MINDING THE GAP

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A Design Thesis Submitted to the
Department of Architecture
North Dakota State University

By
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THE PROPOSAL

THESIS ABSTRACT

Increasingly, there is a shift from multigenerational family living to seniors residing in age-specific facilities. Due in part to the relative isolation seniors experience here, there is also a noticeable rate of depression and other psychological struggles among this age group. The loneliness epidemic is not unique to seniors; significantly more people from all ages and backgrounds are facing this problem. This, combined with factors such as rapid technological advancement and increasing diversity, is making it necessary for people to find new ways to connect, specifically with those outside of their immediate circle.

The thesis addresses this need by creating spaces that facilitate intergenerational relationships, shown to be an invaluable tool for connecting individuals and communities. Combining senior living, a high school, and a community center in one complex creates an environment that adapts multigenerational spaces from familial households to new typologies. The architecture supports relationships via shared spaces and connections, while allowing for specific typological and user-driven needs. Shared spaces offer various levels of interaction between seniors, students, and community members in educational, recreational, and residential settings, with goals of promoting lifelong, cross-generational learning; improving individuals' well-being, empathy, and capabilities; and strengthening the community's social fabric.

THESIS NARRATIVE

Intergenerational relationships have been a central part of the familial and societal model for much of history. We have started to see a shift in this habit, despite humans' increasing life expectancy. It's not uncommon for elderly people to end up in a nursing home, cut off from their families or communities, and unfortunately, many in these situations experience poor mental and even physical health as a result. In addition to designing a senior care complex that is more user and environmentally friendly, I would like to integrate a high school that would be aimed at lower income families. Students would benefit from forming relationships with people of different ages and backgrounds, as well as by learning in a safe and well-equipped environment. The cost of their attendance would be offset by a combination of the payment for seniors to live there and the opportunity to work or volunteer within the community. A third unifying component of the facility will be community amenities, often shared with the school spaces. Each of these functions will combine users in both recreation and education, encouraging a worldview that each generation has something to offer to and something to gain from the others.

Through various research strategies, this thesis will explore how the integration of senior care and schooling, as well as a community center, can create a positive impact on the people involved, as well as the broader community. While the focus of this project is how architecture can facilitate psychologically impactful intergenerational communities, it will expand into ideas such as public health, social structure, equity, and education. This thesis would exemplify how this kind of facility may be designed and make the case for why it should be designed, perhaps leading to future implementation.

PROJECT TYPOLOGY

The proposed project is a complex that houses a senior care facility, high school, and community center. This will include both separate and shared spaces relevant to each typology—namely, educational, healthcare, residential, and recreational—resulting in a variant of the "live, work, play" multipurpose typology. Mixed use architecture is an area with rich precedent, especially in modern day, but is typically directed at the professional age group and their preferred amenities. In this context, it still carries the same core elements: somewhere safe and comfortable to make one's home, somewhere to complete tasks and learn, and somewhere to find enjoyment. Each of these applies to this hybrid complex, whether to one or all of the user groups, and takes on additional implications due to the specific support that both seniors and students require to thrive.

Major factors when considering precedent studies:

1. *Typology:* senior care, education, recreation, or a combination of these three
2. *Context:* degree of connection to surrounding community
3. *Program:* chosen project elements and their connectivity
4. *Sensory Experience:* how design is encountered / processed

Chosen studies:

1. *Residential Care Home Erika Horn, Andritz*
2. *Discovery High School*
3. *St. Joseph's Home*
4. *B³ Gadamerplatz*

PRECEDENT STUDY 1

Figure 2 | Residential Care Home Erika Horn, Andritz

RESIDENTIAL CARE HOME ERIKA HORN, ANDRITZ

ARCHITECT: Dietger Wissounig Architekten
TYPOLOGY: Senior Living
LOCATION: Graz, Austria
YEAR: 2015

SUMMARY
Designed by Dietger Wissounig Architekten, this residential care home in Austria provides housing and medical care to 105 elderly residents, many suffering from dementia. The facility is notable for its passive design and the autonomy its residents enjoy.

PROGRAM
The 74,000 square foot facility is a simple square form, with subtractions made for patio and courtyard spaces. It is organized into four two-story wings branching from a core "village square," which includes a chapel, cafe, hairdresser, nurses' station, and event space. Residential spaces are housed within the four wings, with shared common areas flanked by individual apartments.. Care and recreation spaces are interspersed so as to be easily accessed.

CONTEXT
Located on an open plot adjacent to a brook, the design takes care to interweave with its surroundings. The demands of the floor plain necessitated building only from the ground up. Open air courtyards enhance the building spaces, eventually leading to a recreation area along the waterfront. Even within the building, natural light is allowed to stream inside. Going further, the architects designed according to the EU Green Building Program, achieving passive house designation. The building is a composite construction made primarily of concrete and wood, with prefabricated facade pieces. The air-handling system switches between earth tube and roof suction according to its temperature measurements, while additional heating needs are handled by geothermic and solar thermal processes..

EXPERIENCE
The design of the home takes into special consideration the needs of its residents living with dementia. The natural materials create a calming color palette, with large windows and skylights allowing for a wash of natural light. Physical connection to the outdoors continues in this serene scheme, with vegetation and the sounds of the brook adding gentle stimulation. The simple building layout is manageable in scale, with repeated visual cues that aid in wayfinding. Though medical stations are interwoven for easy access to care, residents are able to find relative independence in enjoying a variety of public and private spaces.

EVALUATION
The Residential Care Home Erika Horn, Andritz is a well-designed care facility that combines an atmosphere of tranquility with an appropriately stimulating program. The balance of independence and access to care is a valuable example that can be applied in the thesis, particularly in spaces that are shared by the care facility and school. Of added interest is the focus on green design, which may be a selling point in terms of environmental responsibility.

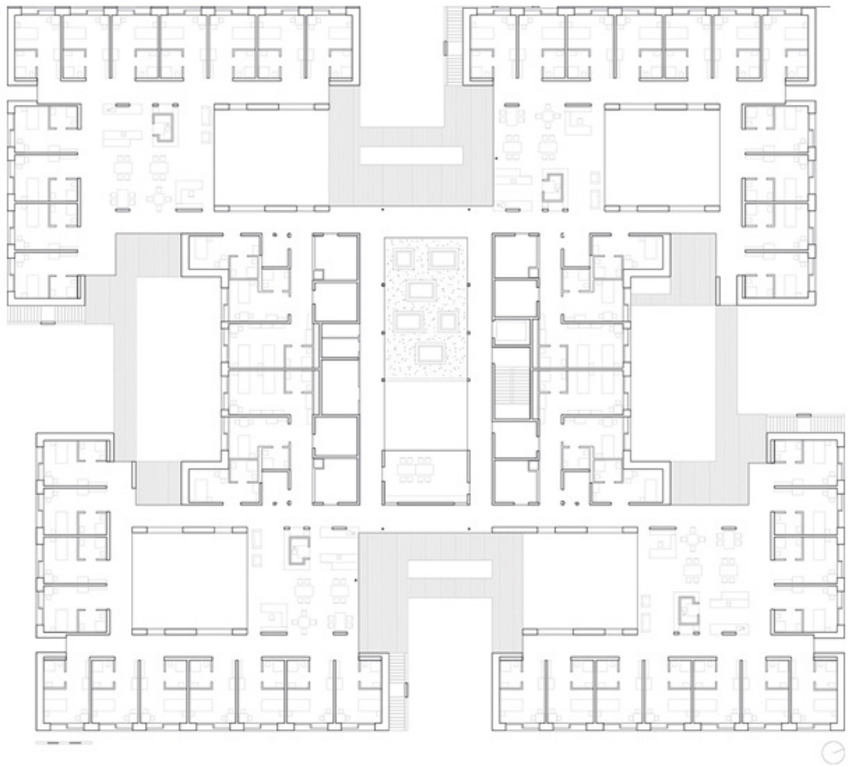


Figure 3 | Floor 0

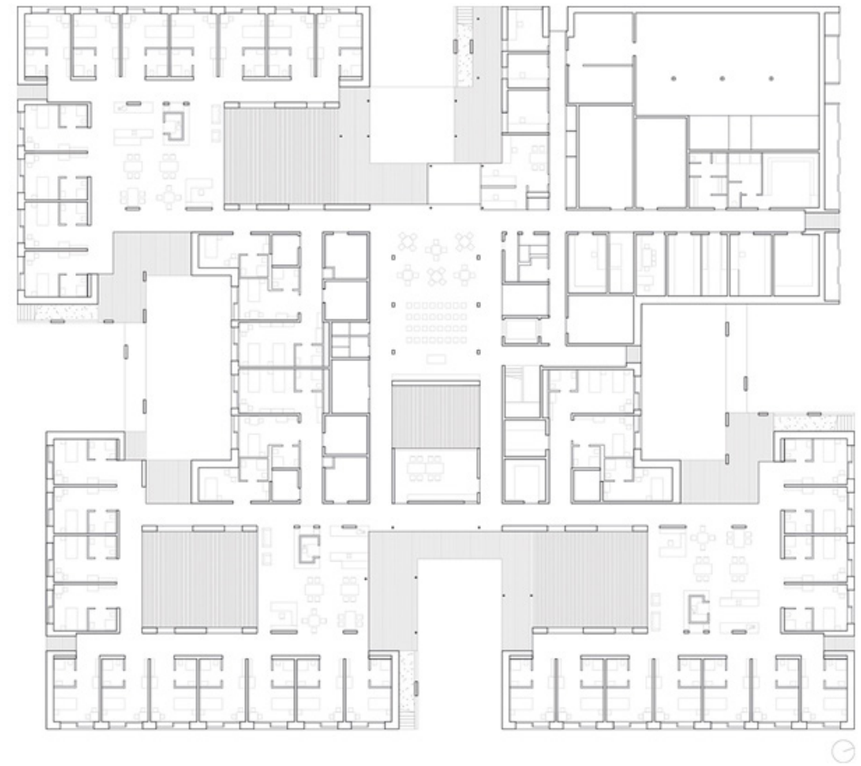


Figure 5 | Floor 1

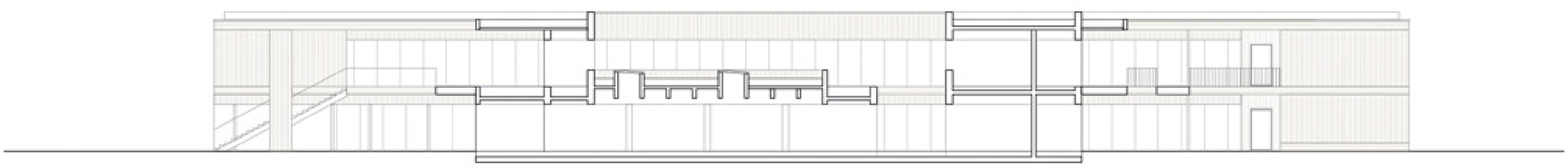


Figure 4 | Section

Figure 6 | Common Area

Figure 7 | Floating Transitions

Figure 8 | Walkways

PRECEDENT STUDY 2

Figure 9 | Discovery High School

DISCOVERY HIGH SCHOOL

ARCHITECT: DLR Group
TYPOLOGY: Education
LOCATION: Camas, WA, USA
YEAR: 2018

SUMMARY
Discovery High School is a public school serving 600 ninth through twelfth grade students in Camas, Washington. The DLR Group-designed facility is a modern reworking of educational architecture to support a dynamic curriculum, with emphasis given to flexibility, functionality, and green design.

PROGRAM
The high school is just under 90,000 square feet, organized as a two story rectilinear mass. A central common area acts as the heart of the school, with a monumental staircase for assembly gatherings. Organized around this are spaces including classrooms, administration, studios, labs, a gym, and exhibits. It is built to be adaptable to a variety of learning scenarios, with adjustable walls and a spectrum of spatial types.

CONTEXT
Camas is just opposite Portland, on the Washington side of the Columbia River. The school itself is situated in a residential area, sharing its lot with a middle school. Connection to the outdoors is encouraged, such as an amphitheater bordered by the forest on the adjacent site. Being environmentally conscious was also an important part of the design process, which culminated in an East-West orientation to minimize heat gain while capturing natural light. Energy efficient systems allow the building to meet the AIA 2030 guidelines.

EXPERIENCE
Discovery offers a project-based curriculum, encouraging greater learning application and collaboration. As such, it required a unique architectural solution. The resulting spaces are far more connected and specialized than the typical school, and allow students to thrive in their education. The clean lines, modern finishes, and natural light create an inspiring environment in which to learn.

EVALUATION
Discovery High School is far from a typical high school, and its forward-thinking design is a large part of what makes it so successful. Instead of having to walk through crowded hallways to classrooms that look the same, students can bounce from large morning assemblies at the central stair, to working on a project in a high tech lab, to a study session in one of the glass breakout spaces. The aesthetic is kept clean yet interesting, with details such as a fan shaped gym wall and pops of bright color. The unique organization of space is the reason for choosing this project as a case study; the program focuses on community spaces and as such, would lend itself nicely to a combined facility such as the proposed thesis.

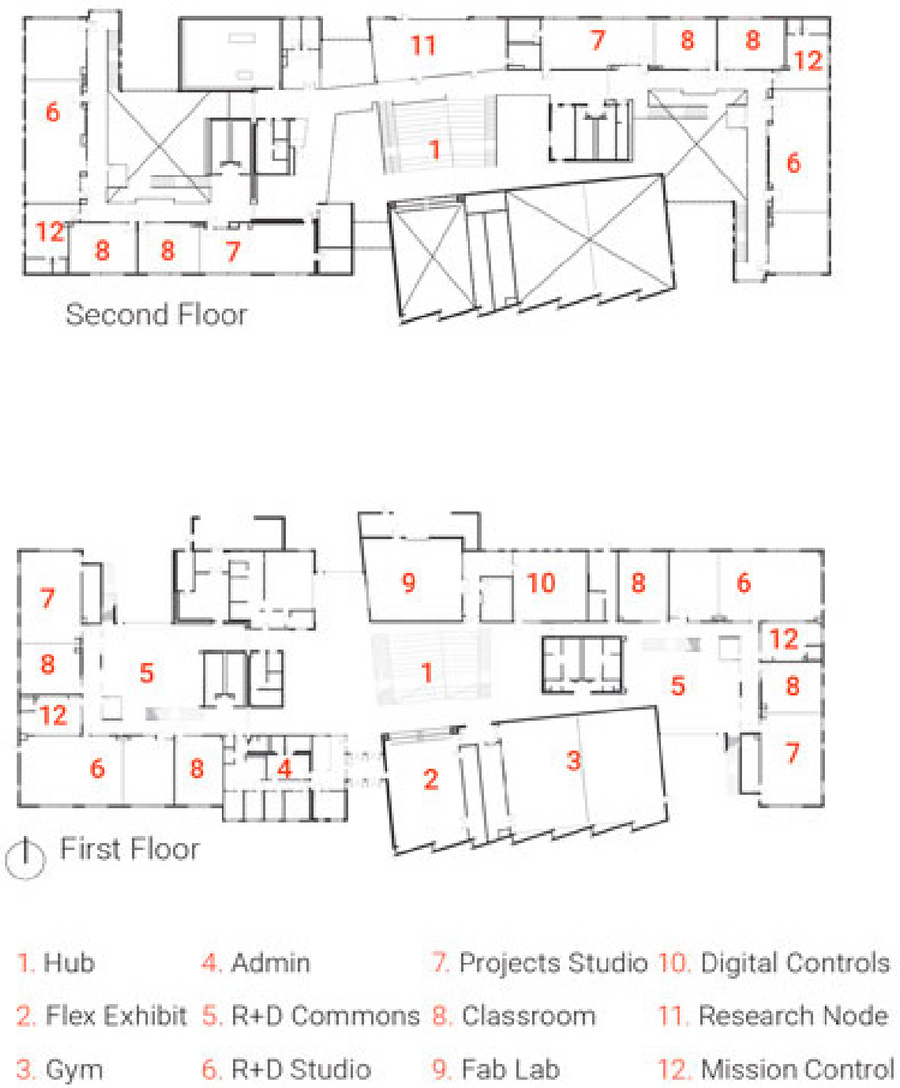


Figure 10 | Floor Plans

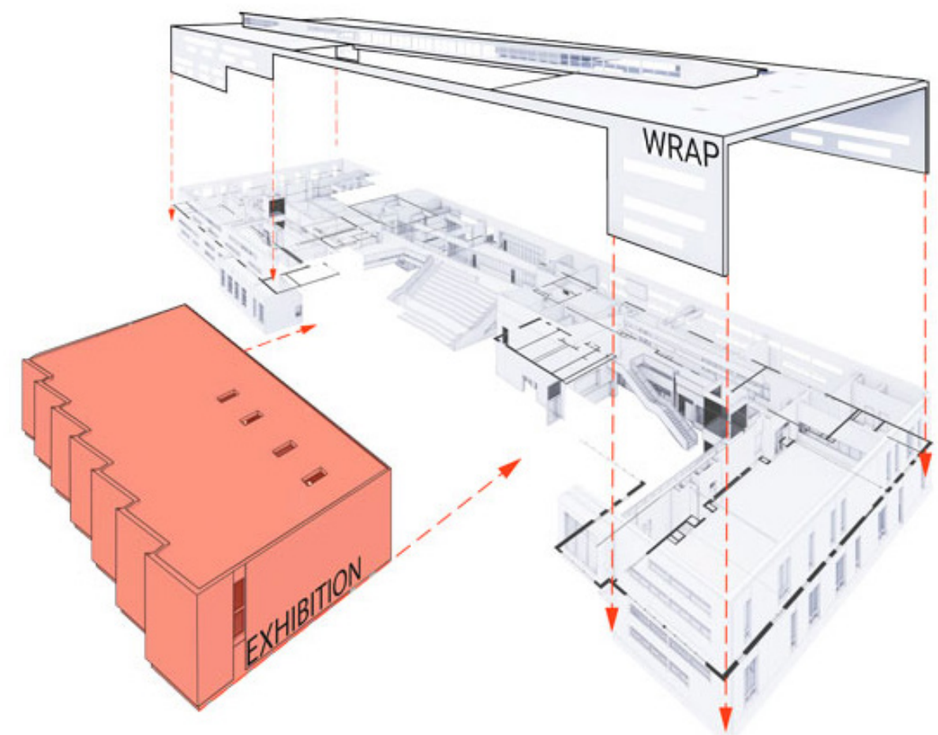


Figure 11 | Parti

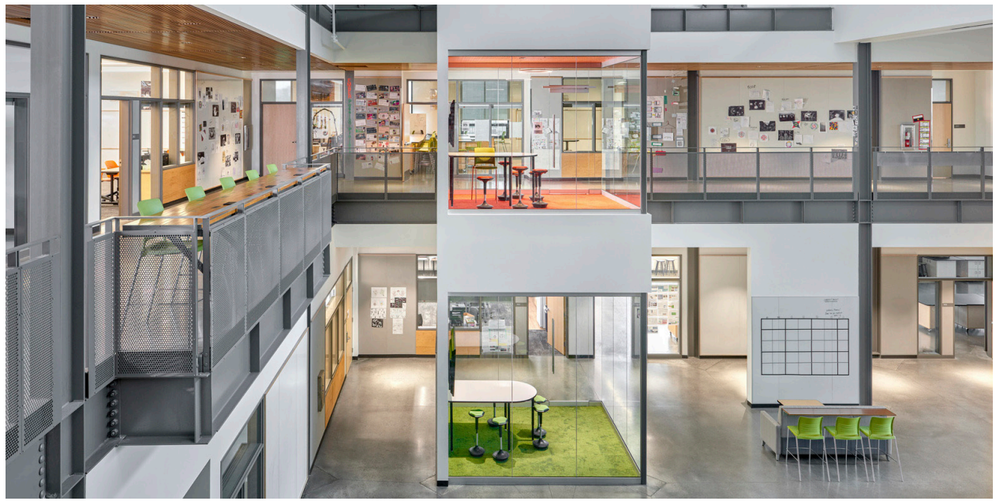


Figure 12 | Commons

Figure 13 | Gymnasium

Figure 14 | Central Stair

PRECEDENT STUDY 3

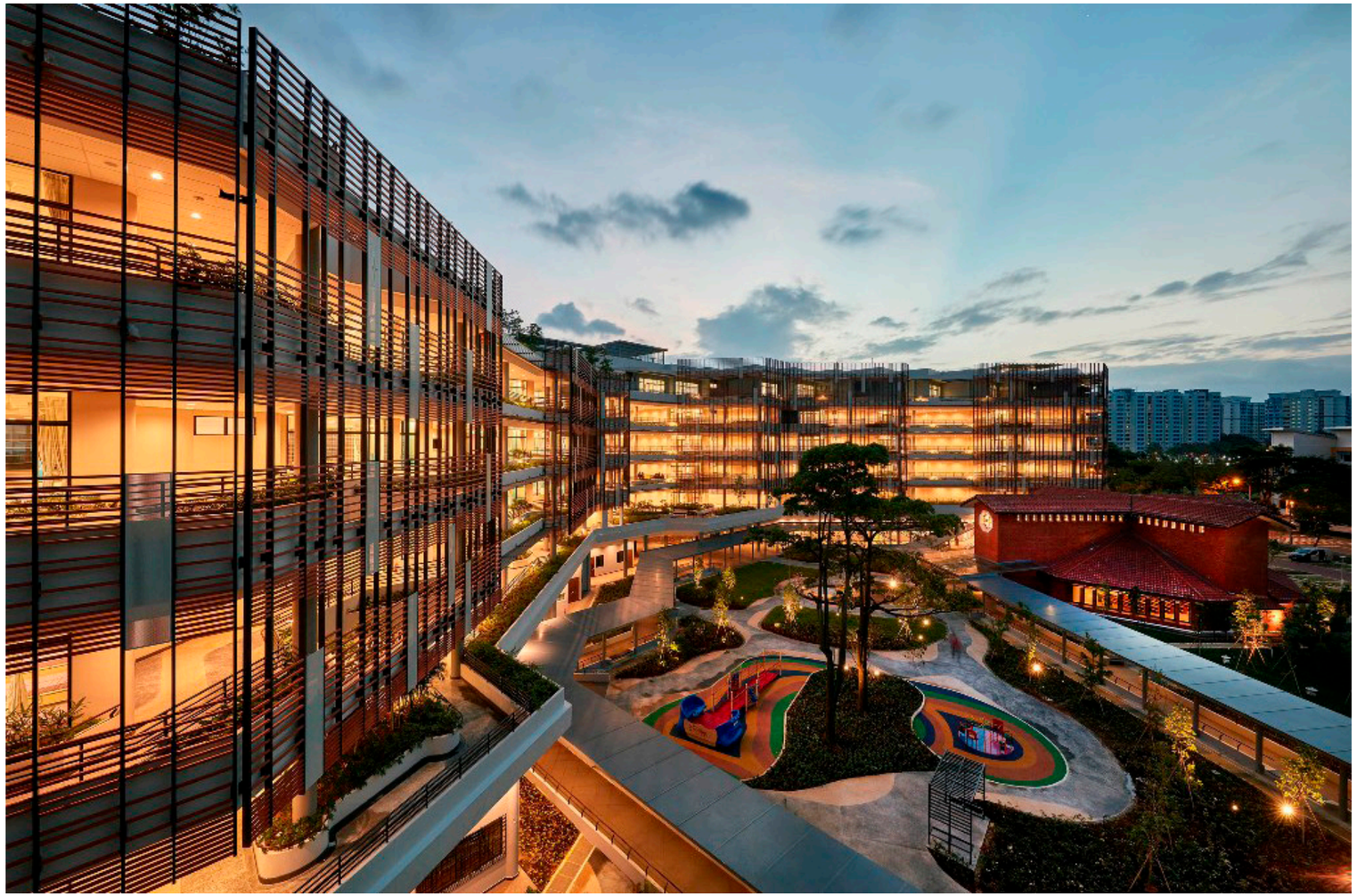


Figure 15 | St Joseph's Home

ST JOSEPH'S HOME

ARCHITECT: SAA Architects
TYPOLOGY: Senior Care Facility, Childcare
LOCATION: Singapore
YEAR: 2016

SUMMARY
St Joseph's Home is a 400+ bed nursing home and care facility, designed by SAA Architects to replace the much smaller pre-existing facility while retaining its original charm. It is the first nursing home in Singapore to have also incorporated a childcare center as part of the complex.

PROGRAM
The original facility was a one story building, which has now been upsized to six stories arranged in an "L" shape around a courtyard and chapel area. Project elements include medical rooms, residential rooms, visitor spaces, a daycare, support spaces, and a courtyard with various attractions. Key to the floor plans are "cluster and family" arrangements, with small groups of residences, common areas, and portable nurse stations. The angles and setbacks with which these spaces are designed allow for daylighting and cross-ventilation.

CONTEXT
Two things were asked to be preserved in the new design: the chapel and garden environment. The chapel is now positioned at the heart of the complex, and spaces are oriented so as to have views to it. Terracotta screens on the facade echo the chapel's red color.

The garden environment is applied on each floor of the home, with greenery-filled corridors and a large courtyard with a reflecting pool.

EXPERIENCE
Dignity of life is the key message that St Josephs aims to convey, and this is evident in its design. The "cluster and family" arrangements create community that helps to heal residents. Access to nature allows for a peaceful daily experience. The integration of a childcare center and universally accessible playground fosters intergenerational interaction, which is a positive experience for all involved.

EVALUATION
This precedent study is an example of an integrated facility that combines the young and old age groups. Though not a school, the childcare center's success makes a case for why this thesis is a viable project. Participants report greater emotional and health-related wellbeing, and look forward to this daily interaction. Each typology is also able to complete its unique functions without disruption.
In addition to this, St Joseph's finds success in its incorporation of natural elements, meaningful spiritual context, and small communities created by spatial arrangement, all while remaining an attractive and peaceful complex.

Figure 16 | First Story Plan

Figure 17 | Cluster

Figure 18 | Bed Cluster

Figure 19 | Chapel

Figure 20 | Corridor

Figure 21 | Courtyard

PRECEDENT STUDY 4

Figure 22 | B³ Gadamerplatz

B^3 GADAMERPLATZ

ARCHITECT: Datscha Architekten
TYPOLOGY: Education, Community
LOCATION: Heidelberg, Germany
YEAR: 2017

SUMMARY
B^3 Gadamerplatz is an urban facility in Heidelberg designed by Datscha Architekten, that serves as both a primary school and community center. Its aim is provide spaces that encourage intergenerational interaction and collaboration.

PROGRAM
The 100,000 square foot complex is organized by typology, with each building connected by a cross shaped courtyard and playground area, as well as covered walkways. The school spaces include classrooms, assembly space, a library, and a cafeteria, grouped around a three story atrium. Sport and recreation spaces make up another section. Community amenities include social spaces, a cafe and kitchen, an event hall, and meeting rooms.

CONTEXT
Heidelberg is a moderately sized urban center in Germany, but the site of the building is only bordered by development on half. On the other side, apartment buildings quickly fade into agricultural fields, with large bluffs rising in the background. The designers took advantage of the ample space to create lots of natural connection with various rooftop and ground level outdoor spaces covering most of the site. In addition to this, the building follows Passive House energy standards, minimizing its environmental impact while creating a comfortable user experience.

EXPERIENCE
From a design standpoint, the building is relatively simple, with its boxy form and use of concrete, brick and pinewood. Large windows and modern light fixtures flood the spaces with light and scenery. The cohesiveness of the design helps the different functions to feel interconnected, which supports the goal of joining various age groups together onsite.

EVALUATION
B^3 Gadamerplatz was a later addition to the collection of case studies, which helped greatly in clarifying how the thesis project might incorporate a community center element that was beneficial, but not overpowering. Though it houses several different functions for different age groups, the complex has a unified and simple aesthetic and a manageable scale for its surroundings. Additional features such as its passive design, branching outdoor spaces, and intergenerational focus are all relevant examples from which to draw inspiration.

Figure 23 | Basement and Ground Floor Plans

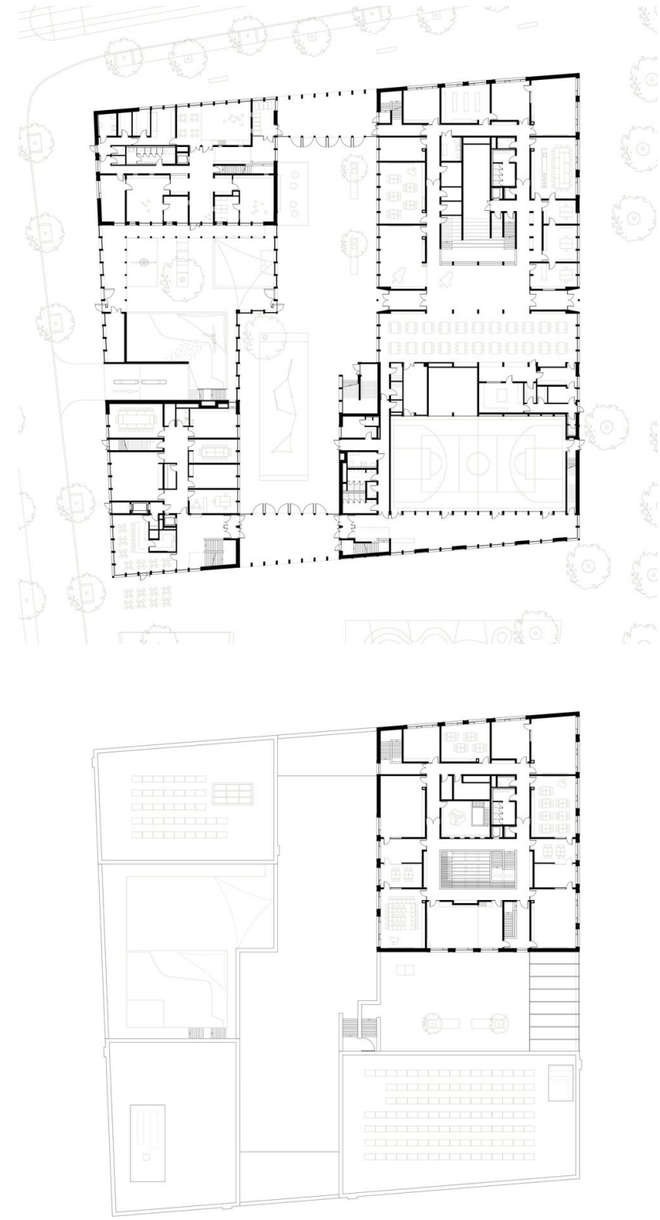


Figure 24 | First and Second Floor Plans

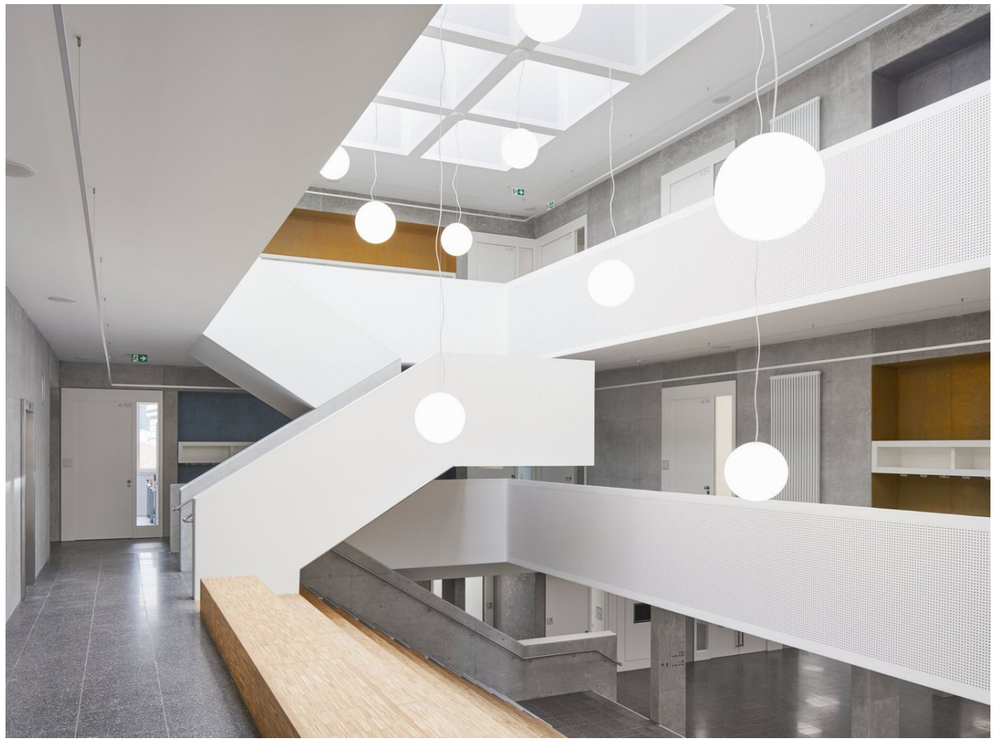


Figure 25 | Stair Atrium

Figure 26 | Lockers

Figure 27 | Stage

TYPOLOGICAL RESEARCH SUMMARY

Though each precedent study was of a different typology or combination, they each lend valuable information to the thesis project. Each study was chosen to represent a different typology, those being healthcare, education, and combined facilities. This allowed the study to focus on outstanding examples rather than pulling from more limited combination examples. Major factors considered in studies were program, context, and experience.

Program
The thesis will be primarily catering to senior residents, community members, and students, all of whom require meaningful use and organization of space. Precedent studies highlighted the merits of common spaces, both as cores to the building and when placed throughout. This will be the primary means of connection, both spatial and interpersonal. Additionally, inventive spatial layouts are beneficial to educational and healthcare types.

Context
Each study took care to create meaningful connection to its site, and the nature available therein. Through the inclusion of outdoor spaces, natural light, environmentally-conscious design, and other contextual opportunities, they were able to create appropriately stimulating environments in which users can thrive.

Experience
User experience is of the utmost importance in these typologies, considering the sensitive nature of the users. Creating balanced sensory experiences that are interesting, while avoiding anything distracting, confusing, or anxiety-inducing is the goal.

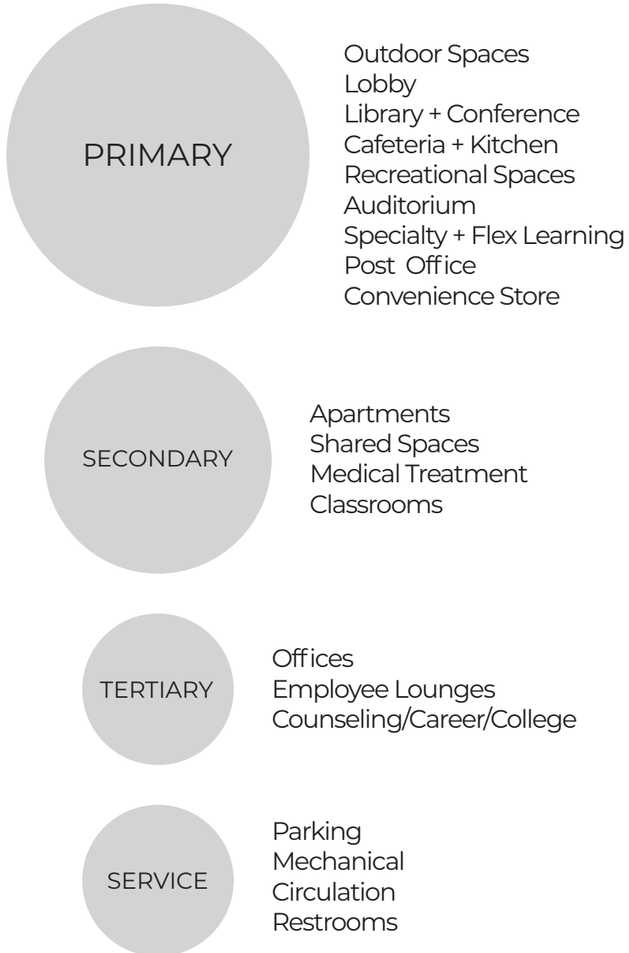


Figure 28 | Element Hierarchy

MAJOR PROJECT ELEMENTS

A combined senior living, community, and educational facility will need to accommodate the following elements:

- Parking
- Athletic Fields (with spectator spaces)
- Open Green Space, Walking Paths, Garden
- Lobby
- Conference Rooms
- Library
- Cafeteria and Kitchen
- Locker Rooms
- Pool
- Gym/Workout
- Auditorium
- Specialty and Flex Learning
- Nursing Home Apartments, Shared Areas
- 1 + 2 Bedroom Apartments, Shared Areas
- Admin Offices
- Staff Offices, Lounge
- Onstage / Offstage Medical
- Post Office
- Convenience Store
- Classrooms
- Infirmary
- Teacher Offices, Lounge
- Counseling/Career/College
- Student Lounge
- Restrooms
- Circulation and Services

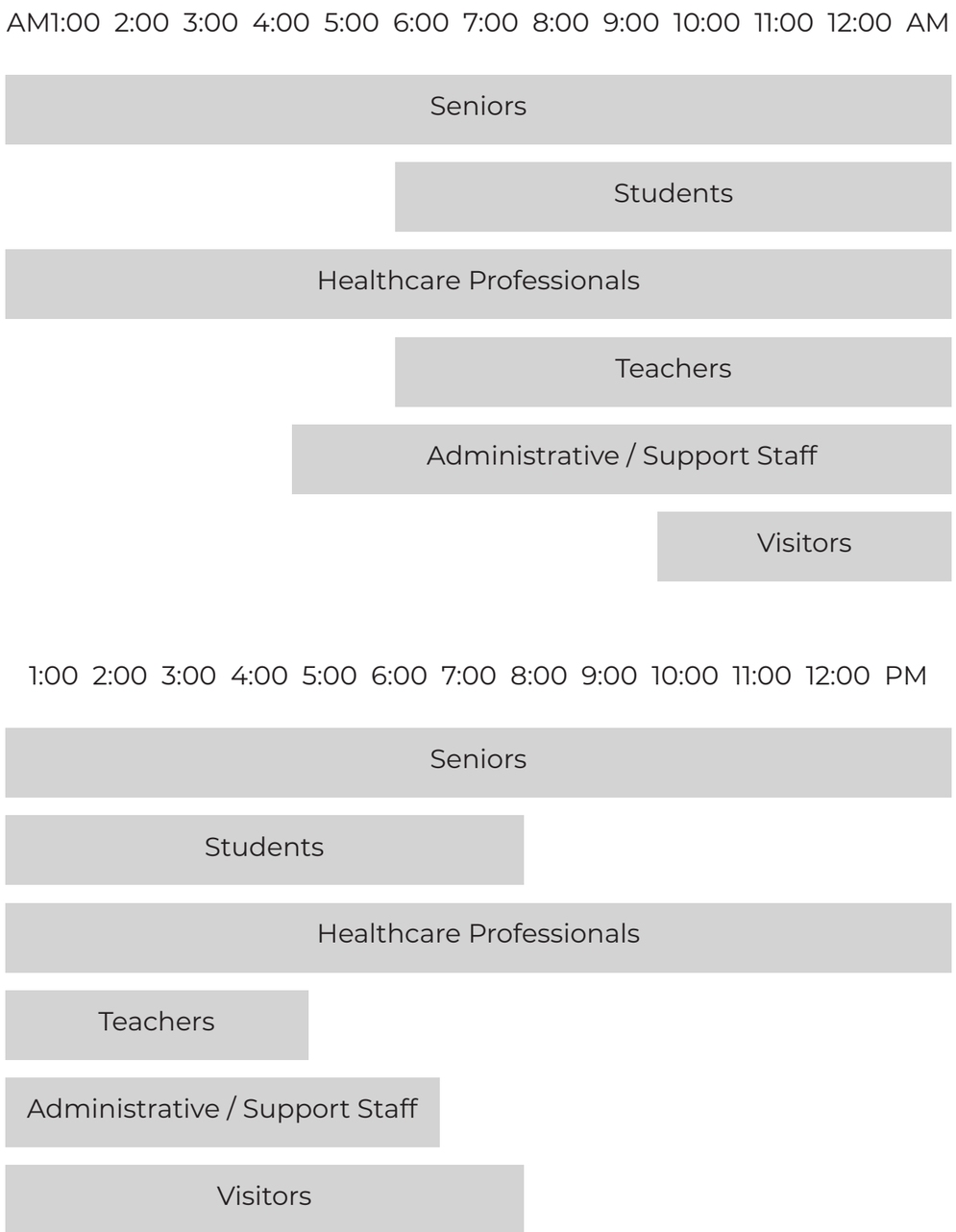


Figure 29 | Hourly Usage

USER / CLIENT DESCRIPTION

User Groups

- Senior residents
- Students
- Healthcare professionals
- Teachers
- Administrators and support staff
- Visitors

Considerations

Seniors

- Vary in relative age, marital status, health
- Require 24-hour monitored use of the complex
- ADA design needs

Students

- High school age
- Lower-income backgrounds
- Daily use of the complex for classes, extracurriculars, jobs
- By nature, usage extends to their families

Healthcare Staff

- Range of working hours, likely on shifts
- Need efficient access throughout the building
- Parking access

School Staff

- Typical workday hours
- May require specialized spaces
- Parking access

Visitors

- Community members or specific visitors
- Parking access, shared amenities

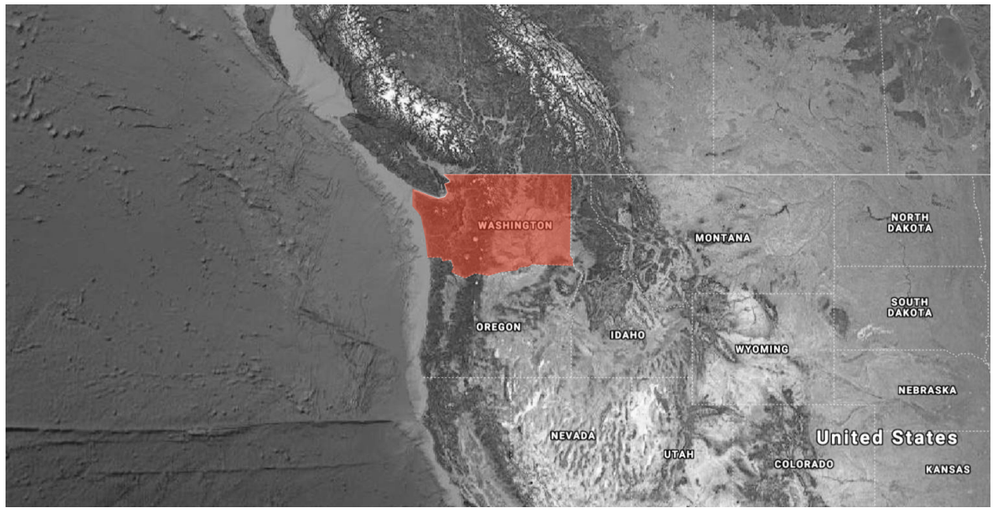


Figure 30 | Washington

Figure 31 | Seattle

SITE SELECTION

REGION: Pacific Northwest

Washington State, located in the Pacific Northwest region of the United States, is a suitable location for this thesis project in particular because of its comparatively high need for a senior mental health intervention. According to recent data from the CDC and Mental Health America, Washington ranks:

- 3rd — Alzheimer's Disease Mortality
- 1st — Senior Depression
- 19th — Seniors with Frequent Mental Distress
- 11th — Senior Suicides
- 31st — MHA Overall Ranking (combined ranking system, with this score indicating higher prevalence of mental illness and lower rates of access to care)

CITY: Seattle

As the largest, and one of the most diverse and well-known, city in Washington, Seattle became the focus city for the site selection process. Based on these factors, it would be accessible to a variety of local and traveling users, as well as have the potential to serve as a recognized case study for future projects. In addition to this, Seattle is an ever-growing city with known interests in holistic wellness, diverse life experiences, and enjoyment of nature; this positions it as receptive to the ideas presented in the thesis project.

Figure 32 | Genesee Park , Aerial

Figure 33 | Genesee Park

SITE SELECTION

SITE: Genesee Park and Playfields

Address— 4316 S Genesee St, Seattle, WA 98118

Size— 54 acres
2,300,000 ft^2

The proposed site for the thesis project is Genesee Park and Playfields, located in the Rainier Valley neighborhood in southeast Seattle. The north side of the park borders Lake Washington beach front, and has primarily residential development along the other three sides. Multiple healthcare facilities are within accessible driving distance, and the site has close proximity to recreation, entertainment, and residential opportunities.

With the target users of the development being senior citizens and students, safety is an important consideration. However, with students primarily coming from low income families, they may not be living in ideal areas. This site balances both needs, being in and near desirable communities, while staying within range of south Seattle's low income population.

Figure 34 | Genesee Park Views

PROJECT EMPHASIS

Architecture as a means of relation
The thesis research will explore the philosophy of connection and interaction, studying how people can come to be in relationship with one another, despite differing life experiences. In turn, it will apply these ideas in an architectural context to discover how placemaking can at the same time be relationship-making.

The psychology of intergenerational relationships
Another emphasis of the project will be the psychological impact of intergenerational relationships on the seniors, adults, and students who interact and share space, within the context of the senior living, school, and community center complex. Psychological impact is a broad category, which covers cognitive ability or decline, emotional well-being, and behavioral health. The project will aim to show how such interaction can positively impact the wellbeing of those involved in it.

Healthcare and education as a joint operation
The envisioned project places senior residential healthcare and a high school in the same complex, requiring analysis and implementation of effective use of space. By nature of the topics involved, the research and solution will extend into subcategories of senior healthcare operations, secondary school operations, equity and access, and social structures and their efficacy.

GOALS OF THE THESIS PROJECT

Academic

1. With the culmination of the research and design processes, submit a high-quality architectural thesis project that demonstrates cumulative knowledge and skill worthy of graduating with a master's degree.

2. Combine areas of research spanning psychology, design, philosophy, development, education, healthcare, and more into a well-rounded presentation of ideas.

3. Contribute to a diverse and impressive institutional repository for use by future university members, and ensure that this contribution is worthy of its company.

Professional

1. Contribute to the field of architecture, specifically the psychological impact of healthcare and educational design, by conceiving a beneficial and feasible model for the integration of a senior living facility, secondary school, and community center.

2. As part of a healthcare design studio in my current employment, apply research findings in a professional capacity, in an effort to produce architectural work that is beneficial in the capacities explored in the thesis.

3. Advocate for intergenerational connection and related mental health phenomena as legitimate drivers to development and design, exemplifying a creative solution encouraging further thought and innovation.

Personal

1. Promote the importance of psychological well-being, particularly in youth and senior populations, and offer a potential solution to the loneliness epidemic among seniors, both of which are causes with which I have personal experience.

2. Increase my own knowledge and experience of mental health, particularly in two periods of life in which it has not been addressed for me personally.

3. Produce thesis materials to the best of my ability, while remaining firm on my commitment to balance and healthy decision making.

PLAN FOR PROCEEDING

DEFINITIONS OF RESEARCH DIRECTION

Theoretical Premise / Unifying Idea—

To research the theoretical premise (how can architecture enable intergenerational connection, and what implications does this have for mental health), it is important to fully understand the various definitions and applications of mental health research, particularly in the cases of dementia and depression. In addition, philosophical research must be done to understand what is meant by connection.

Project Typology—

In the case of an uncommon typology (combined residential healthcare and education), case studies have been and will be conducted that draw from one or both relevant types.

Historical Context—

Historical context, such as the intergenerational home model, traditional and current educational design models, standard senior residential healthcare facility design, and the successes or failures of each, will be investigated via case studies, theory, and subjective reports.

Site Analysis—

Analysis of the chosen Genesee Park site will occur through a combination of virtual and present observation, research findings, site inventory and analysis, and appropriate environmentally-conscious methodologies of design.

Programmatic Requirements—

An appropriate program will be established based on researching the needs of both the healthcare and educational typologies. When possible, spatial usages may overlap to promote greater interaction among users.

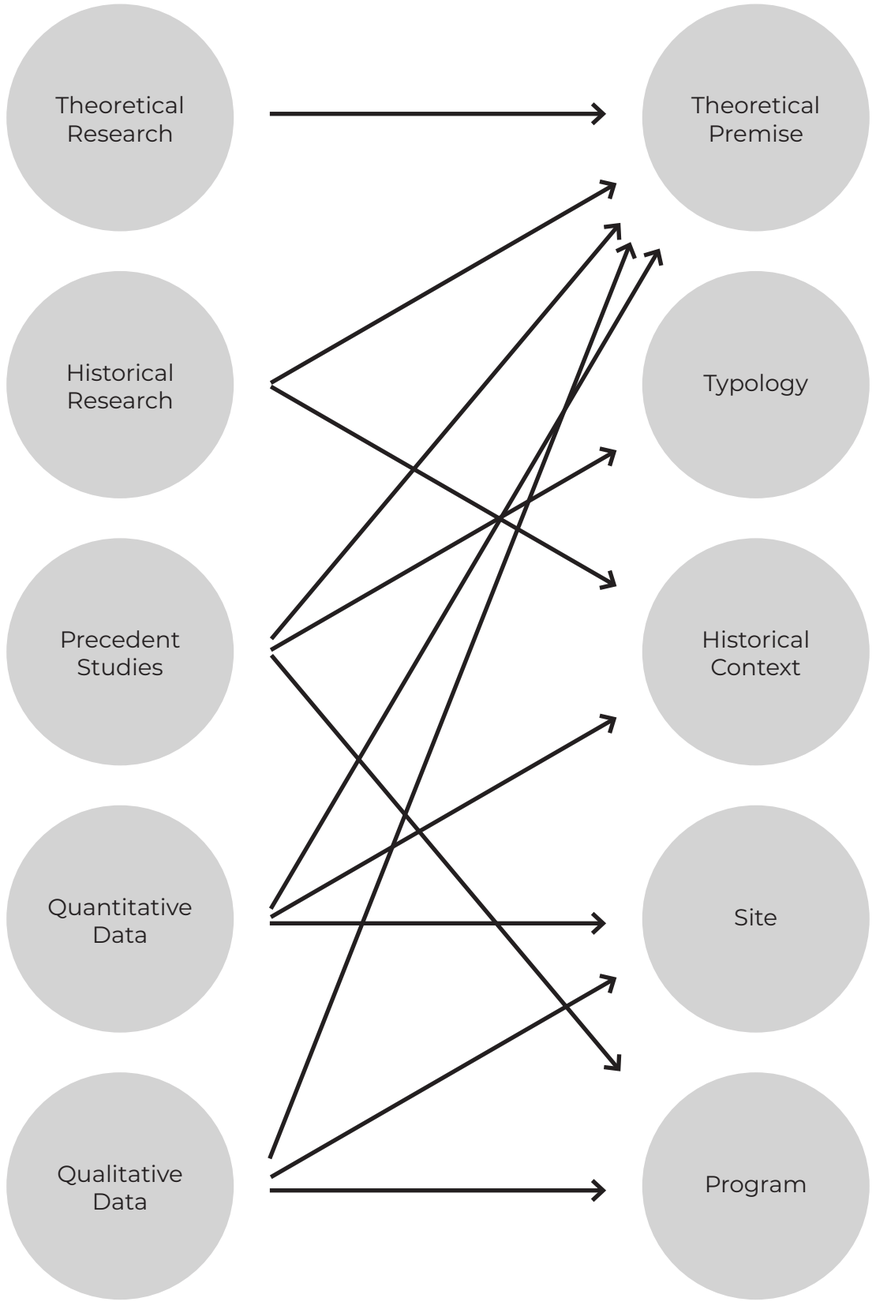


Figure 35 | Design Methodology

PLAN FOR PROCEEDING

DESIGN METHODOLOGY

Research will be of a mixed-method design, employing the following methods of inquiry:

1. Theoretical Research—
   Theory will be primarily used in the exploration of relational philosophy, ranging from ancient to modern schools of thought.

2. Historical Research—
   Historical accounts, pulled from literature reviews, will be necessary in forming an accurate contextual and theoretical understanding.

3. Precedent Studies—
   Case studies such as those conducted already are essential tools in establishing program and typological details, whether stemming from one or both typologies proposed in the thesis.

4. Quantitative Data—
   Items of research such as GIS mapping, demographics, mental health statistics and studies, etc will fall into the category of quantitative data.

5. Qualitative Data—
   Interviews and observation are the primary forms of qualitative research to be conducted, mostly for program and site needs, but also for the premise.

PLAN FOR PROCEEDING

DOCUMENTATION OF THE DESIGN PROCESS

Mediums / Software for Investigation—
- Sketching
- Modeling
- Photography
- Revit
- GIS
- Rhino
- Sketchup

Software for Production—
- InDesign
- Illustrator
- Photoshop

Design Documentation and Preservation—
- Creation and investigation of representation
- Feedback from advisor(s)
- Research and process documentation
- Computer file backups weekly
- Thesis book updated weekly

Presentation and Publication Methods—
- Slideshow
- Boards
- Model
- Thesis Book
- NDSU Thesis Repository

PLAN FOR PROCEEDING

PROJECT SCHEDULE

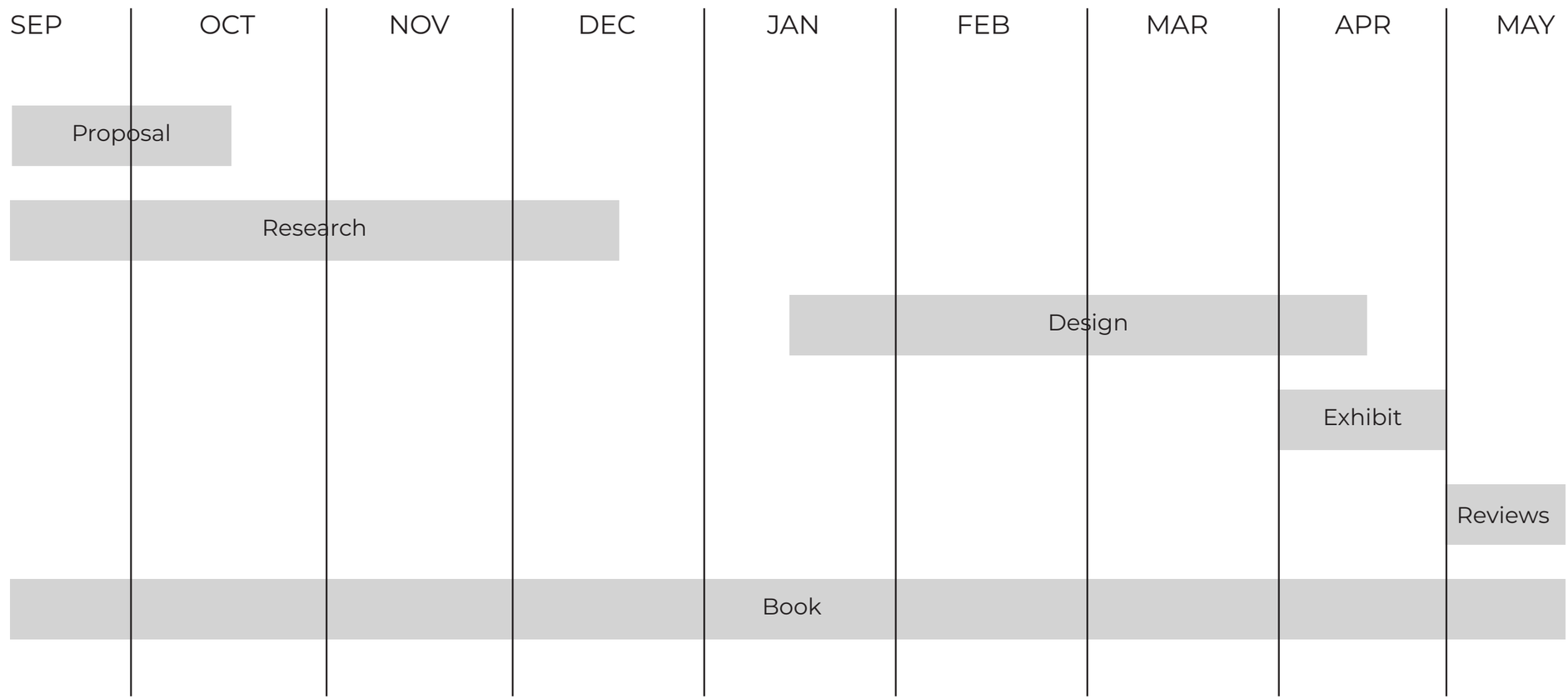


Figure 36 | Timeline

10/14 — Thesis Proposal due
12/16 — Thesis Research due
3/7-11 — Mid Term Reviews

4/22 — Digital Exhibit due
4/25 — Physical Exhibit due
4/26-28 — Physical Exhibit displayed

5/2-5 — Final Reviews
5/6 — Awards Ceremony
5/9 — Digital Documentation due

5/9-13 — Finalist Show
5/13 — Final Thesis Book due
5/14 — Commencement

THE RESEARCH

RESULTS FROM RESEARCH

The theoretical premise of this thesis can be summarized as 'how can architecture enable intergenerational connection, and what implications does this have for personal wellbeing.' In the conducting of research, a key goal is to understand the various definitions and applications of wellness research, particularly in the cases of mental health. In addition, philosophical research must be done to understand what is meant by connection and relation. These two ideas, mental health and connection, must then be connected, so as to provide a direction for the architectural solution.

Research methods include philosophical texts, historical accounts, literature reviews, precedent studies, qualitative data such as observation, and quantitative data such as site conditions and scientific journals.

Figure 37 | Walking Together

LITERATURE REVIEW I

All In Together: Creating Places Where Young and Old Thrive
A Report from Generations United and The Eisner Foundation, 2018

All In Together: Creating Places Where Young and Old Thrive, a report from Generations United and The Eisner Foundation, takes a comprehensive look at how intergenerational shared sites might become a more widely implemented typology across the United States. Using a combination of scientific studies, national survey responses, and case studies of existing shared sites, the report presents a convincing argument for the importance and feasibility of increasing the prevalence of intergenerational building models. This literature review will discuss the main contributions of the report in relation to the proposed thesis project.

Shared Sites—

The working definition of a shared site is one that sees people from different generations inhabiting the same location, usually with some level of interaction between the groups. While not yet a common typology, the report argues there are a multitude of reasons that there is a need for them in the present day, whether for economic, demographic, personal, or medical benefit. Interestingly, despite a lack of widespread knowledge on the concept of shared sites, an overwhelming majority of the public survey respondents and current participants agree that they support their implementation, even going so far to say that they are in favor of tax dollar funding, and they and their loved ones being a part of one of these sites.

A Need for Connection—

There are a number of factors that are discussed in the report. Demographically, the United States is seeing growth in its aging population, as well as increased diversity of race, background, and more. Not only is there an obligation to support its variety of citizens, accomplishing this requires different methods than those of previous eras. Of course, there are the basic physiological needs to be met, but there are also social and psychological needs to consider. Mental health has reached all-time attention, with some calling it the next great epidemic, with one of the biggest culprits being loneliness. Loneliness does not only pose dangers to one's psyche; recent studies are connecting it to health effects ranging from reduced immunity to obesity to premature death. However, those with greater social connection show significant reduction in these health risks.

Benefits—

Included in the report are case studies of several facilities that have implemented the intergenerational shared site model. Examples include Champion Intergenerational Enrichment and Education Center, Grace Living Centers, NewBridge on the Charles and the Rashi School, ONEgeneration, and the Los Angeles LGBT Center. According the report, usage of a space by multiple groups serves to fill the demand for quality youth programming and senior care, while making the most of limited budgets and resources. Such sites even report far less staff turnover, based on dedication and satisfaction in their occupation.

Even more importantly, shared sites provide the opportunity for intergenerational relationships to enrich the lives of both groups. As reported by scientific findings, survey respondents, and current participants, these connections are incredibly impactful, decreasing loneliness and increasing confidence, well-being, social skills, empathy, physical health, learning capacity, and general quality of life for all involved. Greater intergenerational interaction serves to better society as a whole for these reasons; not only are individuals experiencing better lives, but they are also becoming more understanding and accepting of those they perceive to be different from themselves.

Challenges—

Despite the benefits of shared site programs, there are still some barriers to overcome before they are more widely implemented across the United States. The report discusses several of those experienced by the case study facilities. Sometimes, regulations for senior care and youth care or educational typologies can conflict. It can be difficult to fully convey the positive impact of shared sites, despite it being clear to participants and staff. Funding can be limited unless coming from governmental support or larger fundraising efforts..

Recommendations—

For a successful increase in shared sites to happen, they offer several recommendations. Local and governmental leader

involvement opens up funding opportunities and visibility, as well as revision of policy and accreditation standards to fit this new typology. Education of the public and organizations shares the benefits of intergenerational spaces, and can inspire partnerships, collaboration, and widespread support. As action moves forward, it is most important to develop and follow vision-driven plans to achieve the goal of shared site proliferation.

LITERATURE REVIEW II

The Nicomachean Ethics of Aristotle
Aristotle, translated by D. P. Chase

Nicomachean Ethics is Aristotle's best known work on ethics. Of particular relevance to the theoretical premise are Books VIII and IX, which are his dissertation on friendship. Relationship between differing parties is at the core of the thesis, and as such, it is vital to understand what it is and why it matters. This literature review will address Aristotle's definitions of friendship, as well as how he believes they affect individuals and society as a whole.

Book VIII—

Aristotle states friendship is virtuous and necessary, and benefits those of every age and status; it evens holds societies together.

He defines three types of friendship: utility, pleasure, and goodness. As for the first two, they last as long as the friendship is useful or brings enjoyment, but often are short-lived. The third is much more perfect and lasting, as the friendship is rooted in mutual goodness and benevolence. It requires more intimacy and knowledge of one another, and therefore is more rare.

Complete friendship is most straightforward when between equals; when one person is of a different rank than the other, the love towards one another must be proportional.

Closely tied to friendship are justice and community, and these instances are all smaller parts of the greater social community,

Figure 38 | School of Athens

whether that be in government, family, or society at large. Since friendship is tied to community, the more closely acquainted a pair is, the more opportunity for friendship to develop.

Book IX—

Here he answers more detailed questions about friendship.

Stability is found in just and fair friendships, particularly those based on goodness and not utility or pleasure alone.

Friendships may dissolve. In the case of the first two types, when either utility or pleasure is gone, there is no need for the friendship to continue. A friendship based on goodness encounters difficulty when one party is not who they were thought to be; depending on the severity, the friendship may end.

True friends treat each other as they would like to be treated, and love each other as themselves.

Goodwill or affection are not the same thing as friendship, but do provide an opportunity for a friendship to develop.

Humans are by nature social, so even the best people need friends. Likewise, friends are needed in prosperity and adversity.

True friends wish to spend time together, sharing things that bring them happiness with each other, and helping each other grow in virtue.

LITERATURE REVIEW III

Buildings that Blend Nature and City
Jeanne Gang for TED, 2016

In a presentation delivered at TEDWomen 2016, architect Jeanne Gang shares her account of how architecture can be used to build not just buildings, but relationships. *Buildings that Blend Nature and City* draws from Gang's experience and portfolio to showcase design as a connector and facilitator. Drawing from the written transcription of her talk, this literature review will explore the ideas presented by Gang that contribute to the design of the thesis project.

Introduction—

Gang believes that architects do much more than design buildings: they design relationships, because cities and the buildings within them are about people and how they come together. However, with climate, political, economic, and all of the other problems facing society, how urban habitats are designed is more important than ever. The team at Studio Gang has been learning about and applying ecological concepts, which they use to help facilitate stronger relationships via their designs.

Arcus Center—

Studio Gang's design for a social justice leadership center aimed to create connections between differing groups of people, within the center and with the public. A key inspiration was the traditional community meeting house, which exemplifies egalitarian design arranged around a central hub. Both the organization and materials of the resulting Arcus Center have jump-started involvement in the organization.

Aqua—

Creating unity in high-rise buildings poses a different challenge. In Gang's Aqua, a residential tower in Chicago, unique balcony configurations were designed to act as social connectors between neighbors of all different backgrounds.

Polis Station—

In a bid for neighborhood equality, Chicago police stations were replaced with an identical building at each location. Despite intentions, there was a need to rebuild trust and connection to these stations. Gang uses the example of North Lawndale, where community members were afraid of going anywhere near the station. Public brainstorming efforts culminated in the addition of a basketball court, and ever since, there has been growing trust in the police and the area around the station.

Final Thoughts—

Gang reiterates that every city has opportunities to create social connection, and that requires opening up the design process and engaging the public. Focusing design on the goal of relationship-building is the path towards happier, more connected cities.

LITERATURE REVIEW IV

Embracing a Culture of Lifelong Learning
UNESCO, 2020

The 2020 report *Embracing a Culture of Lifelong Learning*, published by UNESCO, makes a case for the need to create and support a culture of lifelong learning. This is posed as a potential solution to issues spanning from technological divides to the climate crisis, far beyond just the field of education. This literature review will summarize the key findings and recommendations of the report as they relate to the thesis project.

Introduction—

The report identifies a culture of lifelong learning to be an advantageous, if not necessary, global shift that would help to address numerous challenges faced by the world. Because lifelong learning exposes individuals and communities to new information, while also teaching them evaluation and application skills, it better equips them to adapt to new circumstances and creatively problem solve. There is a variety of areas where this is becoming increasingly necessary, ranging from rapidly changing technology in the workplace, to the common spread of misinformation on current events, to the growing visibility and celebration of diversity.

Implementation—

Such a cultural shift does not happen instantaneously, thus the report explains how this might be achieved in what is dubbed the 2050 Vision. This visioning describes a world where learning is no longer linked to formal educational systems alone, and is engaged in without barriers of age, context, and method. Learners are active participants in their own educational goals and paths, and there are institutional and societal systems that support them in doing so. Beyond the individual, education is understood as a collaborative process, engaging learners with their broader communities. Reimagining educational pathways has provided much more equity across various groups, allowing those for whom traditional schooling is incompatible the opportunity to learn in ways that work for their unique situations.

Enabling Factors—

UNESCO identifies eight factors that are essential to realizing this vision for the future, listed as:

1. "Strong social fabric"
2. "Sufficient funding and resource mobilization"
3. "Accessible and well-utilized technology"
4. "Critical use of social media"
5. "Cultural shift towards lifelong learning"
6. "Communal value of education"
7. "Inclusive education policies"
8. "Multiple spaces for learning"

Key Messages—

UNESCO explained ten key messages of their findings and ideas for the future of education, each with their own elaborations and action items. These included:

1. "Recognize the holistic character of lifelong learning"

2. "Promote transdisciplinary research and intersectoral collaboration for lifelong learning"
3. "Place vulnerable groups at the core of the lifelong learning policy agenda"
4. "Establish lifelong learning as a common good"
5. "Ensure greater and equitable access to learning technology"
6. "Transform schools and universities into lifelong learning institutions"
7. "Recognize and promote the collective dimension of learning"
8. "Encourage and support local lifelong learning initiatives including learning cities"
9. "Reengineer and revitalize workplace learning"
10. "Recognize lifelong learning as a new human right"

LITERATURE REVIEW SUMMARY

In formulating a research strategy for the thesis project, it became evident that information would need to be drawn from a variety of sources, in order to gain a full understanding of the design problem. Addressing the theoretical premise combines philosophical and scientific ideas, and the combined typology of the proposed solution brings with it diverse users, functions, and architecture. Therefore, each of the previous literature reviews represents a distinct subject area relating to the thesis, filling in valuable information for the research process.

The first of these is *All In Together*, from Generations United. This report is quite relevant to the proposed thesis, as is gives a full account of the role shared site facilities do and can play in the United States. Using present day case studies and scientific data, it describes the multitude of benefits shared sites offer, and establishes support and steps by which they can become implemented across the nation. The report itself is a valuable research asset, primarily due to its evidence of both the feasibility and benefit of shared sites, this being the typology of the proposed thesis design. Bringing different generational groups together via a shared location, in this case being seniors and high school students, presents an opportunity to revolutionize aged care and educational typologies. One potential drawback to this report was whether it would be biased towards the beliefs of the publishing organization. This pitfall was avoided by drawing from outside data and addressing the complications inherent to shared sites. Overall, this report is a wonderful guidebook for designing evidence-based shared site architecture.

The second text is a departure, reaching back to Aristotle's

philosophical work, *Nicomachean Ethics*. This was a resource primarily for the theoretical premise; developing a design solution requires an understanding of the definition of connection. Books VIII and IX of *Ethics* define the types and roles of friendship. Developing friendships rooted in benevolence, strengthened by common ground and continued growth, serve both those involved and the society of which they are a part. A successful thesis project will aim to be a space that facilitates this kind of true friendship and connection, thereby allowing its users to reap the benefits of such.

The third source was Jeanne Gang's TEDtalk, *Buildings that Blend Nature and City.* This source was chosen to show how the aforementioned philosophical ideals might be channeled into a real world design solution. Gang uses examples of different scale and typology, emphasizing the role the community must play in each stage of the design. These insights will be used to guide the next stages of the thesis process, in pursuit of a successfully connective final design.

Rounding out the reviews was UNESCO's *Embracing a Culture of Lifelong Learning*. This report was instrumental in strengthening the educational component of the thesis, establishing justification and guiding principles for creating a space that would encourage the practice of lifelong learning. Particularly in the context of intergenerational design, lifelong learning affirms the idea that people at every stage of life have something to teach others, as well as something to gain from exposure to new ideas and perspectives.

PROJECT JUSTIFICATION

Aging, though accepted as a natural part of life, often bears with it a great deal of trepidation and sadness. Many seniors start to become disconnected with places, people, and activities that brought meaning to their everyday; this can be almost a complete loss when eventually they move into nursing homes or hospice care. Understandably, feelings of isolation tend to show their effect in both mental and physical health. Concern continues to rise, as medical experts attempt to measure the consequences of isolation.

It is not only seniors to whom this applies. More than ever, with societal changes like social media and pandemics, individuals are either choosing or being forced into isolation. The "loneliness epidemic," as it's been dubbed, is not going to go away on its own. Action must be taken to re-connect society, or the consequences will only compound.

This proposal introduces intergenerational shared sites as a design solution to this issue, in this particular case, a Seattle complex that functions as a senior living facility, high school, and community center. The resulting social connections and relationships hold great potential to enhance the participants and wider society. From there, this may be used as a model to rethink the community model at a national level, prioritizing intergenerational interaction.

At its core, design is about people, and this is a large part of what drew me to architecture. It follows, then, that a culmination of my formal education would return to the beginning by exploring themes of relation, society, and belonging with a goal of making people happier at all stages of life.

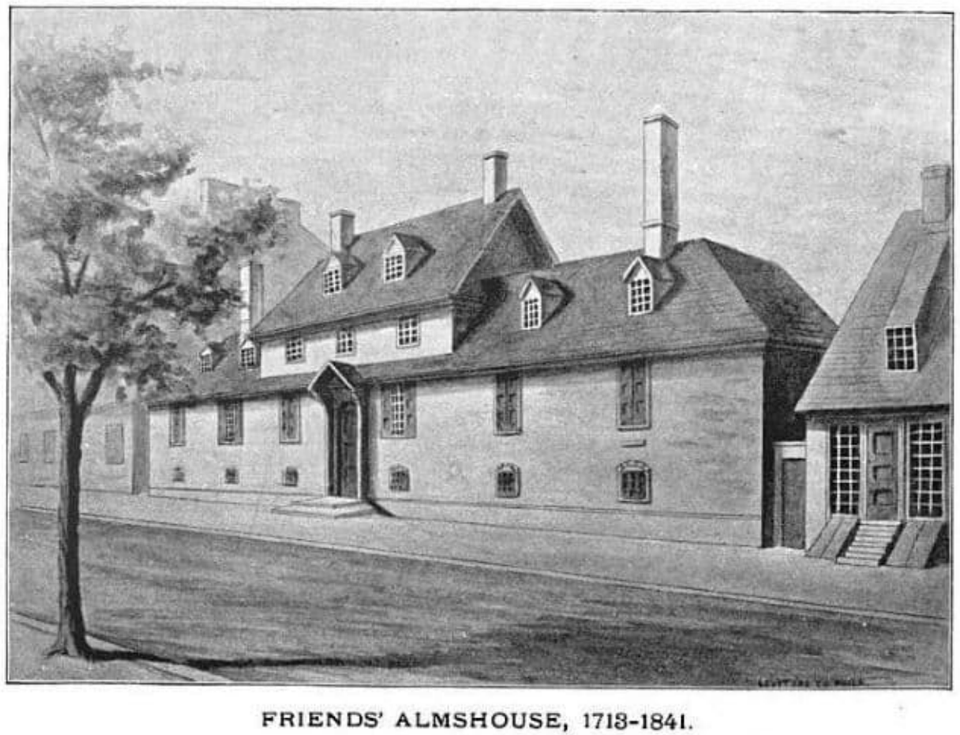


Figure 39 | Friends Almshouse

HISTORICAL CONTEXT

An account of senior care and living arrangements through the history of the United States.

Pre-1700s
Prior to European settlement, Native American culture was based on a kinship system. While there were groups of parents and their children, the idea of family extended beyond immediate relatives. Many tribes held community as a core value, with child-raising and education being a responsibility shared by all. Worth noting is the survival of this kinship system within modern day groups, despite the hardships faced by Native Americans under the US government.

1700s
In the revolution era, the population did not include many seniors, due to both low life expectancy and a high percentage of immigrants. Large families were essential to survival; those who did reach old age were often cared for by their children. Those without family or fortune to support them resided in poorhouses. These welfare institutions were often unappealing, hosting criminals and alcoholics. A pension system was established, benefiting veterans.

1800s
With westward expansion, families got more scattered. Poorhouse conditions became worse and more expensive, prompting new regulatory bodies. Facilities became more institutional, and dementia patients were put in asylums. Wealthier and healthier seniors could choose to live in homes run by charitable societies to which they belonged. Hospitals and retirement communities began to emerge, as well as assistance programs.

1900s to 1950s
As life expectancy increased, so did the number of senior living communities. Newer options such as home nurses and employee pensions developed, but over half of the elderly still depended on relatives, charities, or government support. The Great Depression meant disaster for most seniors, pressuring the government to establish what is now known as Social Security. As poorhouses began to dwindle, for-profit nursing homes took their place. Post-WWII, the need for disabled and elderly support grew significantly. Assistance programs offered a measure of independence not formerly enjoyed, and federal financing enabled widespread healthcare building projects and renovations.

1960s to 1990s
Despite new options for seniors, demand only continued to grow. New legislation established Medicare and Medicaid, increasing access to care but placing greater financial demands on the government. Quality concerns prompted revised standards. Care facilities branched into diversified types, such as assisted living and aging in place, with the highest-quality options going to the wealthy.

1990s to Present Day
Major advances in healthcare have allowed for longer lives and higher quality of care. With the boomer generation reaching retirement, facilities and support programs stretch to accommodate demand. Combined with wealth disparities, economic downturns, and the pandemic, the senior care industry is in need of innovation.

CULTURAL CONTEXT

Multigenerational living is a practice rooted in history, though its occurrence in present day varies by culture.

United States
Pre-industrialization, the United States was a primarily agrarian economy, meaning that much of population lived on farms. This lifestyle naturally led to a standard of multigenerational living, where aging parents stayed on the farm their children and grandchildren inherited. As land became more expensive and people traveled west or to cities to seek new opportunities, this practice became less common. With time, federal and private assistance for seniors grew and age-specific living accommodations became the standard. Advances in technology, transportation, and the workforce supported this transition, with multigenerational living reaching an all-time low in the 1980s. However, with new economic and societal factors, more Americans are living with family or open to the idea.

North America, Australia & Europe
Much like the United States, most of Europe, Australia, and North America tend not to live in multigenerational households. Seniors tend to live either with their spouses, alone, or in care facilities. Based on life expectancy and marriage patterns, older women are more likely to live alone than older men. Less multicultural living is based on circumstances such as preferences towards independence and economical feasibility. There is less of a tradition of multigenerational living, and many of these countries offer programs to help support aging individuals financially and medically, so there is less tendency to need help from younger family members. In general, the economies are also more likely to allow for retirement savings.

Figure 40 | Multigenerational Living

Southern Asia, Latin America & Africa

In contrast, multigenerational living is much more common in parts of Asia, America, and Africa. Seniors often live with members of their family rather than in separate homes. Interestingly, older men live alone in greater percentages than women in these regions. These higher percentages of multigenerational households can be attributed to a number of factors, including slower economies, higher mortality rates, and closer family culture. In some of these areas, it's considered a child's (usually the eldest son's) responsibility to care for their aging parents, so aging individuals will often move in. In addition to this, many generations within one household is thought to bring harmony; it may do so in more ways than one, as non-working grandparents can help to manage and raise younger children in the house.

SOCIAL CONTEXT

Today's social context of the United States, and the world beyond it, is primed for a re-imagining of design with intergenerational connection in mind.

A Virtual World
The technological explosion of the last century has affected nearly every piece of daily life; social interaction is no exception. In some ways, people are more connected than ever, with phones and social media allowing instantaneous global communication all in the palm of one's hand. People are conducting business, going on dates, and attending school virtually. Even the ability to access information so easily can be something that brings people together. However, just because technology has the capacity to connect, doesn't mean it always does. Virtual communication is undeniably lacking in comparison to in-person, without physical contact or body language to offer. Plus, with more work and school being done remotely, people are missing out on that contact as well. Technology has also caused people to be more suspicious of each other, having to be on guard against cyberbullying, scams, and exploitation. Overall, design needs to focus on bringing more people together for genuine connection.

Embracing Diversity
The world is becoming increasingly diverse, whether in terms of identity, ability, beliefs, experiences, status, interests...and so on. This is something to celebrated and encouraged. Diversity benefits society with effects such as increased perspectives and skills, comprehensive problem solving, open-mindedness, creativity, and innovation. In order to enjoy these, though, the public has to be in a place to accept diversity and all it has to offer. This is where intergenerational spaces can come in. By interacting and forming relationships with those of a separate age group, people develop an appreciation for and understanding of others who are different than themselves. Many find that there is a great deal to learn from people with different life experiences than oneself, who can offer new perspectives and ideas.

Pandemic Woes
One of the most impactful events in recent history is that of the coronavirus pandemic. Though effects are still ongoing, some are already clear to see. For most of the world, the onset of the pandemic meant a year or more of decreased interaction, whether moderate restriction or a complete lockdown. Things that were developing before this have grown into full-scale concerns, ranging from anxiety to depression to loneliness to stress, and all of the related consequences of these. As the world begins to get back to normal life, social connection is more sought after than ever.

Figure 41 | Genesee Park

SITE ANALYSIS

SITE: Genesee Park and Playfields

Address— 4316 S Genesee St, Seattle, WA 98118

Location— 47.563015 N
122.279378 W

Size— 14 acres
610,000 ft^2

The proposed site for the thesis project is Genesee Park and Playfields, located in the Rainier Valley neighborhood in southeast Seattle. The north side of the park borders Lake Washington beachfront, and has primarily residential development along the other three sides. Multiple healthcare facilities are within accessible driving distance, and the site has close proximity to recreation, entertainment, and residential opportunities.

Washington State, located in the Pacific Northwest region of the United States, is a suitable location for this thesis project in particular because of its comparatively high need for a senior mental health intervention. As the largest, and one of the most diverse and well-known, city in Washington, Seattle became the focus city for the site selection process.

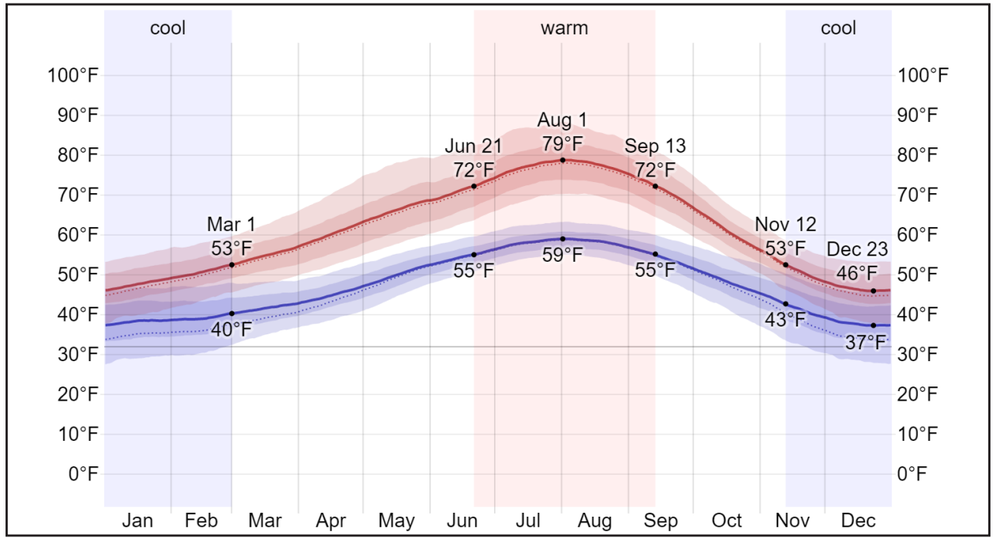


Figure 42 | Average Monthly Temperatures

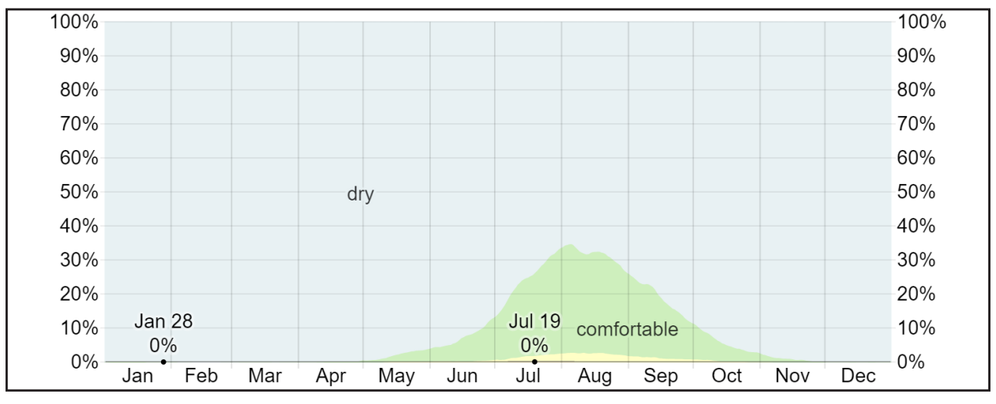


Figure 43 | Average Monthly Humidity

Climate Data

Seattle is located in IECC climate zone 4c, which means that it is fairly moderate in terms of heating and cooling degree days as well as general precipitation and humidity.

Average monthly temperatures range from lows of 37°F to 59°F and highs of 46°F to 79°F, all with low average humidity.

Seattle hovers around being cloudy about half of the time, with slightly clearer skies in the summer and more overcast in the winter.

Precipitation is moderate, ranging from 0.6 to 7.7 inches throughout the year, with winter skies bringing the heavier amounts that can also include a couple inches of snow.

Wind direction is predominantly from the southeast, and tends to stay under 10 mph. It almost never reaches speeds greater than 20 mph.

Though levels of penetrating daylight vary based on cloud cover, daylight hours fall between 8.5 to 16 hours, averaging around 12 hours per day.

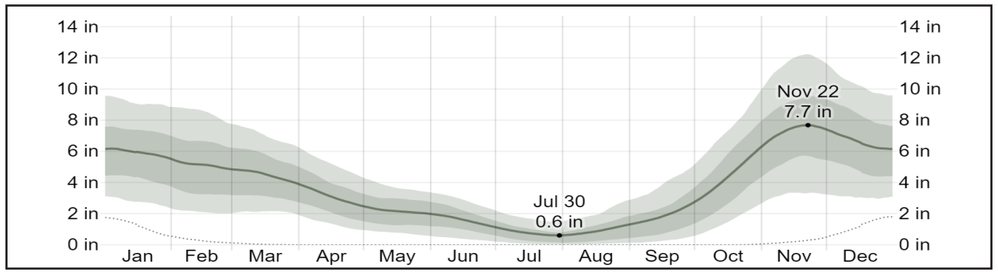


Figure 44 | Average Monthly Precipitation

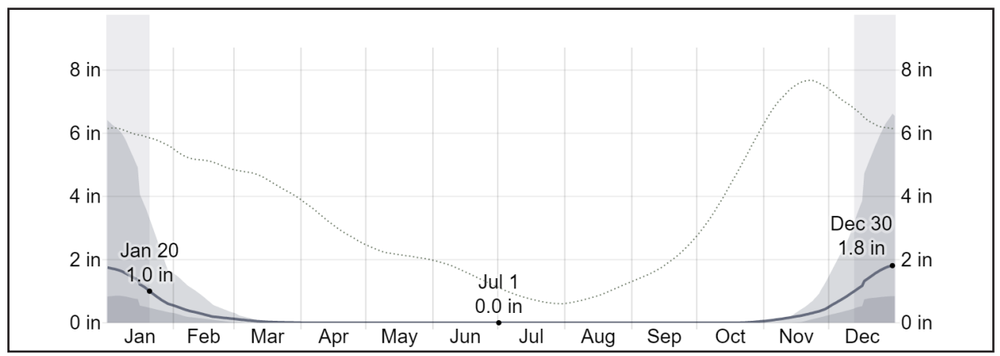


Figure 45 | Average Monthly Snowfall

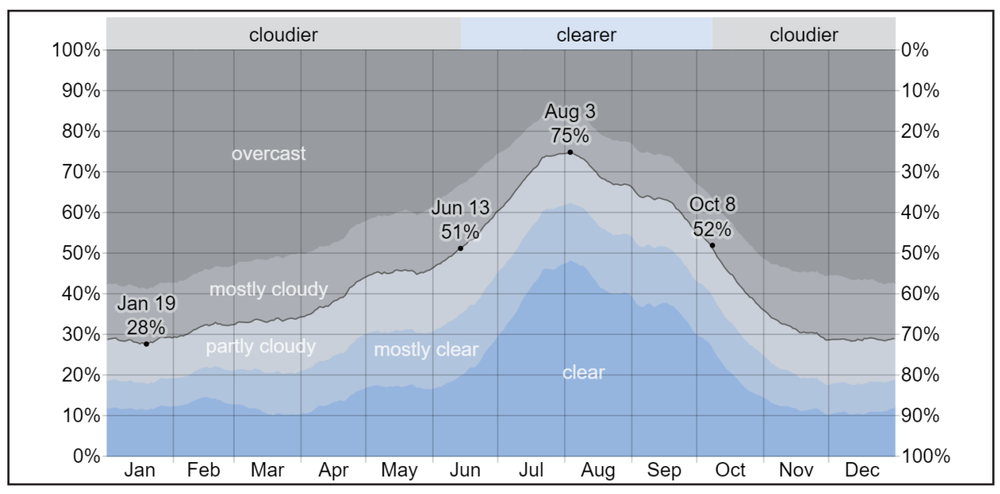


Figure 46 | Average Monthly Cloud Cover

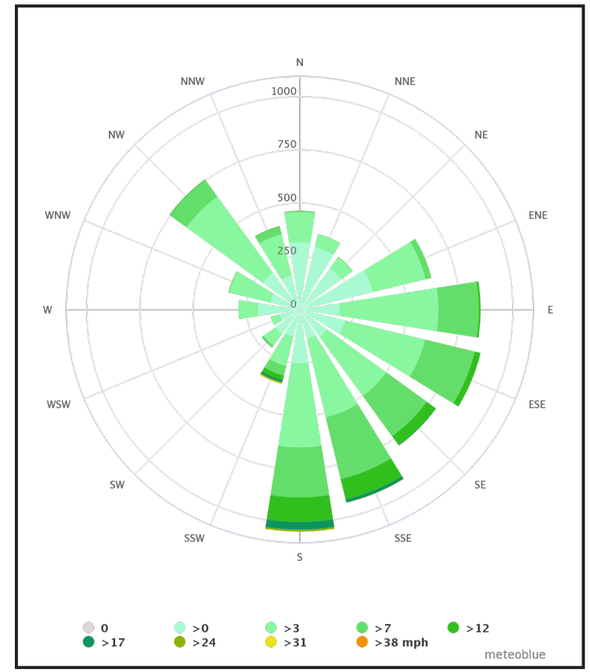


Figure 47 | Wind Rose

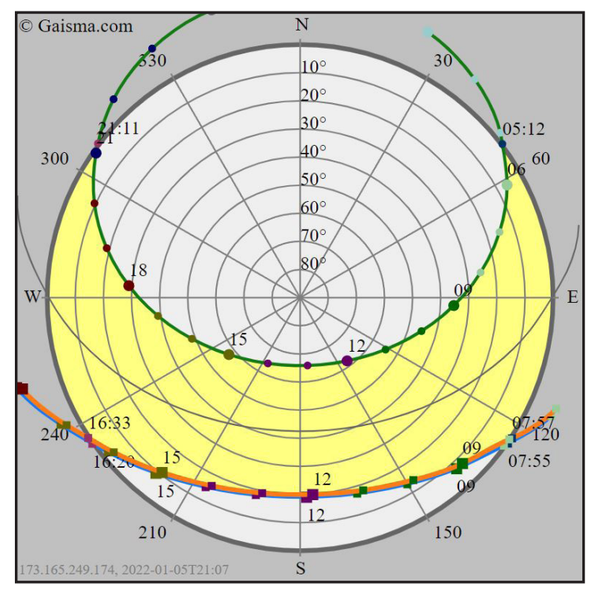


Figure 48 | Sunpath Diagram

Topography

The site itself is moderately flat; over the 14 acres, there is only about a 5' elevation change. Since most of the park edges steeply up toward the surrounding neighborhoods, the area takes on a bowl-like shape that feels comfortable and protected.

Figure 49 | Contour Map

Zoning

The site and most of the surrounding area falls into single-family zoning, with denser areas of neighborhood commercial and lowrise zones to the west. As such, the site may need to be rezoned to allow for a larger mixed use complex.

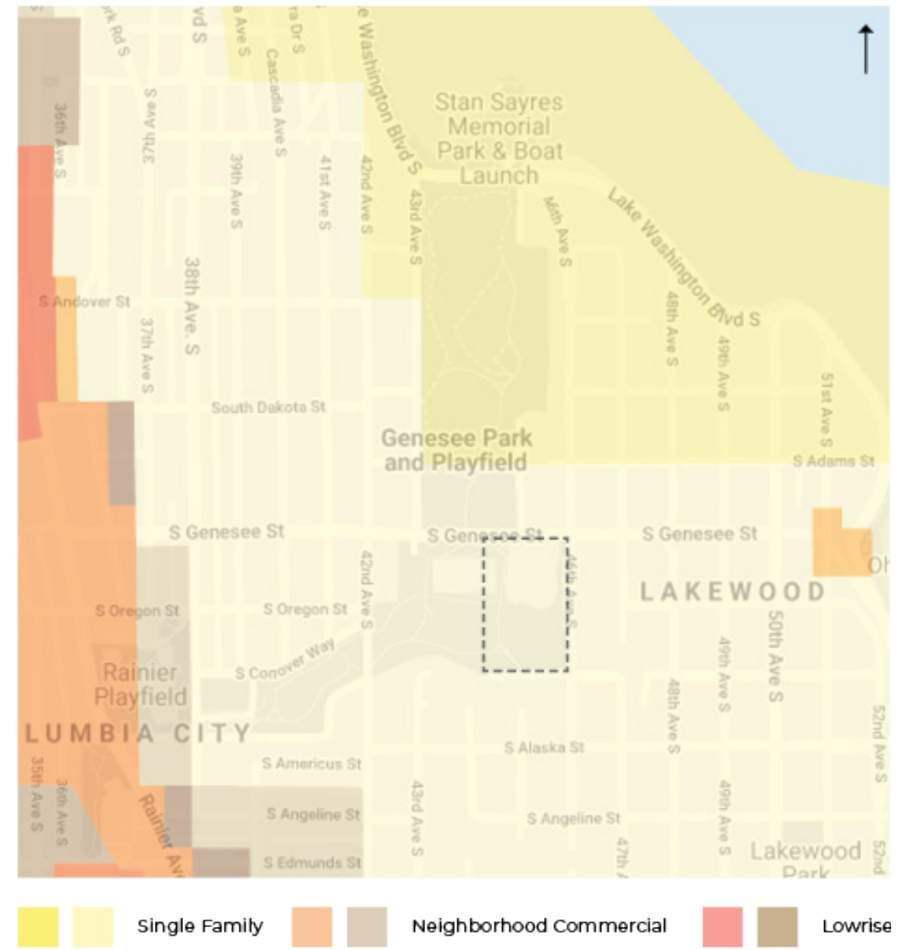


Figure 50 | Zoning Map

Soil

The two predominant soil type onsite is alderwood-everett complex, which is a moderately deep and well-drained soil type. It is also worth noting that the site is not in the flood plain.

Figure 51 | Soil Map

Vegetation

The site offers a great deal of vegetation with a mix of green fields and tree cover. Additional nature can be found within the surrounding area, especially to the north, where there is a lakeshore park and boat launch.

Figure 52 | Vegetation Map

Circulation

Though nestled within a residential area, there is ample circulation within reach of the site, including several large roadways, a light rail station, and an established bike path. In addition to this, the site and surroundings are pedestrian-friendly.

Figure 53 | Circulation Map

View

The site offers a good deal of beauty and peace, with ample views of nature. Lake Washington is visible from the north and east sides, while the raised hills in the distance peer over the western edge. On almost all sides, tree cover provides privacy and noise control.

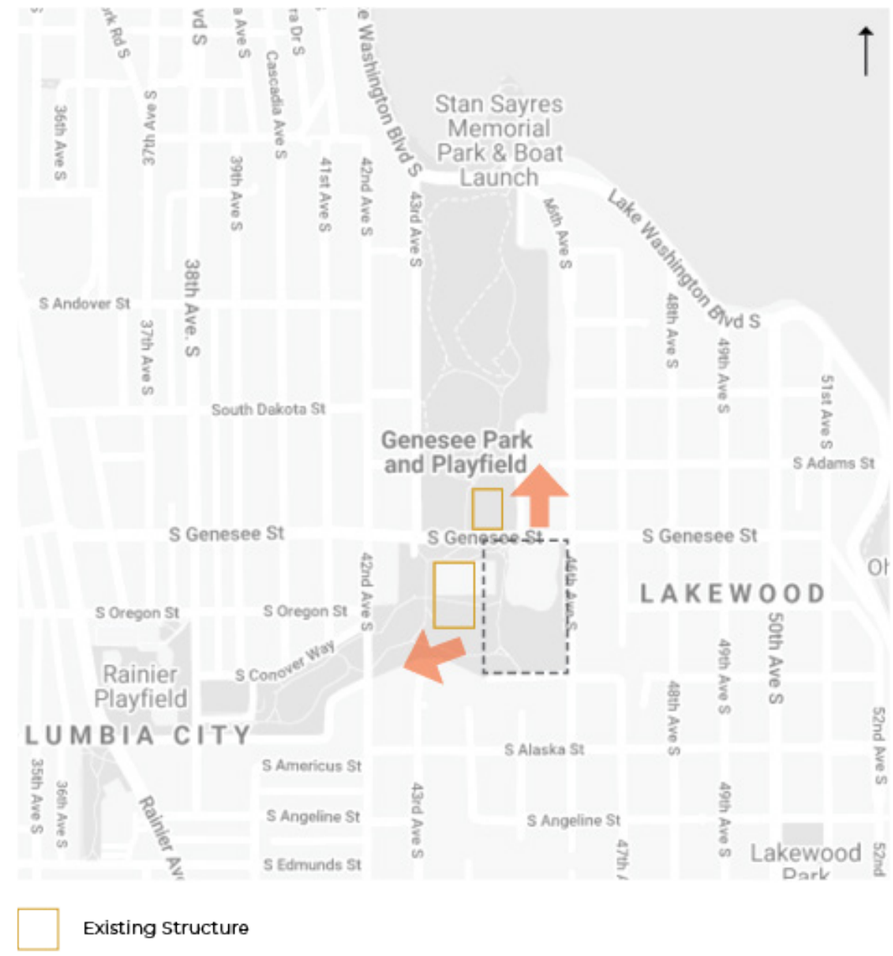


Figure 54 | View Map

Figure 55 | Lake Washington

Figure 56 | Tree Grove

Figure 57 | Playfields

PERFORMANCE CRITERIA

Space Allocation
Due to the hybrid typology of the complex, a variety of spaces are required for functional operation. A successful design will include all of the necessary spaces for educational and senior residential typologies, as well as special compound spaces meant to build community between different users of the complex. In addition to built accommodations, outdoor spaces will be factored into the program. The design will be grounded by spatial organization, evaluated at several points in the process.

Environmental Performance
Being a proposed complex for the modern day and beyond, environmental responsibility is an expectation. Passive systems will be implemented wherever possible in pursuit of greater sustainability. Modeling software and specific analysis will be used to evaluate environmental impact.

Health Impact
In addition to standard measures of user health, the design will aim to positively impact the physical health its senior residents, insofar as the intergenerational interaction the complex facilitates. The goal would be that user health ratings are noticeably higher than those of average facilities.

Behavioral Performance
This complex will be designed with particular attention given to facilitating intergenerational connection between seniors and students. Therefore, in spatial organization and aesthetics, promotion of interaction will be of utmost importance.

Psychological Impact
The psychological wellbeing of all building users is at the forefront of the thesis. Both the design of the complex and the interaction it promotes will create a supportive, uplifting, and stimulating atmosphere that enriches the lives of users. Psychological evaluations of users ought to be higher of those at comparable facilities.

Code Compliance
The building design must meet national and local building codes as specified in the IBC for the appropriate categories. The IBC materials and *Architectural Studio Companion* will be used as guides to ensure that specifications are met if not exceeded.

Cost
Based on comparable case studies and projected funding sources, a project budget will be estimated and referred to throughout the design process. Features such as sustainable design, the mixed use typology, and community impact will be considered as assets towards lifetime costs, despite upfront costs. .

Interior Space	**Square Feet**
Lobby	1500
Conference Rooms	300
Library	3750
Cafeteria	2500
Kitchen	1750
Locker Rooms	2400
Pool	4800
Gym/Workout	24750
Auditorium	3500
Specialty Learning	9600
Flex Learning	3500
Post Office	800
Convenience Store	2000
Restrooms	1200
Nursing Home Apartments	5000
Nursing Home Shared Areas	2700
1 Bedroom Apartments	30000
2 Bedroom Apartments	21875
Retiree Shared Areas	900
Admin Offices	400
Staff Offices	800
Staff/Visitor Restrooms	252
Staff Lounge	200
Onstage Medical	500
Offstage Medical	1000
Classrooms	10500
Infirmary	200
Teacher Offices	400
Teacher Lounge	400
Admin Offices	560
Counseling/Career/College	400
Student Lounge	400
Restrooms	1200
Total	**140037 (x1.5) = 210056**

Figure 58 | Space Allocation Table

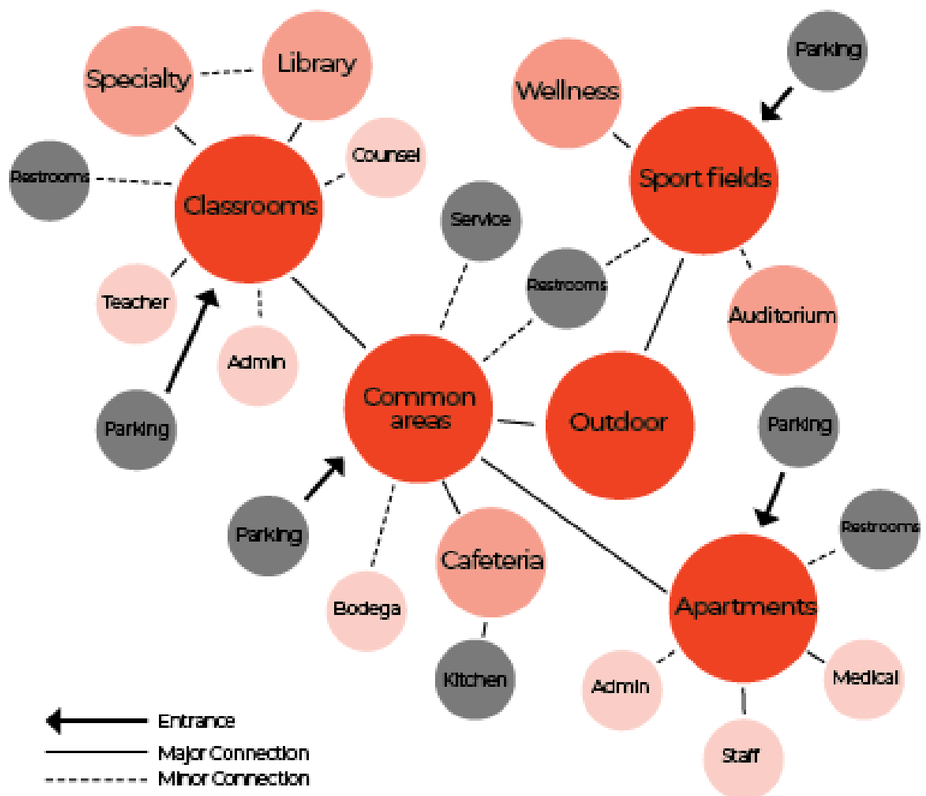


Figure 59 | Space Interaction Net

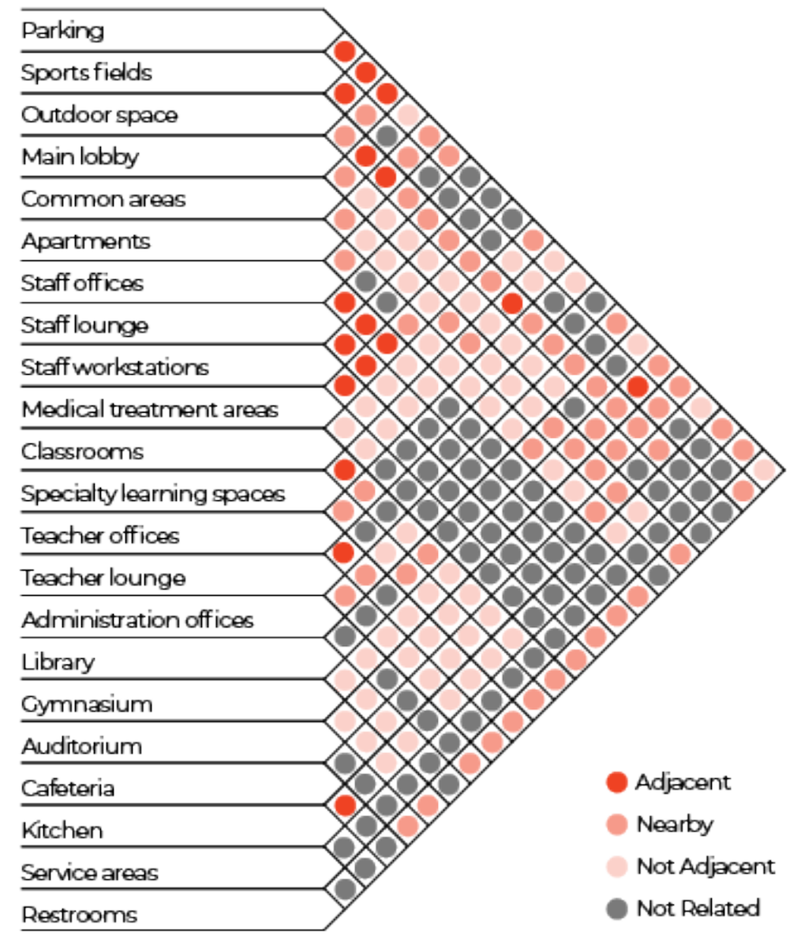


Figure 60 | Space Interaction Matrix

DESIGN SOLUTION

PROCESS DOCUMENTATION

Space Program

Space Name	W	x	L	SQFT	QTY	NSF
Outdoor Spaces						
Parking (300 spaces)	##	x	##	90000	1	90000
Football Field	160	x	360	57600	1	57600
Baseball/Softball Field	##	x	##	90000	1	90000
Soccer Field	180	x	##	54000	1	54000
Tennis Courts	40	x	80	3200	4	12800
Outdoor Basketball Courts	60	x	90	5400	2	10800
Concessions	10	x	20	200	2	400
Restrooms	20	x	30	600	2	1200
Stands	20	x	100	2000	3	6000
Open Green Space	variable					
Walking Paths	variable					
Garden	variable					
OUTDOOR NET SQUARE FOOTAGE (NSF)						**322800**

Space Name	W	x	L	SQFT	QTY	NSF
Shared Spaces						
Lobby	30	x	50	1500	1	1500
Conference Rooms	15	x	10	150	2	300
Library (stacks, lounge, desk, storage)	50	x	75	3750	1	3750
Cafeteria	50	x	50	2500	1	2500
Kitchen (storage, prep, cooking, serving, di	35	x	50	1750	1	1750
Locker Rooms	20	x	40	800	3	2400
Pool	60	x	80	4800	1	4800
Gym/Workout	90	x	110	9900	2.5	24750
Auditorium	50	x	70	3500	1	3500
Specialty Learning (art, music, science, tecl	30	x	40	1200	8	9600
Flex Learning	25	x	35	875	4	3500
Post Office	20	x	40	800	1	800
Convenience Store	40	x	50	2000	1	2000
Restrooms	12	x	25	300	4	1200
Senior Care Spaces						
Nursing Home Apartments	10	x	20	200	25	5000
Nursing Home Shared Areas	30	x	30	900	3	2700
1 Bedroom Apartments	20	x	30	600	50	30000
2 Bedroom Apartments	25	x	35	875	25	21875
Retiree Shared Areas	30	x	30	900	1	900
Admin Offices	8	x	10	80	5	400
Staff Offices	8	x	10	80	10	800
Staff/Visitor Restrooms	7	x	9	63	4	252
Staff Lounge	10	x	20	200	1	200
Onstage Medical	10	x	10	100	5	500
Offstage Medical	20	x	50	1000	1	1000
School Spaces						
Classrooms	25	x	35	875	12	10500
Infirmary	10	x	20	200	1	200
Teacher Offices	8	x	10	80	5	400
Teacher Lounge	20	x	20	400	1	400
Admin Offices	8	x	10	80	7	560
Counseling/Career/College	10	x	10	100	4	400
Student Lounge	20	x	20	400	1	400
Restrooms	12	x	25	300	4	1200
INDOOR NET SQUARE FOOTAGE (NSF)						**140037**
Services (15%)						**21006**
Circulation/Structure (35%)						**49013**
INDOOR GROSS SQUARE FEET (DGSF)						**210056**

Figure 61 | Space Programming

Evaluation Criteria	Scheme 1	Scheme 2	Scheme 3
Intergenerational Community • Create common spaces that encourage different user groups to spend time together • Facilitate meaningful interaction between generations, in pursuit of the individual and collective benefits therein, supported by research			
Psychological Impact • Create an environment that positively affects mental health (ie. researched findings on nature, light, color, social/private, scale, walkable, customizable) • Design for interaction between groups to be comfortable, not intimidating • Adhere to WELLv2 standards to ensure holistic environmental responsibility			
Spatial Design and Functionality • Allow for specific and effective functionality of typologies' spaces based on case study findings • Create spatial organizations that are tailored to each typology and its user needs (ie. privacy and wayfinding for seniors / flexible and hands-on for students and teachers)			
Accessible Design and Comfort • Universally design to accommodate all levels of ability without alienation that would work against connection goals • Design spaces that are comfortable and functional across user groups (with guides such as ADA) • Prioritize safety and security of users (against threats, health issues, statistical vulnerability of seniors and students, etc)			
Community Connection • Benefit the community with public amenities and social opportunities, outweighing repurposing of some park space • Welcome public interaction to inspire greater interaction across diverse groups (shown to benefit lifelong learning culture outcomes)			
Cross Generational Learning • Integrate learning opportunities throughout the site, creating access for each user group to participate • By facilitating lifelong learning culture, allow for individual and collective research-proven benefits			

Figure 62 | Schematic Goals

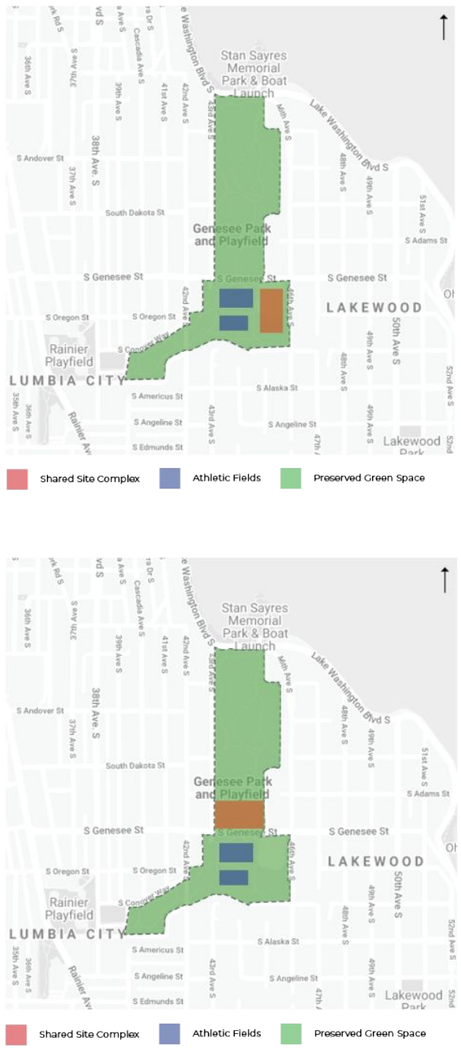
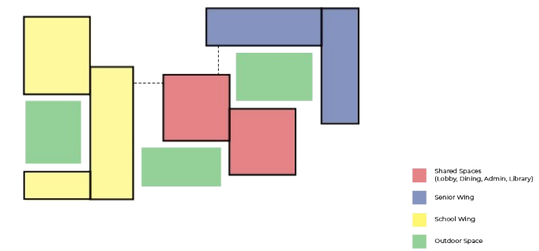
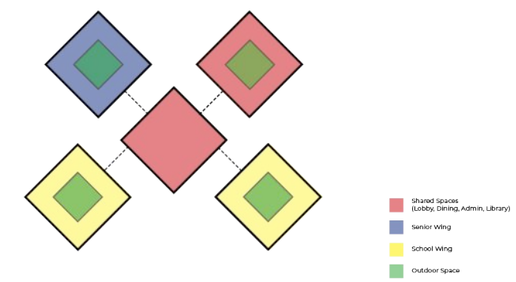


Figure 63 | Site Schemes

SCHEME 1: Branching



SCHEME 2: Atriums



SCHEME 3: Linear

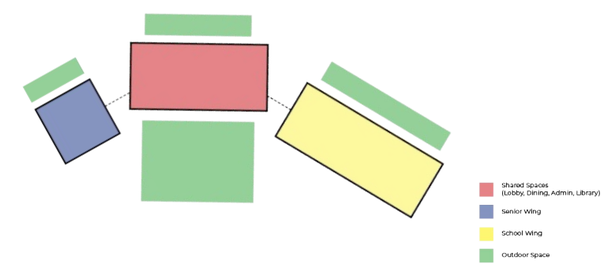


Figure 64 | Layout Schemes

Evaluation Criteria	Scheme 1	Scheme 2	Scheme 3
Intergenerational Community - Create common spaces that encourage different user groups to spend time together - Facilitate meaningful interaction between generations	X	X	X
Psychological Impact - Create an environment that positively affects mental health (ie. nature, light, color, social/private, scale, walkable, customizable - Design for interaction between groups to be comfortable, not intimidating	X	X	
Spatial Design and Functionality - Allow for specific and effective functionality of typologies' spaces - Create spatial organizations that are tailored to each typology and its user needs (ie. privacy and wayfinding for seniors / flexible and hands-on for students and teachers	X		X
Accessible Design and Comfort - Universally design to accomodate all levels of ability without alienation - Design spaces that are comfortable and functional across user groups - Prioritize safety and security of users (against threats, health issues, vunerability, etc)	X	X	X
Community Connection - Benefit the community with public amenities and social opportunities, outweighing loss of some park space - Welcome public interaction to inspire greater interaction across diverse groups	X	X	
Sustainability - Preserve/Integrate onsite nature - Adhere to WELLv2 standards to ensure holistic environmental responsibility (Air, Water, Nourishment, Light, Movement, Thermal Comfort, Sound, Materials, Mind, Community, Innovation)	X	X	X

When looking at your schemes I believe the strongest is scheme 1. Scheme 1 does a really good job at have separation between spaces but also having the community space in the center. I think what you should focus on are the red spaces and how can the seniors and the high schoolers intentionally interatct iwth each other and what can they bring to the tabel for each other.

Evaluation Criteria	Scheme 1	Scheme 2	Scheme 3
Intergenerational Community - Create common spaces that encourage different user groups to spend time together - Facilitate meaningful interaction between generations	The shared green spaces could promote interaction between groups		
Psychological Impact - Create an environment that positively affects mental health (ie. nature, light, color, social/private, scale, walkable, customizable - Design for interaction between groups to be comfortable, not intimidating	Interwoven green spaces, fluid circulation, and access to a park will promote a healthy atmosphere.		
Spatial Design and Functionality - Allow for specific and effective functionality of typologies' spaces - Create spatial organizations that are tailored to each typology and its user needs (ie. privacy and wayfinding for seniors / flexible and hands-on for students and teachers	The red spaces are the main focus of this project. Scheme One promotes the best opportunities for community interaction.		
Accessible Design and Comfort - Universally design to accomodate all levels of ability without alienation - Design spaces that are comfortable and functional across user groups - Prioritize safety and security of users (against threats, health issues, vunerability, etc)		The separation of age groups and the enclosed courtyards would be much safer for senior residents.	
Community Connection - Benefit the community with public amenities and social opportunities, outweighing loss of some park space - Welcome public interaction to inspire greater interaction across diverse groups	Fluid movement between built elements allow for cross circulation from other parts of the area.		
Sustainability - Preserve/Integrate onsite nature - Adhere to WELLv2 standards to ensure holistic environmental responsibility (Air, Water, Nourishment, Light, Movement, Thermal Comfort, Sound, Materials, Mind, Community, Innovation)	This scheme utilizes larger roof area for solar. WELL status could easily be achieved.		

Evaluation Criteria	Scheme 1	Scheme 2	Scheme 3
Intergenerational Community - Create common spaces that encourage different user groups to spend time together - Facilitate meaningful interaction between generations	The way the outdoor community areas are the most shared and interaction		
Psychological Impact - Create an environment that positively affects mental health (ie. nature, light, color, social/private, scale, walkable, customizable - Design for interaction between groups to be comfortable, not intimidating	Seems like interesting interaction within their own spaces and how they connect to one another.		
Spatial Design and Functionality - Allow for specific and effective functionality of typologies' spaces - Create spatial organizations that are tailored to each typology and its user needs (ie. privacy and wayfinding for seniors / flexible and hands-on for students and teachers		Most organized for specific functionalities. Adds more privacy	
Accessible Design and Comfort - Universally design to accomodate all levels of ability without alienation - Design spaces that are comfortable and functional across user groups - Prioritize safety and security of users (against threats, health issues, vunerability, etc)			Seems the most spread out and the linear piece might lend itself to better accessibility.
Community Connection - Benefit the community with public amenities and social opportunities, outweighing loss of some park space - Welcome public interaction to inspire greater interaction across diverse groups	Has potential for each of the spaces to connect most to the rest of the site and visibility to fields and residential area.		
Sustainability - Preserve/Integrate onsite nature - Adhere to WELLv2 standards to ensure holistic environmental responsibility (Air, Water, Nourishment, Light, Movement, Thermal Comfort, Sound, Materials, Mind, Community, Innovation)	Has the most opportunity for green spaces. Connection to the site and efficient building shapes.		

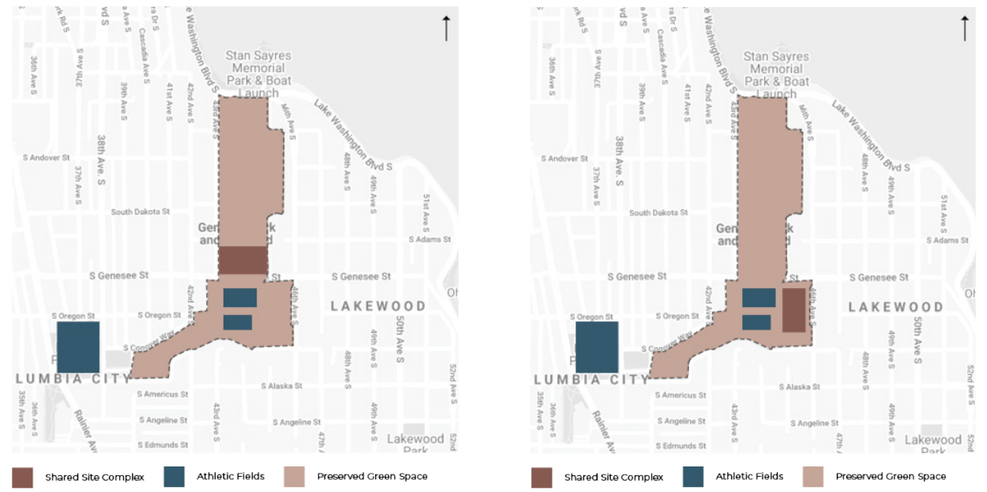
Based on personal evaluation and feedback to the schemes exercise, several major design directions were decided. In terms of site, the lower SE corner of the park offered the least impactful and most effective use of the site and existing resources and circulation. As for the layout schemes, a second schematic exercise based on peer feedback helped to further develop a design scheme that combined ideas, capitalizing on the advantages of each layout while contextualizing it within the actual site.

Evaluation Criteria	Scheme 1	Scheme 2	Scheme 3
Intergenerational Community - Create common spaces that encourage different user groups to spend time together - Facilitate meaningful interaction between generations	|	|	
Psychological Impact - Create an environment that positively affects mental health (ie. nature, light, color, social/private, scale, walkable, customizable - Design for interaction between groups to be comfortable, not intimidating	|		
Spatial Design and Functionality - Allow for specific and effective functionality of typologies' spaces - Create spatial organizations that are tailored to each typology and its user needs (ie. privacy and wayfinding for seniors / flexible and hands-on for students and teachers	|	|	
Accessible Design and Comfort - Universally design to accomodate all levels of ability without alienation - Design spaces that are comfortable and functional across user groups - Prioritize safety and security of users (against threats, health issues, vunerability, etc)	|	|	
Community Connection - Benefit the community with public amenities and social opportunities, outweighing loss of some park space - Welcome public interaction to inspire greater interaction across diverse groups	|		
Sustainability - Preserve/Integrate onsite nature - Adhere to WELLv2 standards to ensure holistic environmental responsibility (Air, Water, Nourishment, Light, Movement, Thermal Comfort, Sound, Materials, Mind, Community, Innovation)	|		

I like option 1 for the site plan that offers more open space to buildings. It allows connections to both sides of your site and doesn't cut it in half. Scheme does a great job at hitting all of your goals with the conductive layout that promotes community and working the two different age groups together. Scheme 2 does most of this but I think there is some will be some disconnect with how that pattern is layed out. Like Jennifer said in class, I would think further into how this could be used more by the community to engage the elderly more throughout the day instead of just during school hours.

Evaluation Criteria	Scheme 1	Scheme 2	Scheme 3	site 1	site 2
Intergenerational Community - Create common spaces that encourage different user groups to spend time together - Facilitate meaningful interaction between generations		central space each or hub and pass through potentially to other shared spaces meaningful interaction is questionable at the least			
Psychological Impact - Create an environment that positively affects mental health (ie. nature, light, color, social/private, scale, walkable, customizable - Design for interaction between groups to be comfortable, not intimidating	greatest potential for solar exposure/orientation when viewed with survey separate green spaces that lack access links				
Spatial Design and Functionality - Allow for specific and effective functionality of typologies' spaces - Create spatial organizations that are tailored to each typology and its user needs (ie. privacy and wayfinding for seniors / flexible and hands-on for students and teachers	some focus around central greenspace which could act as good wayfinding through sense/orientation functions appear to have separations with and wings could support additional uses				
Accessible Design and Comfort - Universally design to accomodate all levels of ability without alienation - Design spaces that are comfortable and functional across user groups - Prioritize safety and security of users (against threats, health issues, vunerability, etc)		inward looking option gives more control over interior spaces, gives control and spatial levels of engagement with exterior - ability for less able seniors		maintains thoroughfare of existing park	
Community Connection - Benefit the community with public amenities and social opportunities, outweighing loss of some park space - Welcome public interaction to inspire greater interaction across diverse groups			central community building is most accessible to greater community	could take on character of neighborhood and is most strategic to other residential orientation to athletic fields	
Sustainability - Preserve/Integrate onsite nature - Adhere to WELLv2 standards to ensure holistic environmental responsibility (Air, Water, Nourishment, Light, Movement, Thermal Comfort, Sound, Materials, Mind, Community, Innovation)	appearance of greater access to sunlight ultimately very dependent on orientation and formal nuance in relationships				

Figure 65 | Scheme Feedback



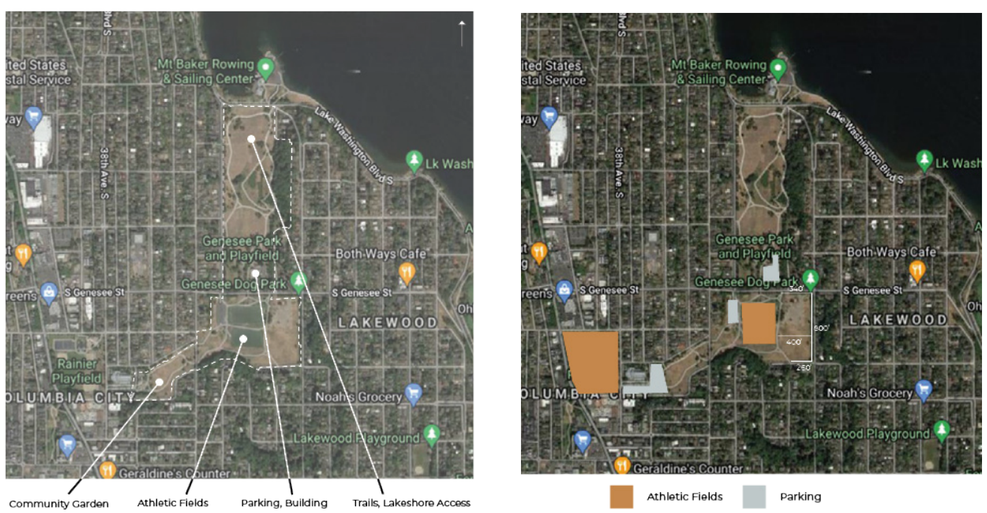


Figure 66 | Scheme Solution

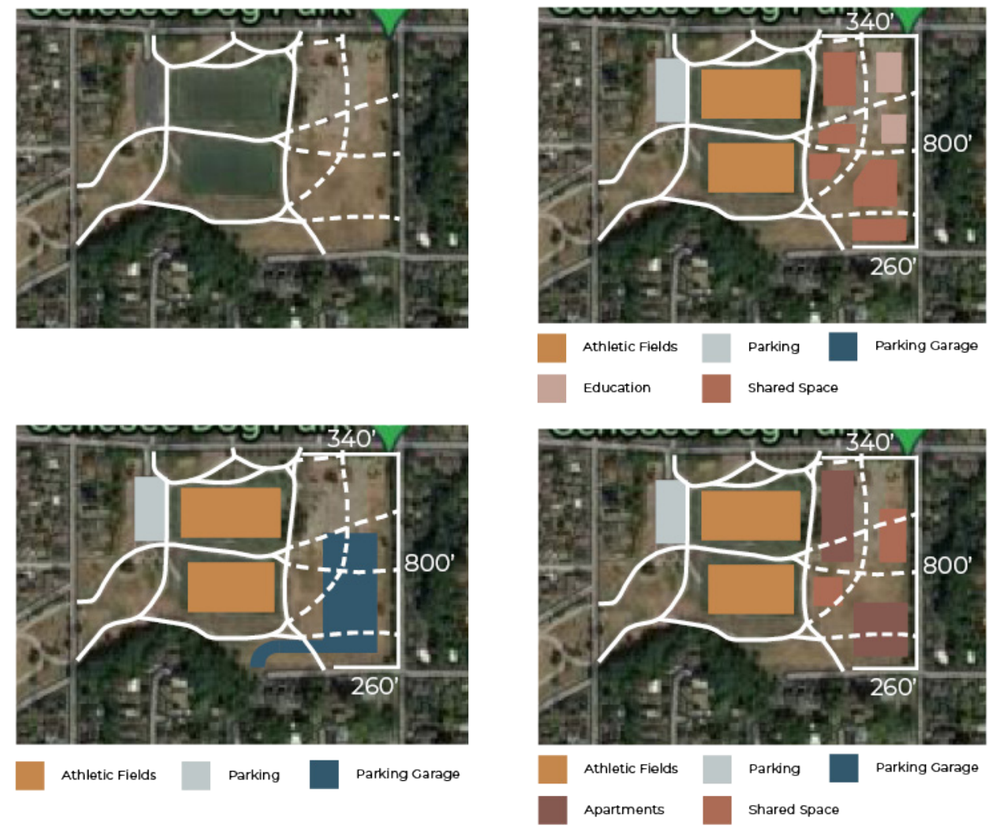


Figure 67 | Scheme Solution

PROJECT SOLUTION DOCUMENTATION

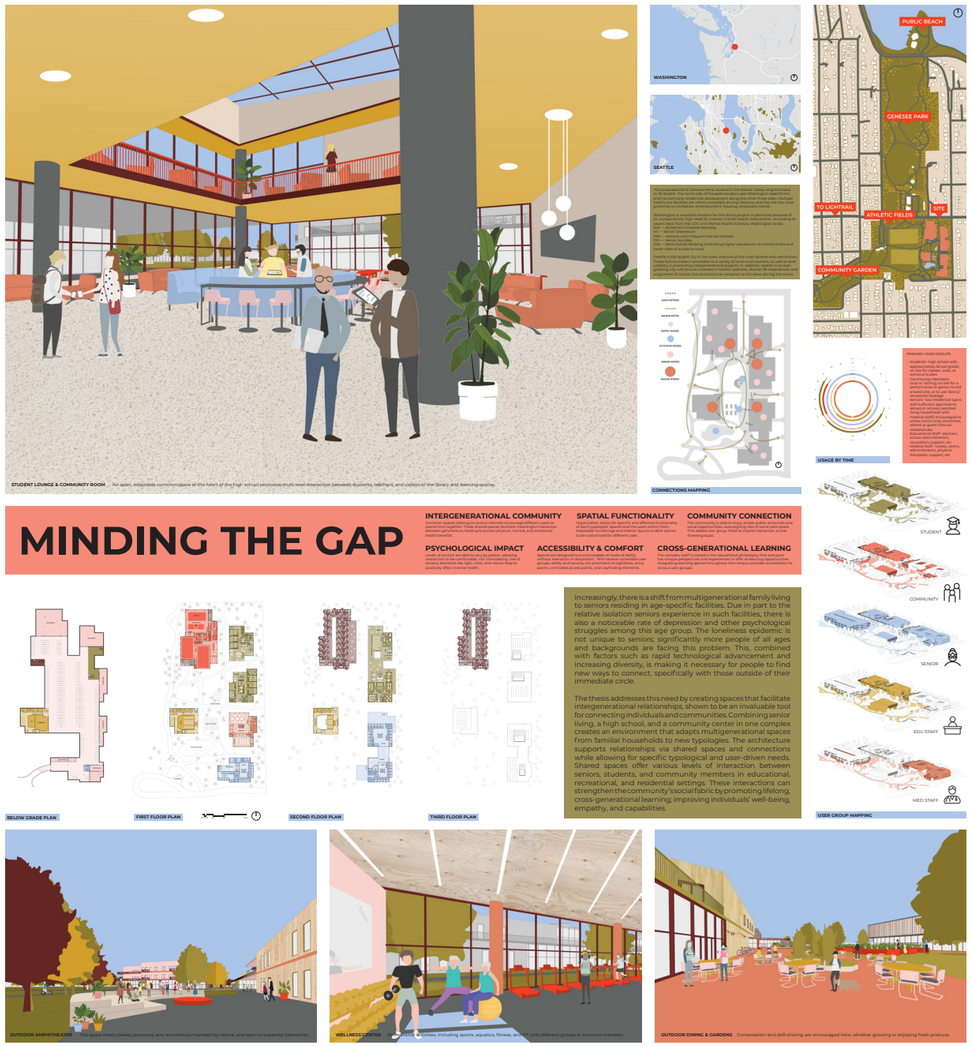


Figure 68 | Presentation Boards

Washington is a suitable location for this thesis project in particular because of its comparatively high need for a senior mental health intervention. According to recent data from the CDC and Mental Health America, Washington ranks:
3rd — Alzheimer's Disease Mortality
1st — Senior Depression
19th — Seniors with Frequent Mental Distress
11th — Senior Suicides
31st — MHA Overall Ranking (indicating higher prevalence of mental illness and lower rates of access to care)

Seattle is the largest city in the state, and one of the most diverse and well-known. These factors make it accessible to a variety of locals and travelers, as well as lend visibility in promoting intergenerational projects. In addition, Seattle is an ever-growing city with known interests in holistic wellness, diverse life experiences, and enjoyment of nature; this positions it as receptive to the ideas driving the thesis.

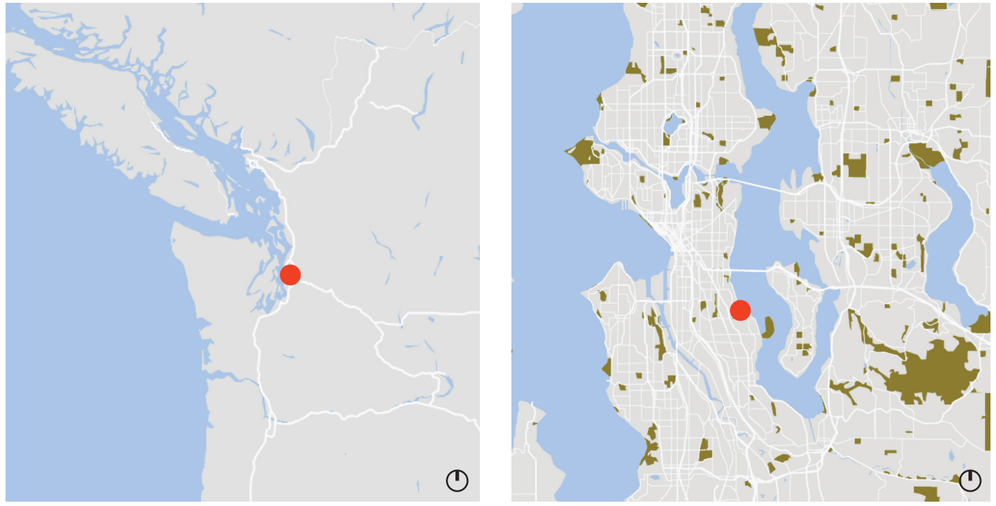


Figure 69 | Context Map

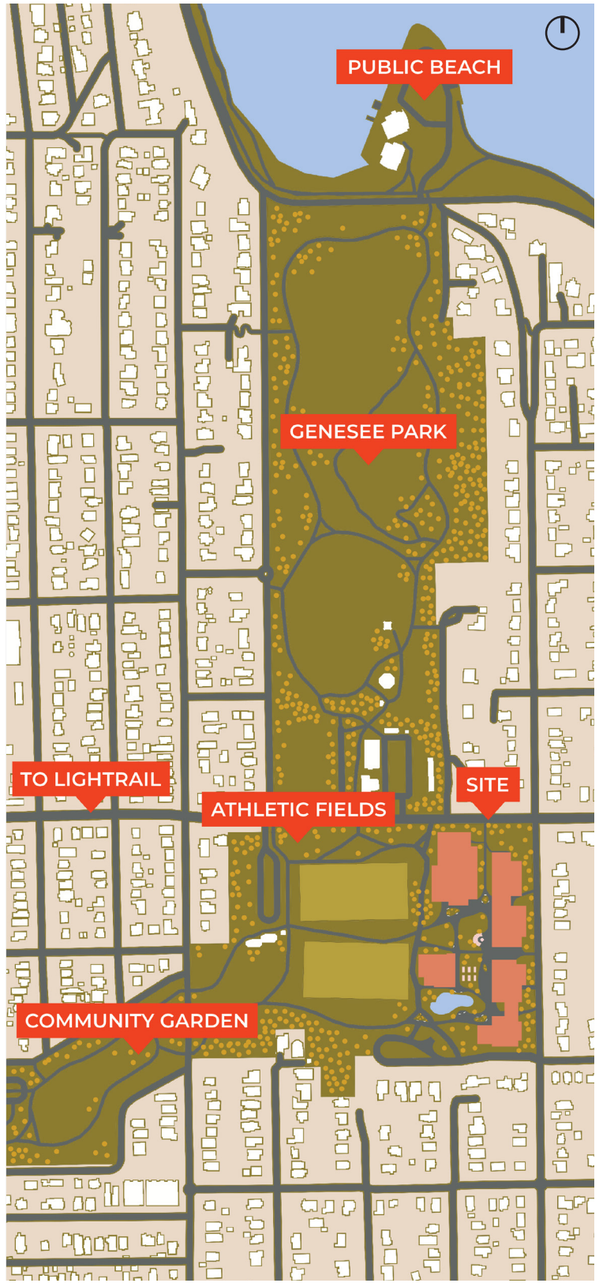


Figure 70 | Site Map

The proposed site is the SE corner of Genesee Park, located in the Rainier Valley neighborhood in SE Seattle. The north side of the park borders Lake Washington beachfront, and has primarily residential development along the other sides. Multiple healthcare facilities are within accessible driving distance, and the site has close proximity to recreation, entertainment, housing, and public transit. Existing athletic fields are able to be used for the school's sports.

Figure 71 highlights the intersection of major paths and entries with various nodes of user connection throughout the site.

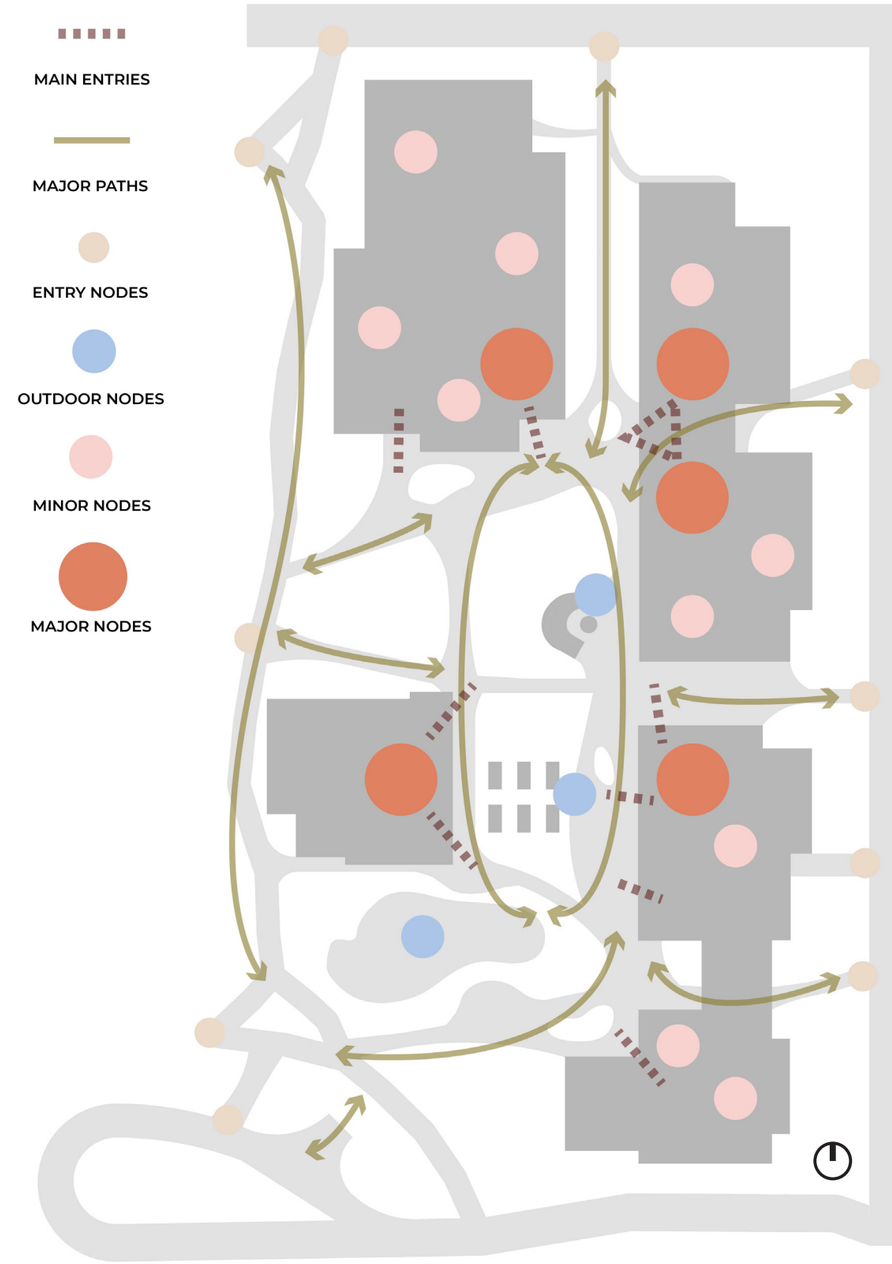


Figure 71 | Connection Diagram

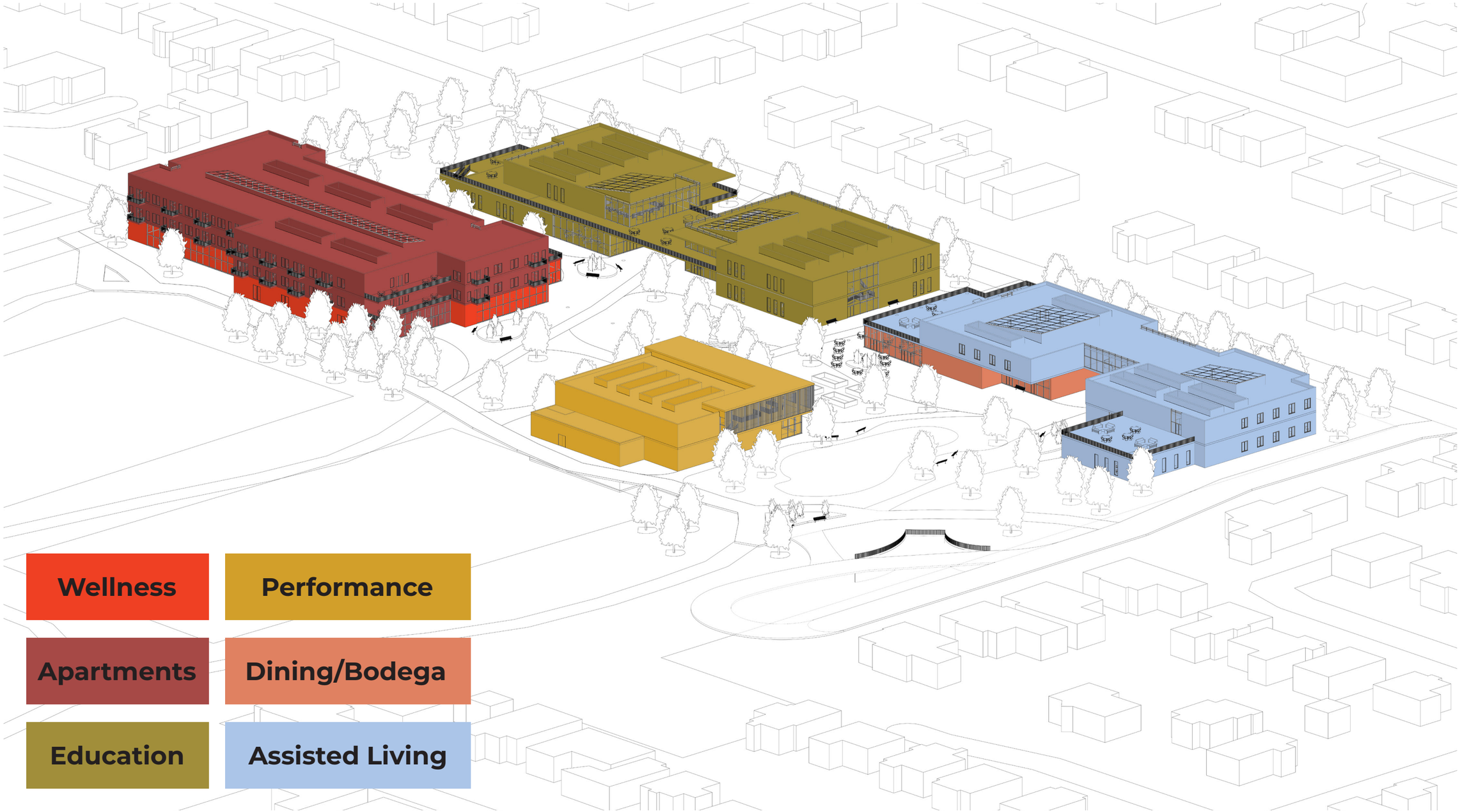


Figure 72 | Site Axon by Typology

Since the thesis project revolves primarily around connection across user type, analysis shows how these users would occupy the site, in terms of time and physical space. The resulting graphics help to showcase the large amount of overlap in each category.

PRIMARY USER GROUPS

- Students- high school with about 50 per grade; on site for classes, work, or extracurriculars
- Community Members- local or visiting; on site for a performance or game, to visit a loved one, or to use library/recreation/ bodega
- Seniors- two residential types (self-sufficient apartments aimed at retirees, assisted living households with medical staff); encouraged to utilize community amenities, attend or guest instruct classes/clubs
- Educational Staff- teachers, school admin, counselors, support, etc
- Medical Staff- nurses, admin, physical therapists, support, etc

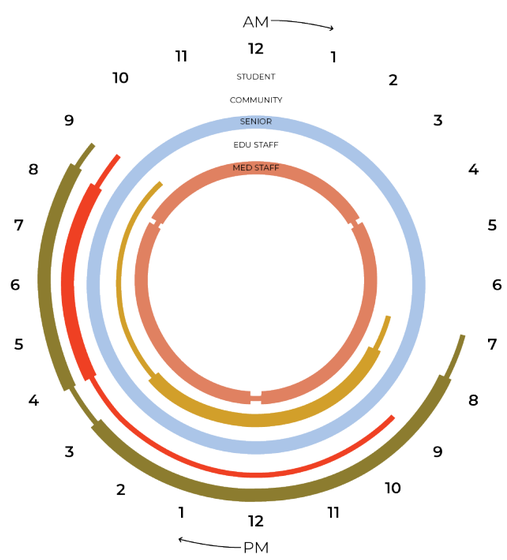


Figure 73 | Hourly Usage Diagram

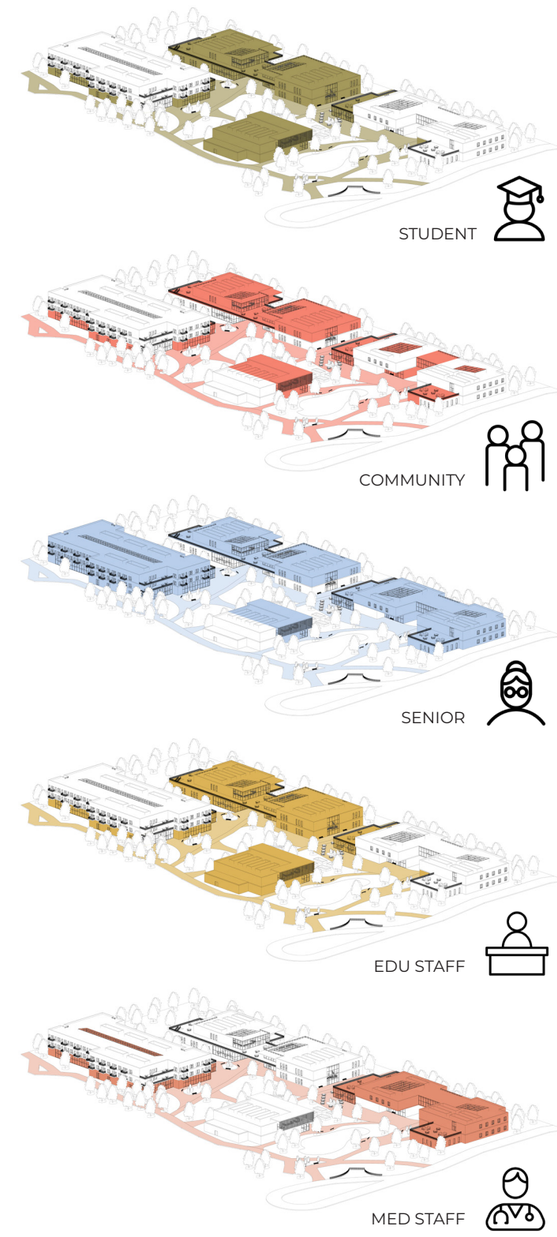


Figure 74 | User Mapping

Education | Apartments | Wellness | Performance | Dining/Bodega | Assisted Living

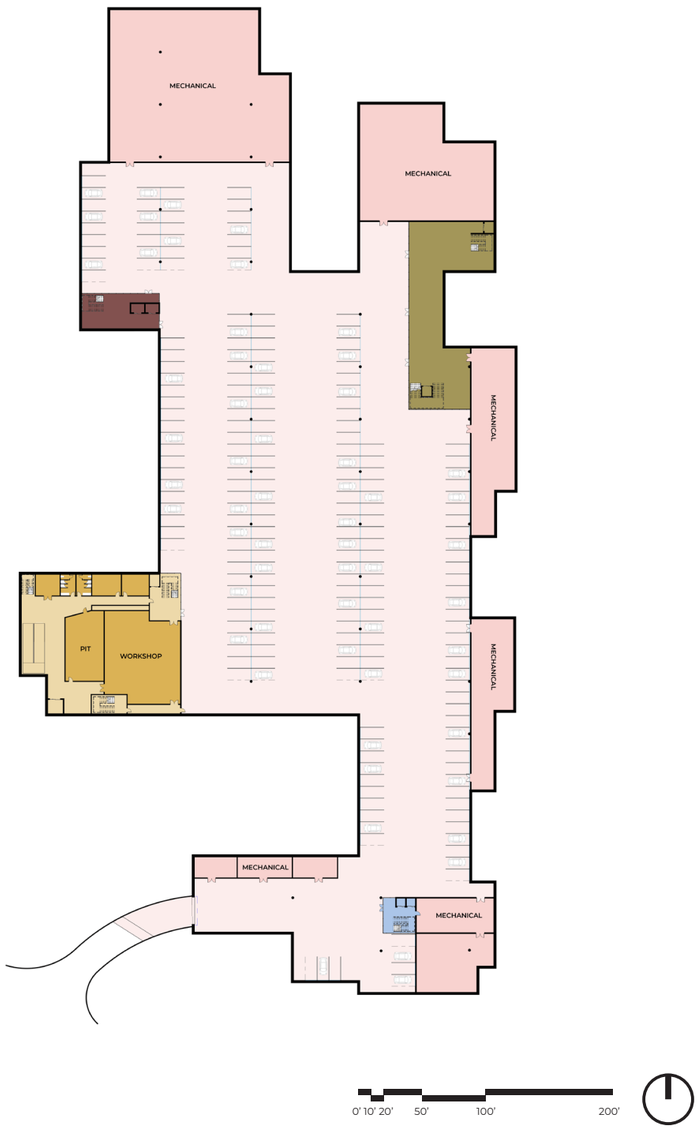


Figure 75 | Below Grade Plan

Figure 76 | First Floor Plan

Education | Apartments | Wellness | Performance | Dining/Bodega | Assisted Living

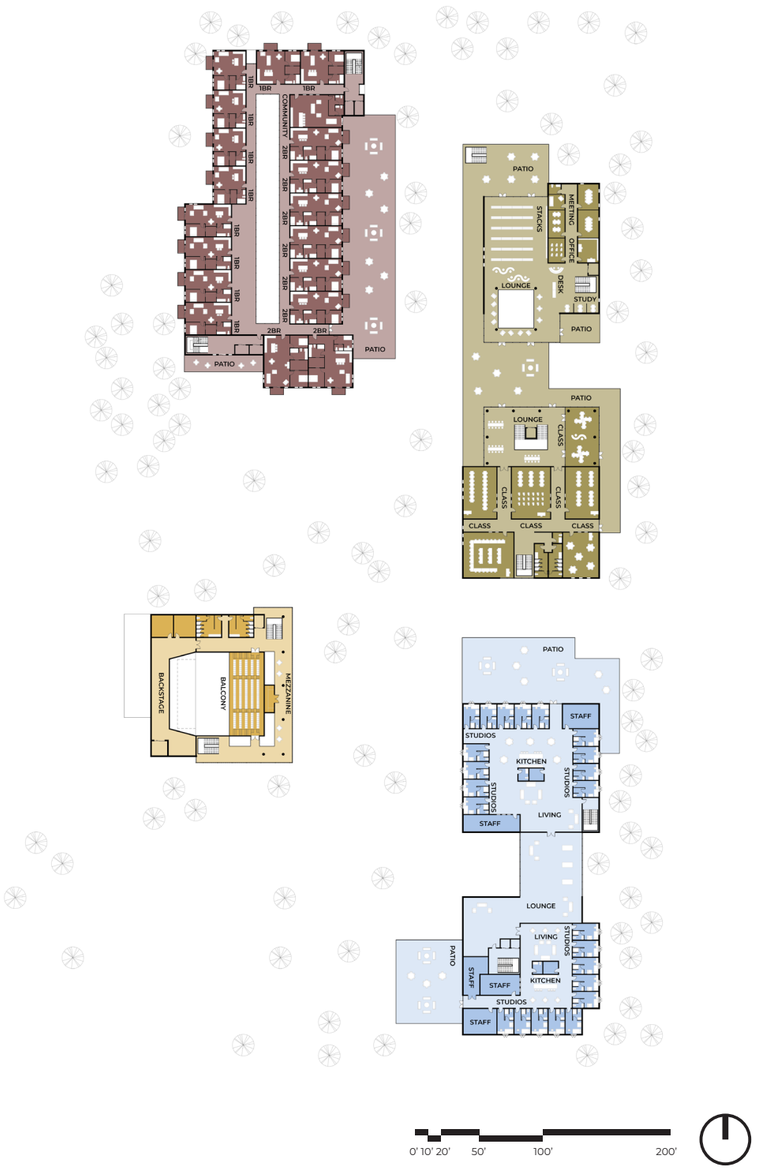


Figure 77 | Second Floor Plan

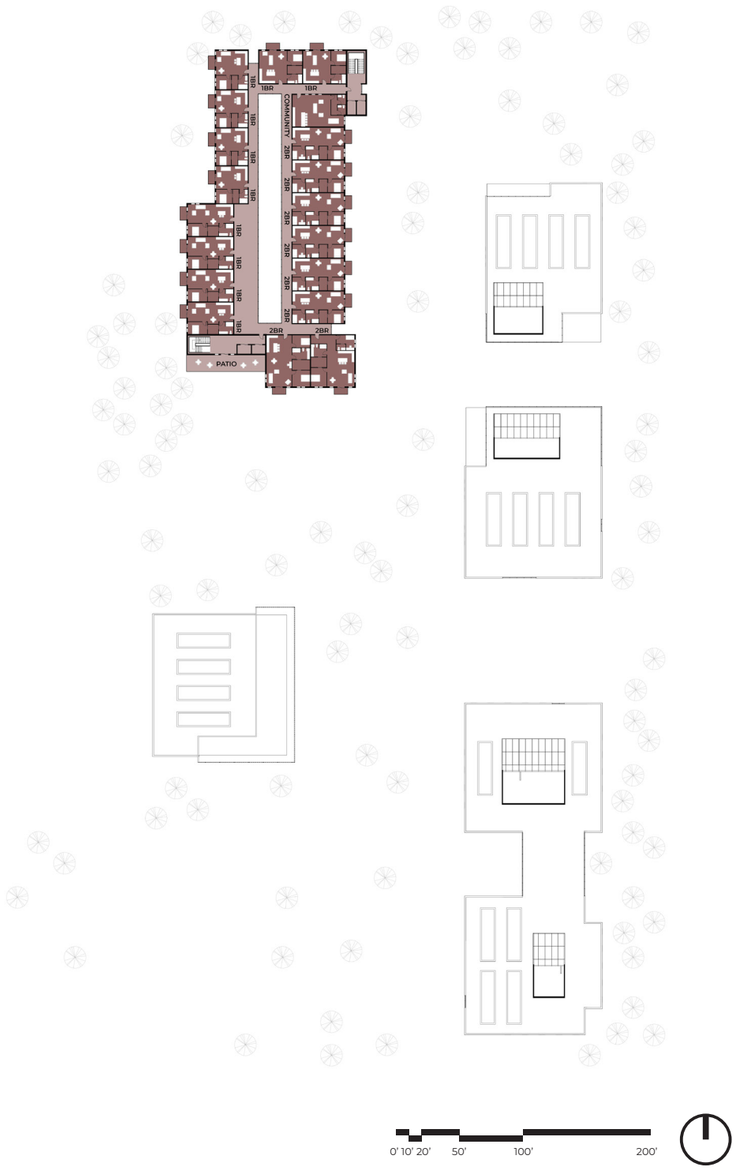


Figure 78 | Third Floor Plan

An open, adaptable common space at the heart of the high school promotes multi-level interaction between students, teachers, and visitors to the library and learning spaces.

Figure 79 | Student Lounge and Community Room

Recreational activities, including sports, aquatics, fitness, and PT, unite different groups in common interests and characteristics.

Figure 80 | Wellness Center

This space hosts classes, practices, and activities surrounded by nature, with its openness aimed to encourage passerby interaction.

Figure 81 | Outdoor Amphitheater

Conversation and skill-sharing are encouraged here, whether growing fresh produce in the open community gardens or enjoying a meal together.

Figure 82 | Outdoor Dining and Community Gardens

PERFORMANCE ANALYSIS

Response to the Site and Context
The thesis project responds to the physical site in a number of ways, beginning with the local climate. The open organization of buildings around ample and functional outdoor spaces take advantage of Seattle's moderate temperatures and encourage much of the circulation to happen in the outdoors. Trees and overhangs help to shelter users from heavier rainfall when necessary. Large amounts of glazing and windows, along with skylight-illuminated atriums in most buildings allow for ample access to sunlight.

Since the topography of the site is nearly flat, both public and private spaces to have views towards the lake, as well as relative accessibility across the whole campus without needing to overhaul the natural elevations of the site. Meanwhile, the raised elevations of the surrounding neighborhoods help to create a sense of shelter and safety. A retention pond in the lowest elevated area of the site manages water runoff, while also creating a peaceful and calming site feature.

Existing vegetation is preserved, aside from that within the building footprints. Additional native trees and plantings are added around the site for protection from the street and within the campus to maintain connection to nature. Open green spaces at the center of the site further this idea, with their use encouraged for site users.

Circulation patterns mimic those prior to the site development, maintaining the surrounding roads and extending existing park walkways as paths through the site. The southern dead-end road is converted to a circular dropoff, leading to the entrance of the underground parking servicing each building onsite. Since cars are placed below grade, the site stays dedicated to the human experience and scale.

Buildings follow the 2-3 story maximum of the neighborhood houses, with their square footage staying in line with that of similar typologies of the surrounding area. By doing so, the campus fits into the surroundings, rather than overpowering them, and maintains a comfortable flow between itself and everything else. Existing park structures, parking, and sports fields are used to minimize impact on the site itself.

Overall, the project responds to the culture and needs of Seattle, by creating a necessary intergenerational intervention emphasizing user wellbeing, particularly in a neighborhood that would benefit from increased access to such amenities and diversified interpersonal connection.

Response to the Typological/Precedent Research
The four typological case studies lent valuable information in the areas of program, context, and user experience. Programs organized around common core spaces, interior and exterior, prioritize user connection. This is seen in the thesis floorplans, with the major interior common spaces situated at building entries for easy access, and outdoor common spaces laid out along central site circulation paths. Additional research on recent educational and healthcare design helped inform typological floor plan decisions, such as the household-style assisted living layout and flexible classroom styles. Case studies inspired the use of onsite nature, with outdoor spaces,

ample natural light, environmentally-conscious design, and other contextual opportunities to create appropriate and stimulating spaces that appeal to site users and neighbors at the same time. Sensory design driven by daylight, natural materials, energizing colors, and spatial scaling—as used in the case study projects—shapes the user experience to be stimulating and appealing, while avoiding common pitfalls of overly distracting, confusing, or uncomfortable experiences.

The information detailed in the literature reviews was especially formative.

Studio Gang's presentation of design elements that build community included common ground, activity, natural elements contextual fit, flexibility, accessibility, and community involvement. The thesis incorporates each of these in its various aspects, with common core spaces, onsite activities ranging from theatre to swimming, incorporation of green space and vegetation, comfortable relation to its surroundings, flexible layouts and furnishings, accessible design across users, and strong physical and activity-centered community involvement.

UNESCO's report proposes lifelong learning as a necessary global shift to address worldwide problems. It shows data linking lifelong learning to greater evaluation, application, adaptation, and creative problem solving skills, while also being more inclusive of populations who tend to be neglected by the traditional education system. It furthers this be rethink the social and collective aspect of learning, to open up to the community and other generations as well. All of this was instrumental in making decisions on where and why thesis user groups would overlap, programmatically and physically, and encouraged even greater integration of the groups than previously planned.

Generation United's report includes information on the need for, support for, precedent examples of, and benefits of intergenerational shared space. This research confirmed the original thesis direction, and proved especially useful in understanding shared space functionality for the design phase, and explaining the immense benefit shared spaces offer when presenting the thesis project.

Response to Goals and Project Emphasis

The thesis design responds to the six established project goals in the following ways.

Intergenerational Community—
Common spaces across the site, relating to various interests, encourage different users to spend time together. These shared spaces facilitate meaningful interaction between generations, leading to proven physical, mental, and emotional health benefits, as well as larger societal impacts such as stronger workplaces and educational systems, and a more accepting and empathetic social fabric.

Psychological Impact—
Levels of contact are able to vary by person, allowing interaction to be comfortable, not intimidating. Use of sensory elements like light,

color, and nature help to positively affect mental health.

Spatial Design And Functionality—
Intentional organization allows for specific and effective functionality of each typologies' spaces and the users within them. Adaptable furnishings and interior layouts enable spaces to be customized for different uses.

Accessible Design And Comfort—
Spaces are designed to accommodate all levels of ability without alienation or discomfort. With several vulnerable user groups, safety and security are prioritized via sightlines, entry points, controlled access points, and wayfinding elements.

Community Connection—
The community is able to enjoy ample public amenities and social opportunities, outweighing loss of some park space. This added user group helps to inspire interaction across diverse groups, contributing to what the shared space can offer. This can range from increased personal interaction, to community-sponsored events such as farmers' and makers' markets.

Cross Generational Learning—
The complex itself is rooted in the educational philosophy that everyone has unique perspectives and experiences to offer as learning opportunities. Integrating learning spaces throughout the campus provides accessibility for various user groups.

CRITIQUE OF APPLIED RESEARCH METHODS

Project research was conducted using the following methods of inquiry:

Theoretical Research—
Reading about theory, ranging from ancient to modern schools of thought, helped to ground the project in personal and educational philosophy, establishing broad guiding principles in the beginning of the research process.

Historical Research—
Using historical accounts to gain an understanding of both the history of senior living in the United States and intergenerational spaces worldwide was important in understanding the background of the issue. In addition to this, drawing from data and personal accounts filled in the present context around this project.

Precedent Studies—
Case studies were essential tools in establishing the project's program and floor planning, while identifying separate and multi-use functions of each typology. In addition to the program, they showed examples of how user experience and contextual connection might be applied within a large project.

Quantitative Data—
Data collection methods included GIS mapping, demographic studies, mental health studies, and climate reports. These were among the most straightforward sources, once credibility was

established, and contributed objectivity to the project and presentation.

Qualitative Data—
Observation and personal accounts were the primary forms of qualitative research conducted, adding in a more individualized type of information. Since connection among users is a main driver of the project, the perspectives gathered from this method were integral in understanding how this might be achieved.

DIGITAL PRESENTATION

MINDING THE GAP

THESIS PRESENTATION

Enriching lives and enacting social change through intergenerational connection rooted in shared space.

Enriching lives and enacting social change through intergenerational connection rooted in shared space.

Senior Living | High School | Community Center

History of Senior Living in the U.S.


History of Senior Living in the U.S.

History of Senior Living in the U.S.



History of Senior Living in the U.S.




History of Senior Living in the U.S.






History of Senior Living in the U.S.





History of Senior Living in the U.S.









Multigenerational Culture

Multigenerational Culture

Multigenerational Culture

Cultural Context

Rapid Changes

Pandemic Isolation

Loneliness Epidemic

Cultural Context

Increasing Diversity

Pandemic Isolation

Loneliness Epidemic

Cultural Context

Increasing Diversity

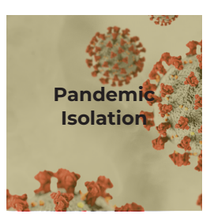
Rapid Changes

Pandemic Isolation

Cultural Context

Increasing Diversity

Rapid Changes



Loneliness Epidemic

RESEARCH

Shared Sites

Generations United

Facilitating Connection

Studio Gang

Lifelong Learning

UNESCO

DESIGN SOLUTION

Project Goals

- **Intergenerational Community**
- **Spatial Functionality**
- **Community Connection**
- **Psychological Impact**
- **Accessibility & Comfort**
- **Cross-Generational Learning**

Site

Genesee Park (SE corner)

Address— 4316 S Genesee St, Seattle, WA 98118

Location— 47.563015 N
122.279378 W

Site Size— 6 acres
260,000 ft^2

Site Justification

Washington is in particular need of a senior healthcare intervention.

CDC Stats:

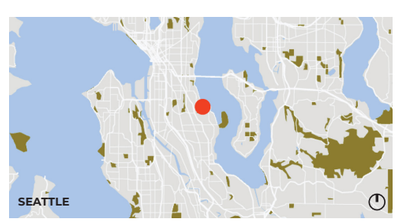
3rd Alzheimer's Disease Mortality

1st Senior Depression

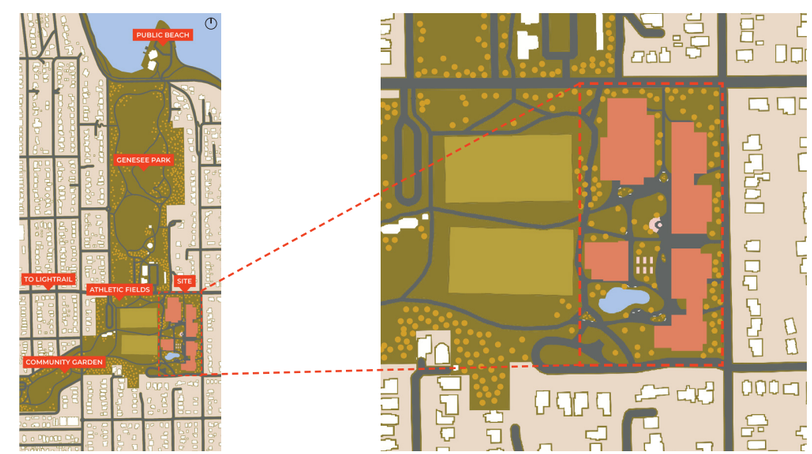
19th Seniors with Frequent Mental Distress

11th Senior Suicides

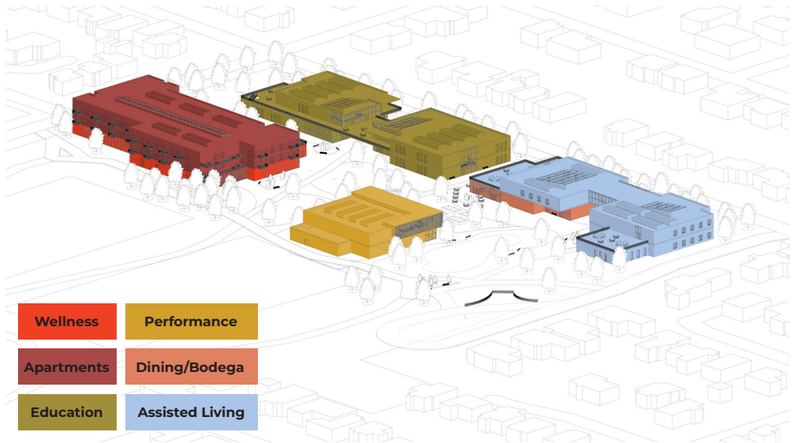
31st MHA Overall Ranking
(indicating higher prevalence of mental illness and lower rates of access to care)



Site Plan



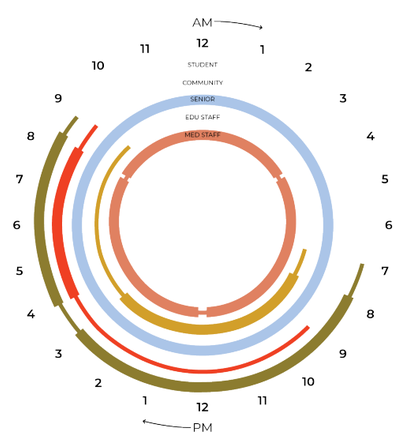
Site Axon



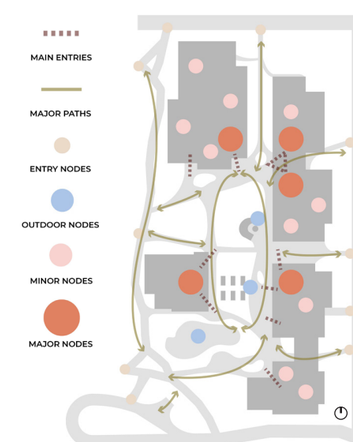
User Analysis

Users

- Students
- Community
- Seniors
- Educational Staff
- Medical Staff



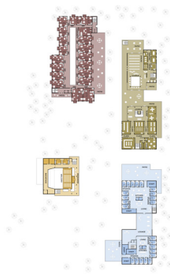
Connections Mapping



Floor Plans

BELOW GRADE PLAN

FIRST FLOOR PLAN

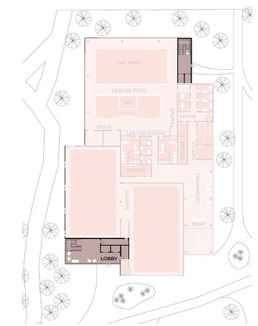


SECOND FLOOR PLAN

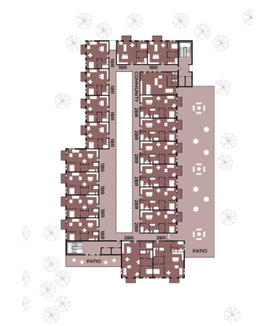
THIRD FLOOR PLAN

Senior Apartments

BELOW GRADE



FIRST FLOOR



SECOND/THIRD FLOOR

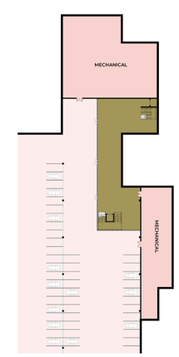
Assisted Living

BELOW GRADE

FIRST FLOOR

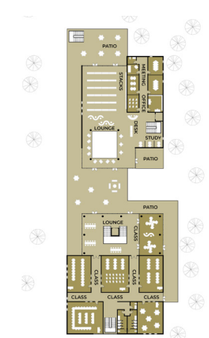
SECOND FLOOR

School & Library



BELOW GRADE

FIRST FLOOR



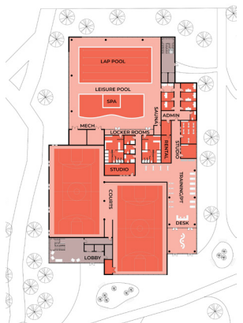
SECOND FLOOR

Student Lounge & Community Room

Wellness Center

Wellness Center

BELOW GRADE



FIRST FLOOR

Dining & Bodega

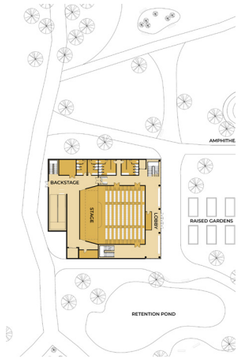
FIRST FLOOR

Outdoor Dining & Gardens

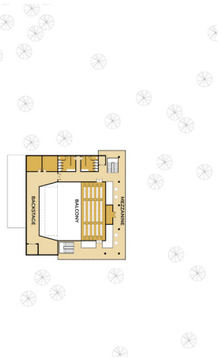
Outdoor Amphitheater

Performance Hall

BELOW GRADE

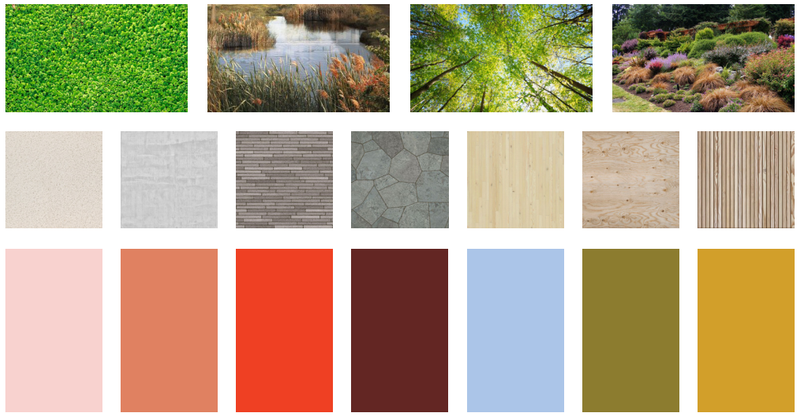


FIRST FLOOR



SECOND FLOOR

Materials



Summary

- Intergenerational Community
- Spatial Functionality
- Community Connection
- Psychological Impact
- Accessibility & Comfort
- Cross-Generational Learning

FEEDBACK & QUESTIONS?

Thank you for listening!




PROJECT INSTALLATION

Figure 83 | Installed Boards

APPENDIX

REFERENCE LIST

AIA Washington Council. (2020). *Discovery High School*. AIA Washington Council. Retrieved October 14, 2021, from http://aiawa.org/portfolio/discovery-high-school/.

Archibazaar Pte Ltd. (2019). *St Joseph's Home* . Archibazaar. Retrieved October 14, 2021, from https://archibazaar.com/project/st-josephs-home/.

Burgess, J. (2020, September 25). *How has technology affected social interaction?* SoGoSurvey Blog. Retrieved January 5, 2022, from https://www.sogosurvey.com/blog/how-has-technology-affected-social-interaction/

Centers for Disease Control and Prevention. (2021, October 8). *CDC - BRFSS*. Centers for Disease Control and Prevention. Retrieved October 14, 2021, from https://www.cdc.gov/brfss/index.html.

Chase, D. P. (Trans.). (2003). Books VIII and IX. In *The Nicomachean Ethics of Aristotle*. essay. Retrieved December 30, 2021, from https://www.gutenberg.org/files/8438/8438-h/8438-h.htm.

DREAM Collaborative LLC. (2020, May 29). *Full House: A history of American multigenerational living*. DREAMCollaborative.com. Retrieved January 3, 2022, from https://dreamcollaborative.com/thought/full-house-a-history-of-american-multigenerational-living/.

Fundació Mies van der Rohe. (2017). *Residential Care Home Erika Horn, Andritz*. Eumiesaward. Retrieved October 13, 2021, from https://miesarch.com/work/3279.

Gang, J. (2016, October). Buildings that blend nature and city [Video]. TED Conferences. https://www.ted.com/talks/jeanne_gang_buildings_that_blend_nature_and_city

Hoyt, J. (2021, December 16). *History of senior living*. SeniorLiving.org. Retrieved January 3, 2022, from https://www.seniorliving.org/history/

Jayson, S. (2018). (publication). *All In Together: Creating Places Where Young And Old Thrive. Generations* United. Retrieved December 29, 2021, from https://www.gu.org/resources/all-in-together-creating-places-where-young-and-old-thrive/.

Living arrangements of older persons around the world . (2019). *Population Facts, 2019*(2). Retrieved January 3, 2022, from https://www.un.org/en/development/desa/population/publications/pdf/popfacts/PopFacts_2019-2.pdf.

Mental Health America, Inc. (2020). *Ranking The States*. Mental Health America. Retrieved October 14, 2021, from https://www.mhanational.org/issues/ranking-states.

Tapia, D. (2018, January 21). *School and Community Center "b³ Gadamerplatz" / Datscha Architekten*. ArchDaily. Retrieved February 16, 2022, from https://www.archdaily.com/887301/school-and-community-center-b3-gadamerplatz-datscha-architekten.

SAA Architects. (2020, May 4). *St Joseph's home*. SAA Architects. Retrieved October 14, 2021, from https://saaarchitects.com.sg/projects/st-josephs-home/.

UNESCO Institute for Lifelong Learning. (2020). *Embracing a culture of lifelong learning contribution to the Futures of Education initiative*. UNESDOC Digital Library. Retrieved March 10, 2022, from https://unesdoc.unesco.org/ark:/48223/pf0000374112.

Weatherspark.com. Seattle Climate, (Washington, United States) - Weather Spark. (n.d.). Retrieved January 5, 2022, from https://weatherspark.com/y/913/Average-Weather-in-Seattle-Washington-United-States-Year-Round.

PREVIOUS STUDIO EXPERIENCE

YEAR 2	**Fall 2018** Meditation Space Boat House *Milt Yergens*	**Spring 2019** Dwelling Mixed Use *Charlott Greub*
YEAR 3	**Fall 2019** Olympic Stadium Beach Resort *Bakr Aly Ahmed*	**Spring 2020** Paris Railway Bismarck Office *Niloufar Alenjery*
YEAR 4	**Fall 2020** High Rise *Cindy Urness*	**Spring 2021** Marvin Home Medora Vision *Kristi Hanson*
YEAR 5	**Fall 2021** Bullet Train Complex *Lance Josal*	**Spring 2022** Thesis *Jennifer Brandel*