: Figure 91.
Right: Figure 92.
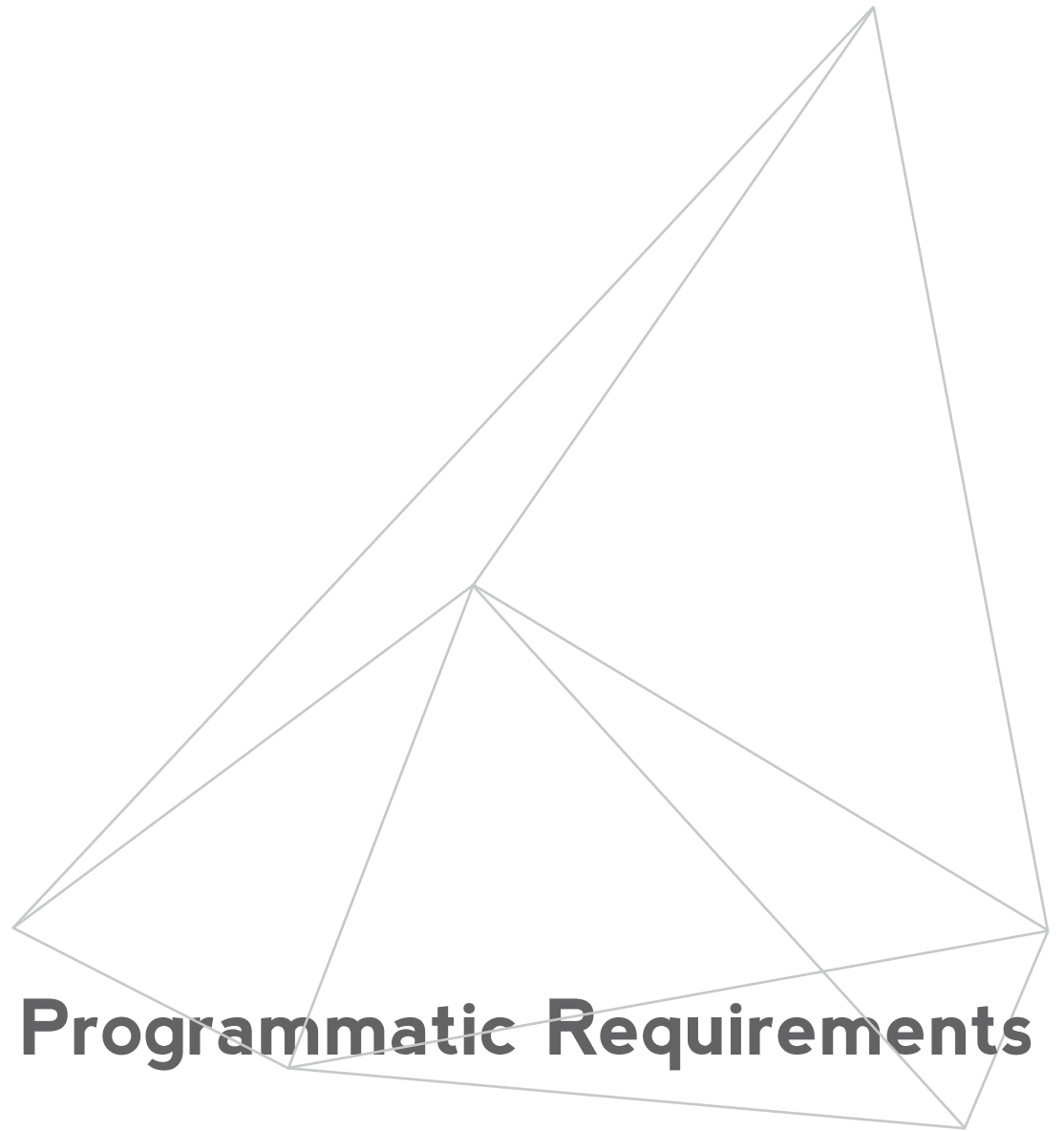
Programmatic Requirements

Space Allocation by Square Foot

Entry and Vestibule [2250]
vestibule
atrium

Administration [35000]
directors office
administrative offices
break room
conference
transit support
bikeshare support

Transit Facilities [4500]
ticket
waiting
customer and transit display
platform

Exhibition [2000]
temporary and permanent public art display

Supporting [38000+]
mechanical
janitorial
storage
circulation
restrooms

services [12250]
restaurant
cafe
retail
market

Exterior [32000]
public square
performance
exhibition
streetscape
bus stop
waiting
bikeshare station

Residential [26000]
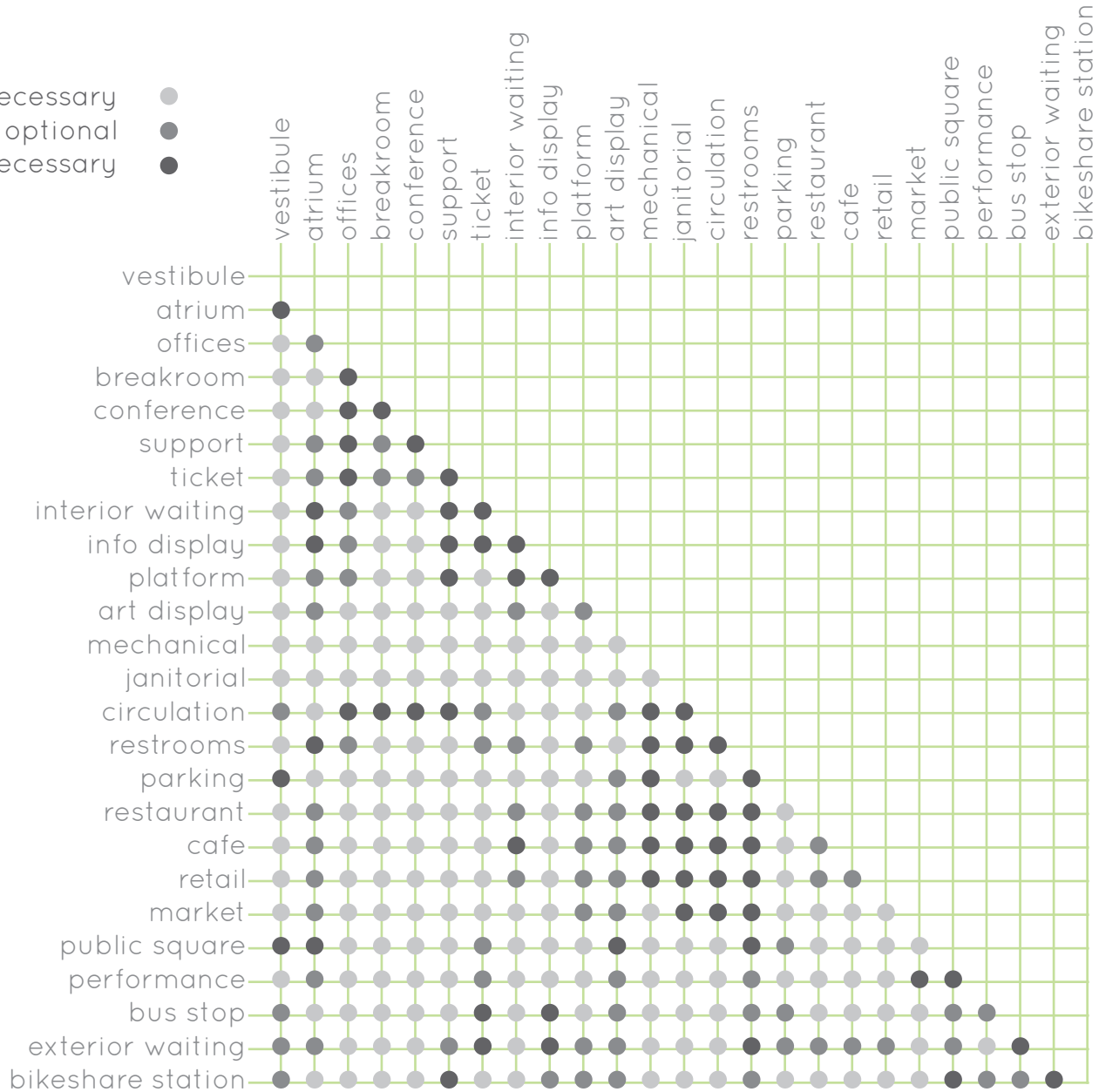Studio Apartments and Parking

Parking [60000]
Subgrade Parking

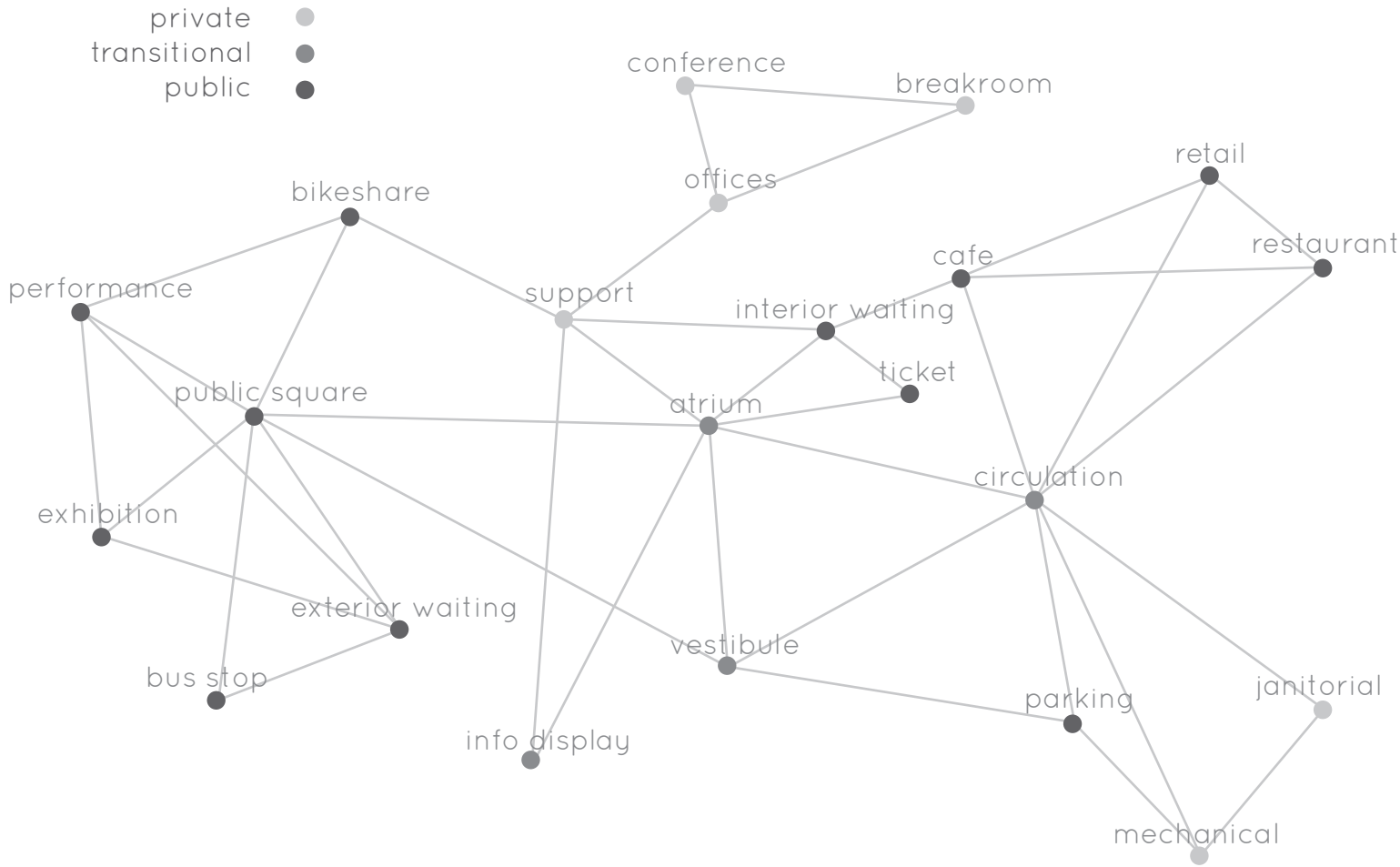# Interaction Matrix

Left: Figure 93.

Interaction Network

private
transitional
public

conference
breakroom
offices
retail
bikeshare
restaurant
cafe
performance
support
interior waiting
public square
ticket
atrium
circulation
exhibition
exterior waiting
vestibule
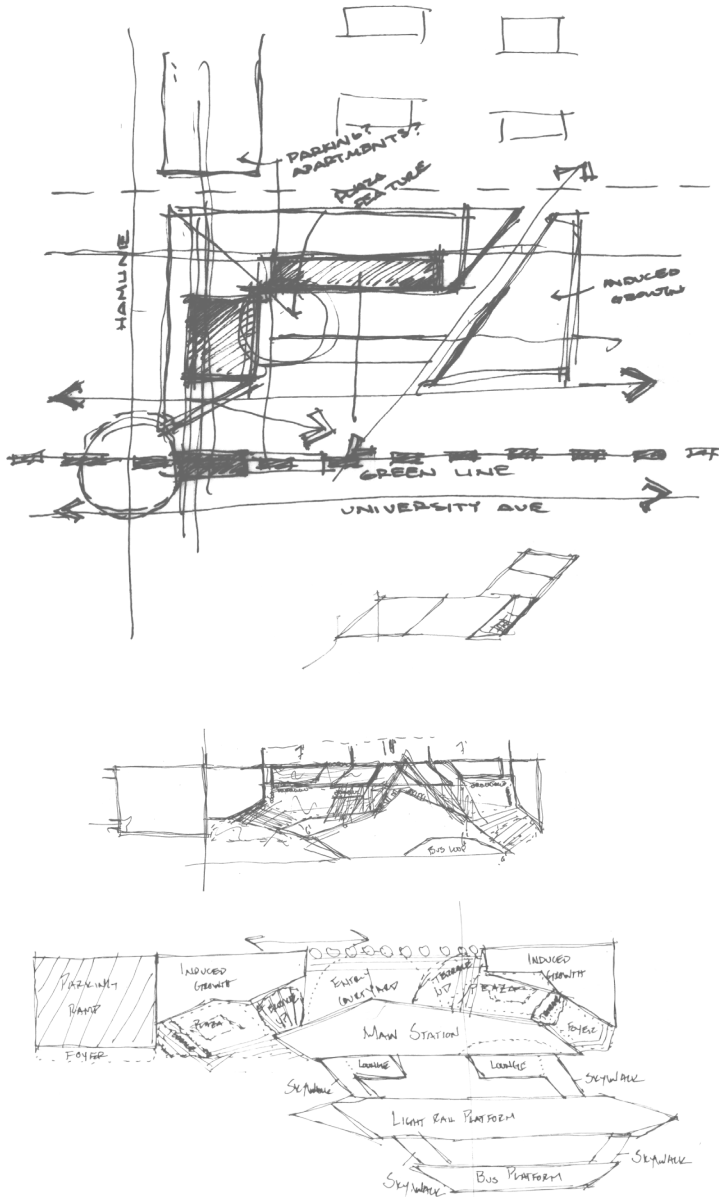bus stop
parking
janitorial
info display
mechanical
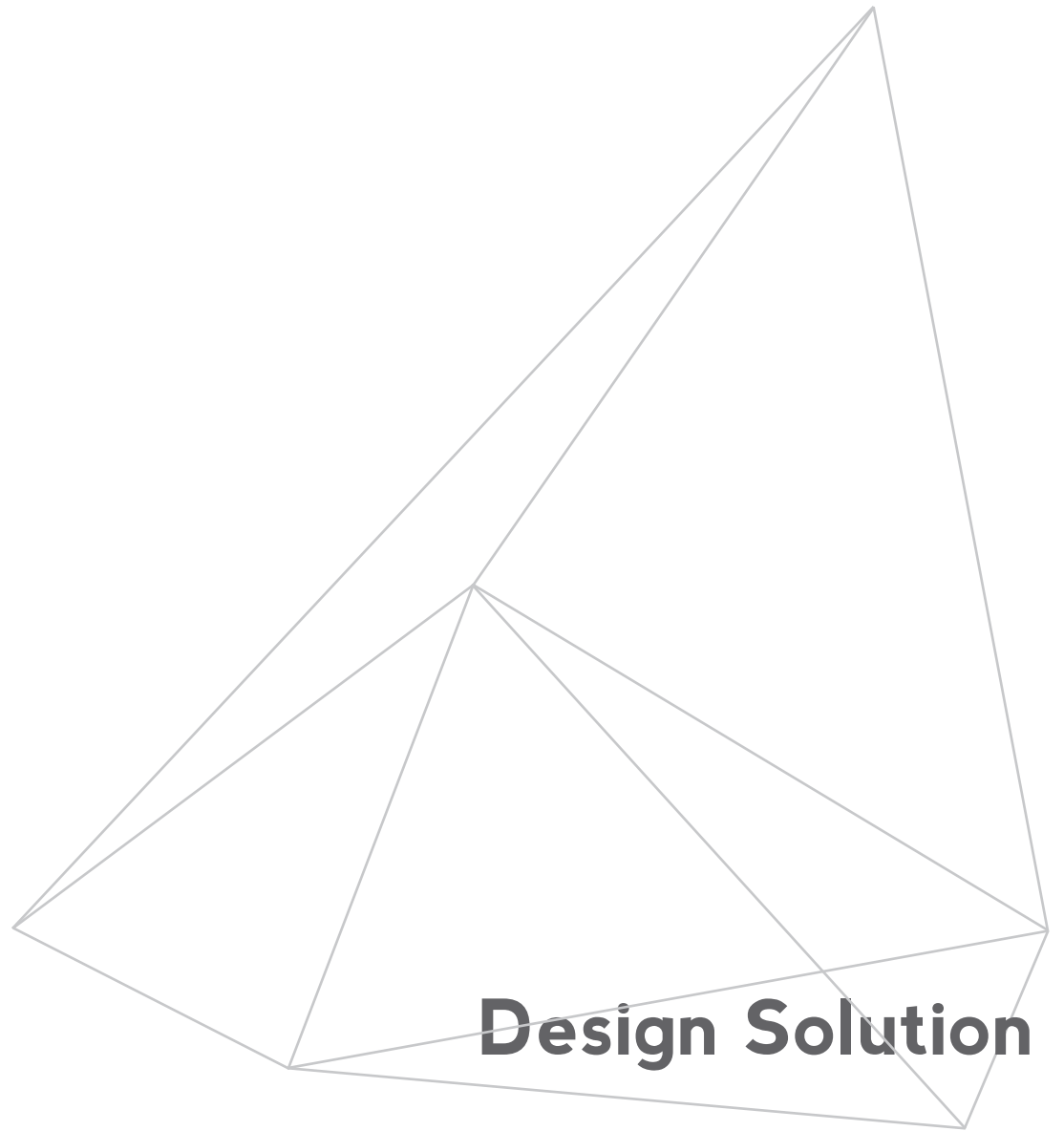
Design Solution

Process Documentation

The collaborative effort of our thesis was highlighted not by the separate duties we each took on as joint designers, but by the tasks we accomplished collectively. Site selection, conceptual work, layout development, and foundational programming were not separated into 'architecture' and 'landscape architecture' duties. Instead, we worked together as environmental designers to create a place that reads as one unified design. It was not until the development of site forms - the step after programming - that we took on our respective roles as architect and landscape architect. Even as we moved forward with specialized tasks, we continually consulted each other on our design decisions, and constantly revised our plans through discussion with each other. The collaboration was not always smooth - we encountered disagreements at nearly all stages of the design. Yet through our combined experiences, we were able to identify the better answer - or compromise - in every difficult decision.
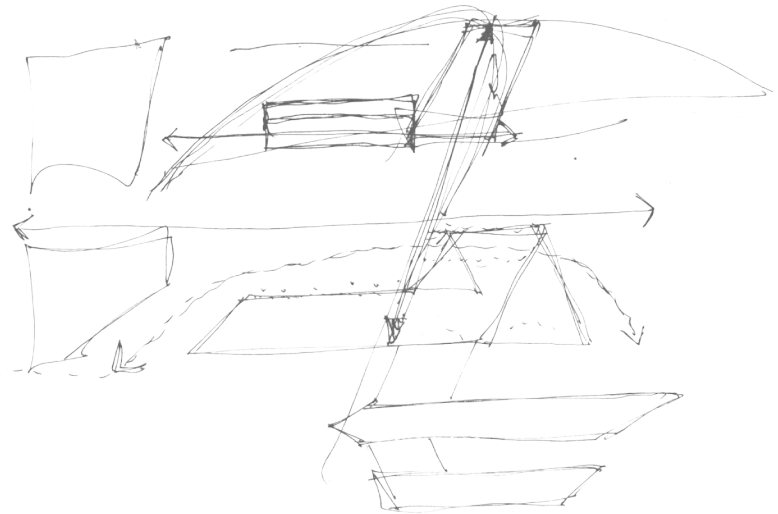
Above: Figure 95.

Design Solution

A Base in the Past, A Gesture to the Future

Our work explores the design of a public square and transit station at the intersection of University Avenue and Hamline Avenue in the Hamline-Midway neighborhood of St. Paul, Minnesota. Our focus is on responding to the need for transit-oriented development (TOD) through the exploration of the neighborhood placemaking principles of identity

Emerging Connections

and growth. This focus upon identity and growth at the neighborhood scale allows us to define methods for improving transit corridor connections between major urban centers. Our secondary focus is on the collaboration of architecture and landscape architecture and how they work together to accomplish environmental design goals.

Above: Figure 96.

Elevations + Sections
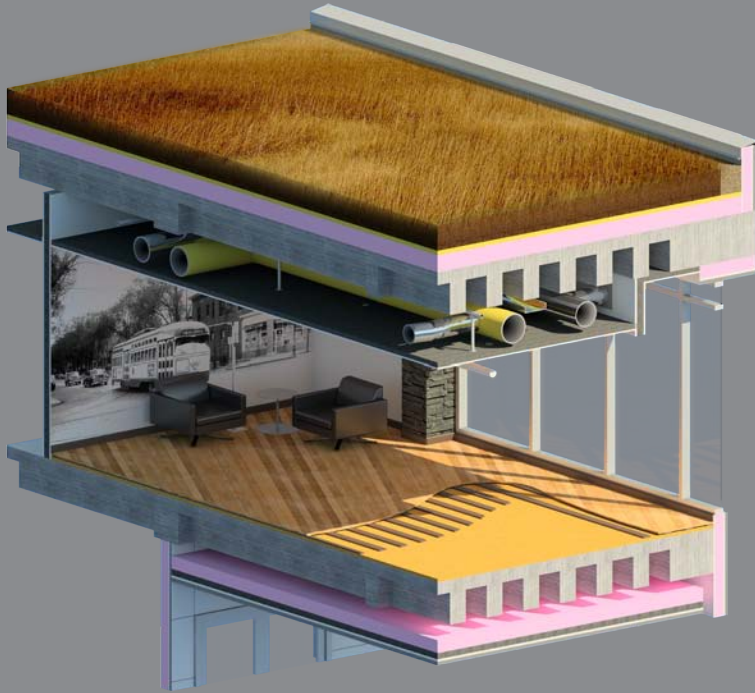

East Elevation + Transverse Section

Above: Figure 97.
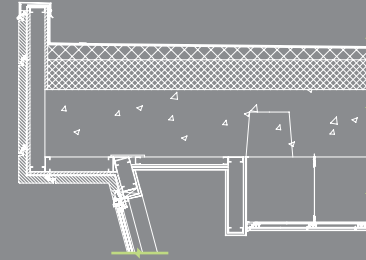

West Elevation

Above: Figure 98.

Longitudinal Section

Above: Figure 99.

Sectional Axonometric
Above: Figure 100.

Reinforced Angled Curtain Wall
Above: Figure 102.

Parapet + Green Roof Detail
Above: Figure 101.
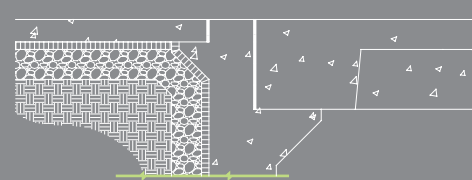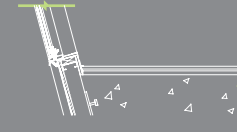
Structural Foundation Detail
Above: Figure 103.

Building + Site Details
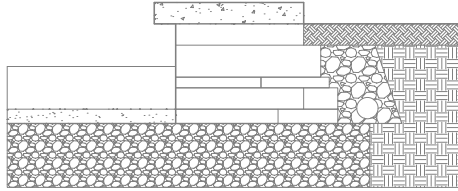
Terrace Retainment + Drainage System
Above: Figure 104.
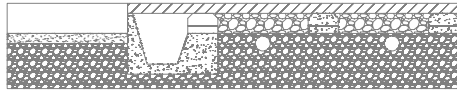
Pavement + Drainage System
Above: Figure 105.
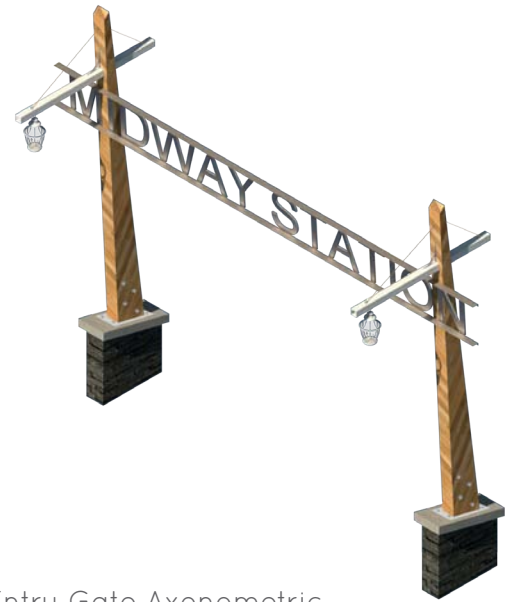
Entry Gate Axonometric
Above: Figure 107.

Outdoor Lounge Section
Above: Figure 106.

Biofiltration Section
Above: Figure 108.

FIRST LEVEL

1 Main Entry + Entry
2 Express Cafe
3 Cafeteria
4 Bus Stop Waiting Lounge
5 Metro Transit Ticketing + Security
6 Market @ Midway
7 The Midway Grill
8 Midway Bar + Grill Kitchen
9 Storage + Custodial
10 Residential Parking

11 Green Line Platform
12 Skyway Platform Access
13 Wheels Bike and Repair Shop
14 Mechanical
15 Underground Parking Access

'A'

'B'

Above: Figure 109.

SECONDLEVEL

0 5   25   50   75

1 Open to Below

2 Green Line Waiting Lounge

3 Passenger Lounge

4 Newspaper + Magazine Sales

5 Metro Transit Offices

6 The Midway Bar

7 The Midway Bar + Grill Patio

8 Studio Apartments

9 Skyway

10 Mechanical

'A'

'B'

Above: Figure 110.

THIRDLEVEL

0 5   25   50   75

NORTH

1 Leasable Office Space
2 Presentation Space
3 Office Skyline Lounge
4 Storage
5 Studio Apartments
6 Mechanical

5

4   6

1

3

1

2

3

'A'

'B'
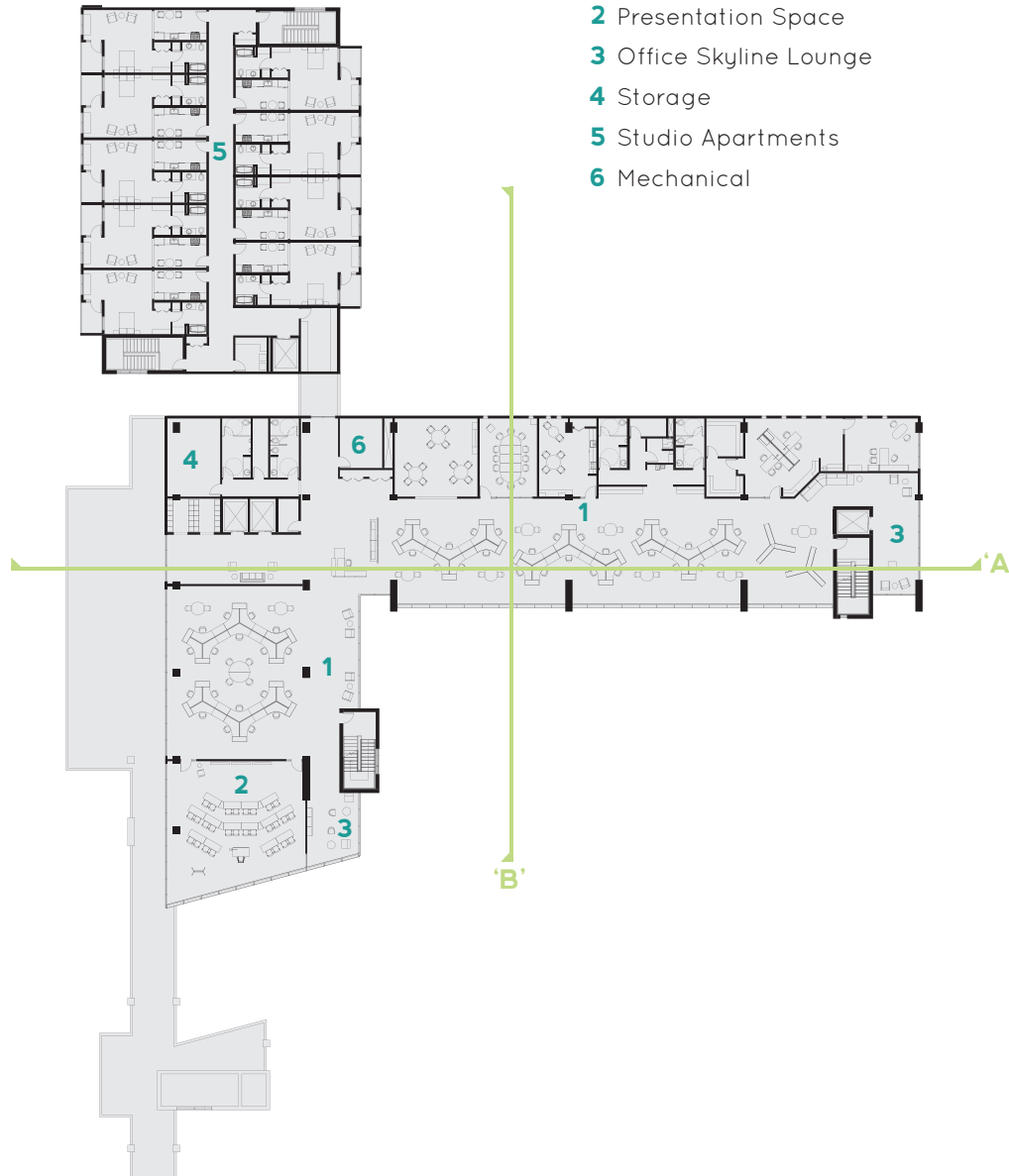
Above: Figure 111.

SUBGRADEPARKING01

'A'
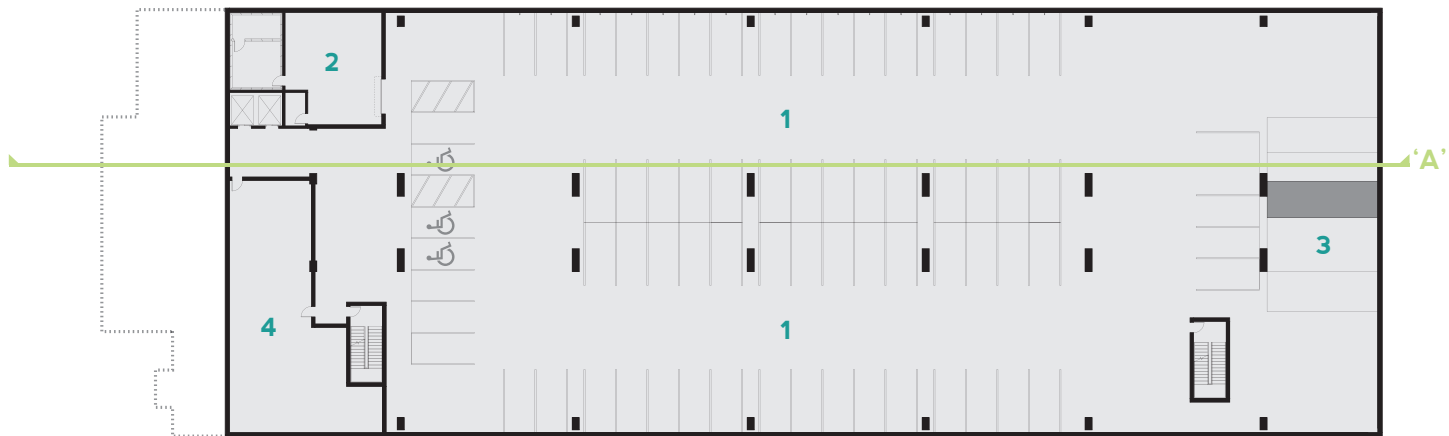
1 Short + Long Term Facility Parking

2 Market @ Midway Storage + Dropoff

3 Parking Access Ramp

4 Mechanical + Storage

* 146 Parking Stalls with 6 Handicap Accessible

* Room for Motorbike Parking and Storage

Above: Figure 112.

STATIONPROGRAM

1 Residential Parking
2 Bus Stop Waiting Lounge
3 Metro Transit Ticketing
4 Main Entry + Atrium
5 Market @ Midway
6 East Entry
7 The Midway Grill
8 The Midway Grill 2nd Floor Balcony
9 Wheels Bike + Repair Shop

SQUAREPROGRAM

1 Hamline Avenue Bike Lane
2 Stormwater Infiltration Swale
3 Bus Stop
4 Bike and Pedestrian Alley Access
5 Residential Alley + Bike Lane
6 Trash + Recycling Storage
7 Below-Grade Parking Ramp
8 Bike Lane
9 The Midway Grill Outdoor Lounge

10 Thomas Lowry Memorial Fountain
11 West Station Entry Gate
12 Open-Program Space
13 Lounging Terraces
14 Market @ Midway Corridor
15 West Tower Fountain
16 East Station Entry Gate
17 Skyway Platform Access
18 Green Line Platform

Above: Figure 113.

Site Plan + Program Details

Spring
-Lounge and Patio Furniture
-Local School Art Shows
-Standing Canopy Heaters around Furniture
-Fountains Begin in Late Spring
-Market Opens to Outside in Late -Spring
-Bike Season Begins
-Street Performers
-Food Carts
-Gardening Fairs

Summer
-Farmers Market
-Market is Open to Outside
-Fountains Remain Active
-Craft and Art Fairs
-Food / Cooking Contests
-Neighborhood Festival
-Concerts
-Street Performers
-Food Carts

Fall
-Farmers Market
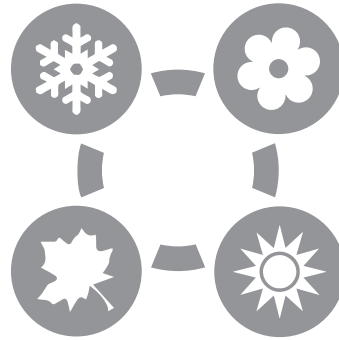-Market is Open through Early Fall
-Fountains Remain Active through Early Fall
-Lounge and Patio Furniture
-School and Local Art Shows
-Standing Canopy Heaters around Furniture
-Street Performers
-Food Carts
-Bike Season Closes

Winter
-Snowman Building Contests
-Ice and Snow Carving Displays
-Holiday Light Display
-Winter Bike Storage for Residents
-Food Carts - Hot Drinks
-Cross Country Skiing in the Alley Bike Lane
-'North Pole' Display and Holiday Tree Sales
-Neighborhood Winter Festival
-Snowtire Bike Race

ACTIVATEDSPACES

LEGEND
— Offices
— Transit Spaces
— Public Spaces
— Retail Spaces
— Market

PERCENT FULL OCCUPANCY

100%
50%
10%

3am 6am 9am 12pm 3pm 6pm 9pm 12am

TIME OF DAY
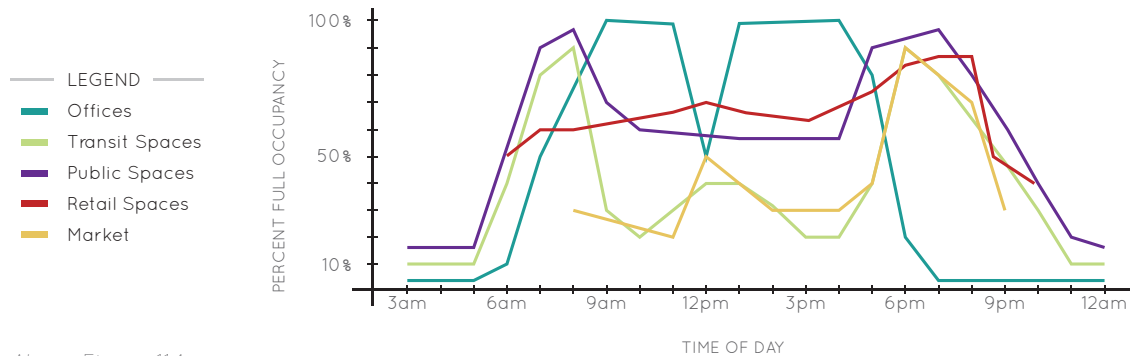
Above: Figure 114.

Wheels Bike and Repair

Left: Figure 116.
Below: Figure 117.

Entry Atrium + Ticketing

The Midway Grill Outdoor Lounge

Right : Figure 118.
Below : Figure 119.

Thomas Lowry Memorial Fountain

Market @ Midway

Left: Figure 120.
Below: Figure 121.

The Midway Grill

Market @ Midway Corridor

Right : Figure 122.
Below : Figure 123.

Spring at Midway Station

Metro Transit Offices

Left : Figure 124.
Below : Figure 125.

Green Line Passenger Waiting

Summer at Midway Station

Right: Figure 126.
Below: Figure 127.

Fall at Midway Station

Skyline Lounge

Left: Figure 128.

Winter at Midway Station

Right : Figure 129.

Visioning Plan + Analysis Maps

Though our design is a site-scale intervention, its intention is the creation of growth and identity in Hamline-Midway. This Visioning Plan displays the development zone (green underlay) surrounding our site that our design will influence. It shows the existing amenities in this development zone and projects the patterns in which the induced growth of the TOD will occur.

Above: Figure 130.
Below: Figure 131.

Lynch's Elements of Urban Form

LEGEND
- Landmarks
- Nodes
- Path
- Edges
- District

Hamline-Midway Street Typology

LEGEND
- Commercial Corridor
- Historic Railroad Route
- Primary Residential
- Secondary Residential
- Interstate

Hamline-Midway Land Use

LEGEND
- Residential
- Commercial
- Industrial
- Institutional

Dain + Sydney

A
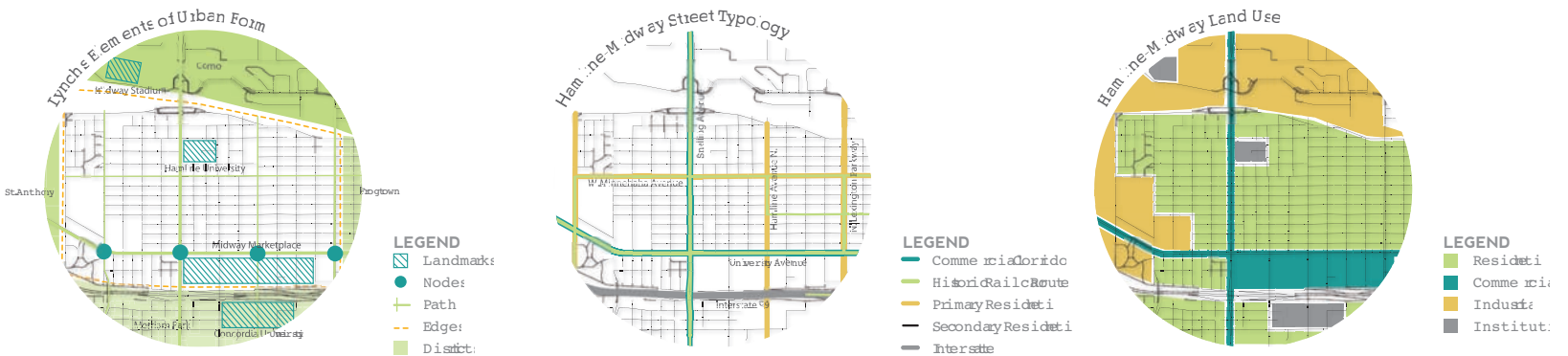
Dain is a graduate student at the University of Minnesota and is working towards a masters degree in civil engineering. He lives in a studio apartment in Hamline-Midway, a few blocks away from Midway Station. Dain bartends at a small pub in downtown St. Paul and is able to take the Green Line from his house to both work and school. On the weekends, Dain likes to take his dog Sydney to the Mississippi River to go for a run by grabbing the bus from Midway Station to meet up with the regions extensive set of recreational trails.

Francis

B

Francis lives in a low-income apartment building on University Avenue, next to Midway Station. He works at the Archer Daniels Midland elevator in St.Paul, and commutes to work using both the Green Line and bus transit; though, he looks forward to the proposed street car on Seventh Ave. Francis is taking night classes at Hamline University to finish his teaching degree, and the bus allows him to commute from Midway Station to the university in the evenings. Francis enjoys also enjoys his close proximity to the fresh, local produce available in the Market at Midway.

Grace, Allison, Gabe + Emma

C

Grace and Allison met in college at the University of Wisconsin. They moved to Minnesota in 2009, and were married in 2013. They have adopted two kids since moving to Minnesota, Gabe (6) and Emma (4). They live in a house in Hamline-Midway, close to Galtier Community School, where Gabe and Emma attend. Grace works as a loan officer at 1st National Bank in downtown St. Paul, and takes the Green Line to work. Allison works as an analyst for MetroTransit, and works in their offices located on the second floor of Midway Station.

Ole + Harriet

D

Ole, a long time employee of the Ford factory in St. Paul, and his wife Harriet, a former school teacher, are now retired and live in an old, historic house in Hamline-Midway. They are active members of the H-M Neighborhood Association, and are involved with organizing events that bring neighbors together. Some of their favorite events include art and food fairs and seasonal festivals at Midway Station. They are also avid gardeners, and enjoy selling their produce at the weekly Midway Station farmers' market.

Rosie

E

Rosie grew up in the Como neighborhood of St. Paul, where her parents still live. She is a flight attendant for Delta Airlines, and is based out of the Minneapolis-St. Paul International Airport in Bloomington. Rosie chose to live in the Apartments at Midway Station because it was more affordable than many other locations in the Metro and it was also close to her aging parents. Thanks to the quick transition from the Green Line to the Blue Line in Minneapolis, she is easily able to utilize the full capacity of the light rail system for work.

Shaun

F

Shaun is a folk singer and songwriter from Fargo, ND who came to St. Paul to launch his music career. At night, Shaun performs gigs in small venues all over town, and likes to take the light rail when heading to his shows. When he isn't singing, Shaun works at Wheels Bike + Repair, where he builds, fixes, rents, and sells bikes. Shaun lives in a residential high-rise in downtown St. Paul, and rides his bike to the Station whenever weather permits. Shaun also enjoys the proximity of Midway Station to his favorite shopping outlet, Midway Center.

Above: Figure 132.

Above: Figure 133.

Final Presentation

Complete and final presentation on display in the Renaissance Hall Gallery.

Above: Figure 134.

References

Arch Daily. (2009, May 04). RATP Bus Center in Thiais / ECDM. Retrieved from
 http://www.archdaily.com/14493/ratp-bus-center-in-thiais-ecdm/

Arch Daily. (2012, July 24). Bus Station / DTR Studio. Retrieved from
 http://www.archdaily.com/256358/bus-station-dtr-studio/

Arch Daily. (2013, May 07). Conference center in corporate campus apeldoorn / adp architects.
 Retrieved from http://www.archdaily.com/369030/

Architectural Design. (2012). Human experience and place: Sustaining identity.
 Italy: Conti Tipocolor.

Architectural Record. (2013). Thiais Bus Centre Administrative Building. Retrieved from
 http://archrecord.construction.com/projects/bts/archives/parkinggarages/08_Thiais/

Bell, A. (2013). TOD Strategic Action Plan. Metropolitan Council. St. Paul: Corridors of Opportunity.

Castle, H. (2012). Human experience and place: Sustaining identity. Italy: Conti Tipocolor.

Casakin, H., & Kreitler, S. (2008). Place attachment as a function of meaning assignment. Open
 Environmental Sciences, Retrieved from https://www.academia.edu/152487/Place_
 attachment_as_a_function_of_meaning_assignment

City of St. Paul. (2013). Live in saint paul: Utilities. Retrieved from
 http://www.stpaul.gov/index.aspx?NID=1947

Condon, P. M. (2010). Seven Rules for Sustainable Communities: Design Strategies for
 the Post-Carbon World. Washington, D.C.: Island Press.

Detail Inspiration. (2013, September). Bus Station in Baeza. Retrieved from
 http://detail-online.com/inspiration/bus-station-in-baeza-107170.html

Diers, J. W., & Isaacs, A. (2007). Twin Cities by Trolley: The Streetcar Era in Minneapolis and St. Paul. Minneapolis, MN: University of Minnesota Press.

Fleming, R. (2007). The art of place making. New York City: Merrell Publishers Limited.

Gaisma. (Producer). (2013, November 12). St. Paul Climate Data [Web Graphic]. Retrieved from http://www.gaisma.com/en/location/south-saint-paul-minnesota.html

Garrett, T. (2004, August). Light-rail transit in america . Retrieved from http://www.stlouisfed.org/community_development/assets/pdf/light_rail.pdf

Hanlon, M. (2007). World population becomes more urban than rural. Retrieved from http://www.gizmag.com/go/7334/

Hauge, A. (2007). Identity and place: A critical comparison of three identity theories. Architectural Science Review, Retrieved from http://faculty.arch.utah.edu/benham/group 3/ Place-Identity.pdf

Holmes, J., & van Hemert, J. (2008). Transit Oriented Development. The Rocky Mountain Land Use Institute. Denver: Rocky Mountain Land Use Institute.

Kark, R., & Carmeli, A. (2008). Alive and creating: the mediating role of vitality and aliveness in the relationshipbetween psychological safety and creativework involvement. Journal of Organizational Behavior, Retrieved from https://www.academia.edu/1132989/Alive_ and_creating_The_mediating_role_of_vitality_and_aliveness_in_the_relationship_ between_psychological_safety_and_creative_work_involvement

Manzo, L., & Perkins, D. (2006). Finding common ground: The importance of place attachment to community participation and planning. Journal of Planning Literature, Retrieved from https://my.vanderbilt.edu/perkins/files/2011/09/ManzoPerkins.2006.Neighborhoods-as- common-ground.JPL_.pdf

McLennan, J. (2012). Transformational thought. (p. 184). Portland: Ecotone Publishing.

Melosi, M. (2010). The automobile shapes the city. Retrieved from
       http://www.autolife.umd.umich.edu/Environment/E_Casestudy/E_casestudy4.htm

Merriam-Webster. (2013). Vitality. Retrieved from
       http://www.merriam-webster.com/dictionary/vitality

Metropolitan Council. (2012). The Midway. Retrieved October 8, 2013, from On the Green Line:
       http://www. http://onthegreenline.com/green-line-districts/the-midway

Metropolitan Transportation Commission. (2007). Station Area Planning Manual. San Francisco:
       Center for Transit Oriented Development.

Meyer, G. (Producer). (1992). Geologic atlas of Ramsey County, Minnesota, C-7, Plate 3, Surficial
       Geology [Print Map]. Retrieved from http://reflections.mndigital.org/cdm/singleitem/
       collection/mgs/id/668/rec/4

Minnesota Department of Natural Resources. (2013). Groundwater Information: Water table.
       Retrieved from http://www.dnr.state.mn.us/groundwater/watertable.html

Minnesota Street Car Museum, J. (2013). A brief history of twin cities transit. Retrieved from
       http://www.trolleyride.org/History/Narrative/TC_Transit.html

Morfae. (2011, May 05). The RATP Bus Centre by ECDM in Thiais, France. Retrieved from
       http://www.morfae.com/0863-ecdm/

Najafi, M., & Shariff , M. (2011). The concept of place and sense of place in architectural studies.
       International Journal of Human and Social Sciences, Retrieved from http://www.waset.org/
       journals/ijhss/v6/v6-3-28.pdf

Norberg-Schulz, C. (1980). Genius loci: Towards a phenomenology of architecture. New York:
       Rizzoli International Publications, Inc.

Norberg-Schulz, C. (1980). The concept of dwelling: On the way to figurative architecture. London: Studio Vista London.

Nusca, A. (2011). Rural u.s. population lowest in history, demographers say. Retrieved from http://www.smartplanet.com/blog/smart-takes/rural-us-population-lowest-in-history-demographers-say/

Ramsey County Historical Society. (2012). Hamline-Midway. Retrieved October 3, 2013, from Ramsey County Historical Society: http://www.rchs.com/ neighborhoods/hamline_midway.htm.

Schofer, J. (2013). Mass transit. Retrieved from http://www.britannica.com/EBchecked/topic/368374/mass-transit

Shamsuddin, S., & Ujang, N. (2008). Making places: The role of attachment in creating the sense of place for traditional streets in malaysia. Habitat International 32,

Starink, P. (2013, September 24). Achmea campus. Retrieved from http://architectuur.nl/project/achmea-campus/

The Weather Channel. (2012). Average Weather for St Paul MN. Retrieved from http://www.weather.com/weather/wxclimatology/monthly/graph/USMN0664

Ujang, N. (2010). Place attachment and continuity of urban place identity. Asian Journal of Environment-Behavior Studies, Retrieved from http://fspu.uitm.edu.my/cebs/images/stories/ajebs12may2010c5.pdf

Wurzer, G., Hinneberg, H., Illera, C., Swoboda, S., & Jonas, A. (2013). Architectural patterns enabling reconfigurable exit routes for complex buildings. Retrieved from http://publik.tuwien.ac.at/files/PubDat_180353.pdf

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"Do what you can, where you are, with what you have." - Teddy Roosevelt

Above: Figure 135.

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Two roads diverged in a yellow wood and I .. I took the one less traveled by, and that has made all the difference." - Robert Frost, *The Road Not Taken*