

The background image shows a university campus at sunset. A large brick building with a prominent clock tower is on the right. In the foreground, there are several picnic tables on a grassy area. The sky is filled with soft, colorful clouds in shades of blue, pink, and orange. A ship is visible in the distance on the left.

Snowboarding: Fitting Use or Urban Abuse?

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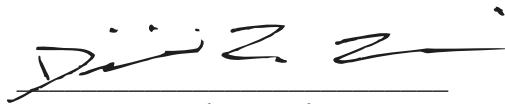
May 2013

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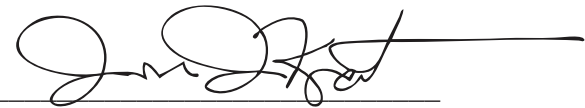
A Design Thesis Submitted to the
Department of Architecture and Landscape Architecture
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By
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In Partial Fulfillment of the Requirements
for the Degree of
Bachelor of Landscape Architecture



Primary Thesis Advisor



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STATEMENT OF INTENT

THESIS ABSTRACT

Central Hillside Park in Duluth, Minnesota is an often desolate park in the heart of downtown. My design seeks to create a new type of project, an urban snowpark in which every part of the urban block can be ridden compared to a space with temporary features. This design will translate into opportunities for skateboarders in the summer, as well as provide opportunities for other sports and activities. Creating a multifunctional area that is safe to progressively learn new tricks can energize a space year round with not only snowboarding and skateboarding, but more traditional sports and activities as well. Designing with features that are most fun to ride, materials that can withstand heavy use, and arranging them in a safe, fun way can progress the sport while protecting the users as best as possible. A park that gives riders the opportunity to ride every aspect of an urban environment, legally, can change people's negative perceptions of non-traditional sports. In doing so, this design will be the first park that looks like any other urban city block, but any feature can be ridden, like a skatepark.

PROBLEM STATEMENT

Winter can be a challenging time in northern climates when the amount of sunlight and the possibility for outdoor activities are minimal. Why then should non-traditional sports, such as snowboarding and skateboarding, be not only excluded, but actually punished for being done in an urban setting that otherwise goes unused?

By changing the programming of a space, can the same layout and features be successful in multiple seasons?

THE PROJECT TYPOLOGY

CLAIM

This project will be an urban epicenter for an action sports, in both activity and culture. As non-traditional sports become an extended part of our culture, design can transform cities into urban playgrounds, considering the benefits from these activities. Since winter is usually regarded as a season for being indoors, it is important to get people outside for both their mental and physical well being. But, there is currently a lack of ride-able urban infrastructure. Riding urban features is an illegal activity in itself, which negatively impacts the public's perceptions of these sports. There is a possibility to get ticketed for destruction of property and trespassing, among others. This represents only half of the problem, as snowboarding is mainly done during a few winter months. Designing spaces for snowboarding can also translate into spaces for skateboarding during warmer months. Creating multifunctional spaces would ensure the park is used year round.

SUPPORTING PREMISE

The design will be based around the concept of an outdoor recreational facility that can be used for multiple activities depending on how the user's of the park see it. Recently, urban snow parks have begun to emerge across the country. Beginning in 2007, Ruby Hill Rail Yard in Denver was the first free, urban ski and snowboard terrain park located within a city (Rethinking, 2012). Since that time, several other parks of varying size and complexity have been implemented throughout the country as a way to bring snowboarding into an urban environment.

THEORETICAL PREMISE/UNIFYING IDEA

The premise that this project will be based around is the question of why let urban spaces go unused in winter months, even if not to traditional activities? The opportunity exists to ride every part of an urban environment legally, becoming the first park that includes buildings, urban features such as handrails, skatepark and snow park design. Having features catered to non-traditional sports is just one aspect though, as there will be several subspaces to be a truly multifunctional park. By changing the programming of a space, can the same layout and features be successful in multiple seasons? A park that gives riders the opportunity to ride every aspect of an urban environment, legally, can change people's negative perceptions of non-traditional sports. The form of the park allows it to grow with society over time, so even if non-traditional sports were to disappear entirely, the park could continue to thrive.

PROJECT JUSTIFICATION

This project is important in developing a new type of landscape that can be used in all seasons, depending on how the user views the park. Depending on the sport, season, and individual people, the park can be transformed during every season.

This is an applicable landscape architecture project to first market the idea to prospective builders or city planners. This will be primarily shown as entertainment, through a video. The next step is to design the master plan for the park, with site details in order to make a cohesive park that is fun to ride.

THESIS PROPOSAL

NARRATIVE

This research has considered relevant topics, such as urban snow parks, skateboarding, health, and safety for a holistic design providing a safe place for nontraditional sports. Through landscape architectural design and city ordinances, Duluth, Minnesota can transform underutilized public areas into multi-functional spaces.

This project is very important to me because I have been snowboarding for 11 years, and think about little else. As a snowboarder, I know firsthand how much a difference in small details makes for the safety and progression of the sport. Snowboarding within urban environments has taught me to look for the dangers and opportunities of each spot, as well as the hypocrisy in getting kicked out of places that haven't been used all winter.

This idea is important to society because it attempts to make use of underutilized areas that are usually desolate for most of the year. By providing a place for non-traditional sports, it can curb some of the negative connotations associated with these user groups.

USER/CLIENT DESCRIPTION

There are three main user groups this park will provide for. First, the park is meant to be an example of urban snowboarding that can be done year round. Snowboarding is generally done during the winter months, usually November to March. With the inclusion of a carpet snowpark, the snowboarding season can be extended throughout the entire year. During the winter months, snowboarders have access to the entire site, while during the summer season only the carpet park will be used. The peak activity for snowboarders during the off season will be 50 - 100 people. During the winter months, peak activity of snowboarders is expected to be 100 - 200 people. The site will remain mostly open for activities, so parking will be at a minimum, with only 30 spaces. This will make use of on street parking and alternative ways to get to the site.

Skateboarders are the other main user group. These users can use the park during the warmer half of the year, generally April to October. Although only one quarter of the site can be used as a skate plaza, there are three different sections, or levels, for skaters. Unlike snowboarders who need to make use of verticality of the site, skateboarders can propel themselves and make use of the circulation on each level. It is estimated that peak usage of skateboarders will be 50 - 100 people.

The third user group will be the rest of the general public, as this park will attempt to be an action sports park in the details, but also a place that everyone of all ages can go to play outside, relax, or view others. The proposed buildings will provide space for retail, offices, and living space. These users might vary from the intended users of the park being that they won't partake in the activities directly, but might rather be tied to them such as a warming house or restaurant. There is a possibility for 100 plus people in this user group, whether that is employees for the site, residents, or the general public coming to use the site.

MAJOR PROJECT ELEMENTS

The four major elements of this park will be:

- Carpet Snowpark
- Skatepark
- Building/Structure
- Open Space

Each of these separate areas will have subcategories of elements. The snowpark will need a towrope in order to most efficiently and quickly get snowboarders from the bottom of the run to the top. An entire run is estimated at 45 seconds to a minute because of the park's size. The carpet park will make use of some permanent features, such as jumps, half pipes, etc but will mainly rely on the continuous variation and rotation of different rails. During winter when the entire site can be used as a snowpark, the features in the open spaces will be set up with different features to allow the park to double in size.

The skatepark/skate plaza will be permanent in form, but temporary or moveable features can serve the individual's needs better. The plaza will have distinct levels based on skill with a variety of features in each. The skaters will rely on the circulation of each level, and between levels for their lines.

The proposed buildings next to the skate plaza will be used for retail, office, or housing. Some businesses might be a skate shop, restaurant, warming house, or offices for the park district or snowpark.

Finally, the open space on the edge of the site will serve two different purposes depending on the season. In the summer the space can be utilized by the general public as a place to gather, relax, or play more traditional sports on the turf. In winter, the permanent features, such as the handrails, can be ridden by the snowboarders. Boxes, rails, jumps, and other features can also be set up as a temporary park accessed by the towrope or hiking an individual feature.

SIZE

The total size of the site is 120,000 sq ft. It is 400 feet wide and 300 feet in length, with slightly over 40 feet in elevation change.

Each quarter of the site will be approximately 100 feet wide and 300 feet long. The approximate sizes of each of these elements will cover roughly 30,000 sq ft.

The carpet snowpark will be 30,000 sq ft during summer, but when there is snow on the ground most of the park will be transformed into a snowpark, doubling or possibly tripling it in size.

The skate plaza will be slightly less than 20,000 feet. Skateboarders can make use of slightly smaller areas. Also, the parking lot and buildings adjacent to the plaza will take up almost 10,000 sq ft.

The proposed buildings will range from 2 - 5 stories in height. They will run most of the length of the site so they too can be ridden. The total proposed buildings will cover approximately 40,000 sq ft of the site.

The open space, also 30,000 sq ft can be used for anything during the summer months, but when there is snow the area will be taken over as a snowpark, essentially doubling the rideable area.

SITE INFORMATION

The site is located in Duluth, Minnesota. Being on Lake Superior has its challenges, as well as opportunities. The Lake Effect causes an unusually higher amount of snowfall than other Midwest cities. As cold winds move across Lake Superior they pick up water vapor and deposit it as snow.

Original inhabitants of the area were Sioux and Ojibway tribes, French explorers arrived to the area in the 1600's, hoping to establish trading and trapping rights with the Indians. The man in charge of this, Daniel Greysolon, Sieur du Lhut would secure him the right to name the area du Lhut.

By the late 1800's Duluth had become a very prominent, being the only US port connecting both the Atlantic and Pacific Oceans. The area was alive with fur trade, lumber, wheat, and ore mining. Once the railroads were established the city became a hub for transporting people, products, and prosperity. By 1869 Duluth was the fastest growing city in the US, on track to become the largest Midwest city until a stock market crash in 1873 brought panic and economic disaster for the area.

By the 1900's Duluth was home to more millionaires per capita than any other state, some even say the world. The wealthy built homes, business, roads and other means of transportation. To keep up with demand a large workforce was needed, who profited as well.

The Duluth Commercial Historic District contains 107 buildings on Superior and First Streets between 4th Avenue West and 4th Avenue East. The area has a wide variety of buildings from many architectural styles over the last century. A 3 miles climate controlled Skywalk not only connects downtown, but Canal Park across the interstate to the South. In Canal Park there are many more opportunities for shopping, eating, drinking, or entertainment along with iconic structures, such as the Aerial Lift Bridge.

This site is important because it is at the edge of Duluth's downtown, mostly commercial district and the neighborhoods to the north. It is highly visible being adjacent to Lake Ave, one of Duluth's busiest roads.

Central Hillside Park, which is its name currently, is approximately 400 feet wide and 300 feet long. This makes a total of 120,000 sq ft of usable area on the site. There is slightly over 40 feet of vertical change throughout the site. Although the park is small in size, there is plenty of opportunity to utilize the space and make a unique project typology.

Duluth demographics

2010 population: 86,265

Metro population: 279,815

Size: 87.43 miles

Elevation: 702 ft

Neighborhood demographics

Population: 687

Households: 461

Family households: 95 (20.6%)

Non-Family households: 366 (79.4%)

White Population: 512 (74.6%)

Black Population: 58 (8.5%)

Asian Population: 77 (11.2%)

Multirace Population: 39 (5.7%)

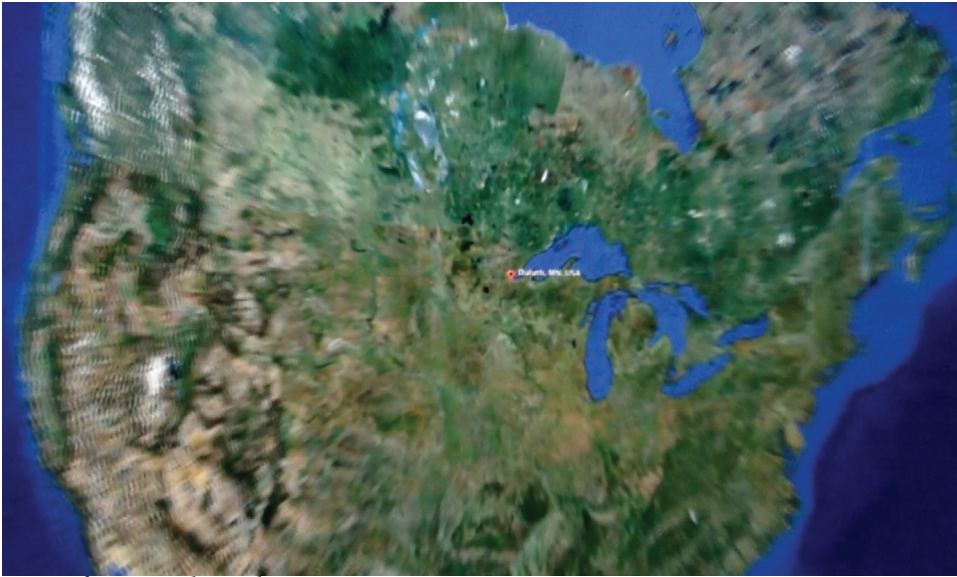
Median household income: \$22,564

Median house or condo value: \$131,967

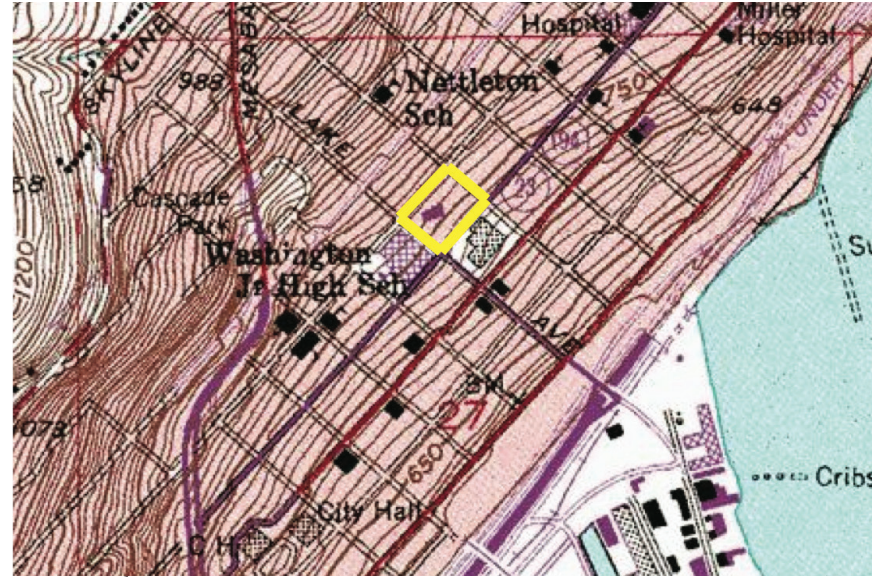
Median contract rent: \$524

Unemployment: 6.7%

Residents below the poverty level: 5



view from google earth



topographic map



site location



people drinking at the site

PROJECT EMPHASIS

The main area for emphasis in the park will be the adaptive reuse by incorporating snowboarding into cities. There are cities that have snowparks built into the urban fabric, but this project will focus on designing a park that can be ridden year round while not looking like it is supposed to be used for these activities. This will be possible by the interchangeable permanent features, as well as temporary seasonal features. Regrading the site to allow for areas of more and less slope will be equally as important. This can be taken care of through cut and fill of existing topography on the site.

One of the most important parts of this project will not be the actual site design, but visual representation for the final product. In doing this project as a movie, there are a lot of things to think about differently. Since most literature and projects have been done in the typical printed form, I wanted to try something new. By bringing a level of entertainment and a story into this project, it should allow for a wider audience range, whether they are familiar or unfamiliar with landscape architecture.

The master plan will be the framework for the park, providing the overall vision. There are several different elements, as described earlier, that will contribute to the park's success. The overall master plan will make the most use of the limited site size.

Although there are a wide variety of features, I will slightly touch on construction detail and development. Even with the category of handrails, there are several small details that can affect its success, such as material, size, length, etc. By laying down a framework for detail design, the park and features can progress.

A PLAN FOR PROCEEDING

i. DEFINITION OF A RESEARCH DIRECTION

The most important part of this project are the subtlety of details for the features that will be ridden in the park. Studying elements in various terrain parks and features in the urban environment will provide a framework for design.

ii. DESIGN METHODOLOGY

Design features and their overall programmable space influence the success of the park in terms of skateboarding and snowboarding. There are many factors associated with the answer to this research hypothesis. This research is a mixed-method approach. The data collection method used observation and archival records. Descriptive analysis was used to analyze the data afterwards.

The research approach used was mixed-method, using both qualitative and quantitative data. The data necessary for further development was the quality of snow, the slope of the run, the size of the features, the distance between the features, lighting, distance to amenities, and safety. The quantitative data measured the design features, the slope of the run, and distance between features. Design details of features such as the height, width, length, slope, and material were necessary. The slope of the run affects the rider's speed. It was necessary to collect data on the angle of the slope leading up to the feature, the feature itself, and the landing. Distance between features was measured to discover the least amount of space necessary from the landing of one feature to the beginning of another. Qualitative data was gathered for safety, snow quality, lighting, and surrounding amenities. Safety was an important factor in the park's success. Not only the safety of the riders, but the overall sense of safety in the park. Snow quality was critical because it is the base for all of the winter activities. Hard packed snow can turn to ice, which hurts to fall on. Snow quality also affects the degree to which the park setup can be changed and maintained.

Lighting provided the opportunity to ride at night, while maintaining a sense of safety. Details about the surrounding amenities influenced the location of the park. Proximity to the dense downtown ensured visibility and traffic, while not being completely surrounded by the dense, urban environment.

The data collection method used both observation and archival records. The data collected using observation was gathered through direct observation and measurements. Archival data collection was used for gathering existing information on the topic. Academic journals, websites, and online videos were used to gather the necessary qualitative data. I observed the site from October 2012 through April 2013, and took measurements of the features already present. The quantitative design features were assessed using a tape measure and a level.

Descriptive analysis of the data was used in determining the most important and successful features needed for a holistic design. The data was analyzed based on several factors for design. The safety measures were analyzed according to two guidelines. The first was the safety for the snowboarders and skateboarders. Secondly, the perceived sense of safety of the space which affects the non users of the park. The distance to amenities were analyzed based on their programming and proximity to the site. Lighting was assessed based on the quality of light being emitted, which can be further addressed by brightness and distance between lights. The feature details were examined based on height, length, width, and slope. Then these details were categorized based on perceived skill level. The distance between features as well as the slope of the run were important in assessing the necessary amount of space and speed required. The quality of snow contributes to the speed generated as well as the safety of a given feature.

iii. DOCUMENTATION OF THE DESIGN PROCESS

All of the maps, graphs, etc gathered prior to the final product will be discarded, and only the relevant information will make it to the final presentation. The final product will be a video that explains the inventory and analysis process, design and motion animation, as compared to drawings and conventional graphics landscape architects employ. In order to make the video entertaining and a marketing tool for this project typology, it is important to gather and deliver information commonly shown with infographics and renderings. Through several site visits throughout the year, I will capture not only what the site feels like, but the city of Duluth. The sense of place is important because this project is possible in Duluth or Minneapolis, Minnesota. The snowboarding and skateboarding culture needs to be understood because it is much different than the events shown on TV.

iv. SPECIFIC SCHEDULE

Week 01: 01/07 - 01/11	Semester Introduction/Studio Scheduling & Expectations
Week 02: 01/14 - 01/18	Design Methodology: Research/Analysis (25%)
Week 03: 01/21 - 01/25	Design Methodology: Research/Analysis (50%)
Week 04: 01/28 - 02/01	Design Methodology: Research/Analysis (75%)
Week 05: 02/04 - 02/08	Design Methodology: Research/Analysis (100%)
Week 06: 02/11 - 02/15	Design Development I: Schematic Design (15%)
Week 07: 02/18 - 02/22	Design Development I: Schematic Design (30%)
Week 08: 02/25 - 03/01	Design Development I: Master Planning (40%)
Week 09: 03/04 - 03/08	Design Development I: Master Planning (50%)
Week 10: 03/11 - 03/15	Spring Break
Week 11: 03/18 - 03/22	Design Development II: Site Planning (60%)
Week 12: 03/25 - 03/29	Design Development II: Site Planning (70%)
Week 13: 04/01 - 04/05	Design Development II: Design Detailing (80%)
Week 14: 04/08 - 04/12	Design Development II: Design Detailing (90%)
Week 15: 04/15 - 04/19	Design Development II: Board Composition (100%)
Week 16: 04/22 - 04/26	Thesis Presentations: Boards
Week 17: 04/29 - 05/03	Thesis Presentations: Formal Review
Week 18: 05/06 - 05/10	Thesis Presentations: Documentation
Graduation/Commencement: 05/11/13	

RESEARCH RESULTS AND GOALS

UNIFYING IDEA/RESEARCH

Although the concept of this park has never been fully realized, parts of it have been constructed. Several small urban snowparks have been erected throughout the country. Skatepark design is trending towards being built in public spaces that emulate urban environments, more like a skate plaza than a skatepark. By combining different elements and situating them to make the most use of such a small space, this park can be the first multifunctional, multiseasonal park of its kind.

TYPOLGY RESEARCH

The typology of this site is unlike any other before it. Although there are urban snowparks, none have combined permanent and temporary features in this way, or been right in the heart of a cities downtown. Instead of making a skatepark that is enclosed and separated from other activities, this skate plaza can be used not only by skaters, but the general public for a wide variety of activities.

LITERATURE REVIEW

Snowboarding has become a global phenomenon, going from an under the radar, rebel activity to a headlining Olympic event in just four decades. Snowboarding has spread throughout the world quicker than many other, more traditional sports and cultures, with an estimated 70 million users (Thorpe, 2012). With all of snowboarding's success, it still largely remains a winter activity done at ski resorts, large and small, across the nation, but there is a part of snowboarding's core audience that has taken this activity into the urban realm, referred to as street snowboarding. As snowboarding and skateboarding become an extended part of our culture; landscape architecture and other design fields can transform cities into urban playgrounds for non-traditional sports.

Urban snow parks are a growing trend. Most are relatively small and cheap to implement. Others are part of a larger framework, an event, or contest that provides entertainment for locals, or brings in large numbers of spectators and tourists. Beginning in 2007, Denver Parks and Recreation partnered with Winter Park ski resort in Colorado to bring snow sports to an urban setting. Together they built Ruby Hill Rail Yard, the first free, urban ski and snowboard terrain park located within a city. The park featured a variety of rails for a variety of skill levels (Rethinking, 2012). Mayor Hickenlooper (2012) said:

We are excited to have this spectacular winter sporting event in Civic Center Park at the time thousands of winter sports fans are attending the SnowSports Industries America (SIA) Snow Show at the Colorado Convention Center. Denver Big Air is right in sync with the city's effort to find events for city parks year-round. (p. 12)

Denver Big Air and Ruby Hill Rail Yard are both part of the "Mile High Snowfest," a weeklong celebration of winter activities which are part of the SIA SnowSports trade show. The trade show brought nearly 20,000 people to the city in 2010, its inaugural year (Rethinking, 2012). Denver's commitment to winter sports is an important part of their local economy and tourism.

The SIA SnowSports trade show and "Mile High Snowfest" not only brought in thousands of people to the city, but it created a new type of park to bring snowboarding into the public spotlight. With the creation of Ruby Hill Rail Yard, snowboarders were able to test gear from the trade show or spend the day riding. Denver Big Air was a dazzling display of snowboarding which generated support from thousands of spectators. The "Mile High Snowfest" paved the way for bringing snowboarding into the public spotlight in Denver, by being both a spectator and a participant in winter activities.

To date, there have only been a small number of urban snow parks throughout America. Hawk Island Snow Park in Lansing, Michigan is another example of an urban snow park, but with more civic engagement compared to Denver's rail park. There was a lot of collaboration between local businesses, winter sports industries, and private donors from the community. As part of the park's department commitment to an all inclusive, participatory design, a group of college students and the communities youth formed the Hawk Island Action Sports Operations Committee to help in the design of the park and generate support from younger people (Bennett, 2012). With the inherent danger of snowboarding, especially freestyle snowboarding, liability was a concern for the public park. However, in this case the park's existing insurance policy provided the necessary coverage (Bennett, 2012). To make things slightly safer, sleds and toboggans weren't allowed at the park because of their differences, mainly not being attached to the feet. By providing urban snow parks in the city, snowboarding was made accessible to groups that might not normally get to ride. The youth, as well as people from some socioeconomic and racial backgrounds, who might normally be constrained by the time, cost, and available transportation to ride traditional ski resorts are provided with an inexpensive winter activity (Bennett, 2012). Hawk Island was transformed from a seasonal destination to a place that provided year round entertainment and tourism.

Urban snow parks have also been implemented regionally, in St. Cloud, Minnesota in 2008. Riverside Park, sponsored by the city's skate shop, The Youth Shelter Supply, was the first snowboard park in the St. Cloud area (Hammer, 2008). Janssen (2008) of the Youth Shelter Supply thought the new concept was a grand opening of a park where children could learn the proper way to snowboard. Riverside Park was a great way for people in the midwest to ride an urban snow park. The park was again coupled with a contest in order to draw a large attendance. Bjorn Leines, professional snowboarder from the area made an appearance at the contest, too (Hammer, 2008). By combining the overall action sports scene, such as parks, contests, and professionals, the parks were much more successful. The snow park articles did not state the layouts of the park or how many features were set up. There were no references to injury statistics, which would be important in knowing the safety and liability of the users and property owners. Despite a lack of information in some topics, the parks were received well and became the leaders in a nationwide movement that has just begun to pick up momentum.

Snowboarding has the impression of being a built and organized environment that takes place at a designated ski hill. However, street snowboarding has been a major influence in the sport, elevating it to the acrobatic spectacle it is today. These urban spots have become a proving ground for riders looking to progress from terrain parks. The "Rail Garden" in Salt Lake City (SLC), Utah is one urban area that seemed to be designed with snowboarding in mind. The park sits on a sloped site with handrails, ledges, rooftops, and urban sets throughout the park. They are arranged in a way that is possible to hit many features, all using natural speed as opposed to drop in ramps (Fast, 2005). Transworld Snowboarding Senior Photographer, Andy Wright (2005), said that the park was a warm up spot, used to envision and practice tricks with minimal consequences before going to other, more serious spots. Wright (2005) also proclaimed that the "Rail Garden" was one of the best things to happen to snowboarding. It made snowboarding accessible to so many jibbers, riders who can't afford lift tickets, and full time students (Fast, 2005).

Whether riding at a mountain, an urban snow park, or in an urban environment, safety is a main concern because by its very nature, snowboarding is a very dangerous sport. Like any sport, there is a beginner curve. With snowboarding there is no other way to learn than by trying a new trick. Safety equipment can lessen the severity of an accident, but it does not completely alleviate it. By providing a range of features, people can more safely progress from terrain parks to real features that they would find in an urban settings.

A study by a Japanese hospital over 12 seasons, from 1996 to 2008, categorized injuries based on perceived skill level of the riders. Some injuries increased with skill level, whereas other injuries decreased with an increase in skill level. Beginning and intermediate riders made up three quarters of the total injuries. Beginners comprised 32.8% of the injury sample, while 47.4% were intermediate riders (Shimizu, 2010). Injuries are a common part of snowboarding. Upper extremity injuries, including the head, were less common with higher skill levels, but trunk injuries, dislocations, and multiple injuries were more common (Shimizu, 2010). By understanding the types of injuries sustained by riders of varying perceived skill levels, better planning of features is possible.

Shealy's (2012) study from a lodge clinic in Vermont compared the injuries of skiers and snowboarders over 18 seasons, from 1988 until 2006. This study also found the main injury types for each sport. Snowboarders had a higher injury rate than skiers, with wrist injuries being the most common. Among snowboarders, more wrist injuries, shoulder soft tissue injuries, ankle injuries, concussions, and clavicle fractures were seen (Shealy, 2012). Skiers had more ACL sprains, medial collateral ligament (MCL) sprains, lateral collateral ligament (LCL) sprains, lower extremity contusions, and tibia fractures (Shealy 2012).

Snowboarders also have the higher injury rate over time, although it has fluctuated throughout the seasons. Young, inexperienced female snowboarders comprised the largest injury category. There was no evidence that terrain park riders were overrepresented in the study, but terrain parks accounted for the highest rate of injury for snowboarders (Shealy, 2012). Jump injuries increased proportionally with skill level (Shimizu, 2010). Knowledge of the different types of injuries sustained in each sport allow for a better and safer planning of features. Knowing some of the possible injury types was beneficial to the design of a comprehensive park for all skill types that emphasizes safety and progression.

SKATEBOARDING

Skateboarding came out of surfing in the 1950's as a way to surf the concrete. Skateboarding, like snowboarding, has spread around the world faster than most traditional sports. Although skateboarding has been overlooked as mindless vandalism by the public, skateboarders see monuments, buildings, city plazas and other features as a playground (SwineTrotters, 2012). As with snowboarding, there are designated areas that skateboarders are confined to. Many times the way a space is actually used might be unintentional on the designer's part (SwineTrotters, 2012). Designed skateparks and snow parks within the urban fabric of cities allows for people of all ages and income levels to get to and use the park, further expanding non-traditional sports.

Skateboarding is very similar to snowboarding in the way it looks and how the body moves. The theory that the two would have a positive knowledge transfer was put to the test. This study found that a small base knowledge of skateboarding leads to beginner's ability to snowboard more effectively (Facilitation, 2011). The type of riding being evaluated was not present, but the link between snowboarding and skateboarding is often very strong. This study confirmed that one can actually help the other. By designing for both sports, riders should be able to learn more quickly, and transfer knowledge between the two.

Skateboarders, like snowboarders, can be reckless, which contributes to the degradation of spaces and the need for ugly afterthoughts, such as skate stops. Skaters desire to venture out of the safety of a designed space and see new things. Is it better to spend millions of dollars on a skatepark, or spend the money to make a city skate-able by providing features integrated into the city (SwineTrotters, 2012)? Underutilized spaces that would otherwise be unused can be turned into skateparks. The presence of skateboarders can energize a space and keep less desirables, such as the homeless and drug dealers, at bay. In Auckland, Australia skaters fought against negative policies and stereotypes in order to ride what they believe in (SwineTrotters, 2012). Rae (2012) with Auckland's City Council and Streetscapes Manager said:

I'm happy with the presence of skateboarders as long as they treat the area they're using with respect. It takes a long time, but if you can change that culture and educate people [on using public spaces for skateboarding], it's a hell of a lot easier, and a win win (13m:17sec).

I'd much rather have kids skateboarding than drinking or on drugs, so for me it's an outlet, and a healthy one (15m:01sec).

This video argued for skating in urban environments while examining both sides. An important aspect in this video was that the designers invited a skate shop or sponsored riders to a spot to test new materials or a new design. Then the skateboarders gave feedback as to what the designers should do to either encourage or discourage skating (SwineTrotters, 2012).

Despite the negative connotations associated with skateboarding, the number of skatepark design and implementation projects has increased tenfold across the country in the new millennium. As skateboarders have moved on and become designers or builders themselves, the level of park complexity and comprehensiveness have both increased. The best parks are designed with the urban fabric in mind to give the impression of a continuous park. Skatepark designer, Hollyday (2006) acknowledged skateboarding's roots from surfing by incorporating the curves and energy of the waves into skateparks (LaCayo, 2006).

Skatepark design has some fundamental similarities and differences compared to snowboard parks. This article discussed the emergence of skatepark design from landscape architecture. Skateparks have been built at an unprecedented rate, whereas there have only been a few urban snow parks over the years. Although there was a shift in skatepark design to more complex and integrated designs, relatively little has changed in the design of snow parks.

Skateparks, besides their intended nature, are often used as gathering spaces for the youth. Skateboarders in Australia feel they are treated as deviants by adults who persist their sport requires regulation (Taylor, 2011). Negative stereotyping of skateboarders was the primary focus in this article. The riders involved in skateboarding were seen as delinquents, which explained why skateparks are placed in undesirable locations or use inadequate materials. This article discussed the link of negative stereotyping to the overall negative opinions and facilities for skateboarders.

HEALTH

In a time when obesity is the number one killer in the United States, more spaces need to be provided for activities. With obesity becoming ever more present, 35% of adults and 17% of children are now obese (Overweight, 2012). Children have become more reliant on entertainment in the household. Video games and TV replaced the outside world, along with imagination and activity, for a digital world (Overweight, 2012). Providing outdoor parks and spaces for activities are beneficial for everyone.

Studies were conducted on different factors of parks with proximity to participants' homes in order to find out the success of a given park. The main criteria being studied were the physical activity, aesthetics, and perceived sense of safety. The article evaluated several factors for the overall success of a park, such as amenities, facilities, size, and trails (Kaczynski, 2008). Physical inactivity has been increasingly associated with obesity and chronic disease. For older adults, opportunities for physical activity were the most important features of a park. Parks with skateboard areas and areas for lawn games were inversely associated with girl's physical activity (Kaczynski, 2008). The number of features present as well as the facilities were the largest predictors for a park's success.

THESIS GOALS

The main goal for this park is that this park can thrive in winter and summer, with little incident of accident or injury. The park has the opportunity to be the first of its kind, and the potential to be very successful. Action sports have become increasingly more popular. In Duluth, they are especially important. With several ski resorts and skateparks in the area, there is a great chance for this project to succeed.

Another goal is to have a park where action sports can coexist with the general public. Most people think of these sports as a place needing their own separate space, but they can be incorporated in the current urban fabric. By having skateboarders and snowboarders in the limelight for everyone to see and possibly interact with, there is a chance to change societies views. Bringing snowboarding and skateboarding into the city, rather than excluding and penalizing them, can not only make for new projects, but can change how society views these sports.

A third goal for the park is to have it become a template for other cities and communities who want to improve seasonal commerce in unique and new ways. This project is a marketing tool to show prospective cities or private builders the potential of such a project. Rather than building these facilities on the edges of cities or in run down parts of town, bring them into the city center and see how they can benefit local communities.

Finally, the most important part of this project is to create a video that instead takes the place of written material, such as this book. This is as much a project in visual representation as it is a design project. To market an idea with action sports, a new approach needed to be devised. Entertainment and action were the answer. Making a video that is informative and gives a story about the background, while providing entertainment and new forms of imagery, with the use of a green screen, to show the possible sense of place for this project typology.

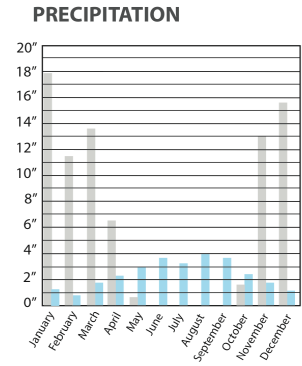
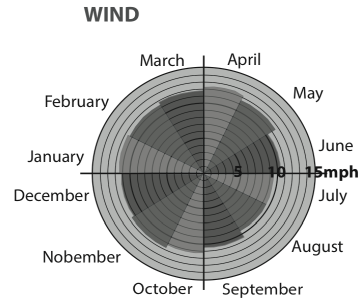
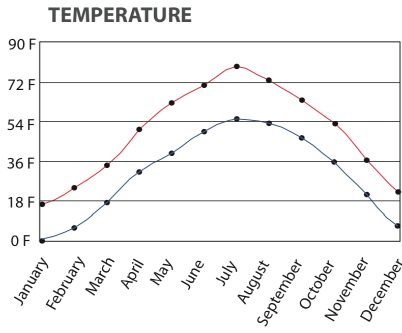
The location for this project is Central Hillside Park in Duluth, Minnesota. Duluth has three mountains within or surrounding the city, making it an ideal city to implement snowboarding into the current city context. The park is in between 3rd Street E and 4th Street E, on Lake Avenue. Lake Avenue is one of the busiest roads in Duluth. It goes from the mainland, through Canal Park, and onto the beach. Visibility was the most important factor in determining the site. Having a site that is seen by thousands of people a day can only contribute to the park's success. The site is approximately 400' wide by 300' long. There is currently a community center on the west part of the site, closest to Lake Avenue. The parking lot to the north of the community center has 22 spaces. The lot to the south is half the size with no designated parking spots. One of the city's high schools, Unity High School borders the site to the southeast. There is a basketball court, practice court, and playground at the southern edge of the site, but most of the site is open turf. The site provides wonderful views of the city and Lake Superior.

With the number of snowboarders and skiers in the city, made more apparent by the number of resorts in the area, Duluth is the ideal site for this project. The city is built on a hill, which is very important in providing the topography to make this design possible. Lake Superior lies around the edge of the city. The downtown district, closest to the lake, contains mostly early 20th century buildings made of stone and brick. This unique combination of a city that overlooks water gives Duluth a special character. Many professional snowboarders go to Duluth every year to ride rails. Many of the rails that are filmed are at Central Hillside Park, Cascade Park, or nearby. Shots overlooking Lake Superior are especially unique to the area. The features that exist on the site already were the inspiration for this thesis. Although they are not arranged in a way that allows them to be ridden in a line, each has the potential to be ridden.

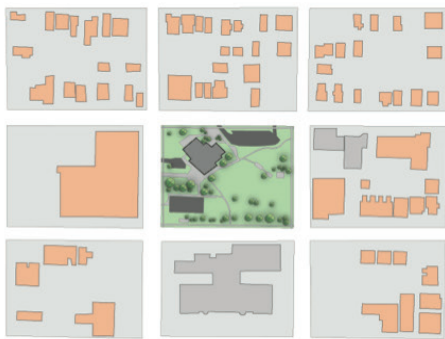
The site borders Lake Street, to the southwest, which is one of Duluth's main roads going through downtown, canal park, on towards the beach. The heavy traffic on this street means the site is seen by thousands of people a day. This highly visible site will play a big part in the park's success. By bringing snowboarding and skateboarding into a highly visible area it is more likely to gain acceptance and popularity. The location also makes the park easy to get to by anyone in the immediate area, downtown, or by public transportation.

There is minimal use on the park, outside of the community center. Much of the foot traffic is confined to the edge of the site, or cutting directly through the site. There have been very few occasions where people stay on site to use the park. Most of the time these exceptions come in the form of people drinking. There have been half a dozen times where I have witnessed one to three individuals drinking on site. Although they find spots mostly hidden from view, they still detract from the site. A few times in past winters when riding rails on the site, they have actually cheered us on. It is this weird relationship with two illegal groups, people drinking and snowboarding on the site, that was the original inspiration for this project. The hypocrisy in the rules and regulations allow the mainly unused site in summer and winter to be empty, while persecuting the actual users of Central Hillside Park.

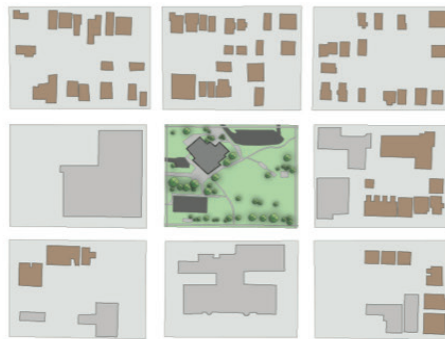
WEATHER



CONTEXT



SINGLE USE



RESIDENTIAL



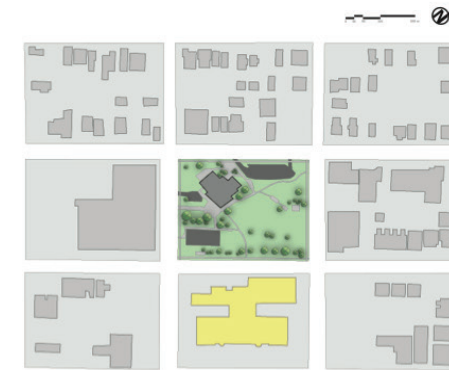
INSTITUTIONAL



MIXED-USE



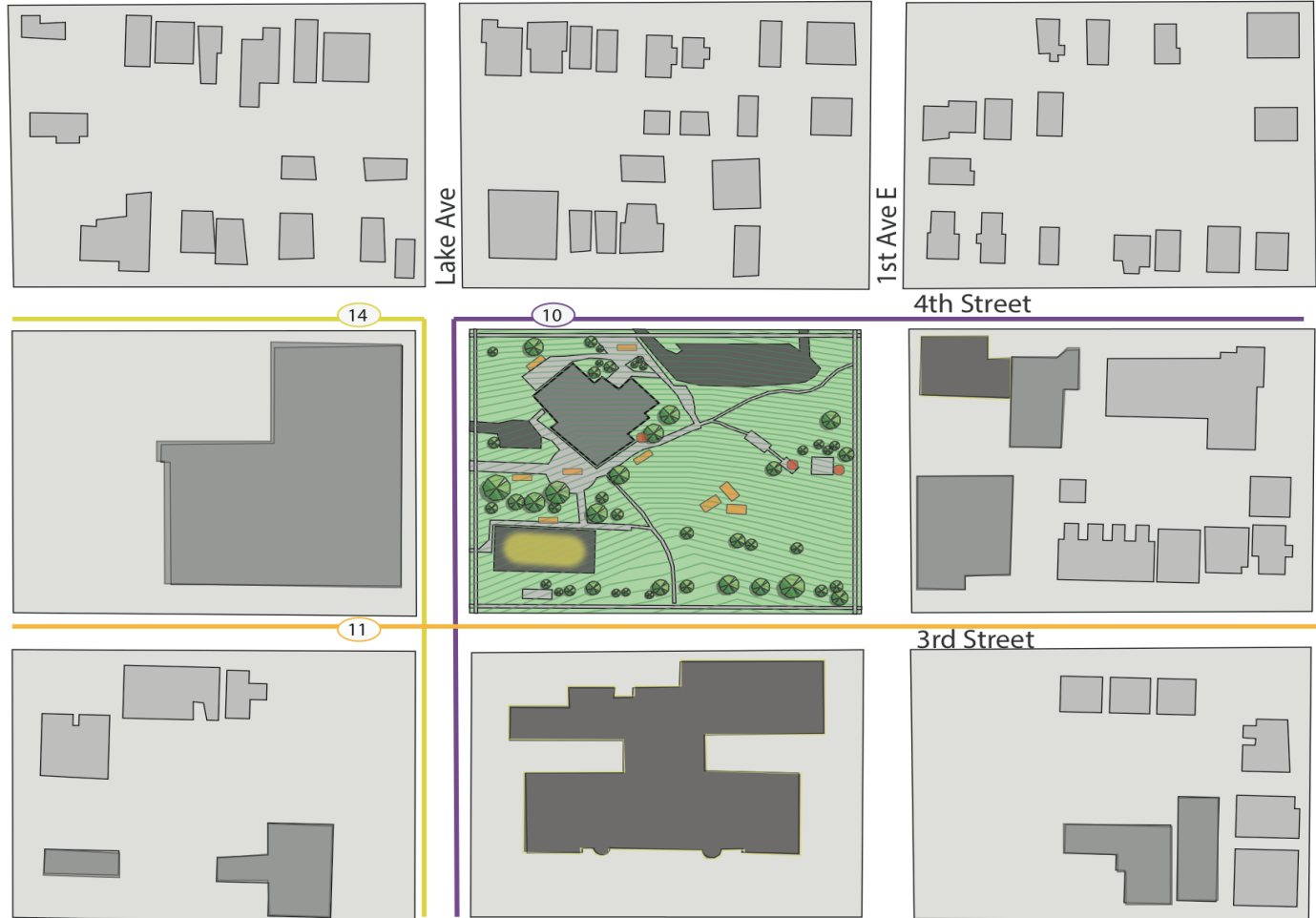
RESTAURANT



MULTIPLE BUSINESSES

INVENTORY ANALYSIS

- residential
- single use/weekday hours only
- multi use/open weekends
- seating
-permanent/moveable
- lighting
- drinking



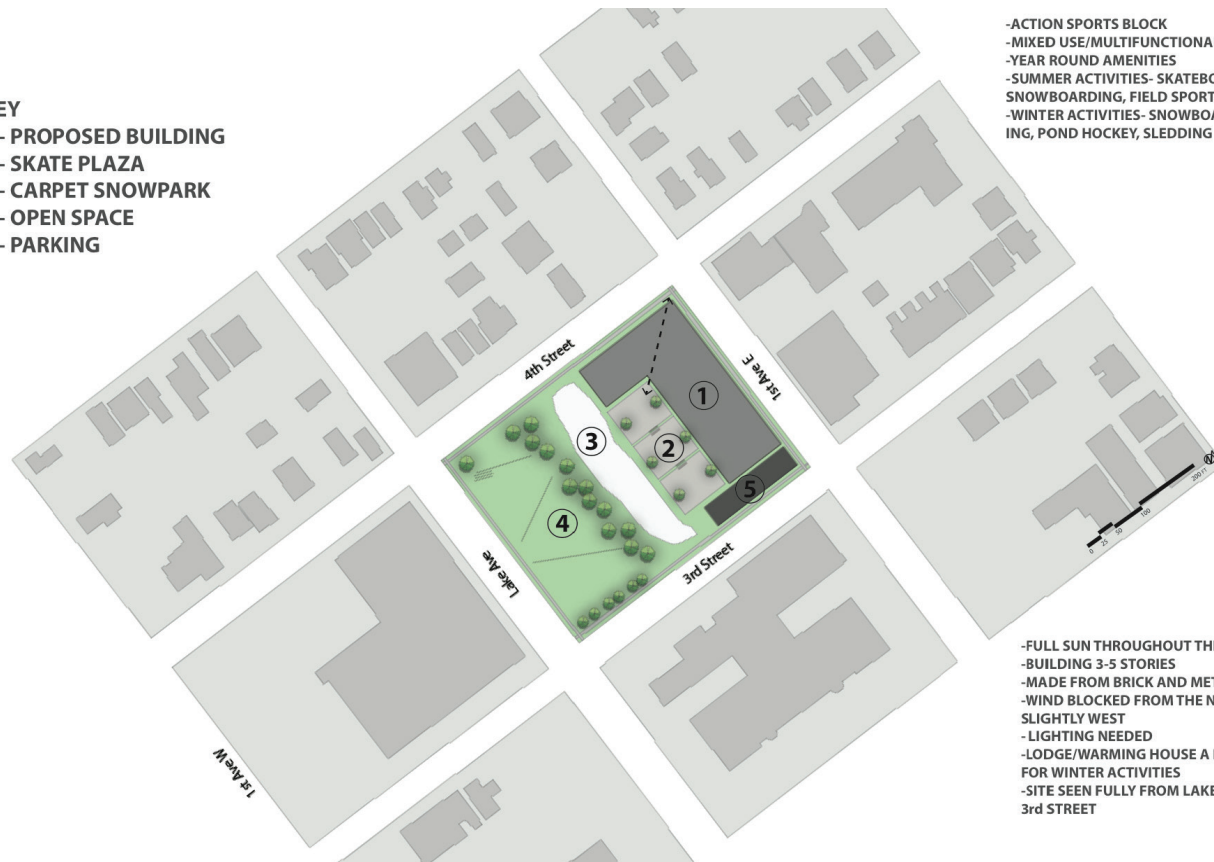
CONCEPTUAL DESIGN WORK

The site of the park is relatively small, so every part of the site must be designed as a fluid whole to make the most of the limited area. The park is 400 ft wide by 300 ft long. The verticality of the site must be exploited in order to get the most speed and possibility to hit the most features. A towrope makes the most sense to transport people on the site. Towropes cost a lot less money than a full lift system, as well as being more easily accessible and moveable. With a towrope, it is possible to get hundreds of runs in one day, and each run lasting only 45 seconds to a minute on such a small site. It will be possible to fit 3 to 5 features in one run, depending on their size. It would only be possible to hit one jump, three large features, or possibly five small features in one run. Skill level will determine the features' size, length, distance from each other, etc. The skate plaza next to the proposed buildings will be the other draw to the site. The circulation within each level will make the park feel larger than it actually is. Besides, going between levels will add another level of difficulty, while extending the flow of the vertically, as well as horizontally.

CONCEPTUAL MASTER PLAN

KEY

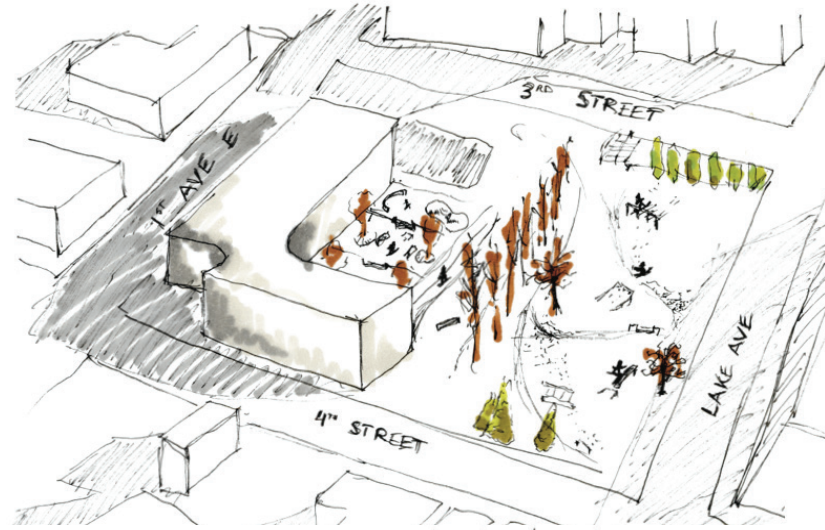
- 1 - PROPOSED BUILDING
- 2 - SKATE PLAZA
- 3 - CARPET SNOWPARK
- 4 - OPEN SPACE
- 5 - PARKING



- ACTION SPORTS BLOCK
- MIXED USE/MULTIFUNCTIONAL
- YEAR ROUND AMENITIES
- SUMMER ACTIVITIES- SKATEBOARDING, SNOWBOARDING, FIELD SPORTS
- WINTER ACTIVITIES- SNOWBOARDING/SKIING, POND HOCKEY, SLEDDING

- FULL SUN THROUGHOUT THE DAY
- BUILDING 3-5 STORIES
- MADE FROM BRICK AND METAL
- WIND BLOCKED FROM THE NORTH AND SLIGHTLY WEST
- LIGHTING NEEDED
- LODGE/WARMING HOUSE A NECESSITY FOR WINTER ACTIVITIES
- SITE SEEN FULLY FROM LAKE AVE AND 3rd STREET

SKETCHES



FINAL DESIGN WORK

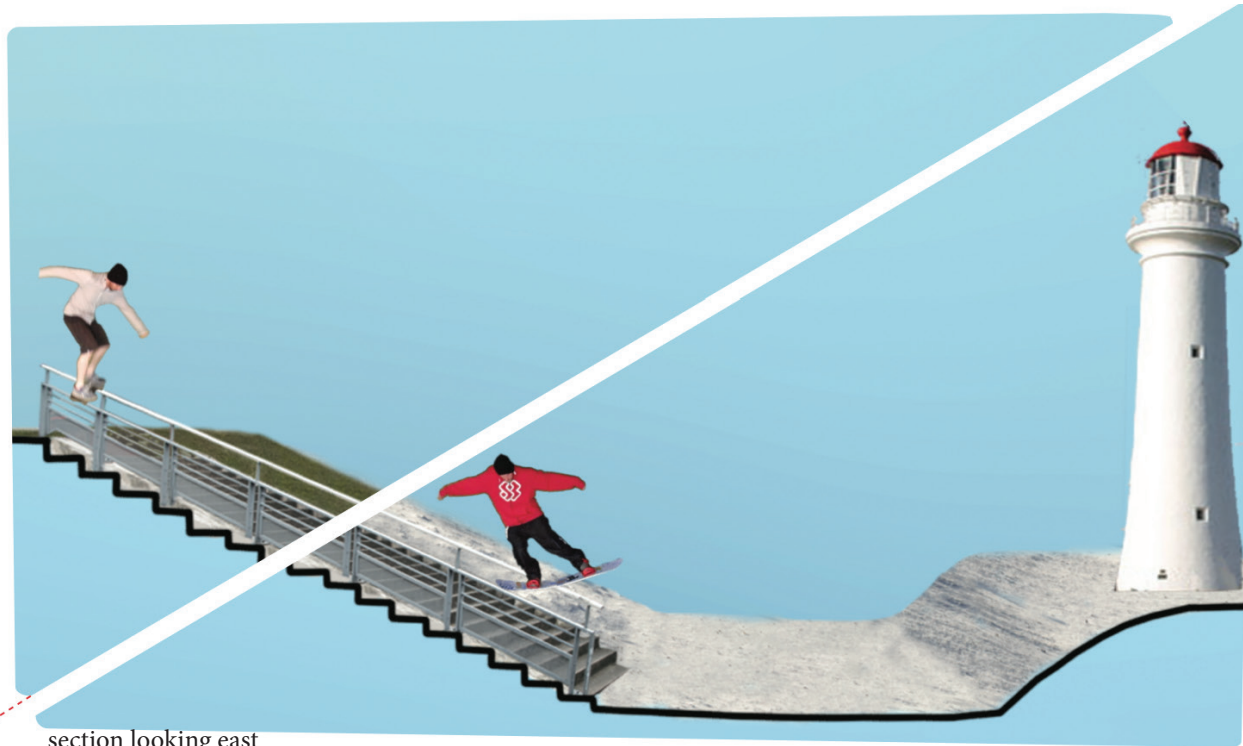
The final design of the park allows for the rider to use their own creativity to make their lines. The way the park gets used is truly in the eye of the beholder. The site is broken into quarters. Each quarter has a different theme or purpose, but together they all make up a holistic park that can be ridden in the summer or winter. The western part of the park is open space. During summer this space can be used for an array of activities. During winter, temporary features will be set up, as well as being able to ride the permanent features. The Snowflex carpet park in the middle of the site will be a year round draw. It allows for summer snowboarding, and can have snow piled on top of it during winter. The features will be mostly temporary, allowing for changes with progression or by the riders. The skate plaza adjacent will have several levels of varying difficulty. Flow through the park can be done horizontally or vertically. During winter months this part can still be accessed by the towrope to allow snowboarding. Non action sports users can also enjoy the plaza as a place to sit, eat, relax, etc. The proposed buildings at the eastern edge of the site will provide the last rideable features, while enclosing the site. Several different business typologies could exist, ranging from restaurants, skate shops, offices, residential living, and so on. The building users can coexist with the rest of the block, or if that is not their intention, can be separate and enjoy the buildings from the street.

MASTER PLAN

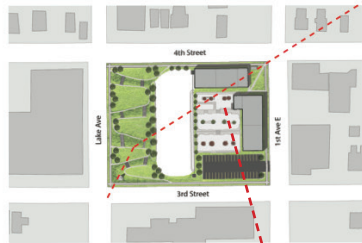
- 1 proposed buildings
- 2 bus stop
- 3 parking lot
- 4 skate plaza
- 5 snowflex snowboard park
- 6 towrope
- 7 open green space



SECTIONS



section looking east



perspective looking northeast

PERSPECTIVES



perspective looking south



perspective looking southeast



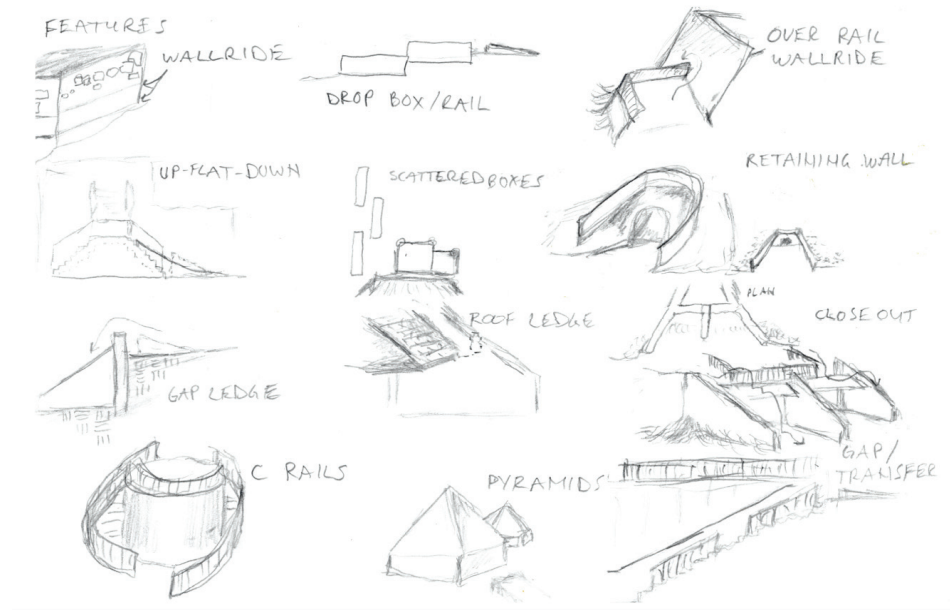
perspective looking west



perspective looking southeast

FEATURE DETAIL DESCRIPTION

The features on the site are very important because the smallest detail can make a big difference in the way something is ridden. Although I have not designed every feature in the park, I have laid out guidelines for their design. Since both sports depend so much on progression, the features will most likely be changed yearly, if not sooner. Some details are better for skateboarding than they are for snowboarding, and vice versa. It is the ability to change with the riders over time that will make the park truly successful.



Beginner features

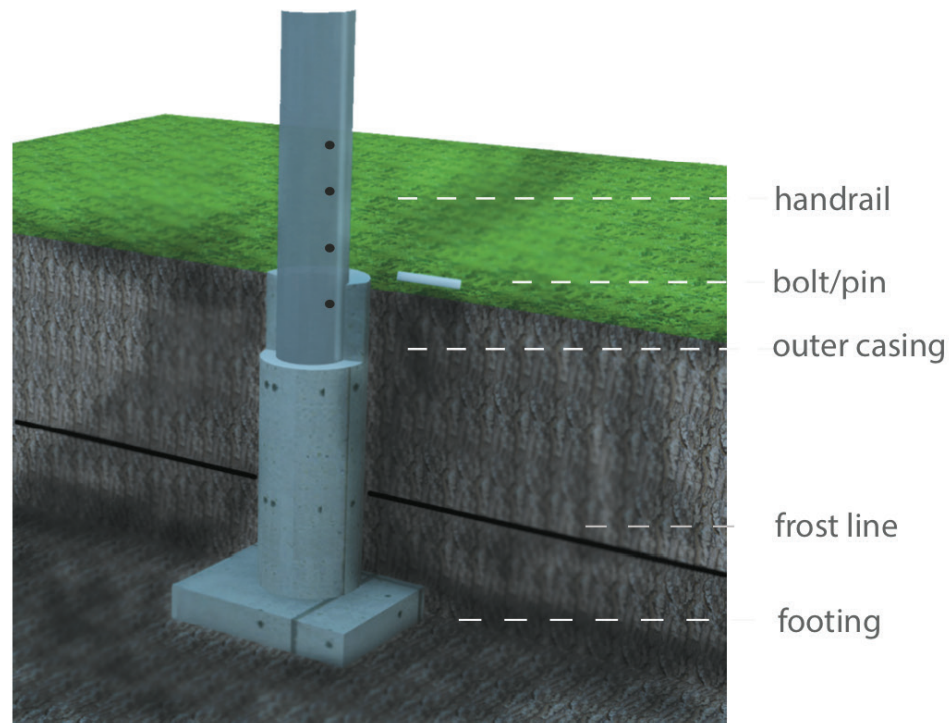
- Height: 6" - 12"
- Width: 6" - 2'
- Length: 6' - 15'
- Angle: 0 - 10 degrees

Intermediate features

- Height: 12" - 36"
- Width: 2" - 6"
- Length: 10' - 30'
- Angle: 10 - 18 degrees

Advanced features

- ◆ Height: 36" +
- Width: 2" or smaller
- Length: 20' +
- Angle: 15 - 40 degrees



DISCUSSIONS & LIMITATIONS

Urban rail parks are becoming more common, but are few and far between. Most of these so called urban snow parks are actually located in large, open parks. This design's main focus is incorporating snowboarding into built, urban areas rather than within the urban context of cities. The park will be site specific and therefore depends on the size of the park, the slope, and other factors which will limit the design from being implemented anywhere. This method is structured in finding out information such as, slopes, heights, and materials, in order to provide a framework for future designs incorporating action sports. This will be important for varying skill types of the riders. The study could also work in the opposing way and be a guide for how to design features not to be ridden, rather than much of today's skate stopping measures, which are usually ugly design afterthoughts.

STRENGTHS

One of the greatest strengths of this project is the potential for the future. Since there are very few snowparks across the country, there is not much to build upon. This design seeks to answer several questions about the current system. The design not only situates features that are optimal for snowboarding, but for skateboarding and other sports as well. While most snowparks or skateparks are designed with that single goal in mind, my design allows for different sports to make use of the site throughout different times of the year. The other strength is the ability of the park to change. The permanent framework is in place for the park, but the individual features can be changed. There are hundreds of varieties of what appears to most people as a simple handrail. By allowing the features to be changed, added, or removed, a more wholesome and enjoyable park is possible.

WEAKNESSES

Size is the main weakness of this project, having to combine many different elements into a small site. This means that there is room for half of the features that were originally planned for. Many of the resorts typically have 2 to 4 features in a 300' span. Since the site is 300' long, something else needs to be done to ensure people can ride more features. However, most of the runs have had minimal slope. My design will have to have areas of steep slope in order to get speed for everything. The main weakness of this project as you will read is that I did not do this project in its usual fashion, rather paved my own way. In attempting to tell this story in video format I have had to skip the infographics and other design segments commonly associated with landscape architecture. Instead I have part of the design, but more so a new way of visual representation using a green screen. I tried to give a glimpse into the culture of snowboarding, Duluth and my site, and my idea for this project typology rather than doing a wholesome project. You be the judge of what is more successful.

IMPLICATIONS FOR FUTURE DESIGN

The main goal of this project is to bring snowboarding into the city. Snowboarding has become such a major force as a winter activity, strengthened by the media. Duluth has become a major market for snowboarding in the midwest. With a large portion of photographs and video parts coming out every year in Minnesota, Duluth has some of the best potential for a pilot site. Most of the urban rail parks have rails, boxes, jumps, or other features that have a single use for skiing or snowboarding. The idea behind this project is to have the elements of the park become the ride-able features allowing for use by different sports, year round. The design elements and their placement will make up the terrain park features of the park. Some of the park elements will be permanent, providing a year round destination. Other elements of the park will be interchangeable, so the riders can cater a design to their own liking. The idea of having interchangeable features will make the park more dynamic because the riders can make their own setups and lines, so there are more options for more people than conventional park setups. Another main reason for bringing snowboarding into the city is that it provides a cheap or free activity to people that might normally not be able to get to a resort.

This thesis is the first of its kind. It not only provides for something new for snowboarding, but follows a new trend in skatepark design by having the features be a part of the urban landscape instead of being placed within its boundaries. There are a few main ways to bring snowboarding into the city, such as having a small resort, like many cities in Minnesota. There are urban snowboard parks, some of which were described in the literature review. A recent trend is providing year round snowboarding with either carpet parks or indoor ski hills. This thesis will use some features of these other methods, but the main difference is that it allows for an entire city block to become an urban snowboarding park.

Since there are many similarities between snowboarding and skateboarding, providing features that can be skated should contribute to the parks success in summer. The goal of this park is to provide a safe place to snowboard in the city, but there is only one season for that. Skateboarders have a similar problem in that they get kicked out of spots or ticketed for riding in an urban environment. Looking at the problems skateboarding has faced in its rejection and acceptance into mainstream culture should provide a framework for design and implementation. Structuring the park so it can be used for skateboarding during the rest of the year should ensure that the park has activities year round. Typically snowboarders skateboard in the off season, which should contribute to the park's safe learning environment while providing all skateboarders a place to skate urban features without getting ticketed or told to leave.

People are comfortable with what they know. By changing the role of public spaces from being dominated by the usual sports fields, playgrounds, and seating areas to a multifunctional park, the park can change over time, allowing for new activities in the future. The successful coexistence between sports and leisure for all types of users is important in the case of economic downturns, seasons, or even the decline of the intended activities.

CONCLUSION

PREVIOUS STUDIO EXPERIENCE

2nd Year	FALL 2009 Kathleen Pepple Tea House - Fargo, ND Fine Arts Club - Fargo, ND	SPRING 2010 Dominic Fischer & Matt Chambers Woodlawn - Moorhead, MN
3rd Year	FALL 2010 Stevie Famulari Defining space - Fargo, ND Library Installation - Fargo, ND Snow Symposium - Winnipeg, CAN	SPRING 2011 Kathleen Pepple Fort Yates Indian Reservation - Fort Yates, ND Urban Agriculture - Chicago, IL
4th Year	FALL 2011 Jay Kost Denver Infill - Denver, CO	SPRING 2012 Kathleen Pepple Study Abroad France
5th Year	FALL 2012 Mehran Madani Civic Center - Fargo, ND	SPRING 2013 Dominic Fischer Snowboarding - Duluth, MN

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“Take the road less traveled: push yourself and the field to the limits.”



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APPENDIX

For more information regarding this project refer to the video, Snowboarding: Fitting use or urban abuse? The video is meant to be a stand alone presentation, and a marketing tool for the new typology. The video aspect is also a new exploration in visual representation, rather than the book you are currently reading.