
Creating the Lid I-5 Toolkit

A Report and Assessment of My Senior Project

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Abstract

Interstate 5 is a freeway that runs north/south through the heart of Seattle, splitting the residential area of Capitol Hill from the central business district of Downtown. Recently, a group of urban activists and designers has proposed a solution to this problem in the form of a “lid” or cover over the I-5 roadway that would re-connect the city’s urban grid as well as provide new, and much needed, open space. My project supports this effort by developing a series of design guidelines aimed at enhancing the pedestrian experience of the new lidded area. Using a matrix based on the Dutch architect Jan Gehl’s twelve criteria for successful public spaces and the design criteria of a Woonerf or Dutch “living street”, I develop several recommendations that will improve the safety, accessibility, and user experience of this important future urban amenity.

Project Statement

For my senior project, I aim to gain a better understanding of the pedestrian experience and interaction with the built environment, specifically focusing on the safety and accessibility of pedestrians in public spaces. Thus, my senior project is about understanding the pedestrian experience in public spaces through analyzing the Danish Architect, Jan Gehl's, 12 Key Quality Criteria. For my senior project, I got involved with the Lid I-5 movement to create a visualized design tool kit that would allow future planners to better explain what 'good' public space is. This design tool kit is based on the 12 criteria developed by Gehl, and I developed and analyzed it specifically for the Lid I-5 site in downtown Seattle. Through answering the question of what it really means for public space to be safe and accessible for pedestrians and analyzing the 12 criterias of Gehl with the different examples that I am using in the toolkit, people will be able to better understand the importance of design in public spaces.

Product, Goals, and Significance

The I-5 is a highly congested highway that is situated in the center of Seattle and has become known as the scar of Seattle because it has disconnected neighborhoods and the city for years.¹ The Lid I-5 project, was led by a community group known as the Lid I-5, that consists of community members and professionals. The Lid I-5 works on chosen sections of I-5 to create a neighborhood oasis by fostering more green space and to connect the city with neighborhoods that have been separated for years.² Lids are defined as “bridge-type structures made of steel and concrete, that is similar in concept to a typical freeway overpass, but is extended parallel along the freeway route.”³ Lidding I-5 could be thought of as a simple action of putting a cap on top of chosen sections over the I-5 to reconnect the separated neighborhoods that requires a lot of effort in the initial stages of studying, analysis, design, funding, and building it.

As a pedestrian that enjoys spending time in downtown Seattle, I have struggled to find accessible and safe route options to get from one destination to another because it’s dangerous to cross high traffic volume streets and it’s time consuming to find alternative routes. The east corner of the Pine Street and Boren Avenue intersection in Capitol Hill is the site Lid I-5 chose as their first

¹ Keeley, Sean <https://seattle.curbed.com/2014/10/14/10036458/curbed-seattle-history-lessons-i5-highway-downtown>

² <https://lidi5.org/>

³ <https://lidi5.org/campaign-info/>

proposed lid. As a part of the Lid I-5 design committee, it occurred to me that there is a strong focus on pedestrian experience within the study area, thus pedestrians, the most vulnerable group out of motorized and non-motorized groups, were chosen as my study group.⁴ Pedestrians heavily rely on their physical abilities to commute and without any physical object for support and protection, pedestrians often struggle for their right of way against cars, motorcycles, and bikes which can have dangerous and deadly consequences. Additionally, the chosen Lid I-5 site is not only being used as a park and open public space, but a mixed-use space to allow for more development. The idea is to generate more flow of traffic by non-motorized and vehicle groups and increase a tax base for the city without acquiring more land.

My senior project will focus on how to improve the safety and accessibility of the Lid I-5 site for pedestrians utilizing and analyzing the 12 Quality Criteria⁵ proposed by Jan Gehl for designing and creating public open spaces. My research aims to answer the following question, what does it really mean for public spaces to be safe and accessible for pedestrians? Through meeting with the community campaign group, Lid I-5, I aim to understand how the different guidelines would affect the design process of lid I-5, how these designs would affect pedestrians, and ultimately, why these aspects affect the way people utilize or see public space. Not only will I understand more about urban mobility around Seattle and what people's response to urban mobility is but also gain a

⁴ Sepideh Movahed et al. A Safe Pedestrian Walkway; Creation a Safe Public Space Based on Pedestrian Safety

⁵ Begault, Crime Prevention Through Environmental Design: A Public Life Approach

better understanding of the various ways planners, envision creating cities livable spaces. Furthermore, this project will not only benefit me to learn more about city planning, the neighborhoods, and people, but also, the opportunity to learn from other case studies and understand the successes and failures of site planning.

As the final product, I produced a visualized design toolkit based on Gehl's 12 Key Quality Criteria. The toolkit aims to help address the safety and accessibility issues and concerns of pedestrians and to help people involved in the Lid I-5 movement better understand how designs can and will affect the way people use spaces.

Context/Background/History

The I-5, the interstate that has been around for more than 60 years, aims to connect Mexico and Canada by running through the middle of the three west coast states. For the construction of I-5, a middle course cutting through the city was chosen instead of a route that cuts through downtown or one that follows the topography of the city. The effects of the construction includes needing more space for the construction than just widening the roads, on and off ramps, express lanes and working crews, also routes that were easy for walking were cut off, forcing people to take detours and drive instead of walk.⁶ Due to the construction of I-5, a previously seamless Seattle was cut in half and the city has been trying to reconnect itself for years. While some became accustomed to the “scar” of Seattle, others are actively trying to reconnect the city to regain the ‘seamless’ Seattle⁷ to regain a safe and walkable environment, such as the Freeway Park.

Built in 1976, Freeway Park was the first park/ Lid that was constructed across the downtown section of I-5, adjoining the Washington State Convention and Trade Center to First Hill.⁸ The site was built to connect the downtown area to nearby neighborhoods, to provide Seattleites with accessible routes to downtown, and include greenery to improve open public space. As the first lid

⁶ Keeley, Sean <https://seattle.curbed.com/2014/10/14/10036458/curbed-seattle-history-lessons-i5-highway-downtown>

⁷ Keeley, Sean <https://seattle.curbed.com/2014/10/14/10036458/curbed-seattle-history-lessons-i5-highway-downtown>

⁸ <https://www.pps.org/projects/freewaypark/>

project in Seattle, the Freeway park has become a case study for various projects including “Let’s Bury I-5” by Scott Bonjukian and the Lid I-5 group. After an initial meeting with Scott Bonjukian, a graduate of the MUP program and a planner and co-chair of the Lid I-5 group, and reading his master thesis I gained a better understanding of the history of Lid I-5 and the process behind the project. As Scott Bonjukian said, “Freeway lids help stitch together the urban fabric and restore connections.”(Bonjukian, p.3) In the past few years, freeway lids have become an increasingly popular urban design strategy for connectivity of below-grade highways and also to mitigate social and environmental issues by providing green space for dense city downtowns (Bonjukian, p.7). Currently, the main contributors to putting more lids across I-5 is the community group Lid I-5, pedestrians, cyclists, and residents living in neighborhoods that suffer from city and neighborhood disconnectivity. Throughout the years, issues⁹ have risen about the design and actual usage of the Freeway park and thus sparked further discussions on how freeway lids benefit the neighborhoods and design guidelines or policies can benefit all users. Due to several accidents and criminal events that happened in Freeway park where people were injured or even killed¹⁰, discussions about changing the site’s design to make the area safer and updating the outdated structure has been going on for years. Ideas have been thrown out not only for the Freeway park, but also for future lid designs that has been a popular discussion topic for years¹¹.

⁹ Mudede, Charles. ‘Topography of Terror’ <https://www.thestranger.com/seattle/Content?oid=11685>

¹⁰ Mudede, Charles. ‘Topography of Terror’ <https://www.thestranger.com/seattle/Content?oid=11685>

¹¹ ‘Local Freeway lid history’ <https://lid5.org/history/>

Literature Review

Based on the definition and usages of public space, I have researched and defined what it means for pedestrians to be safe and have access to public spaces, and how safety and accessibility are connected. Compiling the findings through research, this project will generate design ideas and guidelines that addresses the safety and accessibility of pedestrians. The literature review will start with defining what public space is, specifically discussing and defining streets as public spaces then go on to talk about the safety and accessibility of space for pedestrians, and end with design ideas and guidelines for a “woonerf-style” street based on Gehl’s 12 key quality criteria. My project focuses on the specific concept of a woonerf style street, how it could be implemented onto my chosen site, Central Hill Triangles, the section of I-5 connecting Downtown and Capitol Hill. Through implementing a ‘Woonerf’, I am analyzing how that would enhance the accessibility and safety of pedestrians traveling to and from the site and through utilizing Jan Gehl's 12 key quality criteria, how do we create a "Seattle Woonerf".

In Seattle, people are demanding more and more for better connectivity between neighborhoods, especially those that were cut through by the construction of I-5.¹² The construction of I-5, completed in Washington on May 14, 1969, forced people to take detours that required more travel time and had more preference for driving instead of walking. For more than 60 years, people

¹² Keeley, Sean. [https://seattle.curbed.com/2014/10/14/10036458/curbed-seattle-history-less...i5-highway-downtown](https://seattle.curbed.com/2014/10/14/10036458/curbed-seattle-history-less...)

have been looking for ways to reconnect Seattle, to bring back the seamless streets, to reconnect neighborhoods to the city, and moreover, create a more walkable and safe Seattle. In the midst of various efforts to repair the scar caused by the I-5, the establishment of Freeway park in 1976 as a lid over the freeway connecting Downtown to First Hill as well as the Washington State Convention Center adjacent from the Freeway Park, bridging the Freeway, a group called Lid I-5 flourished. Focused on placing lids on top of different I-5 sections to reconnect neighborhoods, the group aims to not only provide connectivity between neighborhoods, but also provide new and open public spaces for dense urban areas without buying new land. With limited land vacancy, the proposal of placing lids across highways not only helps create more space in dense urban areas, but also maintains and increases the city's tax base through the construction of new infrastructures and usages that are proposed to happen on the lid space, while keeping the costs low.¹³ As lids are being proposed to be placed in dense urban areas, it is important to keep in mind the users and stakeholders of the space. As Scott Bonjukian, the co-chair of Lid I-5, argues, "Evoking the path of the motorist that I-5 is, the lids can also become a linear pathway for pedestrians."¹⁴ Pedestrians need to feel safe while traveling across and within the placed lid as well as having easy access to and from the space.

¹³ Bonjukian, Let's Bury I-5: An Urban Design Framework for Freeway Lids in Downtown Seattle, p.9

¹⁴ Bonjukian, Let's Bury I-5: An Urban Design Framework for Freeway Lids in Downtown Seattle, p.13-14

What is Public Space?

The ability to access a place and to feel safe in a place is essential for everyone, regardless of age, gender, race, religion etc. Public Space is an open space everyone should have access to and anyone is allowed to utilize. An identification provided by the American Planning Association, is that a public place helps promote social interaction and a sense of community whether it's a gathering spot or part of a neighborhood, downtown or another area within the public realm.¹⁵ It is not to say that public space needs to be a specific open area or a site that has boundaries, but rather, it could also be an alley, a rooftop, or simply a street and intersection that we see everyday. We all use and approach public space differently depending on who we are, where we are, and what we perceive the space as. As Sepideh Movahed, an architect and urban designer, stated, "Behavioral patterns define how to use space. Therefore, a successful urban design is based on how it fulfills human values."¹⁶

Public spaces are designed with functions to allow people to use it frequently and will want to use it frequently. One reason, Movahed states, is that "the realization of space identification belongs to an environment and the realization of qualities of city campus is the accessibility of walking within the environment."¹⁷ Sepideh writes extensively on how people approach public spaces differently in time and frequency depending on the activities. He also expresses the usage of public space based on Jan Gehl's definition and

¹⁵ [Https://www.planning.org/greatplaces/spaces/characteristics.html](https://www.planning.org/greatplaces/spaces/characteristics.html)

¹⁶ Sepideh Movahed et al. A Safe Pedestrian Walkway; Creation a Safe Public Space Based on Pedestrian Safety, p, 572 Abstract

¹⁷ Sepideh Movahed et al. A Safe Pedestrian Walkway; Creation a Safe Public Space Based on Pedestrian Safety, p.573

categorization of outdoor activities in public spaces in ‘Life Between Buildings’, a book on the patterns of pedestrian life. Gehl’s research of activities in public space are categorized into three categories, each of which places very different demands on the physical environment. The categories, necessary, optional, and social activities, identify the different usages of public space based on the needs and demands of people, and can be used as indicators for the safety and accessibility guidelines for this project.

As mentioned above, public space can be more than just an open space, it can be a street, an alleyway, or even simply a crosswalk. Public space could be either public or private, whether it’s free of entrance or a privately owned public open space, while a complex term, public spaces are also known as shared space or gathering spaces. While there are several types of public spaces, they all follow a simple rule, the area or place is and needs to be open and accessible for all the people regardless of race, gender, ethnicity, age or socio-economic level. In the past, usages for automobiles were heavily favored while designing and distinguishing the usage of streets, nowadays, cities like Seattle, are refocusing the priorities to the walkability and quality of life in relation to streets. Planning movements such as Complete Streets provide new design standards to help develop and change how cities think of and design street. Complete Streets, also known as streets for everyone, are operated and designed to be able to provide safe access for all, making all types of movement easy around the area.

Cities are now, as Gehl said, more concerned about balancing the users need of mobility, through implementing several theories provided by various planning and design professionals such as William Whyte, Allan Jacobs, David Lynch and Jan Gehl as well as social critics like Jane Jacobs, planners can now focus on ensuring a safe, comfortable, and enjoyable space for people living in the city. By utilizing Jane Jacobs' "eyes on the streets" concept, planners could provide a safe environment through urban design concepts. Similarly, by implementing design criterias established by Jan Gehl, urban planners are able to understand what the residents need within the living environment as well as what the general public need within the urban environment. As Gehl argues, he believes that it is best to view a city at eye level with the speed of human power, namely a city that is designed for the pedestrians. He believes that a city is best when providing pleasant experiences while providing the needs of pedestrians such as safety and accessibility. Similarly, Kevin Lynch, an American planner and urban designer known for his book *The Image of The City*, agrees that having a street concept that is compromised to allow mixed-use traffic will not only provide pedestrians their right-of-way but also create a safe street without losing much of the individual mobility i.e. cars. As Lynch asserts, through planning and designing city streets, our aim is about "achieving the humanization of city sidewalk".¹⁸

¹⁸ Lynch, Kevin. Good City Form

Pedestrian Safety

Safety, a wide concept that can range from being safe within the physical environment to being safe during the process of getting to the destination, is an important aspect in pedestrian mobility. Accessibility to places for pedestrians is an important factor that is included and connected to the safety of pedestrians. Having safe spaces and being able to access them also means having good walkability. As quoted by Architect Khashayar Jou, “Walkability takes into account the quality of pedestrian facilities, roadway conditions, land use patterns, community support, security and comfort for walking.”¹⁹ An unsafe environment will reduce the accessibility and willingness of access from pedestrians, similarly, low accessibility rates will in turn generate a perception of environment being unsafe. Once the dominant mode of transportation method in the 19th century and now the most widely accepted type of human interactions with the environment, walking, is making its way back to becoming the preferred way of moving around in dense urban environments. Jou stated, “...It is walking that knits the structures, spaces and people of a city together.”²⁰ Pedestrians as the main users of urban streets and public spaces, move through and out of public spaces using connected streets. As Jou quoted, “Pedestrian movement is the most natural, ancient and necessary form of human disposition in the environment.” Pedestrians are not only looking for a safe space, both being safe from vehicles and from crime, to be in, but also a safe and

¹⁹ Jou, Khashayar Kashani Pedestrian Areas and Sustainable Development p.229

²⁰ Jou, Khashayar Kashani Pedestrian Areas and Sustainable Development p.228

accessible space to arrive and leave in. Like Allan Jacobs once said, “When streets become unsafe, it is almost always when the pedestrian realm does not exist.”

Fear of crime, one the most concerned safety issues mentioned in public space safety²¹, is one of the indicators for frequent usage in current designs of various public space. When a public space fails to provide a safe environment, or portray the atmosphere of safety, people will generally avoid going to the site, especially pedestrians, as they are the ones moving the slowest in terms of mobility²². Criticism of the current approaches in designing urban public space comes from a wide variety of stakeholders and professional perspectives. As Zeinab Alamdari stated, “One of the major challenges in designing urban public spaces is paying more attention to issues such as infrastructure, architecture and the economy than observations about people and their way of life and their interaction with the environment.”²³ People are the main users of public spaces, as described by Zeinab, the space which appears depending on the needs of citizens and it is open to the public²⁴, to gather for events or simply to gather as a community regardless of race and background. It is about the usage of the people, of pedestrians on the outside and not on the inside. Older design strategies, as it was focusing more on vehicular mobilities, are seen to detract

²¹ Yavuz, Nilay et al. Addressing Fear of Crime in Public Space: Gender Differences in Reaction to Safety Measures in Train Transit

²² Jou, Khashayar Kashani Pedestrian Areas and Sustainable Development

²³ Zeinab Alamdari, Farah Habib, Urban public space designing criteria for vulnerable groups (Women and children), p. 179 Abstract

²⁴ Zeinab Alamdari, Farah Habib, Urban public space designing criteria for vulnerable groups (Women and children), p. 179 part II

from the safety of pedestrians, whom, historically, was placed in the lower tiers of priority level.

Different groups of people respond to different potential threats based on their age and physical appearances and thus it is important to take into consideration the reasoning and fear behind respective stakeholder groups. Men and women, children and adults, teenagers and elders, each and every group has their own perception of what it is to be safe, through understanding and analyzing different situations, design concepts could better reflect the needs of individuals. Safety, a vital concern especially for people living and traveling in urban environments, is the first aspect people look to in open public spaces, whether it's parks, plazas, or streets. People have been suggesting of bringing back 'eyes on the street', to provide natural surveillance that enhances security and feeling of being safe in public spaces. Jane Jacobs, in her book *The Death and Life of Great American Cities*, describes that "A city street equipped to handle strangers, and to make a safety asset..., there must be eyes upon the street, eyes belonging to those we might call the natural proprietors of the street."²⁵ This is not to say all public spaces need to be in close proximity to businesses and homes, but more so, having windows or any kind of setting that allow and encourage people to keep an eye on the streets, on the world that is still going on outside their house. Day and night, it is vital for public space to provide a safe environment for people walking through or sitting down, having natural

²⁵ Jacobs, Jane *The Death and Life of Great American Cities* p.35

surveillance assures a feeling of safety and that everyone is visible from a distance.

Pedestrian Accessibility

Accessibility is one of the main indicators of whether public space is accessible and welcoming. Whether it's commuting home, to parks, or another public space, accessibility, including walkability, route options, and safety are three main reasons people take into consideration and find the best combination for themselves. Another incentive to encourage pedestrians in frequenting and using the space is through providing easy access to urban public spaces. Perhaps a woonerf, could be part of the accessibility solution to a desired public space. Woonerf is Dutch for living yard, and it is a concept that originated from a 1975 report of the Netherlands Association of Local Authorities (VNG, 1975)²⁶ that has been utilized in Dutch cities and towns for urban environmental traffic management. Described by J.H. Kraay from the Institute of Road and Safety Research SWOV of the Netherlands as "...first and foremost, the functions of a residence, meeting place, playground and walking area (the yard function)."²⁷, the woonerf, also known as Home Zones in the British context, helps reclaim the streets as part of public space for people's use. The concept of Woonerf is about providing space for cars while fully accommodating the needs of residents or rather pedestrians, where pedestrians would have priority over cars.²⁸ As described by Collarte, "Limiting vehicular speed not only improves residents'

²⁶ Kraay, Woonerven and Other Experiments in the Netherlands, p.3 Introduction

²⁷ Kraay, Woonerven and Other Experiments in the Netherlands, p.4

²⁸ Collarte, The Woonerf Concept "Rethinking a Residential Street in Somerville", p.3

feelings of safety, but also promotes greater use of the public space.”²⁹ Designed without a clear division between pedestrian and auto space, automobiles traveling in and through the Woonerf are forced to slow down and drive or ride through with caution. The design of a Woonerf includes no continuous curbs, narrowing roadways to 11ft to limit vehicular speed, as well as allowing more room for street furnitures such as planters, street trees, and benches etc. Implementing woonerf concept streets can be an option for providing a safe environment and higher accessibility to public spaces in dense urban areas, such as my site of focus. Through creating design guidelines to use as indicators for safety and accessibility design, woonerf concept streets can help make streets and public spaces a part of a safe and connected network.

²⁹ Collarte, The Woonerf Concept “Rethinking a Residential Street in Somerville”, p.3

Design Ideas and Guidelines

As Jane Jacobs once said, “Cities are immense laboratory of trial and error, failure and success, in city building and city design” It is important, as she discusses in *The Death and Life of Great American Cities*, for us to understand how cities actually function, rather than how planners and urban designers think cities should function. As this project aims to seal the scar that I-5 created, the scar that separated the neighborhoods in the city, the inconvenience in mobility and access for the residents, it is a vital aspect to understand how the city works, how the people living in the city are interacting with the city, and how the environment is reacting to this relationship.

Jan Gehl, a Danish architect and urban design consultant, listed the three categories: Comfort, Enjoyment, and Protection in the *Urban Quality Criteria* as an assessment to create desirable and vibrant public spaces. The 12 quality criteria, or the Gehl Method, created by Gehl in the 1960s, have been used widely as the guideline for creating and designing public spaces in the urban context where people have higher needs of functional and desirable open spaces. Through inviting and encouraging people to spend more time in the city, to be on the outside and not on the inside, for Gehl, is probably the most effective way to revitalize civic life in cities. These criterias, based off of Gehl’s research, helps define the experiences of everyday life within the public realm as well as how the design and relation of buildings and spaces can help enhance that experience.

“Streets and sidewalks,” as Jane Jacobs, a journalist and activist known for her influences on urban studies, says, “as the main public places of a city, are its most vital organs.”³⁰ Creating urban streets that are not only functional but also welcoming are important factors in encouraging people to utilize the space and increasing their willingness of frequenting the space in their daily lives.

Similarly, in Whyte’s study, *The Social Life of Small Urban Spaces*, he discovered, through experiment, that just by having public space present is not enough to encourage usage, having human-scale design as well as amenities that are pedestrian-friendly are vital when it comes to creating a vibrant and functional public space.

Allan Jacobs, an urban planner and professor, once said, in his book *Great Streets*, that “First and foremost, a great street should help make community... A great street should be a most desirable place to be, to spend time, to live, to play, to work... Streets are settings for activities that bring people together.”³¹ To create a safe and accessible space for all gender and ages, it is necessary for planners to take into consideration how the street leading to the space is designed and used. Jacobs asserts that streets should bring people together, help with community building, encourage people to act and interact to attain what one cannot alone. As Jacobs describes, "...The best streets are comfortable to walk along with leisure and safety. They are streets for both pedestrians and drivers. They have definition, a sense of enclosure with their buildings; distinct ends and

³⁰ Jacobs, Jane. *The Death and Life of Great American Cities* p.29

³¹ Jacobs, Allan. *Great Streets*

beginnings, The key point again, is great streets are where pedestrians and drivers get along together." By designing a "seattle-woonerf", people can easily go from point a to point b without the fear of being hit by cars or having to travel a longer distance even when the location is right across the street. This will allow people to utilize streets the way it was designed for, allow people of all gender and age to be within the public space day or night, and through mitigating traffic, decrease the level of pollution as people are encouraged to walk rather than drive.

Using the 12 quality criteria created by Gehl, I identified the issues and concerns of my chosen site and are providing recommendations or best practices based on the concept of a woonerf in a Seattle/site specific context. The 12 quality criteria is categorized into three areas, safety, comfort, and enjoyment and within the three categories there are 12 guidelines, ranging from feelings to sensory experiences to the aesthetics of place, that outlines the needs and types of usage that would encourage use of space. With the 12 quality criteria, comparing and analyzing observations of the site will be critical in generating design guidelines of the safety and accessibility of public spaces/streets for pedestrians. As stated in the *Public Life Approach*, the Gehl institute asserts that "when spaces are designed to be defensive and uncomfortable to certain groups, they can become unwelcoming to everyone."³²

³² Begault, Crime Prevention Through Environmental Design: A Public Life Approach, p.3

Methods

For this project, I met up with the co-chair of the community campaign group, Lid I-5, Scott Bonjukian to learn more about the history and background of the Lid I-5 movement as well as their current progress and how I could help them move forward. After my initial meeting with Scott, I decided to focus on understanding the pedestrian experience and relationship with the built environment, specifically on the safety and accessibility of pedestrians in public spaces.

I conducted literature review to learn about the definitions of public spaces, safety and accessibility for pedestrians, and various urban design and planning guidelines. It was important for me to understand more about the safety and accessibility of pedestrians in public spaces within the Seattle context, why the design of the space works, what are the drawbacks, and how design frameworks are different for each site. The findings from the research helped build connections to the various urban design and planning guidelines and a better understanding of why and what worked. The literature review provided a much more thorough understanding of the needs for pedestrians, how the various design guidelines work together, and most importantly, why this is essential.

I also conducted site visits here in Seattle as well as visiting ‘Woonerf’ streets in Amsterdam to better understand the relationship between

pedestrians, cars, and the environment. Site visits offer a more well rounded understanding of how designs affect and shape the way people interact with space and utilizes the space based on the design. During the site visits, I made observations on how people are using the site, how people generally feel about the site, and whether or not the site is serving its original purpose.

The finding of my site visits supported my analyzation of the 12 Key Quality Criteria. There are 3 categories in Jan Gehl's toolkit: Protection, Comfort, and Enjoyment, and there is a total of 12 criteria within the 3 categories. I analyzed each of the 12 criteria and provided examples of precedents from various locations to visually represent each criteria individually. I provided definitions for each of the categories based on the criterias within the specific category. Based on the definition of the categories, the analysis for each of the criteria were visually presented with different examples along with short descriptions.

I, then, put together my findings and analyzations together into a toolkit to make it accessible for anyone that is interested in either the Lid I-5 movement or to understand and learn about the 12 Key Quality Criteria. The toolkit also includes definitions of public space, safety and accessibility for pedestrians, and design guidelines and concepts that are extracted from the broader literature review I conducted.

Conclusions/Next Steps

Based on the the analyzation of the 12 Key Quality Criteria, I recommend implementing Woonerf, also known as the Dutch 'living street/yard', in Seattle, specifically for the Lid I-5 site. A woonerf is essentially a shared street between pedestrians and cars. As we are aiming to make the city more livable and walkable, we are not taking out or getting rid of cars entirely. Thus, a woonerf would be the perfect fit where pedestrians are prioritized but cars still have their right of way with a lower speed limit. In the context of Seattle and the Lid I-5 site, the 'woonerf' would, basically, be a commercial shared street, where cars would still be allowed but pedestrians are the main group of users that the space is targeted towards.

The toolkit will be presented to the Lid I-5 committee for feedbacks and revisions to better support and help people involved in the movement as they create designs for the site. The toolkit will also be put up online for public access to help people understand the importance of public space designs and how to utilize Gehl's 12 Key Quality Criteria toolkit.

Reflection

When I started the senior project, I was lost, or rather I got lost. I wasn't sure what to do, what I should do, and how I should approach it. I had so many ideas floating around in my head and none of them really stood out. I was really frustrated as other people made up their minds and were already starting the actual project, so I went to Kelly. Kelly helped me narrow down to the one topic that I am really interested in and on that one topic, she helped me narrow it down even further to be something that is achievable within a year. I also got to connect to one of my mentors, Scott Bonjukian, through an introduction from Kelly, and that is when and where my senior project really started to get together. Scott, as the co-chair of Lid I-5, gave me a lot of advice and input on how I could approach my project. I was able to really grow my senior project based on the knowledge that Scott had as well as the informations that he provided. It started out pretty small, I was only thinking of doing research to help the Lid I-5 movement, and after a couple detours, it turned out to be something different, something bigger than I expected.

As mentioned earlier, there were a couple detours that I took while working on my project. I originally was hoping to do more of a research/case study based project that is about understanding how pedestrians fit within the Lid I-5 site. Nearing the end of fall quarter, my project focus turned into creating design recommendations for a specific section of the site as I joined the Lid I-5 Design Committee and thought this would be more helpful for the group.

Starting winter quarter, I realized that without actual designs of the site, I would not be able to provide constructive recommendations and feedbacks. Thus, I decided to focus more on Jan Gehl's 12 Key Quality Criteria, on how to really utilize this toolkit while designing the site. It was doable and was reasonable, however, as I sat down one day to work on the project during spring break, I realized that, at a personal level, I wasn't and will probably not learn or get much out of this work. I wasn't sure what to do at the point and wasn't sure if I still have time to shift my project, so I turned to Veronic Guenther, my mentor and also a previous graduate of CEP, who has helped and supported me throughout my journey in senior project. Together, Veronica and I narrowed down what I would like the toolkit to be used for, for who, and for what purpose. With Veronica's help, I decided that it would make more sense, based on the knowledge and research that I had already done and have of Jan Gehl's 12 Key Quality Criteria, to create a visualized toolkit based on the 12 Criteria.

The toolkit, based on Gehl's 12 Criteria, is a visual analyzation of the 12 Criteria and aims to provide a better understanding of the 12 Criteria for both the people involved in the Lid I-5 movement and the general public. It wasn't easy, shifting my project this late along with all the extra work that I had to go through and do within a short period of time. While creating the toolkit, I had a lot of trouble finding examples of precedents as well as finding a way to represent them. It was a new experience for me, creating a design toolkit, not only do I have to analyze and filter the examples I found online, but also I had to

really think about how to present it in a way that is impactful yet easy to understand.

Working on this project allowed me to really think about what I, personally, am interested in, what I want to achieve as an urban designer and planner, as well as reassessing what I am capable of. Through researching the project, not only did I gain new knowledge on the different topics that I chose, but also I was able to look back to things that I have learned throughout my 4 years here at UW. I was able to reassess my knowledge of urban design and planning concepts and guidelines and to really understand how, as different as they all are, they are all interconnected in one way or another. I also gained a better understanding of how the design of spaces affect and shape the interaction between people and the built environment. This project also allowed and gave me the opportunity to work on my networking skills. By participating and becoming a team member within the Lid I-5 Design Committee, not only was I able to connect with other professionals within the field, I was also given the chance to work with them. While there were a lot of work and frustrations as I worked on the project, I'm thankful for the opportunity to build and enhance my skills, and moreover, myself in person.

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