parallax & the cut:

perceiving urban public space and its connection to public transportation architecture

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Thesis Abstract

Parallax & The Cut: Perceiving Urban Public Space and Its Connection to Public Transportation Architecture

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The overlap of mass transit centers and urban public space can create the necessary environment to foster social interaction and encourage ridership in the long term. The compounding value of direct visibility between public amenities and public transit has the ability to provide access to public programs and make connections between a larger number of people at the nexus of city life. By programmatically intensifying the user experience at the link light rail station, the usage of the station can be expanded to further users, increasing the hours per day the station is busy, and maintaining the space as truly public.

parallax & the cut

perceiving urban public space and its connection to public transportation architecture

by Lauren Wabiszewski

Figure 1 | Circulation at The Cut Upper Levels

Table Of Contents

This document is intended to be read as spreads. Please format the PDF viewer to read as two page spreads when reading this document.

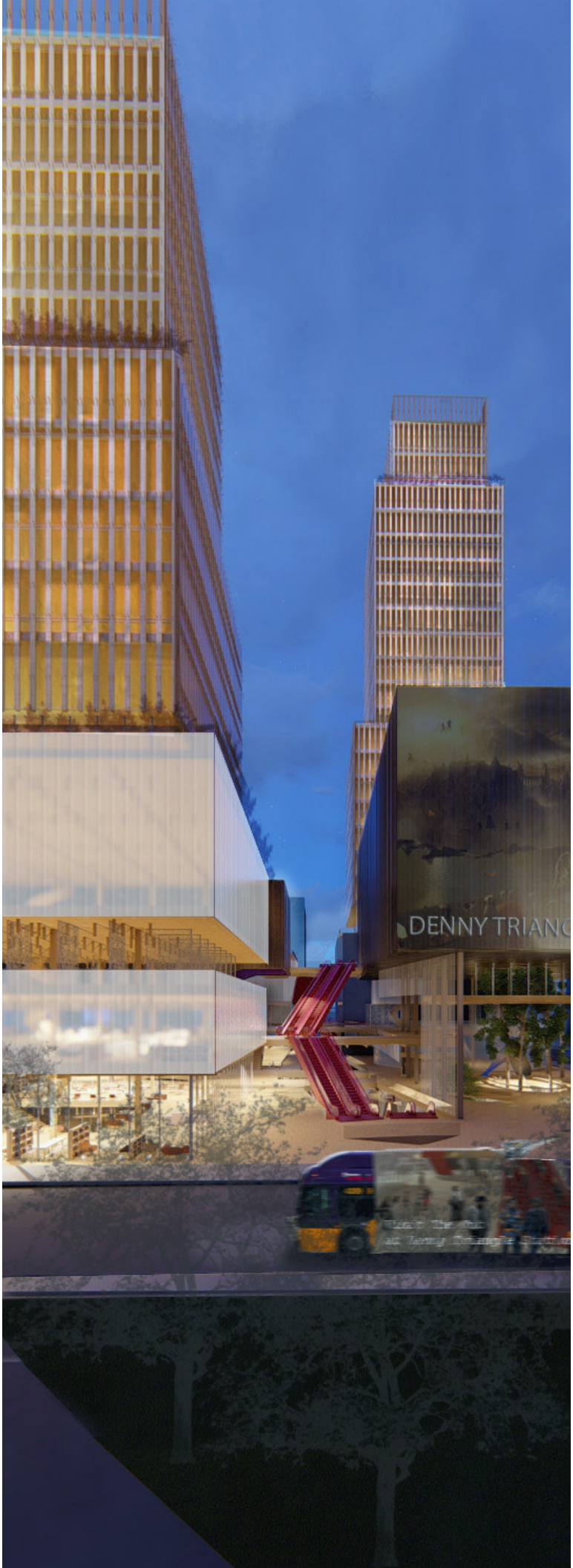


Figure 2 | Entrance to The Cut

par·al·lax

/ˈper əˌlaks/

noun

the **change in the arrangement of surfaces** defining space due to the **change in position** of a viewer

the effect whereby the position or direction of an object appears to differ when viewed from different positions, e.g., through the viewfinder and the lens of a camera.

the angular amount of parallax in a particular case, especially that of a star viewed from different points in the earth’s orbit.

As an architect, you design for the present, with an awareness of the past, for a future which is essentially unknown.

- Norman Foster

Chapter One

Introduction

Problem Statement

The mobility problem in the United States stems not only from the vehicles used for transportation but also from the mindset of Americans who are accustomed to the privacy and convenience of private vehicles. While public transit in cities is slowly evolving in response to growing congestion and environmental concerns, low ridership is still a problem. Currently, public transit architecture is designed to support the maximum efficiency of the movement of people, but does little to foster connections amongst the members of the community. Public transit architecture has the opportunity to take advantage of its central location in communities and offer more to the public good than just to serve mobility needs. This thesis argues that the overlap of mass transit centers and urban public space can create the necessary environment to foster social interaction and encourage ridership in the long term.

By incorporating a range of public functions at crucial locations in the city, public transportation architecture can support a stronger sense of social connection and in turn increase ridership through familiarity and comfort around local public transit. The compounding value of direct visibility between public amenities and public transit has the ability to increase ridership, encourage the use of public programs, and make connections between a larger number of people within the community at the nexus of city life. Public transit architecture needs to be integrated into the culture and everyday life of its users to encourage diversity and interaction amongst riders. Purposeful integration of public functions and transportation within the urban fabric makes possible introductions to a new mobility in the city.

Figure 3 | Sound Transit 3 Map

Transportation Development in Seattle

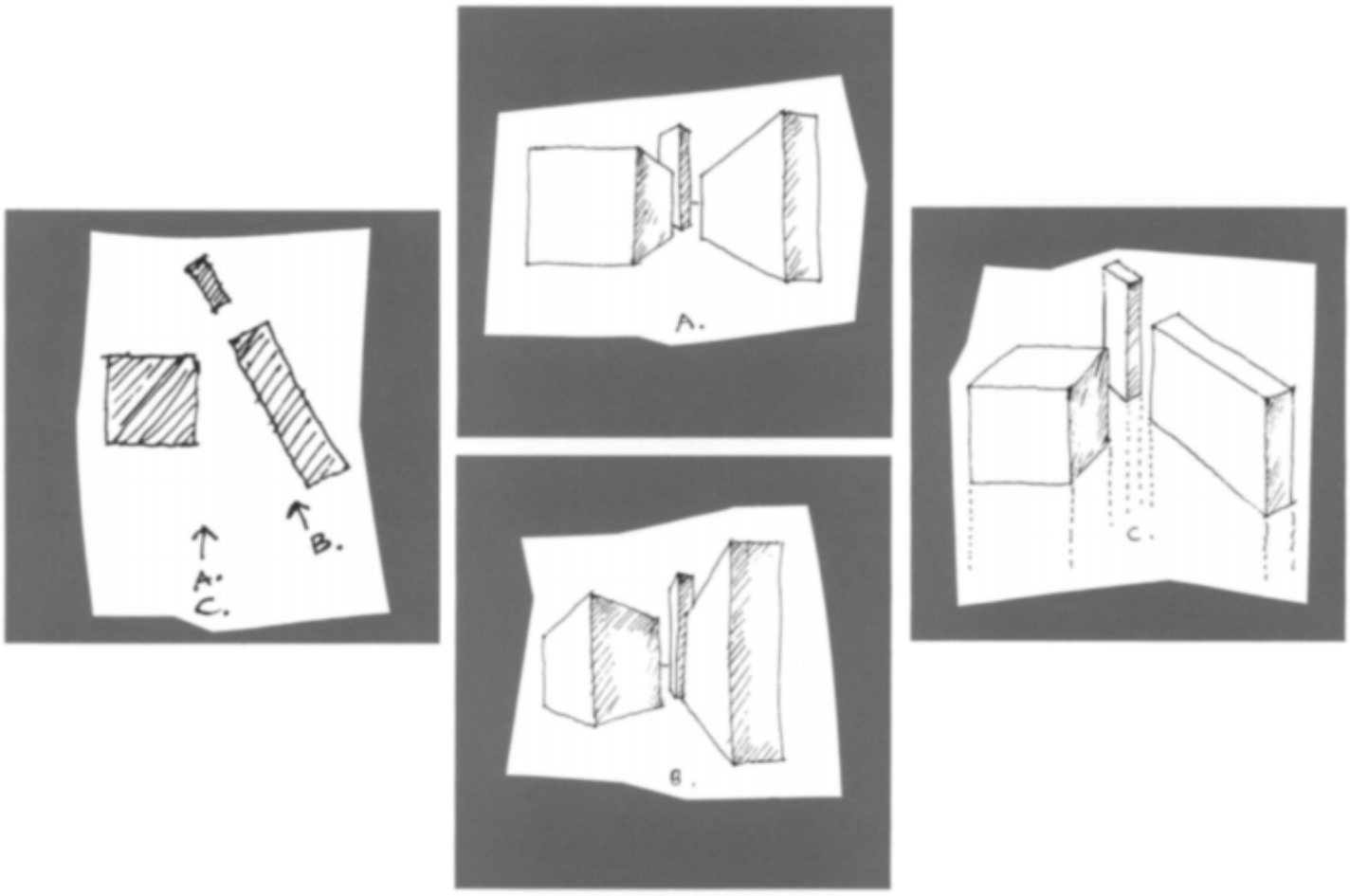
Current traffic congestion troubles in Seattle stem from a combination of a rapid population increase and late investments in public transportation. Among its residents, the Seattle transportation system is colloquially known to be frustrating and time consuming. This opinion, stemming largely from car traffic, recognizes the ubiquitous delays caused by congested streets around the city. The Sound Transit 3 (ST3) proposal passed in a vote in 2016 that will expand the city's regional public transit system by 62 miles, servicing 37 additional areas with light rail. A predicted 600,000 residents will access the light rail system daily as compared to 80,000 daily ridership in 2017. Additional improvements to regional rail and rapid bus transit will further serve the identified communities and connect them efficiently to bus, pedestrian and biking routes. ST3 is expected to take 25 years to complete. In this time, it is predicted that Seattle will experience a population increase of 800,000 people (Overview, p.1). This increase in population will undoubtedly continue to contribute to the residents' frustrations regarding traffic that plagues the city today.

Furthermore, land values around the city will continue to restrict Seattle's ability to provide public space for city residents. The publicness of the light rail stations has the opportunity to serve Seattle residents with more services than just transportation. The proposed light rail stations have been planned to connect key areas of the city. These stations will be in central locations in several dense neighborhoods, many of which would benefit from the addition of public space to service the community. The public lands set aside for the new light rail station developments present a unique opportunity for a number of Seattle neighborhoods, benefiting the local community and riders throughout the system.

Figure 4 | Design Concept Collage

Design Proposal

The Sound Transit 3 expansion in Seattle offers an opportunity for the city to take advantage of newly designated public land by expanding public uses into community life. When seen not just for transit but also as a place to gather, be entertained, stage a protest, read, eat, play, and be exposed to different cultures, the transit system can foster an inclusive and diverse public space and be a vital asset to its neighboring community members. This thesis argues that the architecture of public transit can provide efficient systems to move people around while creating a place of interaction and exchange. This thesis will examine the new transit stations proposed through ST3 in their context in order to determine how they can incorporate public programs that will enhance their vitality in the community. Some examples of relevant programming include libraries, public art galleries, education centers, and public markets. Other transitional private entities such as co-working spaces, artist cooperatives, restaurants and cafes can help to incorporate a vested interest in actively maintaining the spaces for the public good. By incorporating a multiplicity of cultural and commercial programs at this proposed project site, the usage of the light rail station can be expanded to further users, increasing the hours per day the station is busy, and maintaining the space as truly public.



Within the City - The Phenomena of Relation | Steven Holl

Figure 5 | Steven Holl's Diagrams of Parallax

Space/Parallax/Perspective

This diagram by Steven Holl shows the parallax of space that occurs when the angle of perception of the viewer is changed. Point of View A is perceived differently than point of view B. Moving vertically through the urban space multiplies the users experience of the urban form.

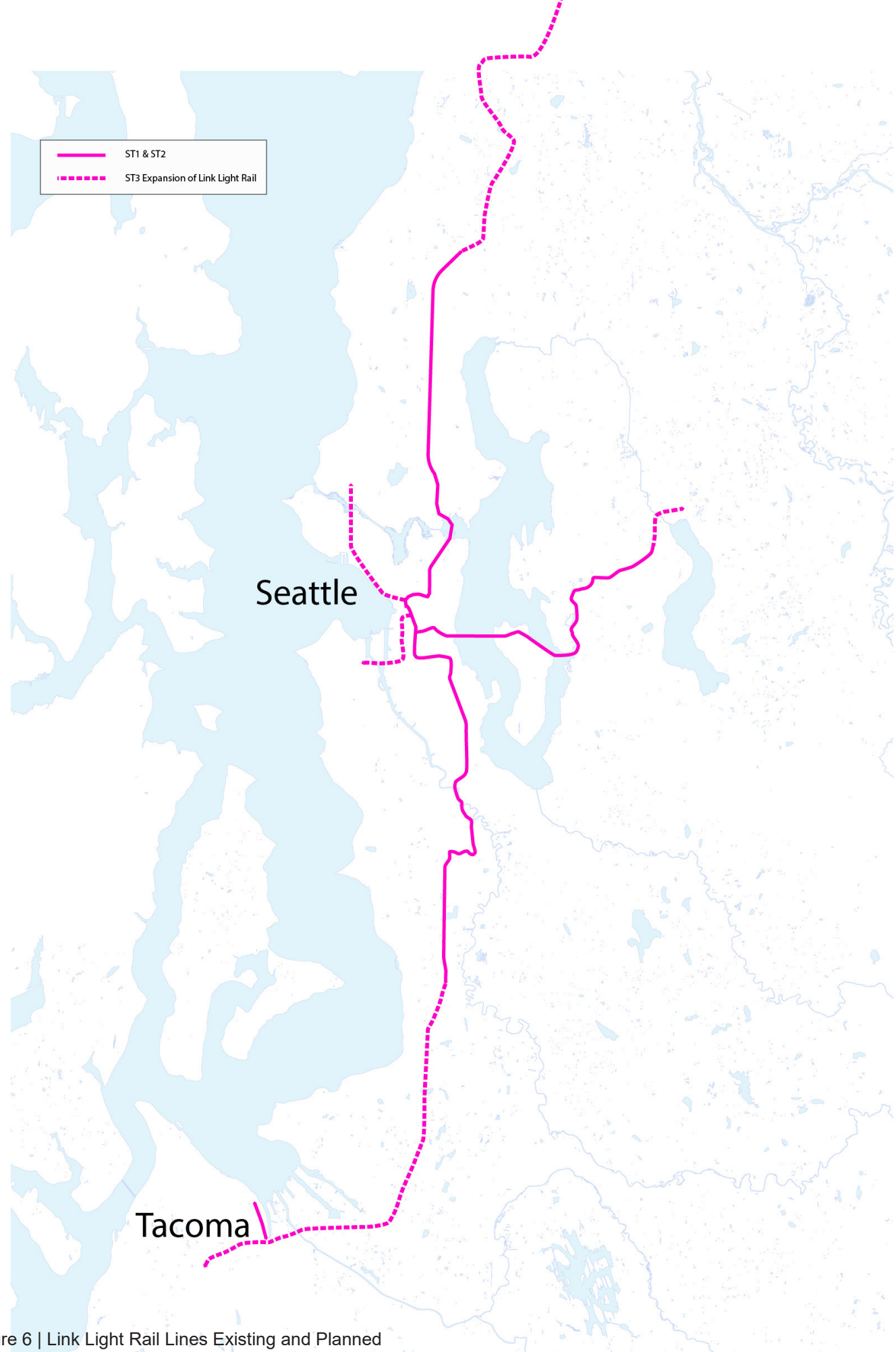


Figure 6 | Link Light Rail Lines Existing and Planned

Methodology

This thesis will first evaluate the current state of public transit architecture by conducting a literature review that will attempt to examine transit's problem of taking hold in America. Then, the study will analyze the public realm and its place within transit architecture and how the overlap of public space and urban mobility can contribute to more a dynamic transit corridor. This chapter will also focus on the current state of public transit architecture in Seattle and its future in the city. Case Studies will then address how these functions are conducted in other European and Asian countries where public transit is incorporated into urban design and how these foreign approaches can benefit the people of Seattle.

Each new situation requires a new architecture.

– Jean Nouvel

Chapter Two

Literature Review

Americans' Reservations about Public Transit

Mass transit provides a necessary alternative to the prolific use of car transportation that has plagued American cities with congestion and environmental hazards for decades. By investing in mass transit infrastructure, urban centers benefit from the planned movement of large amounts of people with less destruction of the existing urban fabric. However, the American institution of car travel is so ingrained into society that enticing people out of the comforts of their private vehicles, then into public society and onto public transportation can be challenging. Even with the undeniable practical benefits of convenience of travel, reduced cost, and elimination of parking needs, the problem of converting drivers to riders still persists.

In a study of public transit support, transportation planners Michael Manville and Benjamin Cummins conclude that Americans are willing to support the funding of public transportation, voting to fund it out of their own pockets, but at the same time are unwilling to transition to consistent ridership themselves. The assumption is that the support for public transportation is provided for "someone else", while the majority of people would prefer to continue driving their own vehicles. The author states, "Put simply, Americans are more likely to see transit as a way to solve social problems than as a way to get around" (Manville 2015, p. 331). The necessity is to entice the people who vote to support the expansion of public transportation systems to actually use the system themselves in order for the perceived environmental and societal benefits to actually occur.

Public transit architecture has the ability to expand its use beyond transit and into the public realm in order to foster a new type of architecture that not only facilitates the movement of people throughout the city but also brings them together to reap the benefits of a collective society. By providing a visible hub that could help to change the attitudes of car drivers, a new type of public transit architecture can help this become a more viable option.

The Shifting Definition of the Public Realm

"A good city is like a good party—people stay longer than really necessary, because they are enjoying themselves"

— Jan Gehl

The public realm has been defined as a place of gathering that allows for the discussion of public matters and social interactions amongst community members through mutually beneficial programs, but this definition is changing in the contemporary era to become a place of transition. It is less about connecting people to one another and more about connecting them to people and destinations beyond. This transformation stems from today's technologically connected public sphere and the advancement of communication tools in the daily lives of commuters. The overlap of public and private has increased and is more blurred than ever as technology pushes the realm of the public into private daily lives. With less need for sedentary live and work practices, the tendency for people to stay on the move in the public realm is more relevant than ever before.

Scholars like Hannah Arendt liken the public realm to the idea of the Agora and the Forum of the Ancient World that contribute to the "gathering of citizens - for meeting and speaking, for spending leisure time, for encounters." (Pachenkov, 14) Philosopher Jurgen

Habermas states that, “typical public spaces were coffee and tea houses where bourgeois gathered, read newspapers, talked, discussed the common interests” (Pachenkov, 14). Richard Sennett provides an even looser definition of the public realm by including the potential for anonymity and the lack of interaction but denies its total separation from the adjacent interacting public sphere noting that: “gathering and interaction rather than silent and ignorant movement through the space without encounter” define public life (Pachenkov, 14). These definitions allude to the pause in daily life that is associated with participating in the public sphere that facilitates communication. These scholars agree that the public realm is generally understood and valued as a space for social interaction.

The transformation from static space to mobile, shifting venues has resulted from the incorporation of mobile technologies into daily life. As the world moves to a more globalized state through accelerated information transfer, the public realm must also change to create a new public atmosphere for the needs of the private individual. Oleg Pachenkov argues that “since the mid 1970s, social scientists admit that space is less and less characterized by authenticity and more and more by increasing mobility, movement and flow. (John) Urry claimed mobility to be “central to the way in which people live in an increasingly ‘networked society’” (2002a, 1). For some scholars it marks the end and death of the place...turned from being a space of gathering to a space of transit...this tendency towards increasing mobility marks the new meaning of place in post-modernity” (Pachenkov, 14-15). The shifting definition of the public realm leaves a gap but at the same time offers an opportunity to explore the missing connection between the once static and available public realm and the current transitory and fleeting place of movement.

Urban Mobility and Public Space

Urban mobility and public space have historically been segregated entities in American cities. The rise of car traffic over mass transit dramatically changed the character of the urban fabric. The mid 20th century was a defining time as car travel became prolific and effectively replaced much of the mass transit options in cities across the country. The resultant urban environment today is defined by the pace of a vehicle rather than that of the individual (Ravazzoli 2017, p. 39). A particularly destructive element of this shift towards automobile transit is the segregation of public space from the mobility system. In their article, “Urban Mobility and Public Space”, Elisa Ravazzoli and Gian Paolo Torricelli state: “The arrival of the car society has unquestionably destroyed the collective meaning of public spaces” (Ravazzoli 2017, p. 39). They observe that the emphasis on car travel widened city streets, cramped the sidewalks, and divided the urban spaces from one another. The authors further argue that modern urban planning brought about, “a sacrifice of the “social function” of public spaces and streets for

aesthetic and functional purposes. Streets started to be seen as mere links in a road network and as elements that simply enable traveling between destinations" (Ravazzoli 2017, p. 39). These separations not only caused divisions within the physical urban fabric but also managed to cause rifts in the socio-cultural life of the city.

Re-establishing the connection between urban mobility and public space can begin to recover what was lost in cities with the rise of the car. The merging of public transit with integrated public spaces has the ability to promote valuable social capital and diversity. Integrated use of public spaces provides efficiency at vital connection points in the community. Ravazzoli and Torncelli argue that, the "efficient usage of public spaces is important for developing a sustainable mobility system and vice versa" (Ravazzoli 2017, p. 39). Located at vital connection points, transit stations have great potential to serve as active public spaces. Public spaces, in particular those in the United States, often lack a varied multiplicity of programs that have the potential to encourage diverse usage. Instead, they are simply an outlet in the city for people transitioning from one mode of transportation to another. The authors explain that public spaces signal a pause in the flow of traffic; the way people "walk, cycle, sit, stand, wait, and socialize determines how people decide to move in, out and around the city and thus influences urban sustainability" (Ravazzoli 2017, p. 39). The integration of the urban mobility system and urban public space can have a major impact on defining the character of the city.

Seattle Public Transit into the Future

The city of Seattle provides a particularly relevant test case for the integration of urban mobility and public space. In 2016, voters approved Sound Transit 3, ensuring that public transportation will be expanded in the city over the next few decades. To enhance the usage of public transportation options provided through the Sound Transit initiatives, the Seattle Department of Transportation is looking to create an extensive network that links all types of car-alternative modes of transit in Seattle including walking, biking, bike share, and car share. Public transit architecture will be a key component in facilitating the success of this endeavor. The city has proposed “mobility hubs” that serve multiple modes of transit in order to provide the most efficient and convenient service that will encourage the use of the transit systems over individual vehicle options.

Between 2010 and 2016, while the population of Seattle grew by 121,000 people, driving alone to the Seattle downtown core grew by only 2,000 drivers meaning that 95% of the new commuters chose to take public transport. This slow expansion of drivers in the wake of a large population increase is a testament to the success of SDOT’s initiatives in planning and public transport. With expected population increases in the future, it is important that this trend continue in order to disperse the current congestion of roads and transit. Through the mobility hub initiative, SDOT’s goal is to connect commuters with the widest range of transportation options possible in order to alleviate pressure on the downtown right of ways. According to SDOT, “‘Mobility hubs’ will bring multiple transportation options together at one location to allow easy transfers and individualized solutions” (Corey 2017, p.17). Commuters will find that the ease and convenience that they are accustomed to in digital devices will be similarly provided in public transit, providing equal viability for all services.

SDOT is actively trying to anticipate the rapid change of transportation platforms and provide for the future of the city. Even when people are willing to give up their own vehicles, public transportation must be as

convenient, comfortable, and economically viable as using a rideshare service such as Lyft or Uber. The benefit of the mobility hub is that the range of services located at this centralized location provides an integrated transition point to rideshare, bikeshare, and other transportation options making them all equally and immediately viable. SDOT's proposal claims that, "This emerging, technology-enabled, seamless, nearly door-to-door transportation system...allows Seattleites to treat urban transportation as a customizable, on-demand service" (Corey 2017, p. 17) Encouraging the use of public transportation while at the same time connecting users with private, digital modes of transportation is a transparent way to provide options to the community to choose for themselves the most convenient possible route.

The mobility hub concept uses a multidisciplinary transit approach to provide options to its users to ultimately encourage the use of public transit. This thesis proposes to take the next step and expand upon the mobility hub concept, incorporating transportation services with a series of flexible public programs that users already at the station can participate in. By providing the services that the whole community can benefit from the transit station becomes an investment in social capital and a place for riders and city residents alike.

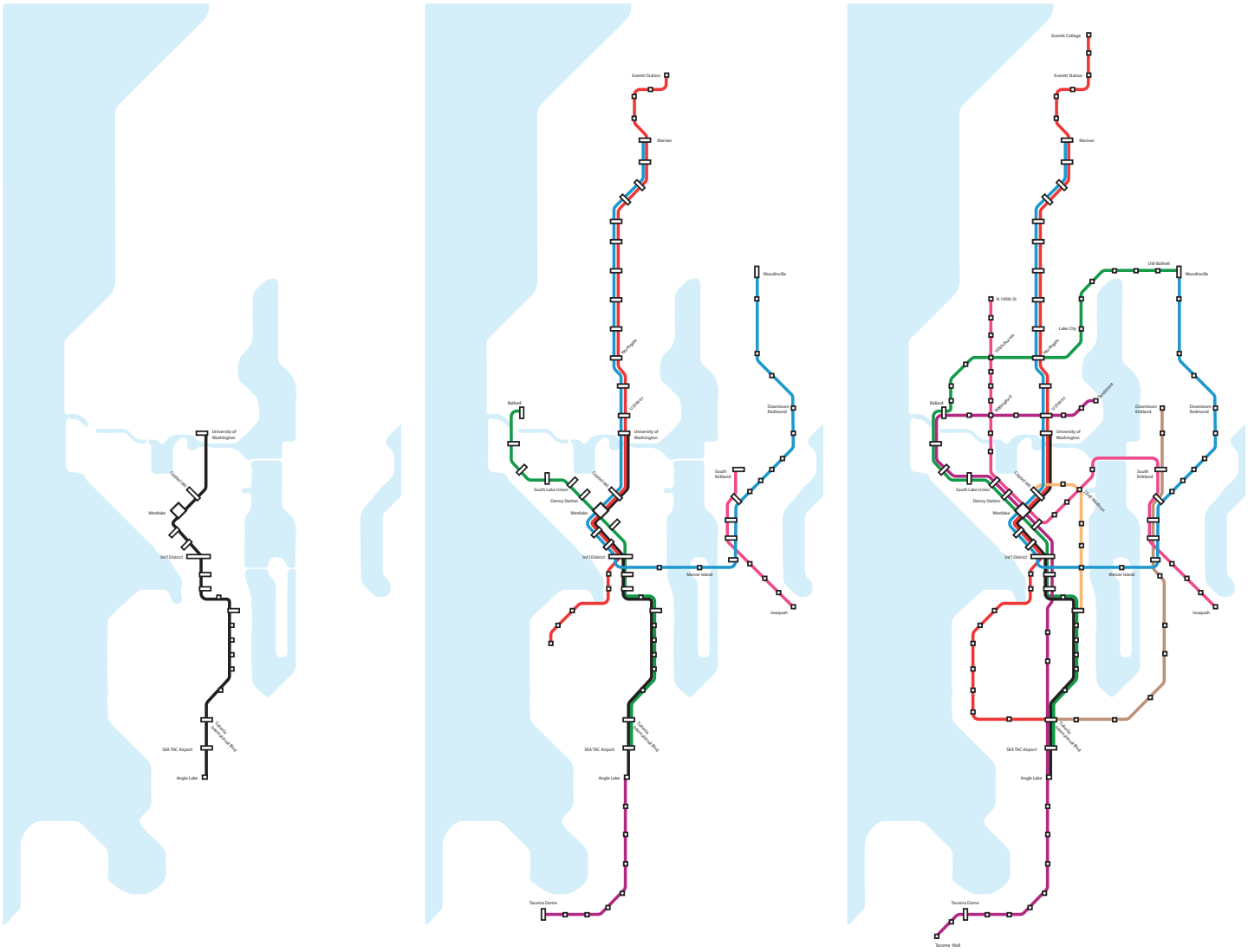


Figure 7 | Link Light Rail Lines Existing, Planned, & Idealized as the Complete System for Seattle

The "Complete System"

Passing Sound Transit 3 is an accomplishment for the voters of Seattle to provide efficient and equitable public transit to its residents. The next steps for the light rail system in Seattle has been idealized in a drawing published by Seattle Subway to show the possible connection of routes for the entirety of the greater Seattle Metro area. In order to accomplish a system that connects the whole of the Seattle metro area, urban hubs will need to move towards densification in order to support the ridership needed for such a system to be successful (Fesler, pg. 1). Densification of these hubs has the innate possibility to change the character of these existing neighborhoods. Emphasizing public space along the rail corridor can maintain this character and bring it to the center of the urban hubs.

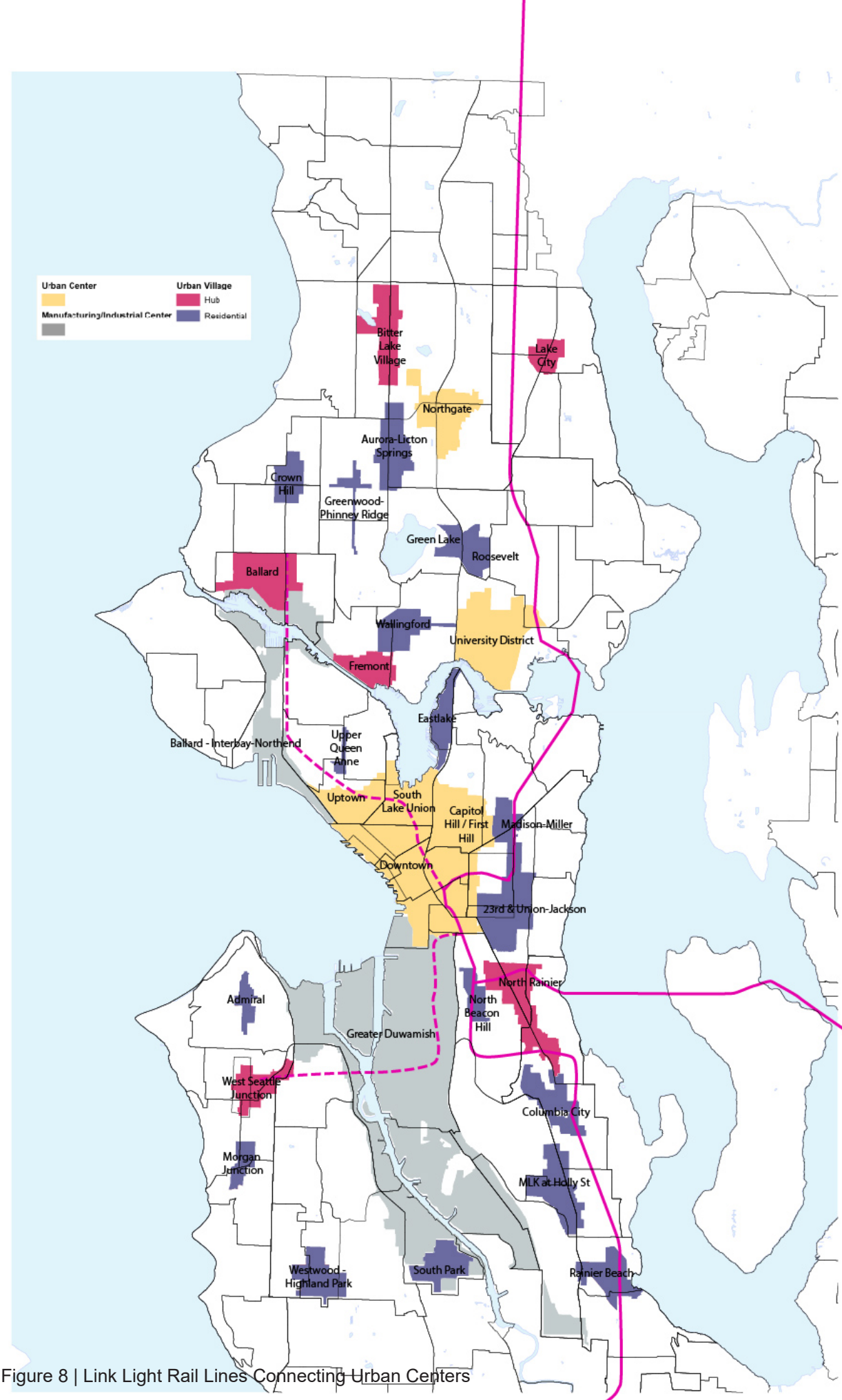


Figure 8 | Link Light Rail Lines Connecting Urban Centers

Urban Centers

The urban centers that ST3 will connect gives greater access to public amenities across the city, however publicly owned urban space is limited and being lost to the demands of the city. South Lake Union is an example of a dense urban hub in great need of urban public space and cultural amenities alike. The addition of two new light rail stations to this area will be supported by the density of people that live and work in this area, however attention to the public space that these light rails can provide is imperative to the success of the area as a liveable urban neighborhood in the long term.

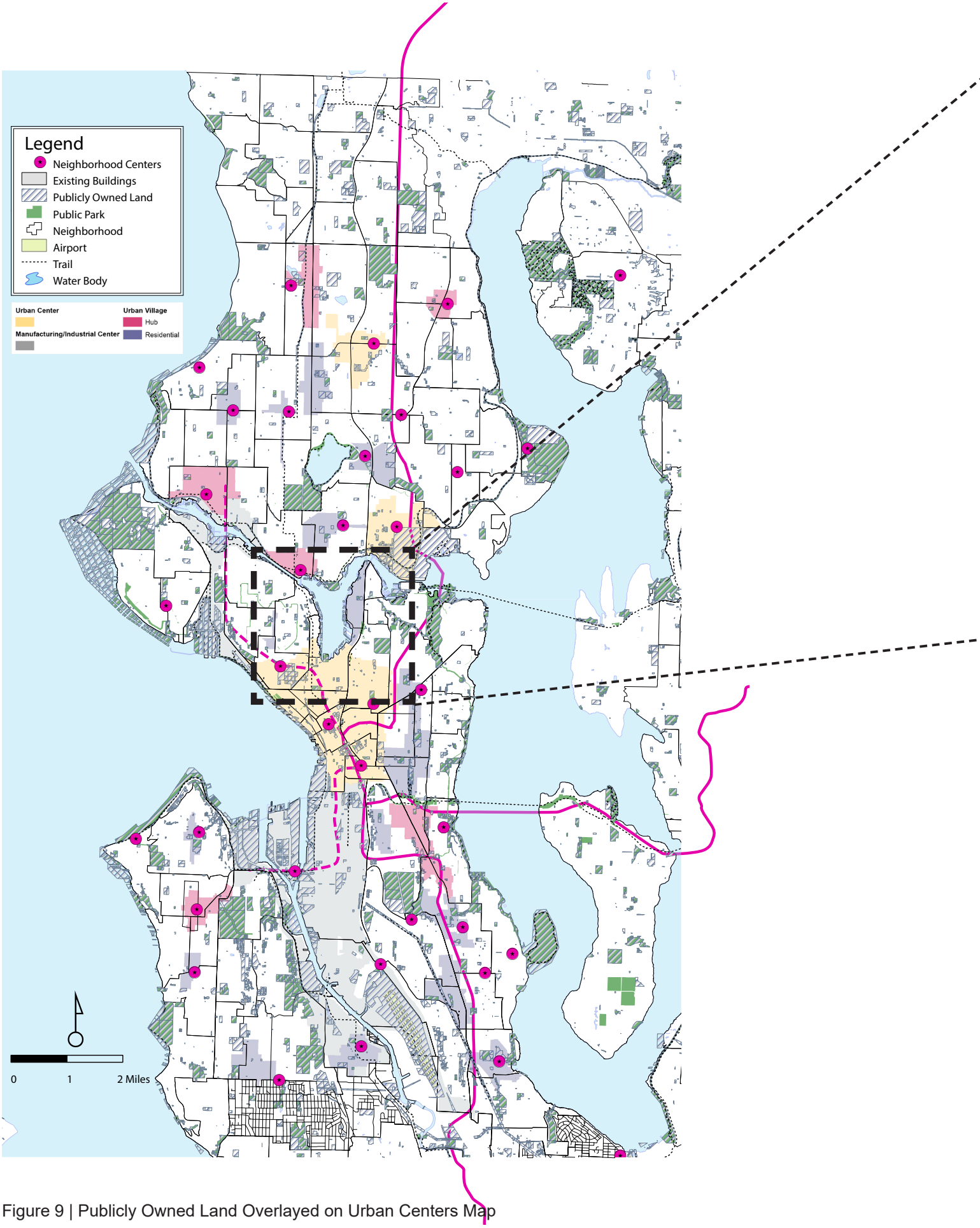


Figure 9 | Publicly Owned Land Overlayed on Urban Centers Map

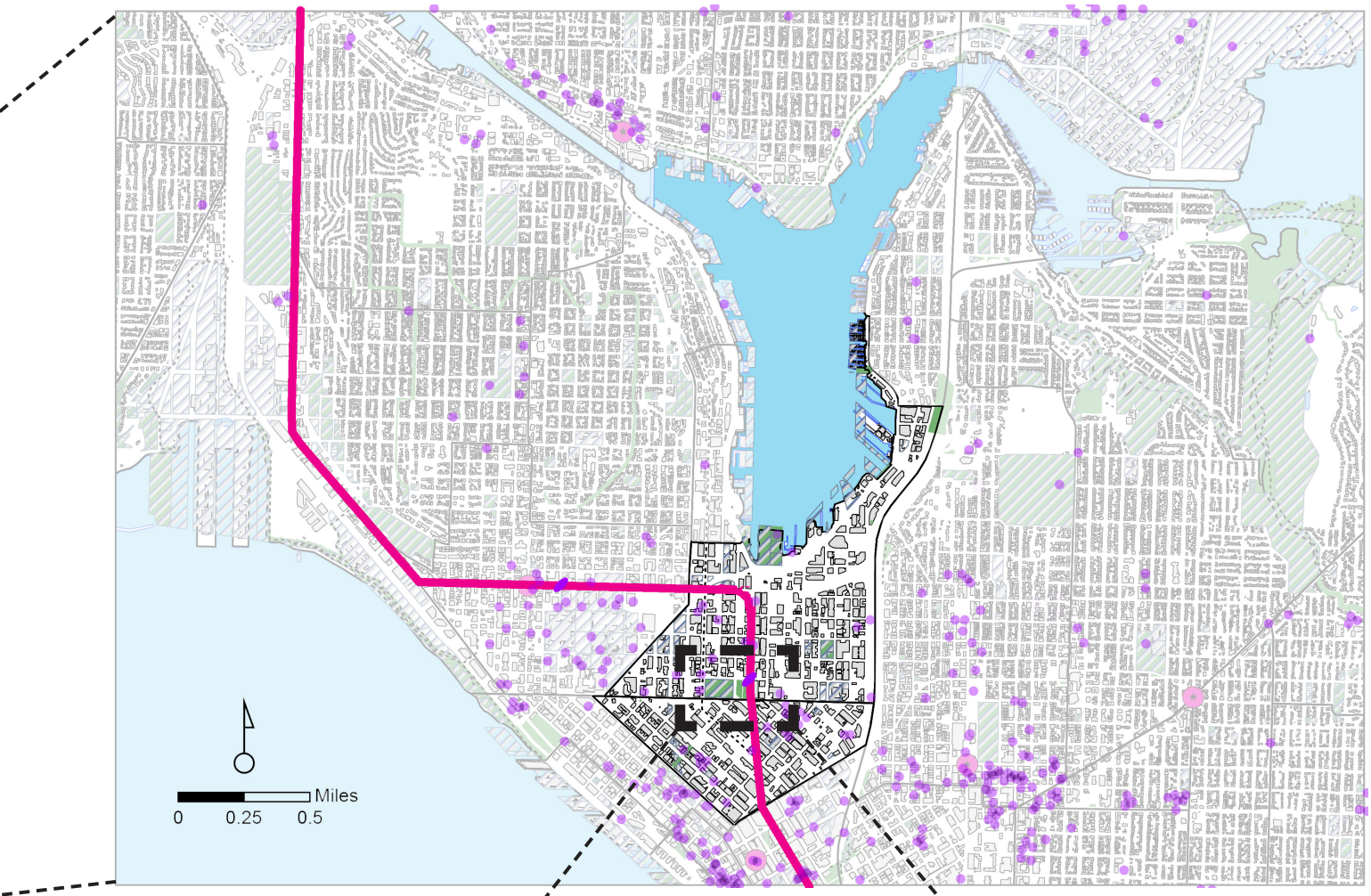


Figure 10 | Cultural Amenities in the City Overlayed on Publicly Owned Land Map

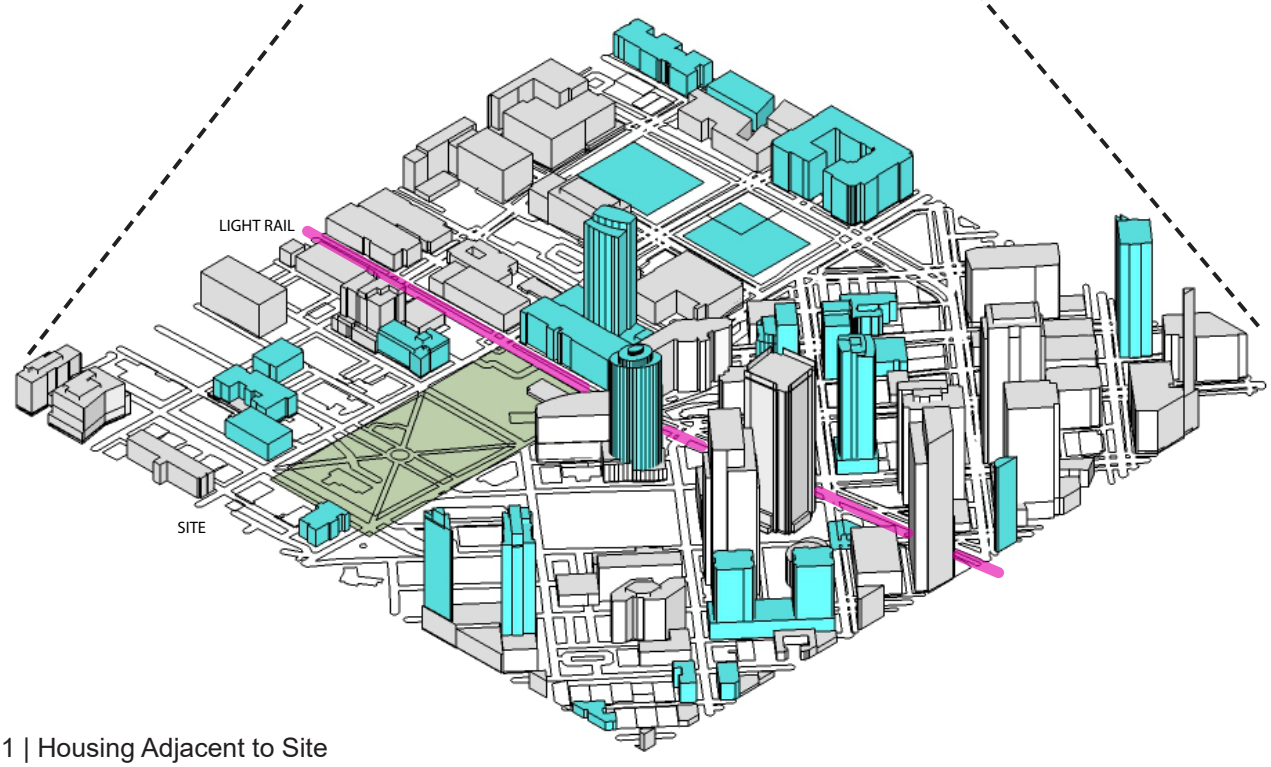


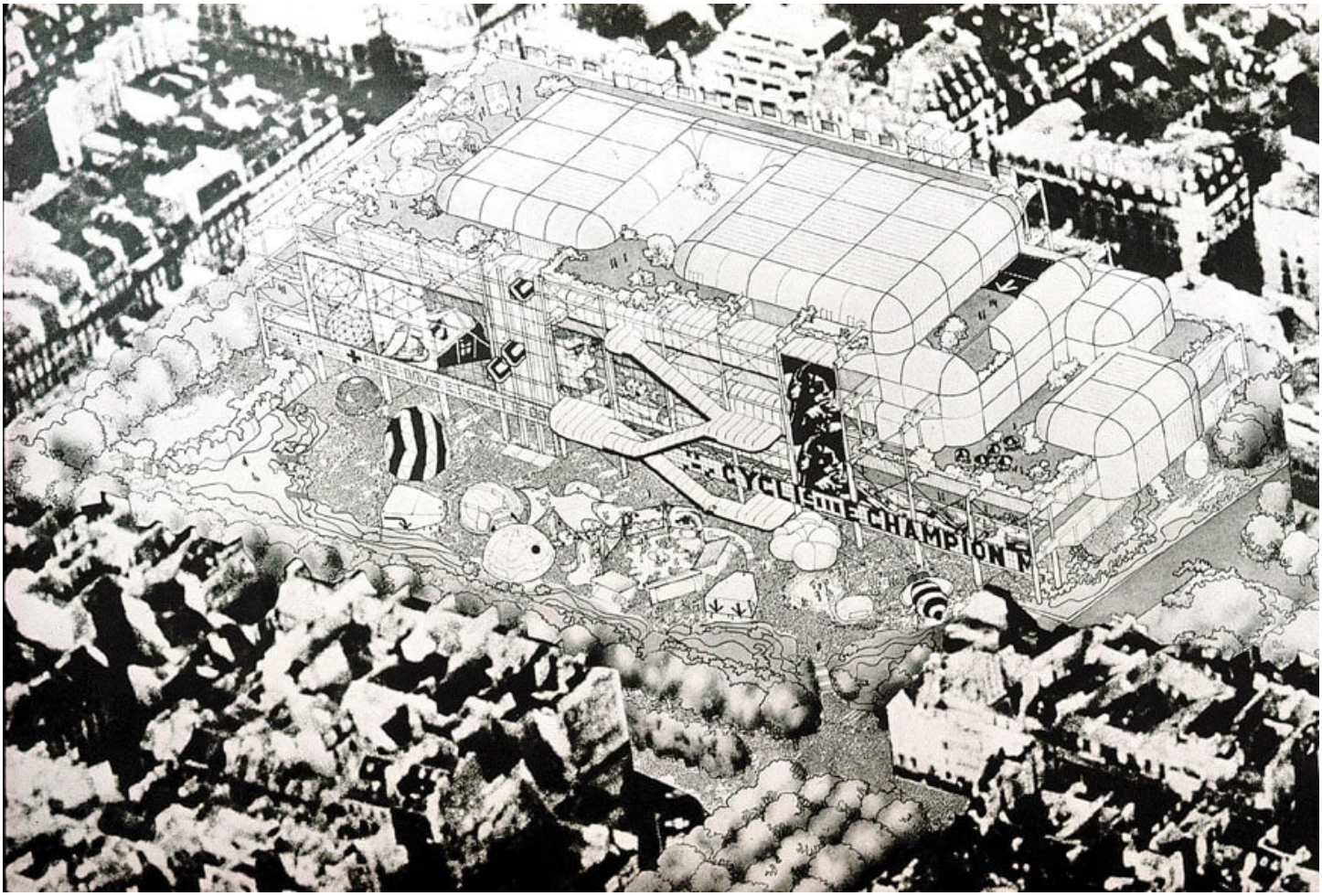
Figure 11 | Housing Adjacent to Site

Case Studies

The United States' late arrival to the platform of mass transit has put its progress in public transportation construction behind its global counterparts. Abroad, countries have been perfecting their ability to move large amounts of people timely and efficiently for decades. With more experience and government funding, European and Asian cities alike have had the opportunity to experiment with modes of mobility that intersect with the public realm. The infrastructure of intermodal transit within the urban context in other countries provides more than just transit in some cases. Stations in dense neighborhoods house a range of activities to extend the use of the public space beyond immediate needs and encourage usage and ridership. In the majority of cities in the United States, intermodal stations are transit centers that connect riders through different means of transportation but offer limited extension into the community. In many cases, public amenities that are mandated by the project funding is restricted only to those that have purchased a ticket. The lack of diversity of these "public" amenities degrades its concept of publicness and decreases the likelihood of ridership.

An Aside:

In the past few years, I have had the privilege to travel to a number of countries where I have experienced a new language of public space unlike what I have experienced within the United States. The interaction of these public spaces with commercial zones and major public transportation infrastructure is the inspiration that has influenced the direction of this thesis concept. The cross disciplinary programs coupled with the intermodal transportation systems becomes an archetype for this transportation hub.



The Centre Pompidou is “not a building but a town where you find everything – lunch, great art, a library, great music”.

- Renzo Piano

Figure 12 | Centre Pompidou, competition drawing by Renzo Piano and Richard Rogers, image © Rogers Stirk Harbour + Partners

Centre Pompidou | Paris, France

The Centre Pompidou in Paris, France is an open plan, cultural exchange center located in the historical Marais district. This building is directly connected to the rest of the city by a dedicated metro line, Rambuteau station. Designed by Richard Rogers and Renzo Piano and opened to the public in 1977, the building itself acts as a “cultural post” along the expansive Paris metro. The Centre Pompidou is connected by the metro to a myriad of cultural institutions and important neighborhoods of Paris. It is an important cultural stop even without its monumental pedigree. Creating an out of scale and intimidating presence on the traffic street, the building opens on the opposite side to a public plaza space. The plaza is activated by people both transitioning through the space and sitting for leisure or rest. The plaza is slightly slanted to facilitate seating in the area. To the south of this plaza space is the Fontaine Stravinsky that displays public modern art in its waters. Surrounding the plaza are bars, restaurants and commercial space that keep the space activated throughout the day and night. This plaza acts as a safe and lively public space that helps to transition pedestrians from the metro hub to the street life. The various program types within the building cater to a variety of visitors. The center features a modern art museum, library, cafe, restaurant, bookshops, center for industrial design, movie theatre and associated museum, and a music center with studios and performance venues. The prominent staircases that lead to the public rooftop of the building offers expansive views of the city serving as further outdoor public space in the dense Marais urban fabric. The intentional incorporation of a multiplicity of public spaces along a main line of the metro offers a wealth of public activities directly outside of a crucial transitional zone in the city.

"After decades of museums being dusty, boring and inaccessib
a sense of participation. Someone had to express that rebell
mad but an honest gesture. It was brave but also a bit impol
- Renzo Piano

 Figure 13 | View From the Public Plaza of Centre Pompidou. Photo by Tracey Sludds. O'leary Sludds Architects, 2017.

ple, someone had to run away, to do something different, have
ion. Putting this spaceship in the middle of Paris was a bit
ite, for sure.”

"Culture should be fun."
- Richard Rogers

Figure 14 | View From The Piazza Of The Centre Pompidou


BIBLIOTHÈQUE
Centre Pompidou
MUSÉE, EXPOSITIONS

Figure 15 | View of the museum lobby shortly after completion. Photo © Martin Charles.

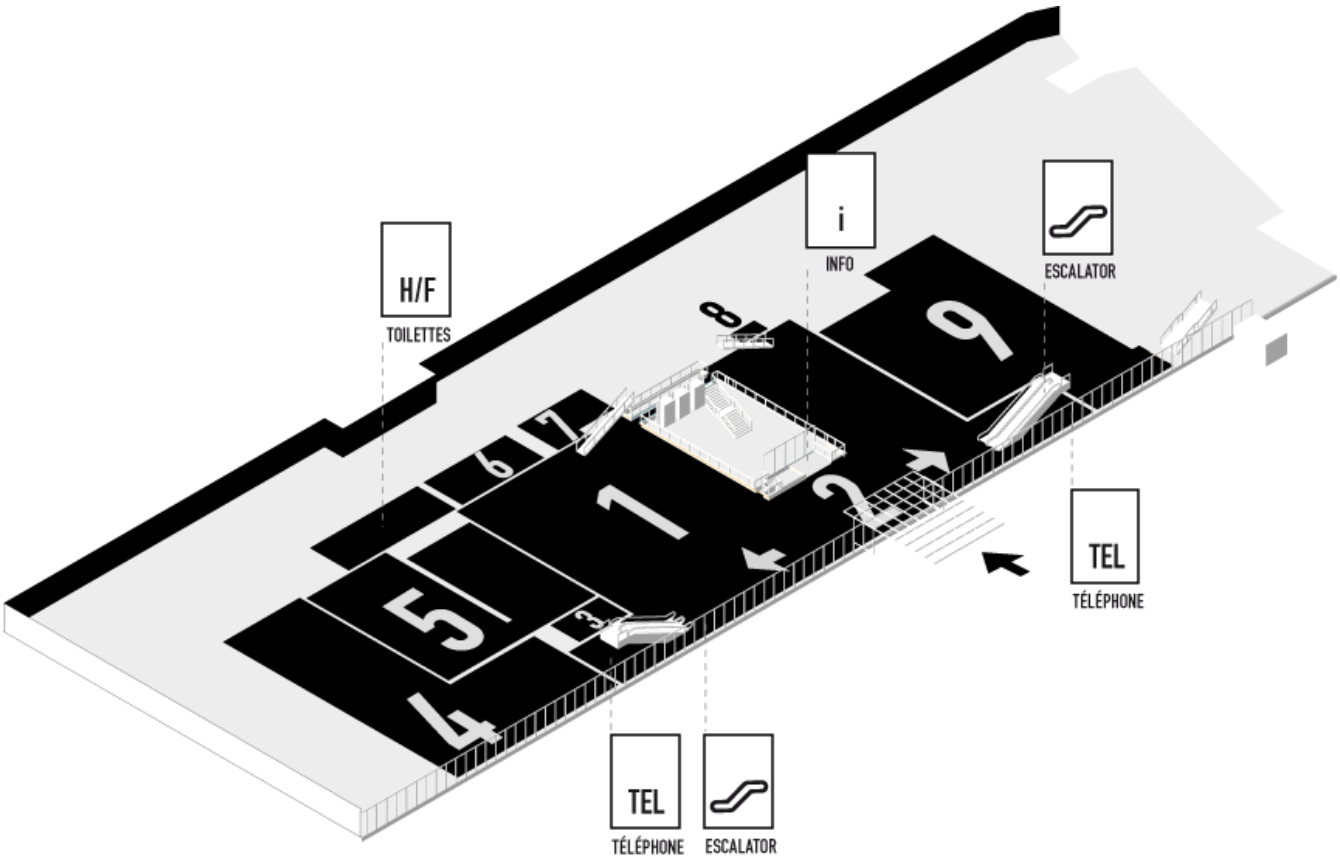


 Figure 17 | Ground Floor Plan. Image by Lucas Flaa & Sean Ryan.

Figure 16 | Wayfinding Centre Pompidou. Ruedi Baur, 1997-2001.

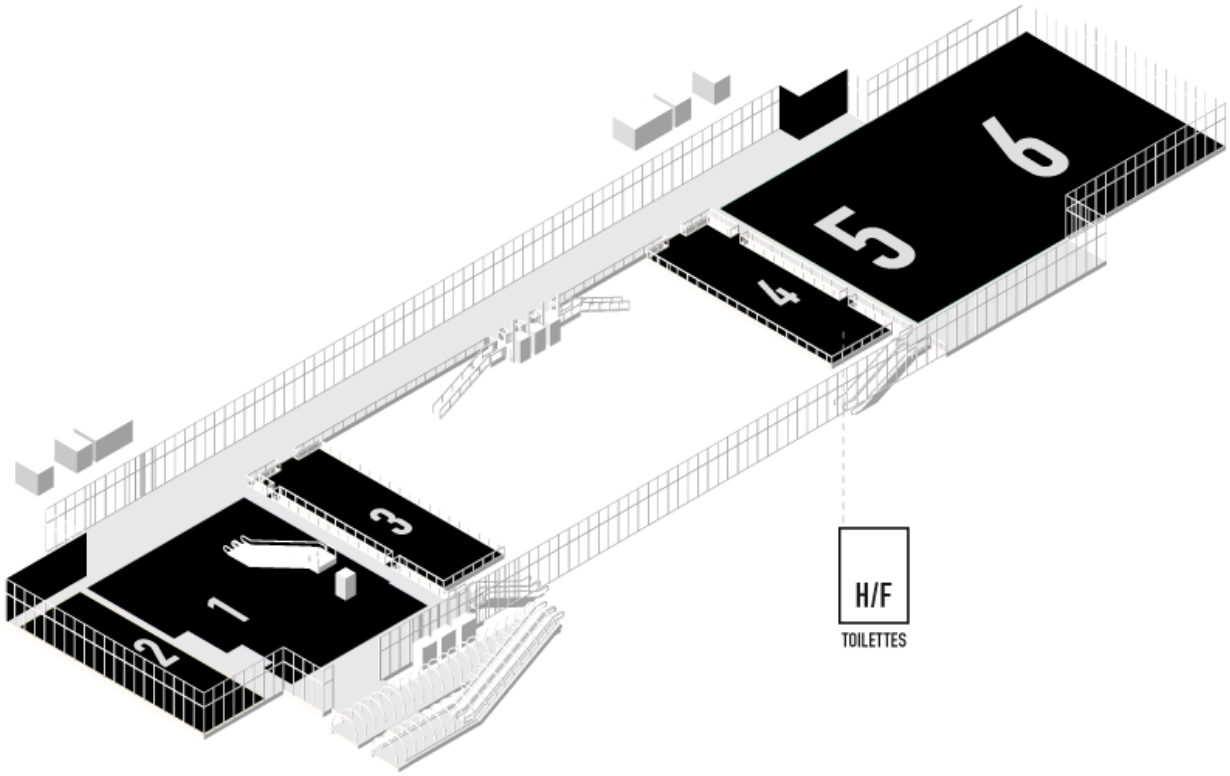


Figure 18 | First Floor Plan. Image by Lucas Flaa & Sean Ryan.

Figure 19 | Centre Pompidou, interior view. Photo by Mark B. Schlemmer, Kaysgeog, and Bruno Collinet.

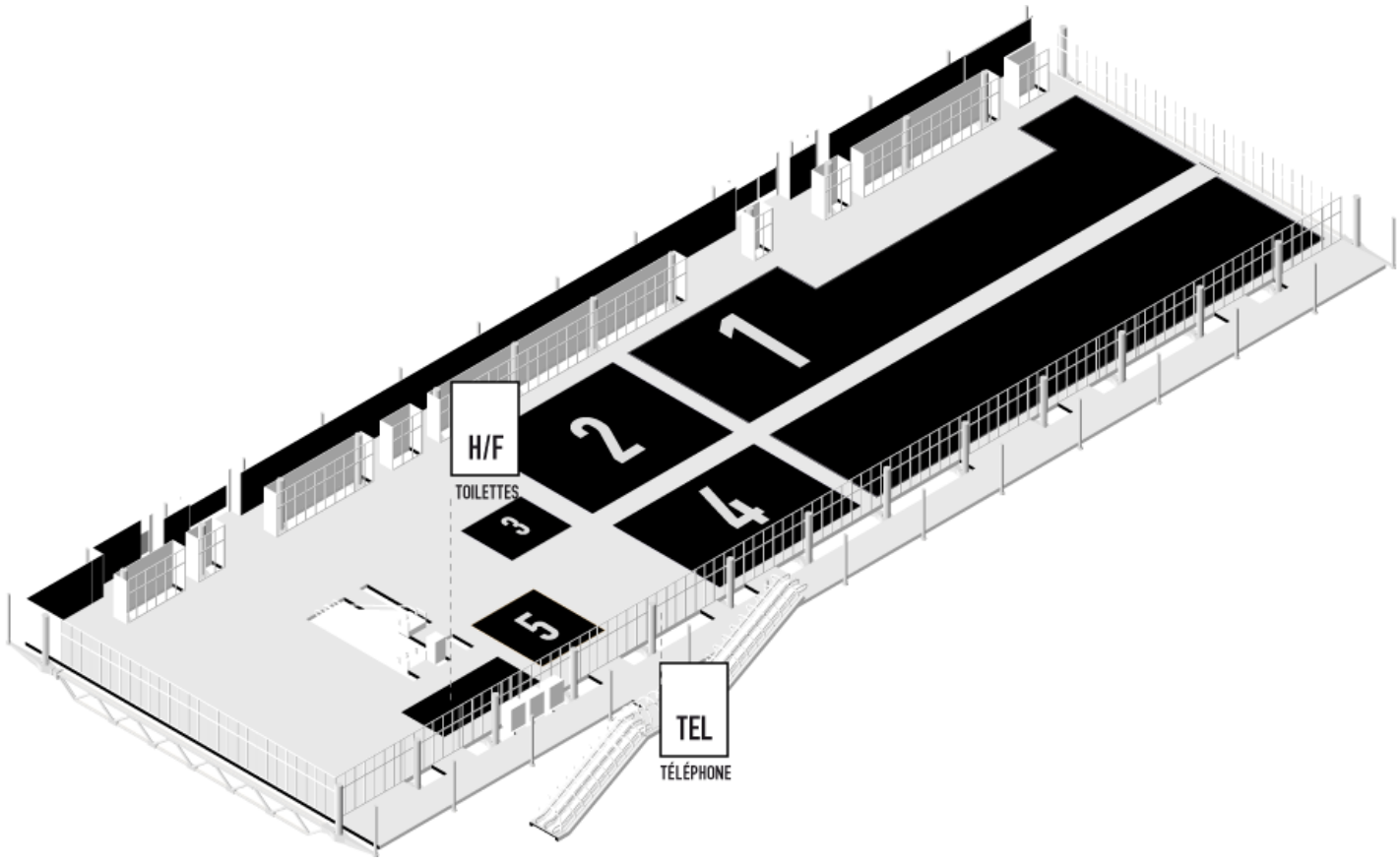
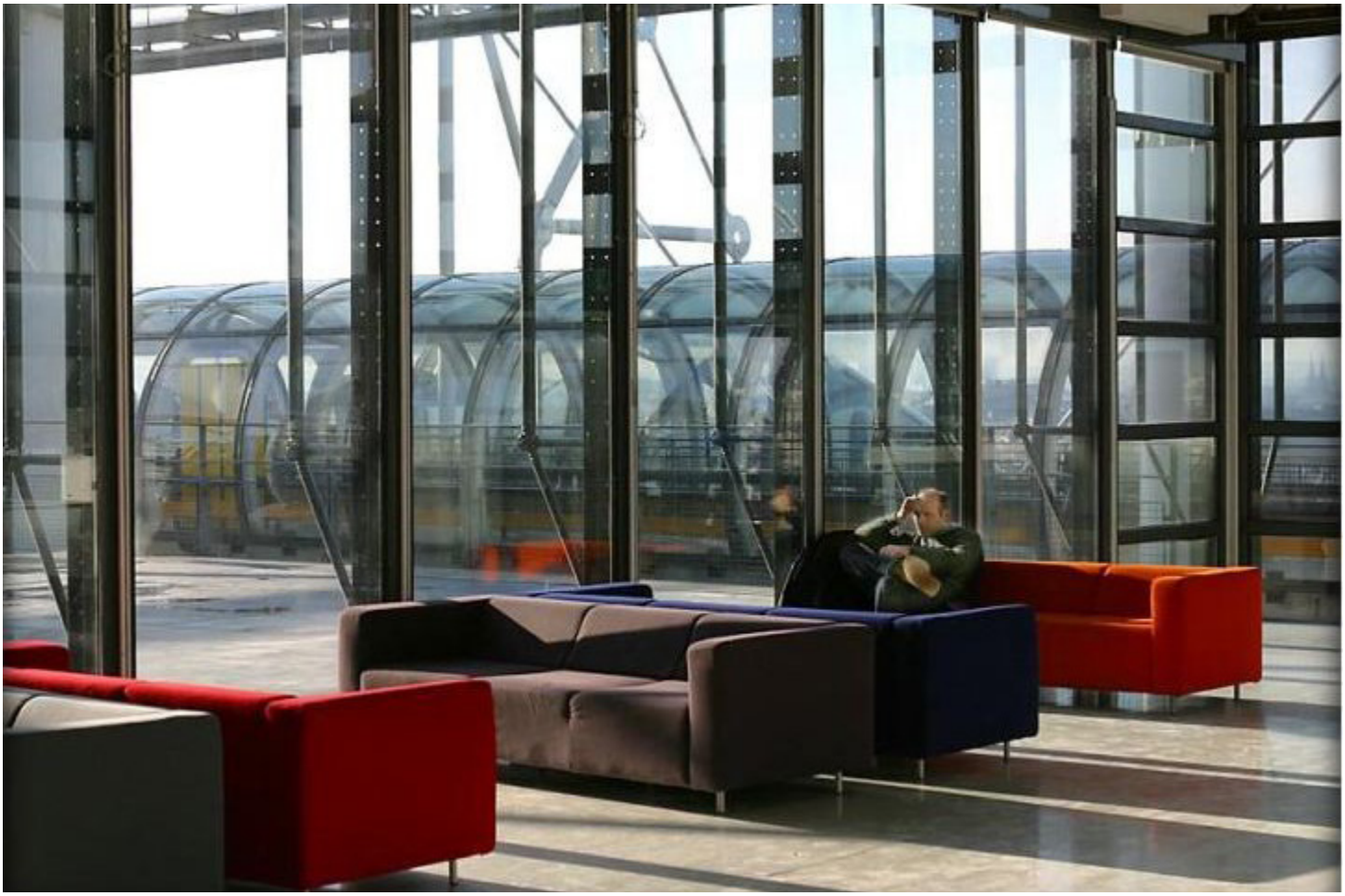


 Figure 21 | Second Floor Plan. Image by Lucas Flaa & Sean Ryan.

Figure 20 | Interior Image & External Circulation. © Francis Toussaint.



"'Hang on, what is culture?' It changes continuously, every 25 years, so we want a flexible space."

- Renzo Piano

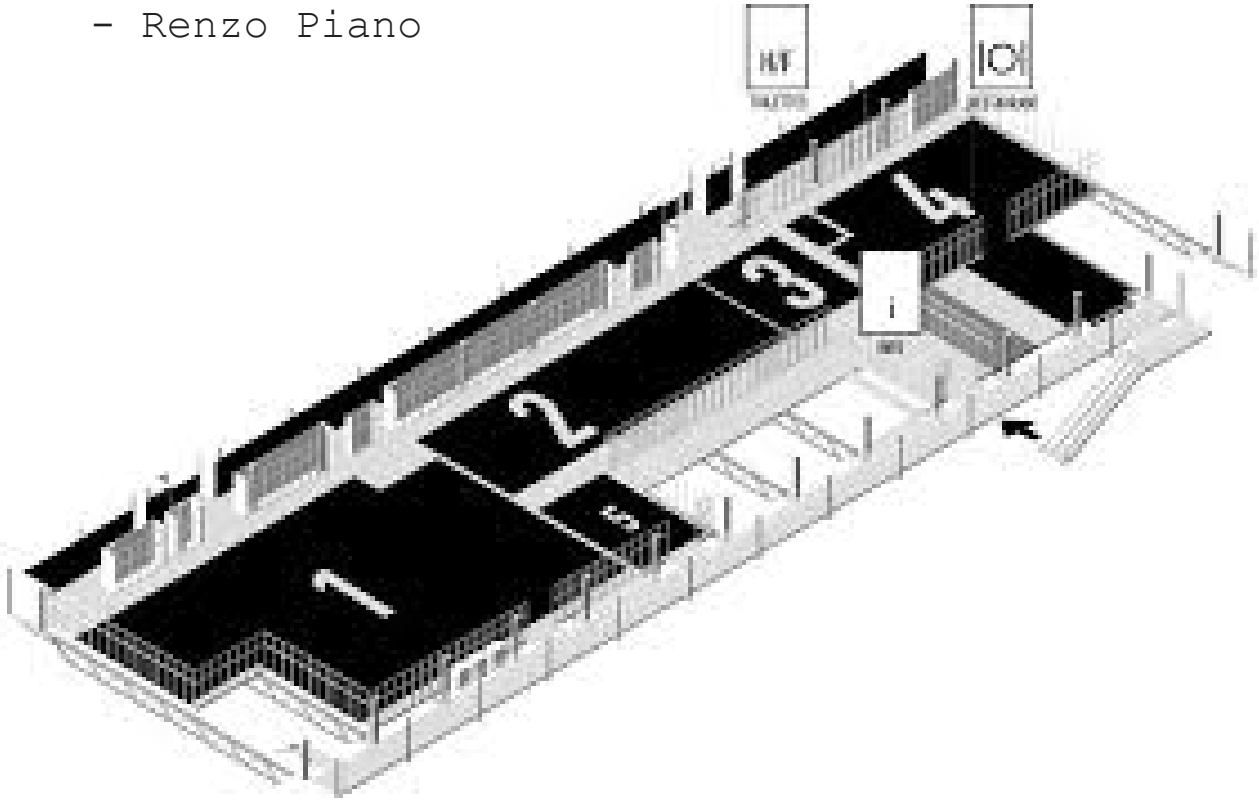


Figure 22 | Sixth Floor Plan. Image by Lucas Flaa & Sean Ryan.

Figure 23 | View of Centre Pompidou Looking at External Circulation. © Manuel Braun 2015.

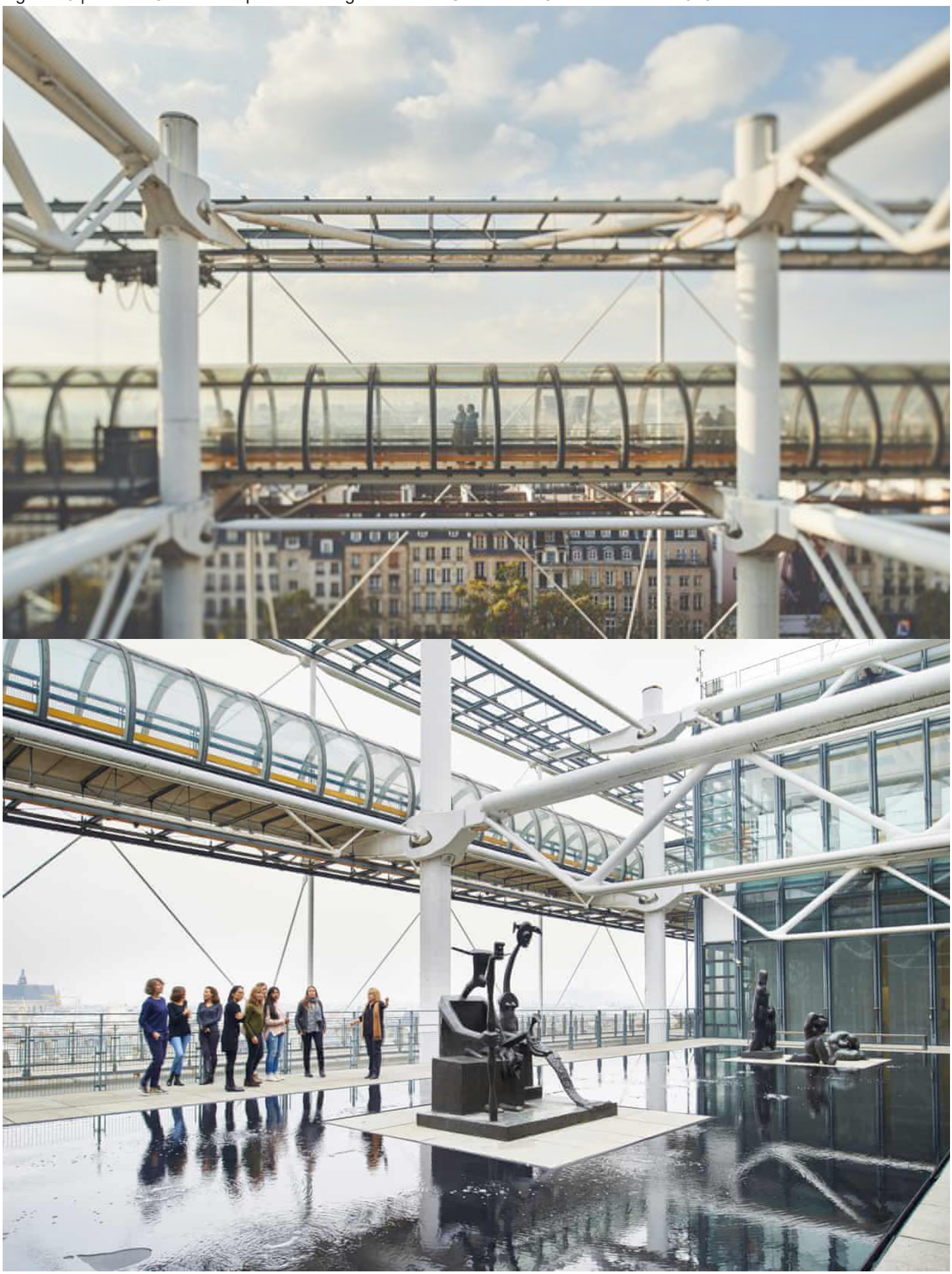


 Figure 25 | Outdoor Gallery at Upper Levels. Photograph: Manuel Braun.

Figure 24 | Centre Pompidou, interior view. Photo by Mark B. Schlemmer, Kaysgeog, and Bruno Collinet.

Figure 26 | External Circulation. © Francis Toussaint.

Figure 27 | Centre Pompidou in its Context. © Centre Pompidou.

 Figure 29 | Commercial District Adjacent to Centre Pompidou. 2018.

Figure 28 | Fontaine Stravinsky. 2018.

Figure 30 | Slanted Public Plaza. 2018.

64 Figure 31 | BACC Atrium. Photo by Ken Ohyama.

Bangkok Arts & Culture Center | Bangkok, Thailand

Arrival to the Bangkok Arts & Culture Center (BACC) in Thailand is facilitated through a variety of means. At the street level, 6 lanes of traffic running in both directions make pedestrian traffic difficult. Tight sidewalks lined with small scale commercial development create a walkable albeit uncomfortable street life. The National Stadium BTS Station is the metro line adjacent to the BACC and its connection to the rest of the city. Bangkok has developed a creative solution to the congestion at street level by implementing an elevated walkway that is hung from the metro line infrastructure. The path creates a comfortable and safe walking environment connecting large scale commercial development that culminates in the arrival to the BACC. The continuous movement of people throughout the area provides a safe and lively transition zone at all hours of the day and night. Entrance to the BACC is free and open to the public. A large atrium space provides access to cafes, art galleries, craft stores, and performance space. At the higher floors of the atrium, art galleries supporting local artists are accessed by a spiral ramp gallery reminiscent of Frank Lloyd Wright's Guggenheim space. The program creates a platform for Bangkok's local art scene. The wide variety of programmed spaces allows different venues for local artists to create, sell, and curate work. The open access of the program and the connection to both public transportation and local commercial venues create a vibrant atmosphere for people transitioning through the space and visitors to the art spaces. With its emphasis on promoting a discourse of the local art scene at a prominent location in the city, the BACC supports its citizens and engages visitors in the language of the local culture. The strong connection to a successful urban mobility system makes this venue a strong influence on this thesis proposal.

Figure 32 | The approach to the BACC at night. Photo by Kwanchai Khammuean.

 Figure 33 | Original Main Entrance to BACC and Steps to Elevated Walkway and Light Rail Access. Photo from Cre8 Foundation.

Figure 34 | Image Looking Out from BACC to Cityscape Beyond. © Phasin Sudjai, Cool Cities.

68 Figure 35 | Interior Atrium with Circulation and Local Artists' Work Displayed. 2018.

Figure 36 | Interior Atrium with Circulation and Local Artists' Work Displayed. 2018.

Figure 37 | Interior Atrium with Circulation and Local Artists' Work Displayed. 2018.

 Figure 38 | Gallery Space Featuring Local Artists' Works. 2018.

Figure 39 | Gallery Space Featuring Local Artists' Works. 2018.

Figure 40 | Gallery Space Featuring Local Artists' Works. 2018.

Figure 41 | Raised Walkway, Light Rail Line Overhead, and BACC in the Background. 2018.

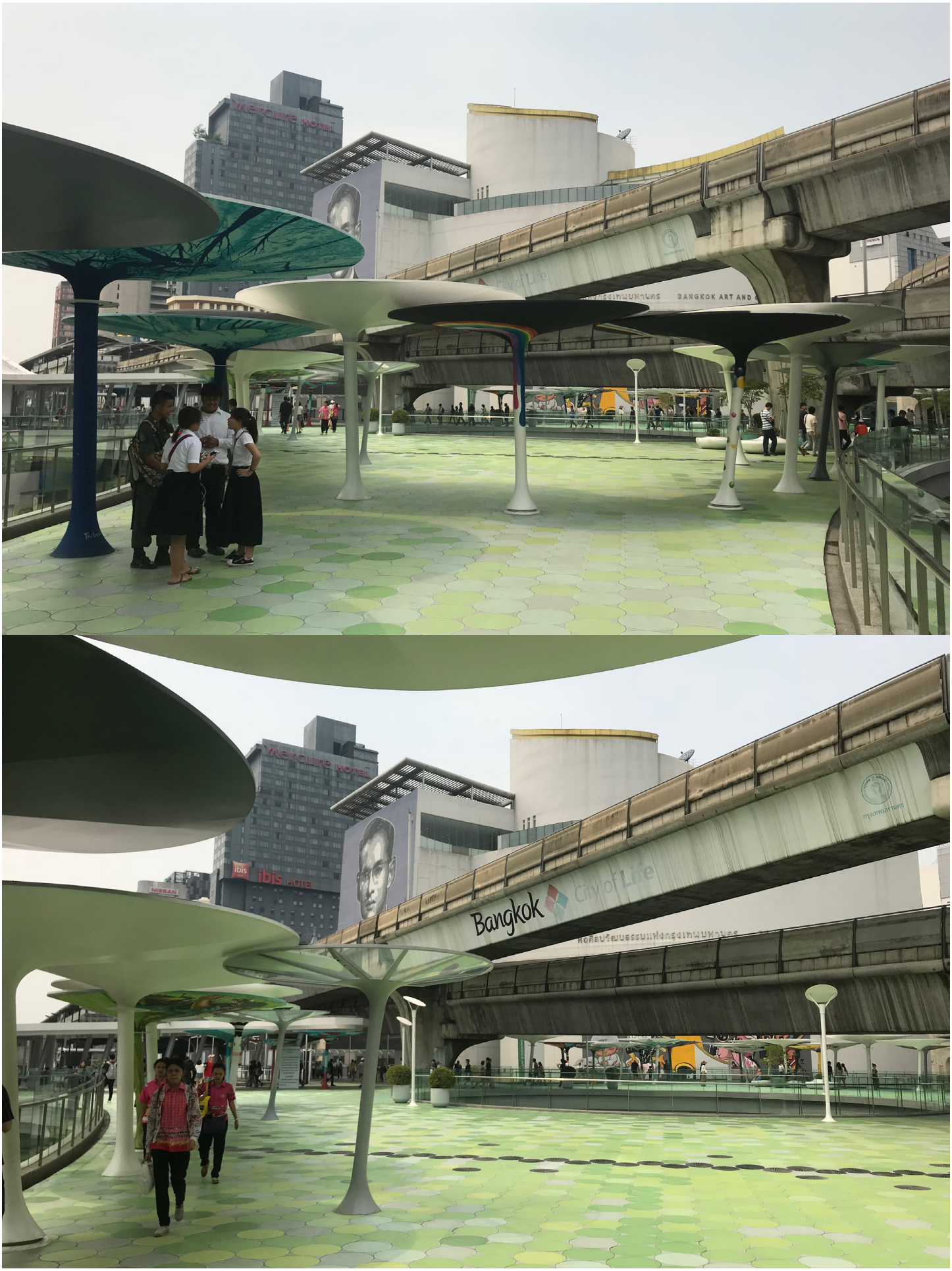


 Figure 43 | Raised Walkway, Light Rail Line Overhead, and BACC in the Background. 2018.

Figure 42 | Busy Street Below Raised Walkway. 2018.

Figure 44 | Busy Street Below Raised Walkway, Light Rail Line Overhead. 2018.

74 Figure 45 | The Activated Plaza at Night and the Architecture Acting as a Lantern. Copyright Kulturhuset Stadsteatern.

Kulturhuset Stadsteatern | Stockholm, Sweden

Kulturhuset in Stockholm, Sweden is a large multi-programmed public space that serves as an access point to the light rail and a popular venue for people to gather. This cultural institution, one of the largest in Northern Europe, is located in the middle of Stockholm's political and commercial center. Responding to its location at Sergels Torg, a large traffic roundabout, the pedestrian traffic in the area is handled by sinking a large public plaza a story beneath the road and connecting the neighboring sidewalks through escalators. This space allows people to connect to the metro line as well as giving access to shops and restaurants. Adjacent to the Kulturhuset is a walking street that is lined with restaurants and shops that encourage people to visit the area. The multi-dimensional program of the Kulturhuset is continually shifting to accommodate the needs of the community including libraries, theatres, debate venues, art exhibitions, and film, dance, and music programs. The architecture of the building acts as a backdrop to the activity in the center: during the day the glass facade acts as a mirror that reflects the daily activities and makes them seem infinite while at night it becomes a lantern casting light on the public plaza and inviting views to the activities inside. Restaurants, shops, and a tourist center invite people of all ages and interests to enter the Kulturhuset encouraging newcomers to experience all the center has to offer.

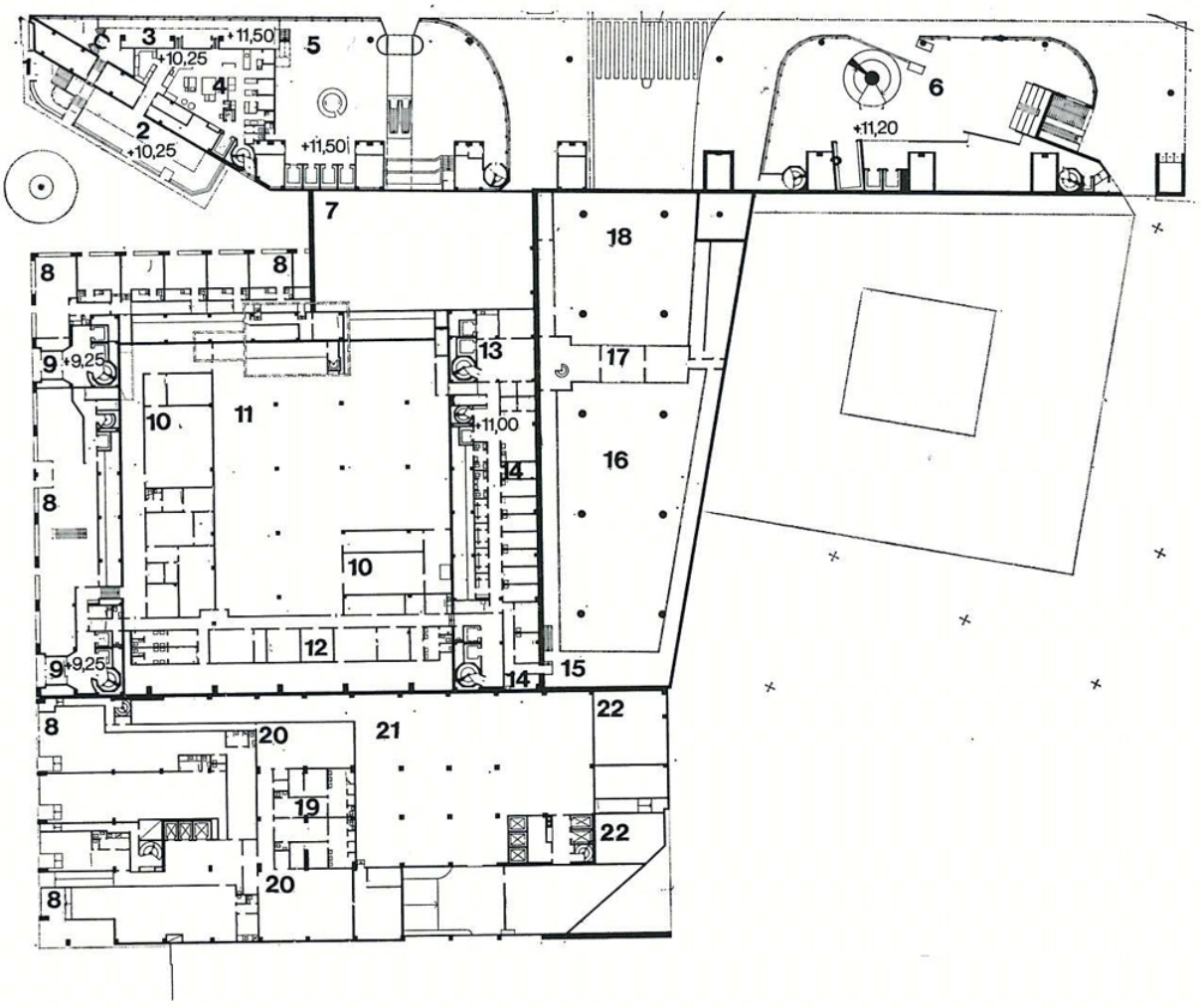
 Figure 46 | Architecture as Backdrop to the City. Copyright Wilfried Wang, Pb. Internos Books.


KULTURHUSET
musik
debatter

78 Figure 47 | The Architecture Acts as a Lantern to the Public Plaza at Night. Copyright Wilfried Wang, Pb. Internos Books.


Greppa media
bar
S T A D S
Kulturhuset-Stadsteatern

"I am building for a new human being who has to come"
— Peter Celsing, architect

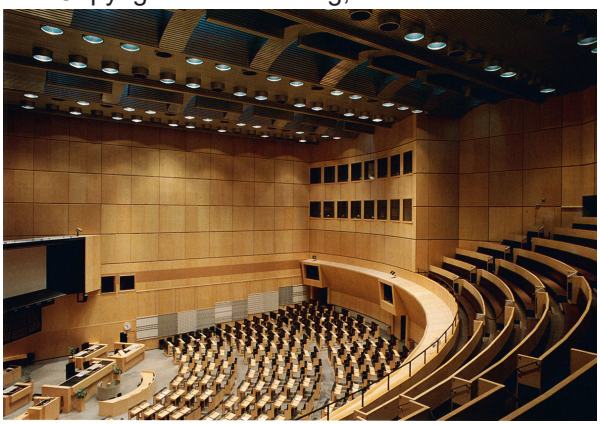


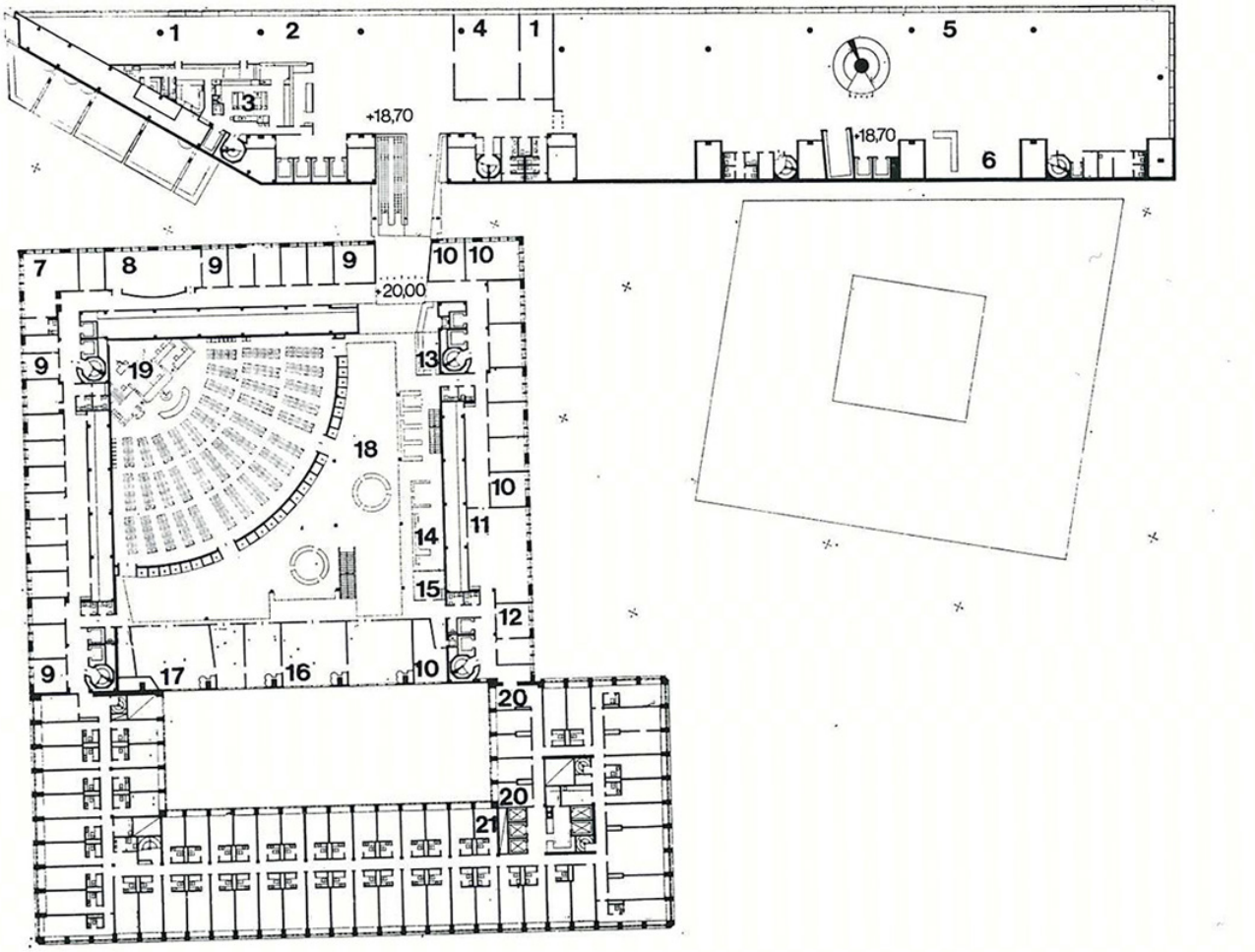
Level 3 plan, 1:1500.

1. Entrance to Studio theatre
2. Café
3. Restaurant
4. Kitchen
5. Entrance concourse, parliament chamber
6. Exhibition area
7. Studio theatre
8. Shops
9. Entrance
10. Electrical plant rooms
11. Sanitary services
12. Changing rooms, etc.
13. Studios, etc.
14. Dressing rooms.
15. Circle
16. Cabaret, upper part
17. Control rooms, etc.
18. Arena theatre, upper part
19. Sauna, changing rooms
20. Gymnasium
21. Fan room
22. Level 2, upper part

 Figure 48 | Level 3 Floor Plan. Copyright Wilfried Wang, Pb. Internos Books.

Figure 49 | Plenary Chamber. Copyright Wilfried Wang, Pb. Internos Books.





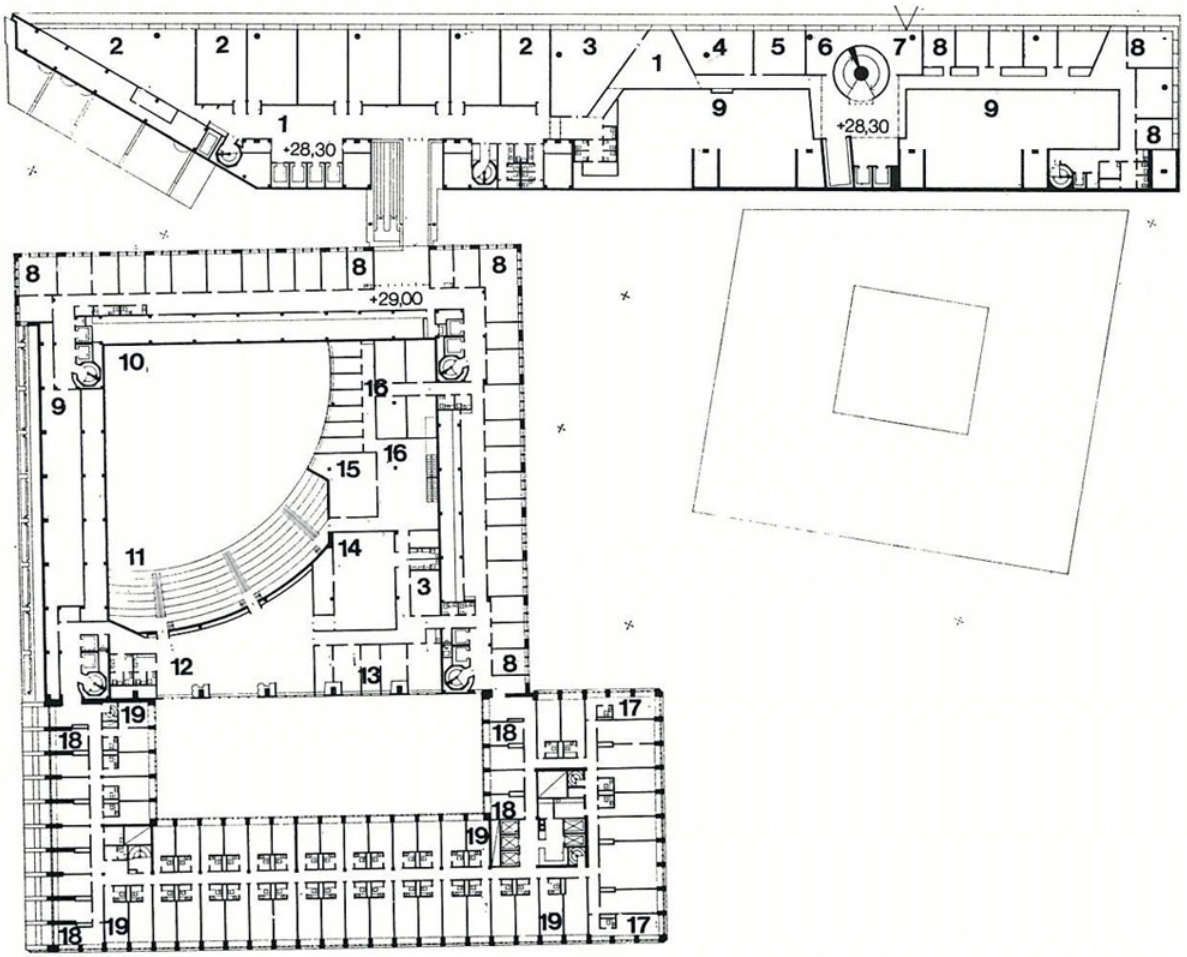
Level 6 plan, 1:1500.

1. Dining-room
2. Cafeteria
3. Kitchen
4. Café
5. Exhibition area
6. Refreshments
7. Prime Minister
8. Chamber
9. Offices for ministers and civil servants
10. Reception rooms, etc.
11. Reference library
12. Information service
13. Porters
14. Mail-room
15. Travel agency
16. Reading room
17. TV room
18. Foyer
19. Plenary chamber
20. Offices for members (Architects Malmquist & Skoogh)

Figure 50 | Level 6 Floor Plan. Copyright Wilfried Wang, Pb. Internos Books.

a center with “the atmosphere of the street and the opportunities of a workshop”

- Peter Celsing

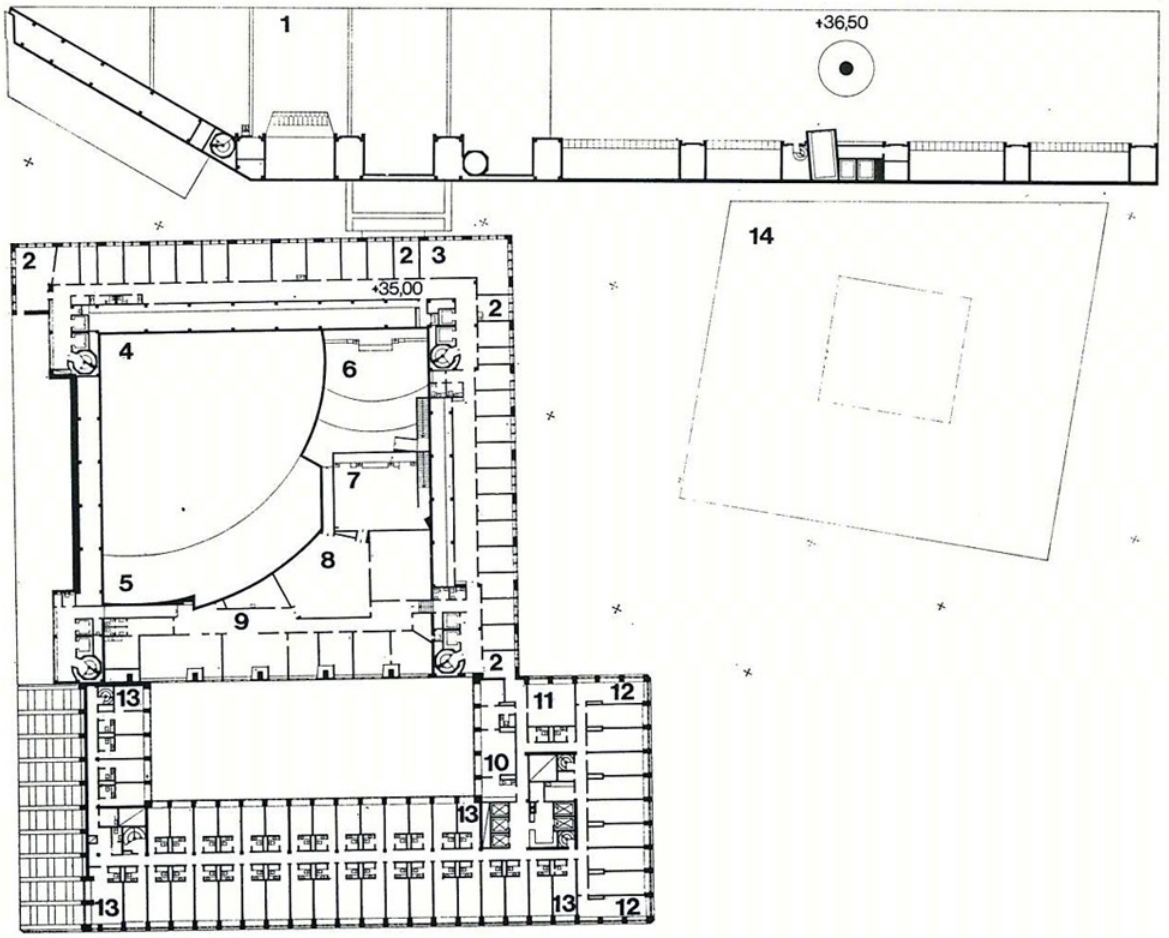


Level 9 plan, 1:1500.

1. Foyer
2. Committee room
3. Conference room
4. Tape studio
5. Messengers' office
6. Switchboard
7. Porters
8. Fan room
9. Office
10. Plenary chamber, upper part
11. Public gallery, 350 seats
12. Public concourse
13. TT (news agency)
14. Lecture room
15. Club room
16. Press annex
17. Offices for political parties
18. Offices for members
19. Offices and living accommodation for members

 Figure 51 | Level 9 Floor Plan. Copyright Wilfried Wang, Pb. Internos Books.

Figure 52 | Rooftop Access. Copyright Wilfried Wang, Pb. Internos Books.



Level 11 plan, 1:1500.

1. Terrace, upper part
2. Offices
3. Offices and library
4. Plenary chamber, upper part
5. Public gallery, upper part
6. Main party chamber, 200 seats
7. Small party chamber, 120 seats
8. Reading room
9. Library of parliament
10. Flat
11. Conference room
12. Offices for members
13. Offices and living accommodation for members
14. The Bank of Sweden

Figure 53 | Level 11 Floor Plan. Copyright Wilfried Wang, Pb. Internos Books.

84 Figure 54 | Gallery Space. Copyright Wilfried Wang, Pb. Internos Books.

Figure 55 | Children's Library Overlooking the Plaza. Photo by Petra Hellberg.

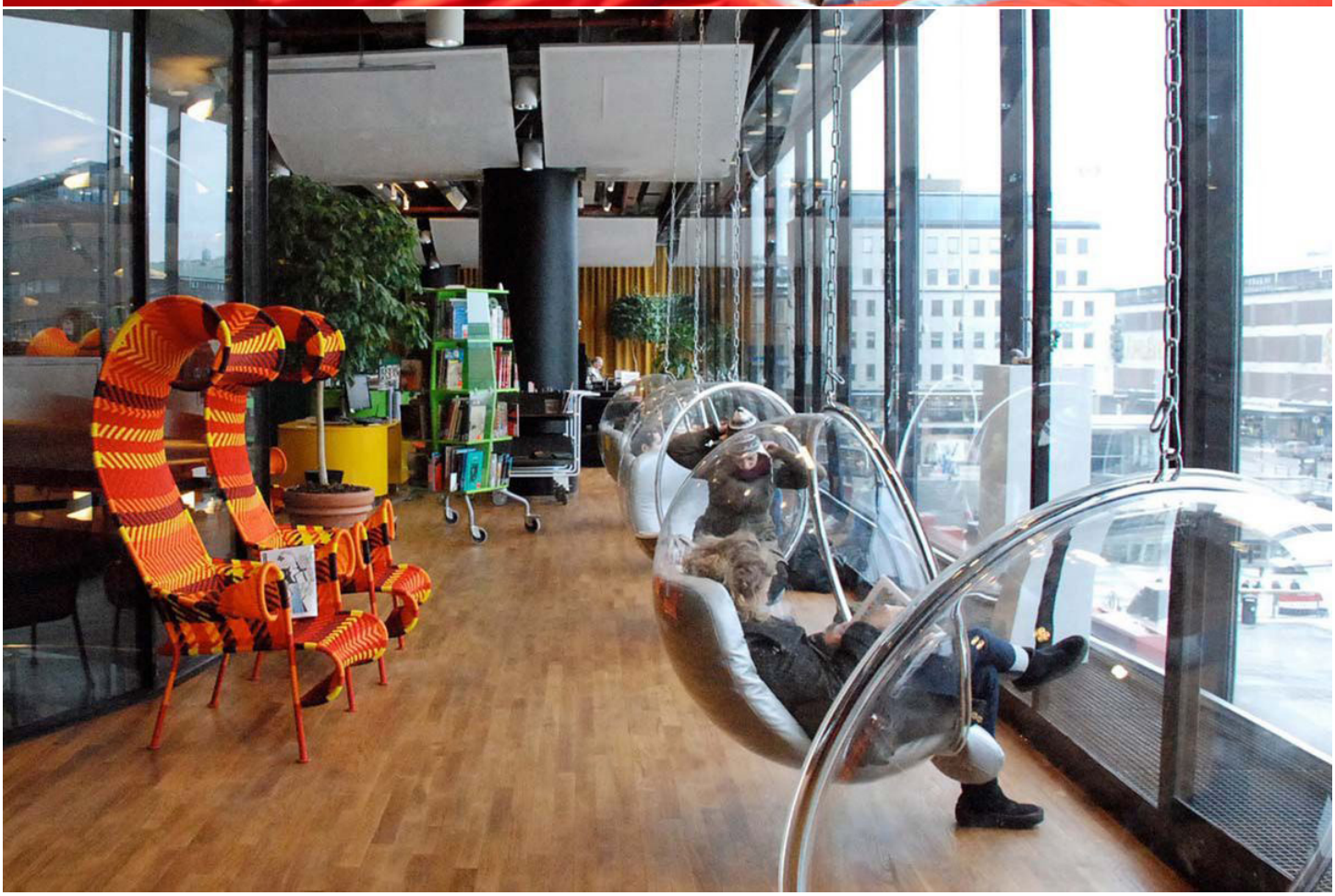


Figure 56 | Diverse Seating Options in the Library Space. Copyright Luxair Airlines.

Figure 57 | The Plaza is Activated at Night. Photo by Victor Moreno.

 Figure 59 | Plaza as Transition and Gathering Space. Photo by Chris Karlson, December 20, 2011.

Figure 58 | The Fountain at Sergels Torg with Glazed Bottom Allowing a View from the Arcade Below. Copyright Heidelberg Cement Group.

Figure 60 | The Public Plaza Extends into the Metro Entrance that is Lined with Commercial Spaces. Photo by Chris Karlson, December 20, 2011.

Conclusions

Located at vital connections points in the city, mass transit hubs in Europe and Asia are opening new opportunities for common space within the public realm, integrated into the community at crucial axial points in daily life. By responding to the decline of the urban fabric and the rise of public transit, cities in the United States have the ability to explore new public spaces through mass transit centers. The design of the Denny Triangle Station in Seattle provides a test case for a new type of community exchange at the transit interchanges in the city.

I believe that the way people live can be directed a little by architecture.

– Tadao Ando

Life is architecture and architecture is the mirror of life.

– I.M. Pei

Chapter Three

Methodology

96 Figure 61 | View of the Site From Westlake Avenue. 2018.

Site Selection and Analysis

This thesis will look at the Denny Triangle Station that is being proposed along the new Link Light Rail line connecting Ballard to downtown. Denny Triangle is an important node connecting employees in South Lake Union and the Downtown Core to the residents in Belltown and visitors to Seattle Center. This transitional space on the edge of a number of diverse communities has the potential to reconnect the urban fabric and infuse public space into a dense urban center. Density is increasing due to the rise of businesses expanding in the area and the influx of residents and workers. This connection node will provide an important element of social capital to an area quickly undergoing change.

The proposed site for the ST3 light rail station at Denny Triangle is in its planning phases and is thus currently undetermined. This thesis proposes to locate the light rail station at the corner of Westlake Avenue and Denny Way between Westlake and 9th Avenue. This location is where the light rail station was originally proposed to voters through the Sound Transit 3 initiative. This location is beneficial because of its strong presence on an important cross street in the downtown urban grid as well as its connection to Denny Park to the West.

Seattle's oldest park, Denny Park is located West of the site across 9th Avenue. Consisting of four acres of heavily forested open space in South Lake Union, Denny Park is an important outdoor resource for South Lake Union and Denny Triangle residents. Denny Park is heavily used during work day hours but usage declines outside of these hours. Access to the park from the proposed integrated rail station would enhance the project and bring life back to the historic park during extended hours of the day.

By providing a transit corridor that connects the proposed site to Seattle Center and beyond to Ballard, the newly proposed integrated rail station will bring a defining character to the cultural life of the area, serving not only tourists but community members and commuters alike.

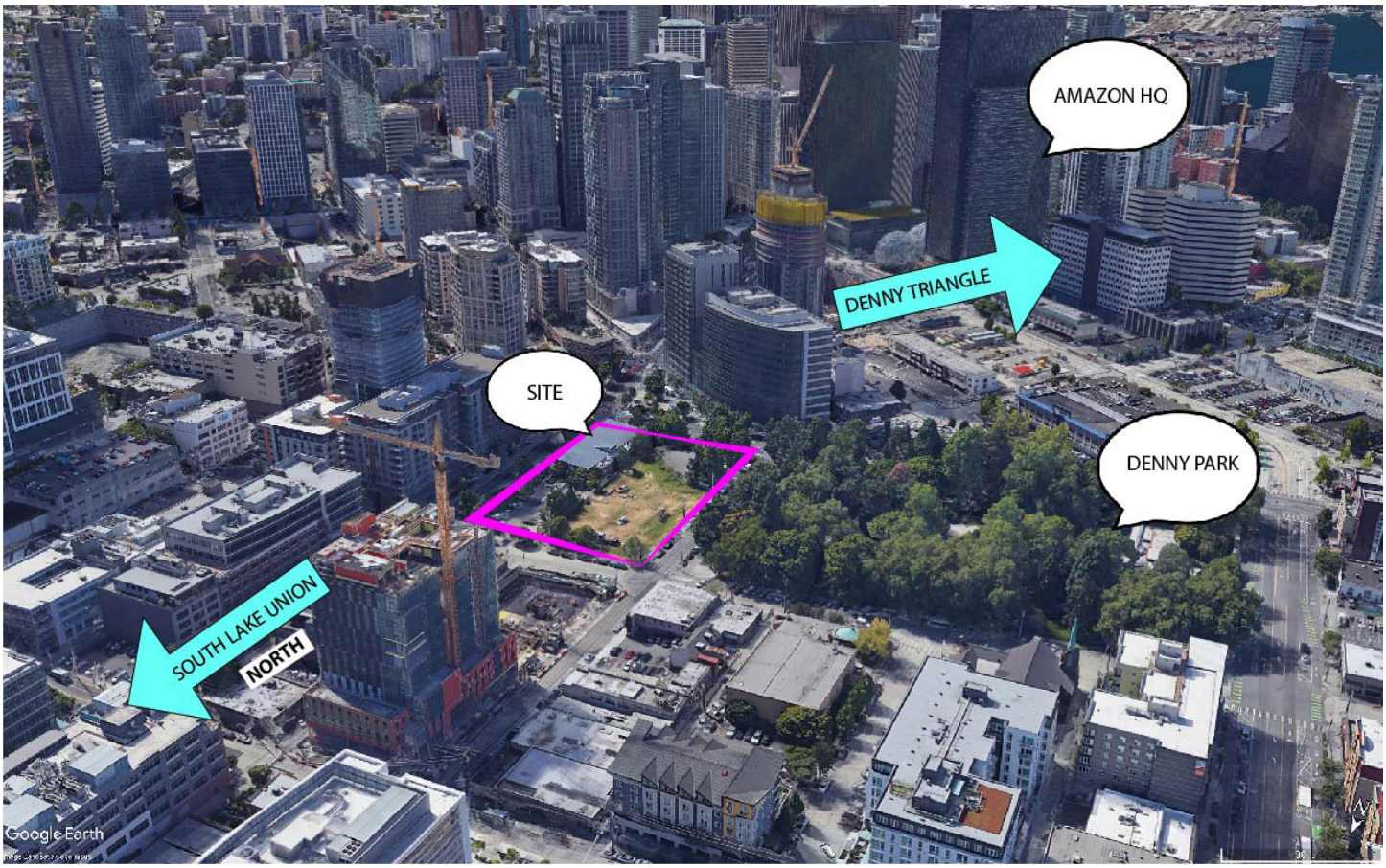
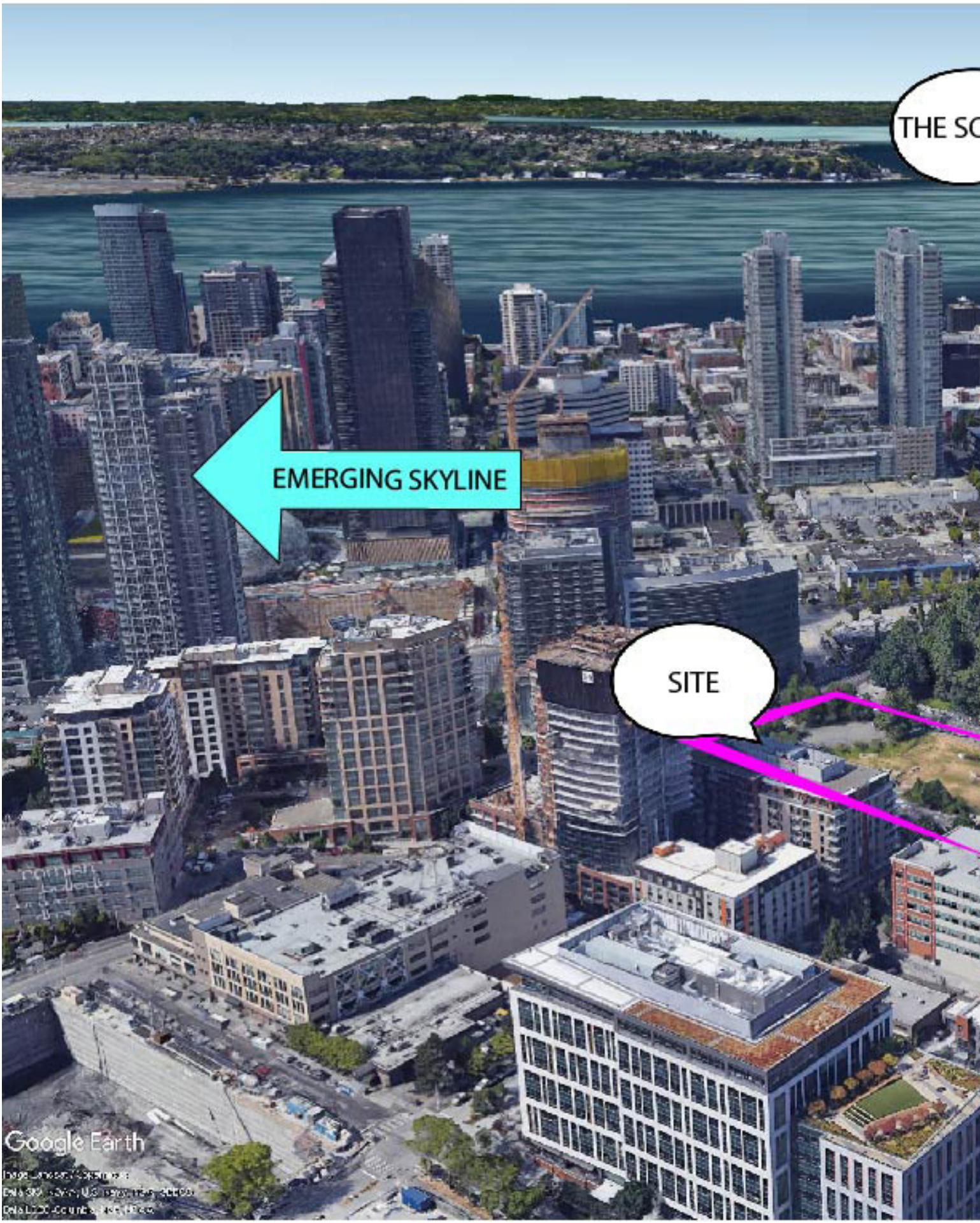


 Figure 62 | View of the Site From Between South Lake Union and Denny Triangle Neighborhoods. 2018.

Site Context

The site is located next to Denny Park and on the division between South Lake Union and Denny Triangle. (Figure 62) The site is located between two rapidly changing urban environments: new towers rising to the south and the densification of the residential neighborhoods to the north. Its proximity to the Puget Sound and the heavily touristed Seattle Center also make it a viable location for a cultural & transit hub. (Figure 63) Finally, its place between both waterfronts and I-5 will limit expansion and demand densification as population demand increases. This architecture has the potential to connect with rather than segregate itself from the rest of the city. (Figure 64)

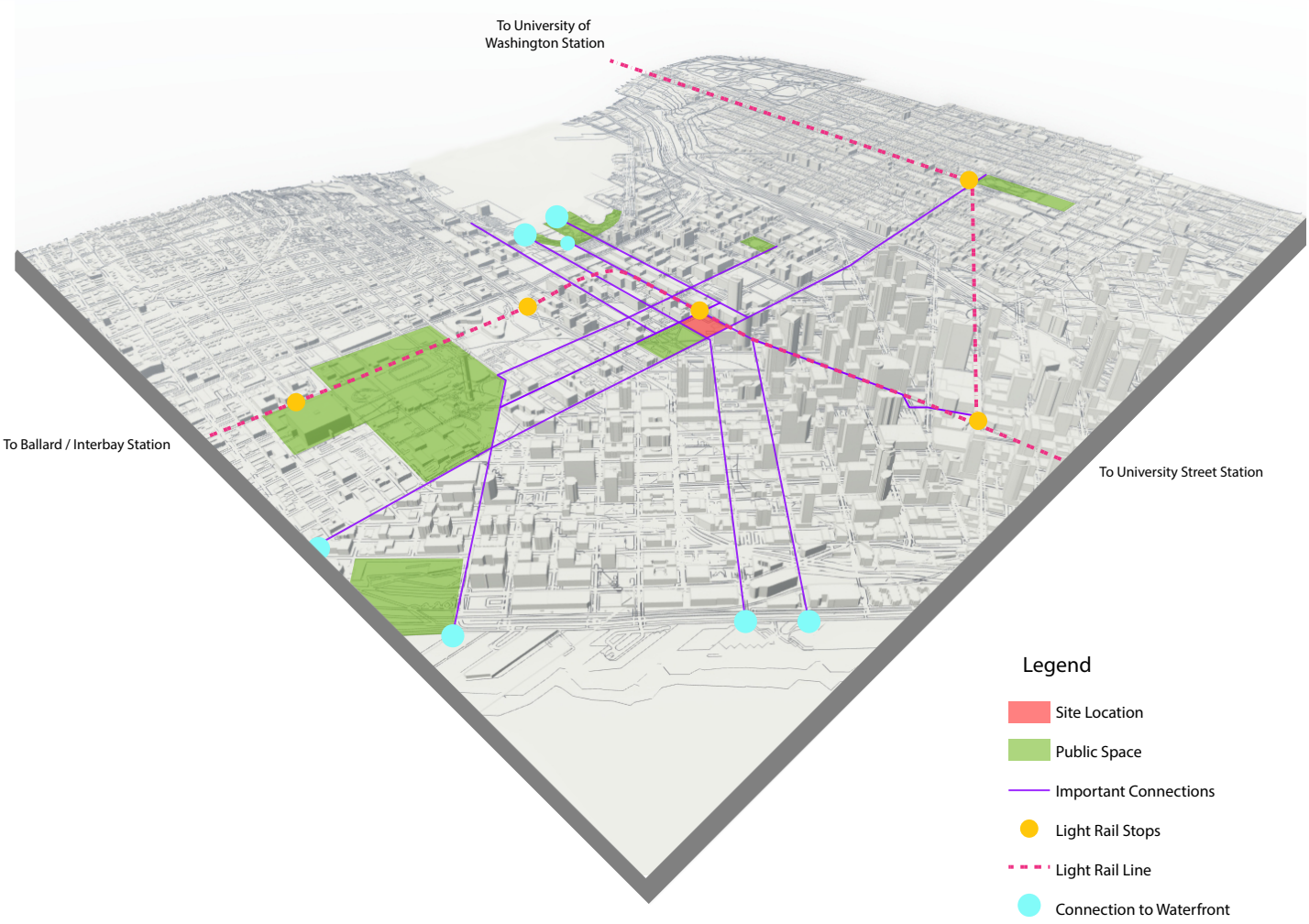


100 Figure 63 | Aerial View of the Site. 2018.


OUND
SEATTLE CENTER
RESIDENTIAL DENSIFICATION
NORTH
DENNY PARK

102 Figure 64 | Aerial View of the Site. 2018.


SEATTLE
CENTER
ENNY PARK
NORTH
LAKE UNION



104 Figure 65 | Connections Diagram. 2018.

Site Selection

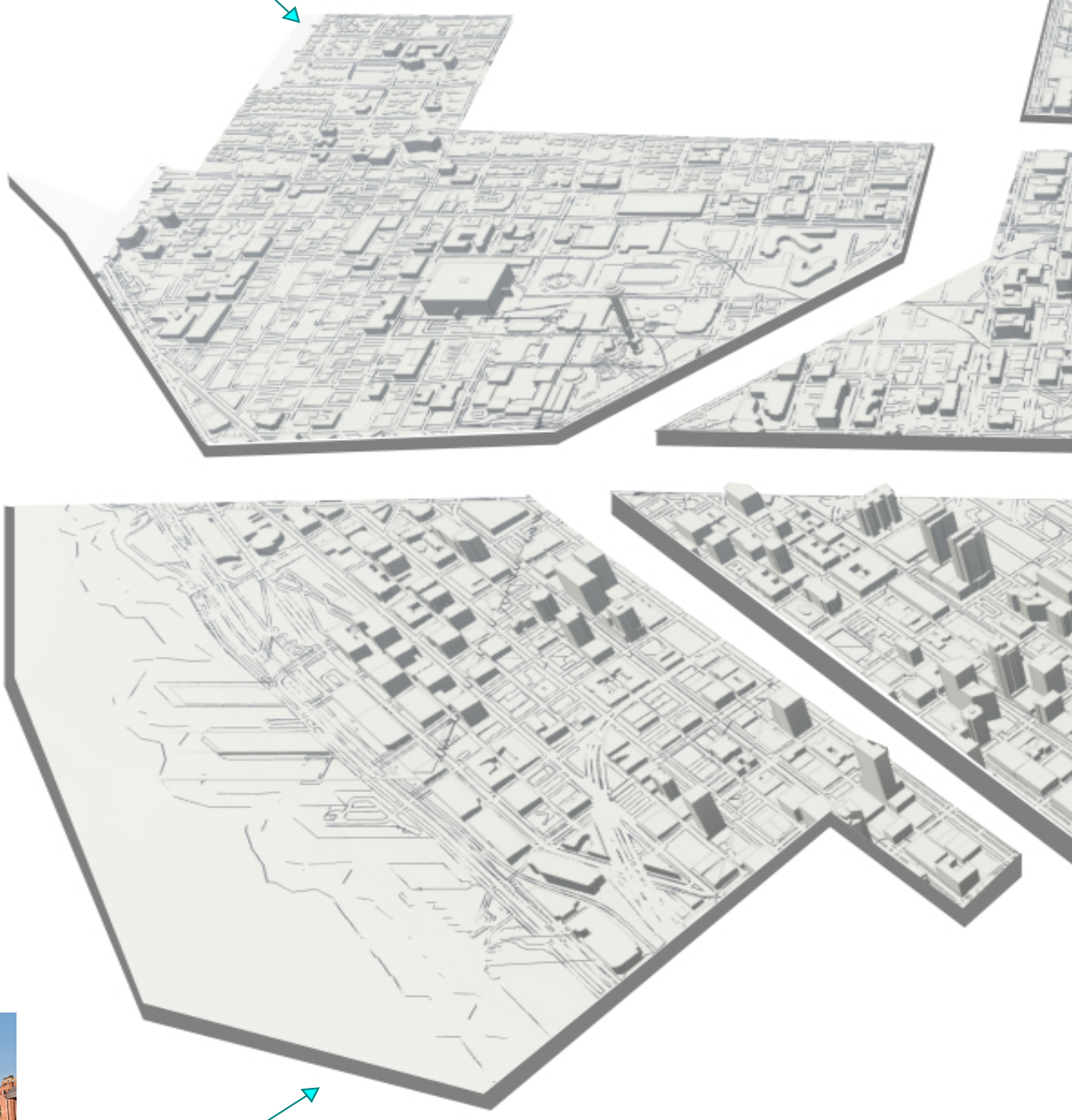
The Denny Triangle Site is well located at an axial point in the downtown grid that can facilitate connections to both waterfronts and other important cultural amenities. (Figure 65) The site is at the nexus of disparate urban neighborhoods that are all facing densification and inevitable change. This station archetype has the potential to help define these places as changes come. (Figure 66)

Site on the Nexus of Disparate Urban Neighborhoods

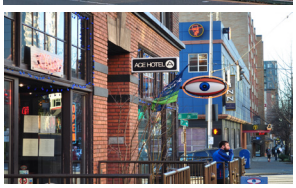
Lower Queen Anne

- Some Low Density Residential close to commercial core
- Home to Seattle Center and the Space Needle

Westlake



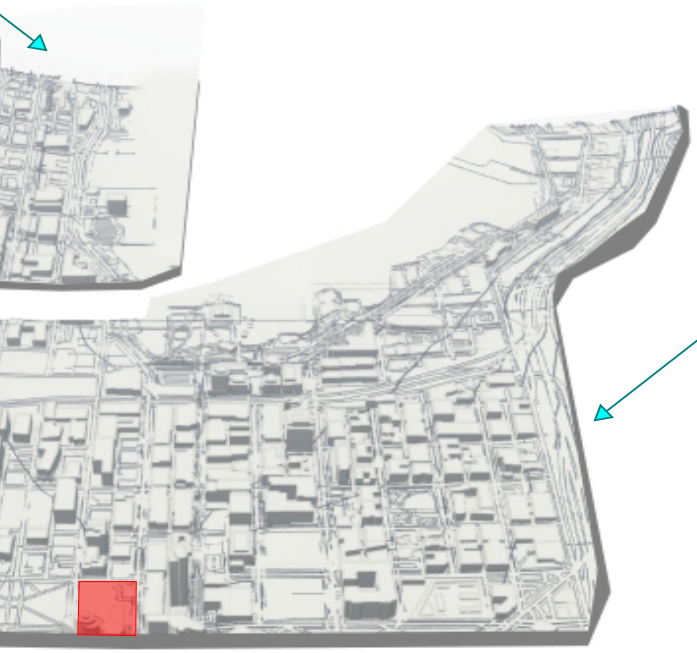
Belltown



- Historic Buildings & Neighborhood Character
- Highest Density Residential Neighborhood in Seattle
- Connection to Elliot Bay Waterfront
- Innovative Green Streets

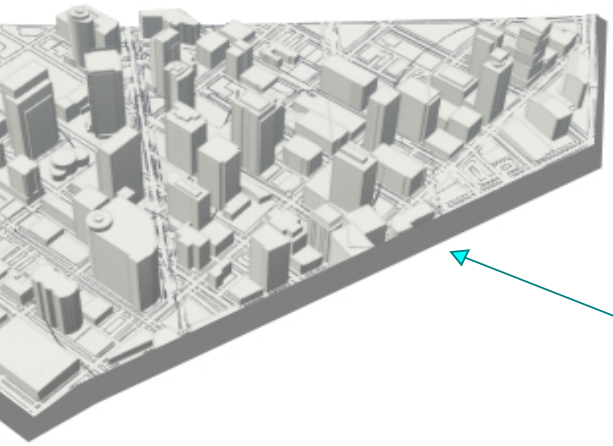
Figure 66 | Adjacent Neighborhoods Diagram. 2018.


Developing Mixed Use Corridor
Low grade connection between Lake Union and Queen Anne




South Lake Union

- Rapid development of Industrial Land Use to High Rise Office & Residential
- Connection of urban fabric to Lake Union
- Home to Denny Park, Seattle's oldest park




Denny Triangle

- High Rise Office & Residential
- Connection between Downtown & South Lake Union
- Amazon Office Spheres

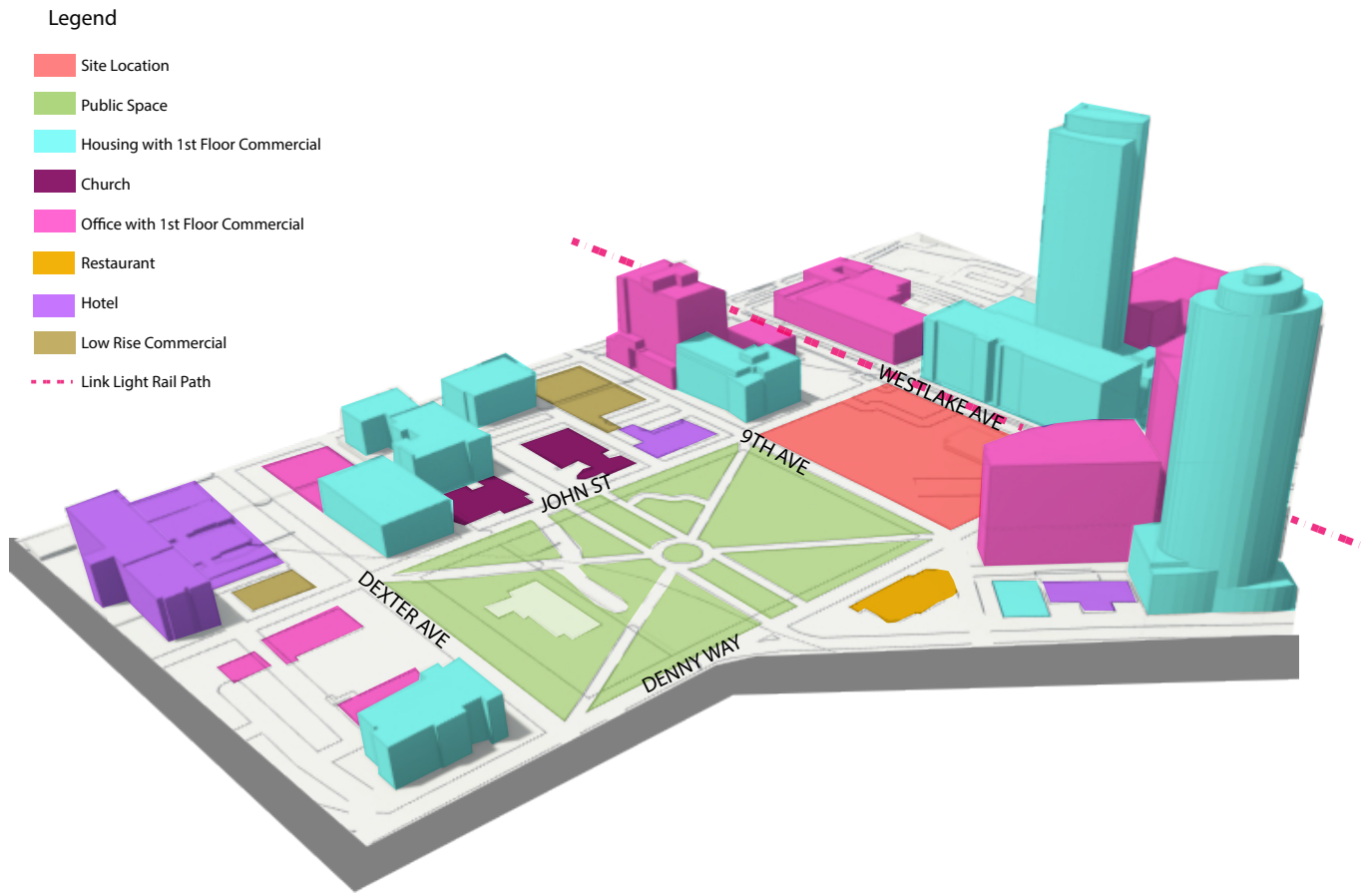


Figure 67 | Adjacent Building Programs Diagram. 2018.

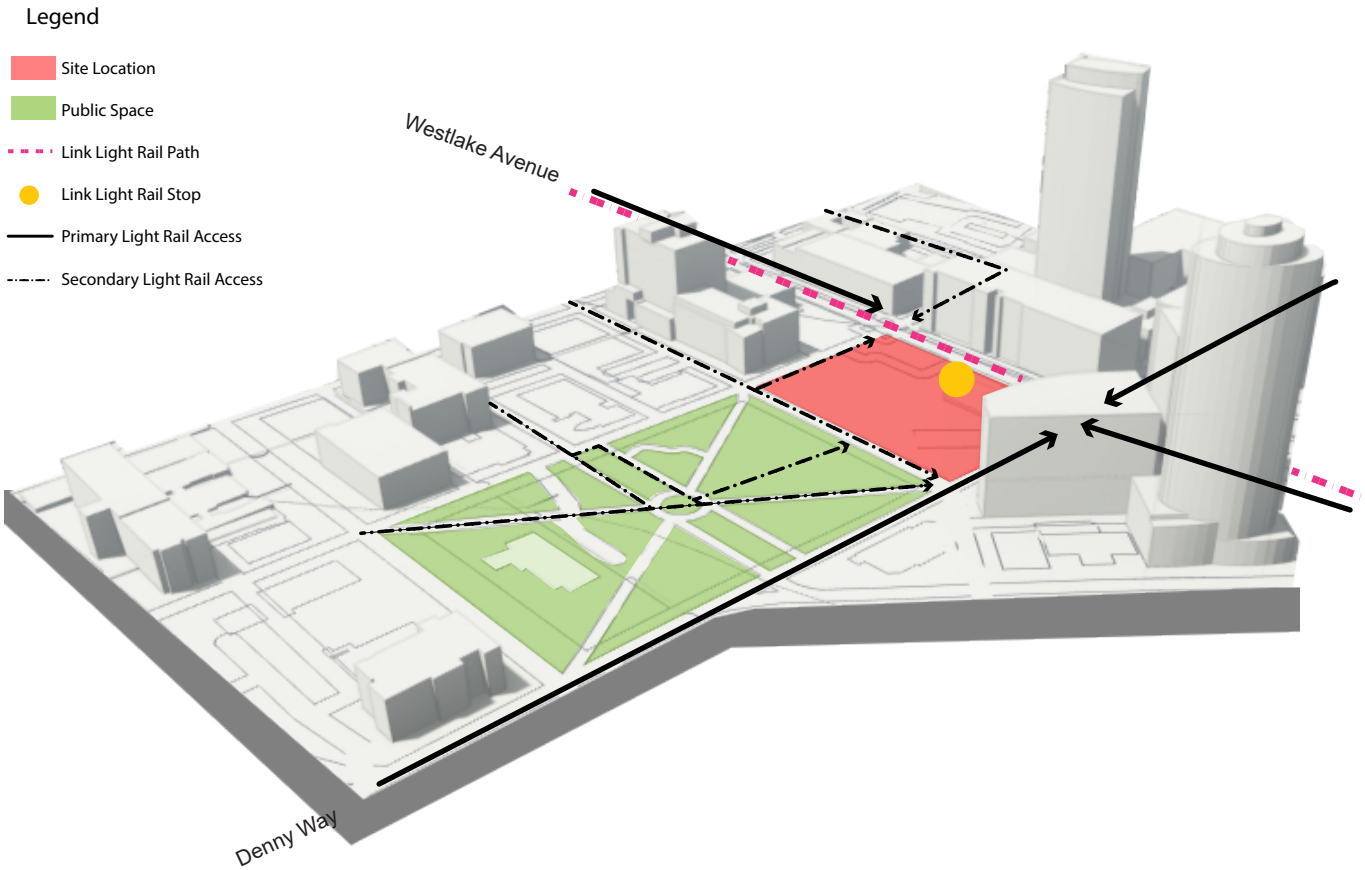
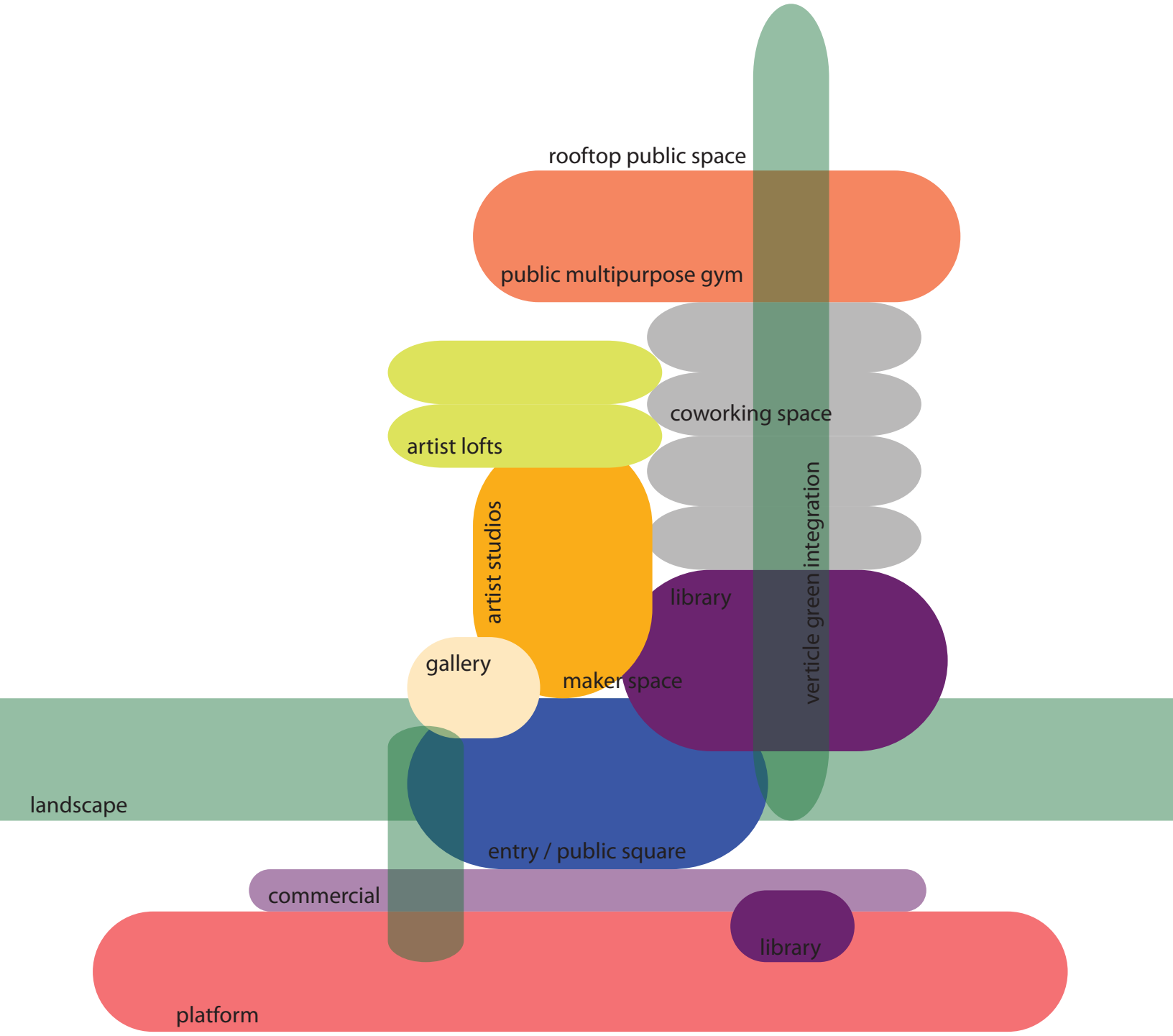


 Figure 68 | Light Rail Access Siting Diagram. 2018.

Adjacent Site Influences

Immediately adjacent to the site are high rise office and residential developments as well as low rise commercial, religious, and educational buildings (Figure 67). The low rise construction will inevitably face pressures of densification and further height development. The introduction of an office and residential tower on this site is appropriate for the density required for sustained growth and a successful light rail station in this urban area. By examining the gravity of users in the area, it is determined that a primary light rail station entrance at the corner of Westlake Avenue and Denny Way is appropriate. A secondary entrance along John street will help facilitate appropriate circulation functions (Figure 68).



110 Figure 69 | Initial Program Concept Diagram.

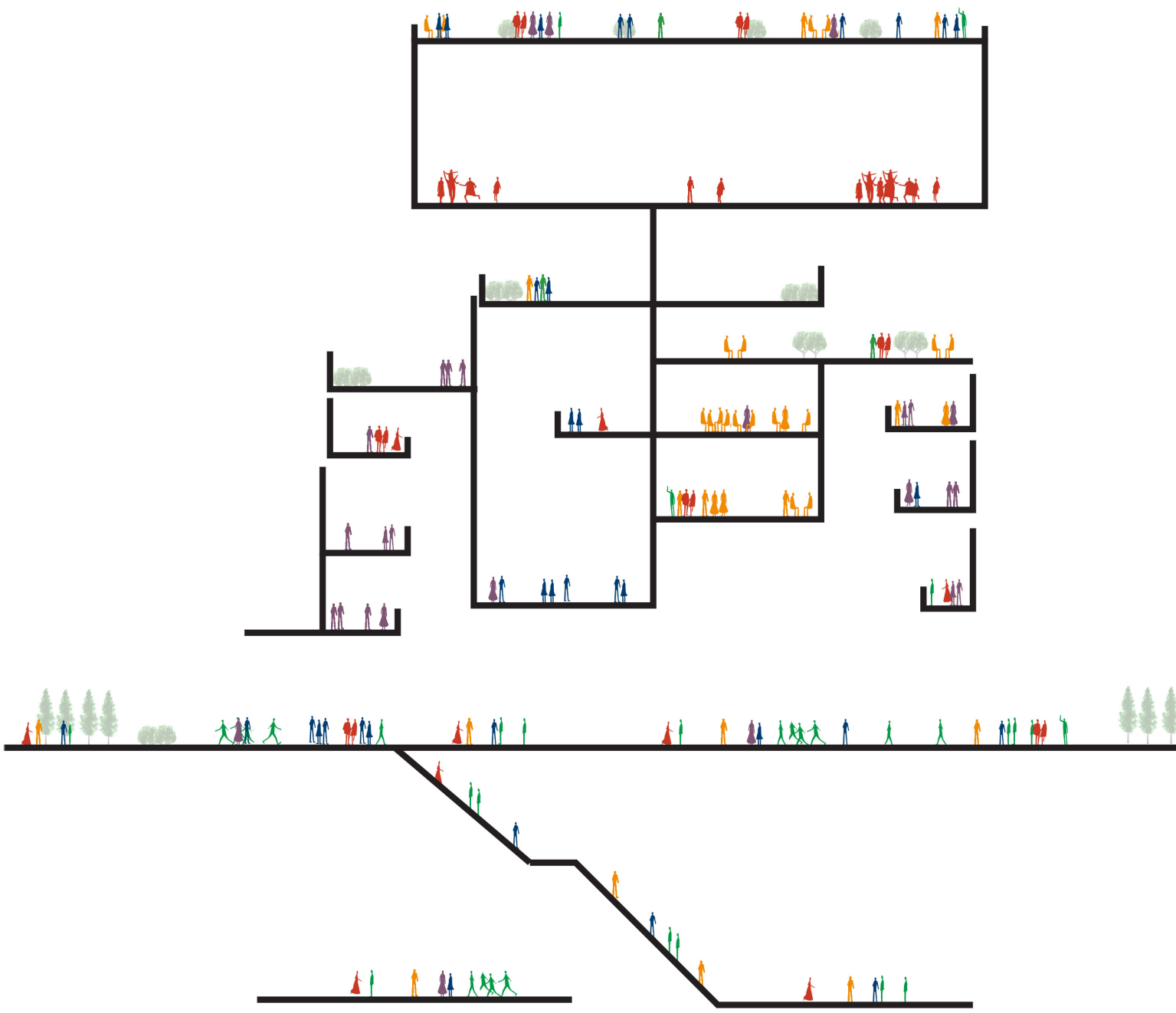
Program of Spaces

In order to create a space in the dense South Lake Union and Denny Triangle neighborhoods that attempt to extend itself to the most diverse group possible, a multidisciplinary approach to programming is vital. This thesis proposes to connect the underground light rail station with a library, art exhibition spaces, multipurpose recreational center, public market, and rooftop park access. Additional transitional private entities such as co-working spaces, artist cooperatives, restaurants and cafes can help to incorporate a vested interest in actively maintaining the spaces for the public good. By incorporating a multiplicity of programs at this proposed project site, the usage of the train station can be expanded to further users, increase the hours per day the station is busy, and maintain the space as truly public.

Architects can't force people to connect, it can only plan the crossing points, remove barriers and make the meeting places useful and attractive.
– Denise Scott

Chapter Four

Design Process



118 Figure 70 | Initial Design Concept Diagram.

Initial Concept Sketches

The initial design concept started sectionally, addressing the need to examine above and below ground concepts for programming. The ground floor plane can extend out to the urban context, opening open additional public space into the dense South Lake Union and Denny Triangle neighborhoods. By opening this plane to views above and below ground, the ground floor would act as a terminal between the transitional public realm and the visitors of the station. Transparency between the programs is crucial to the programmatically intensified and integrated station. Vertical corridors within the building will help to create interesting and safe transitions by providing sightlines throughout the programmatic elements. The vertical circulation will help to create a feeling of connections to the public amenities throughout the building.

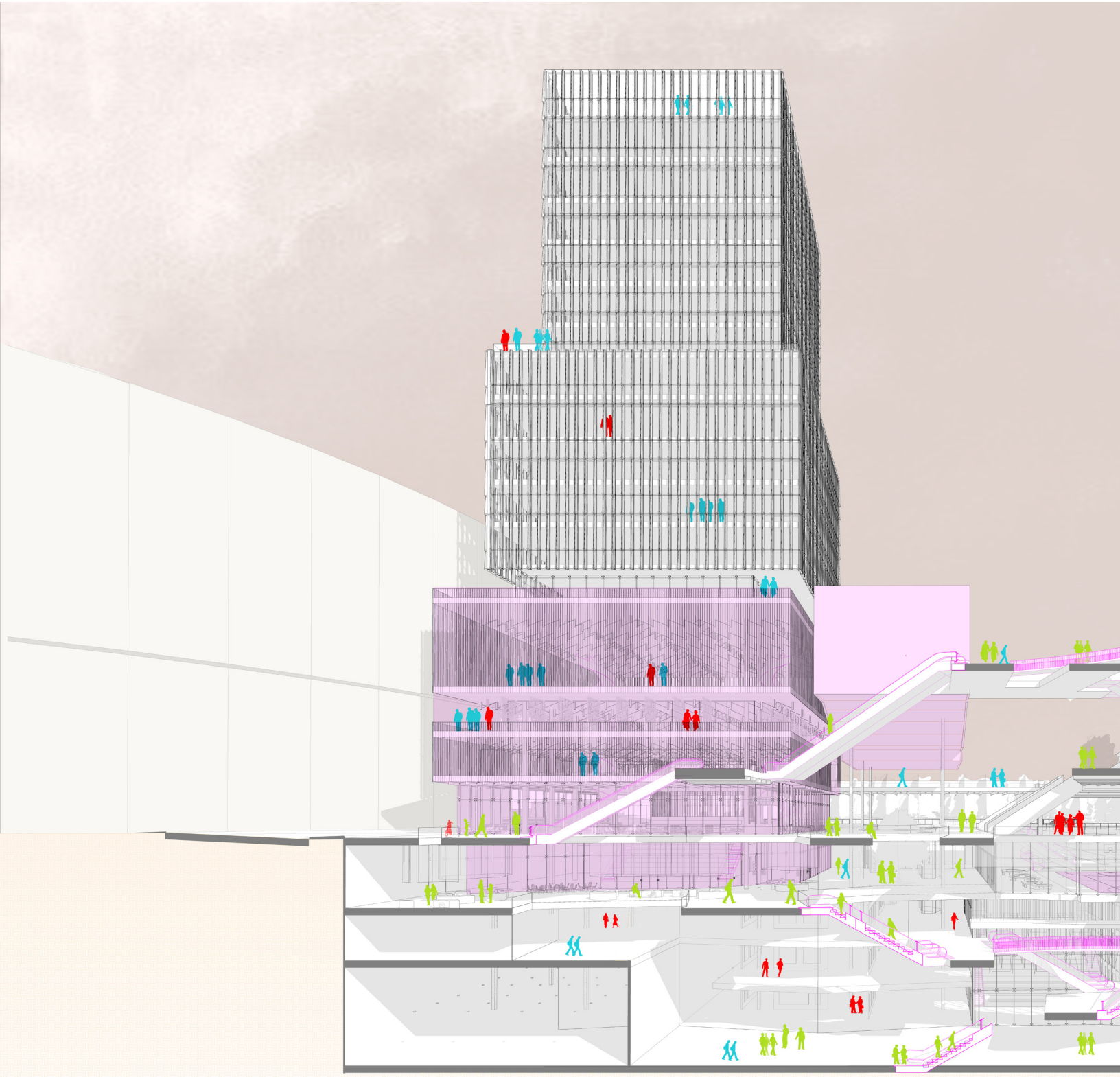


Figure 71 | The Cut Section North - South.

The “Cut”

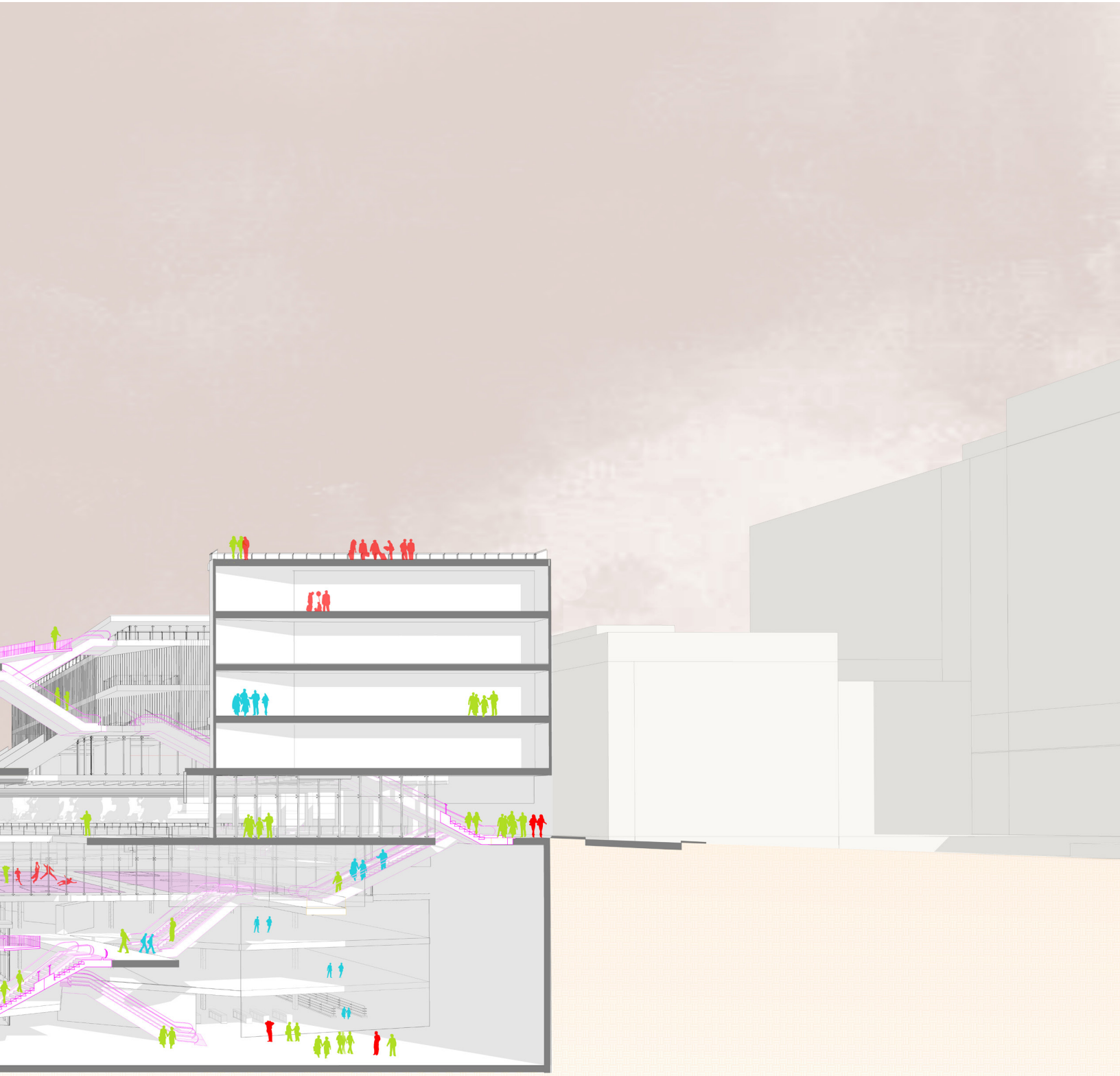
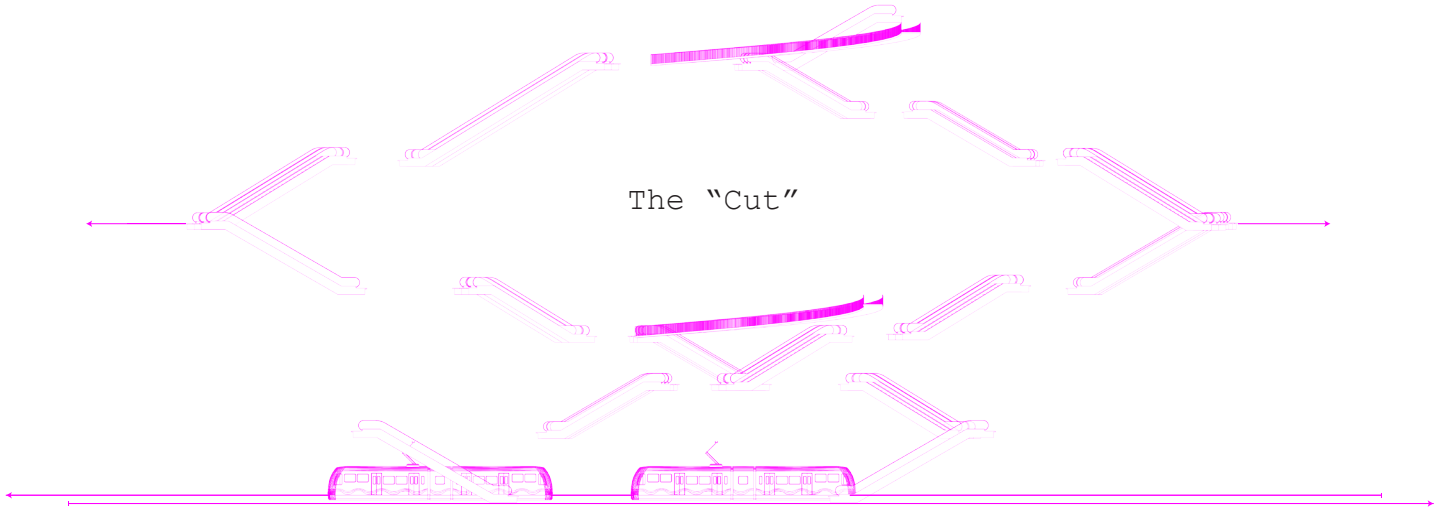
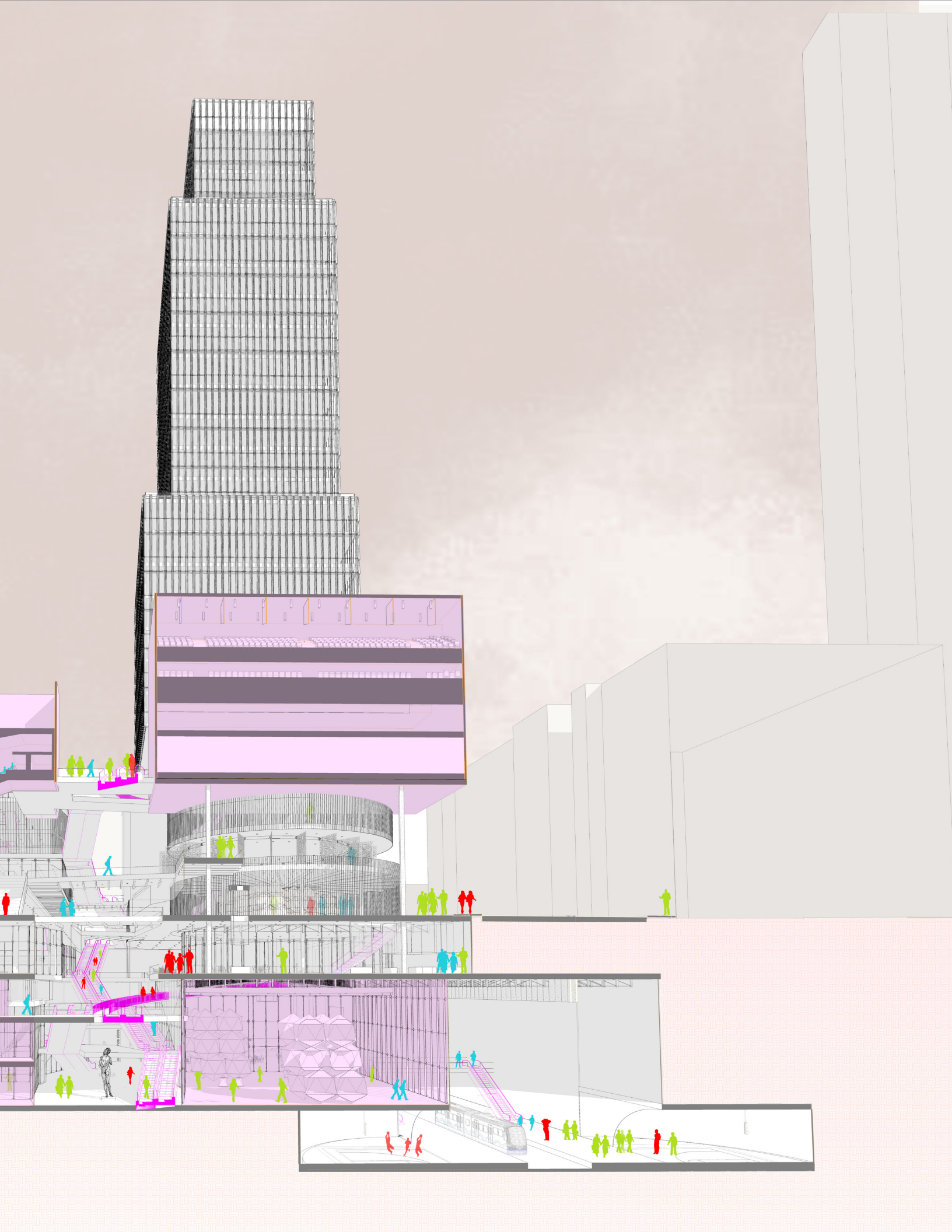


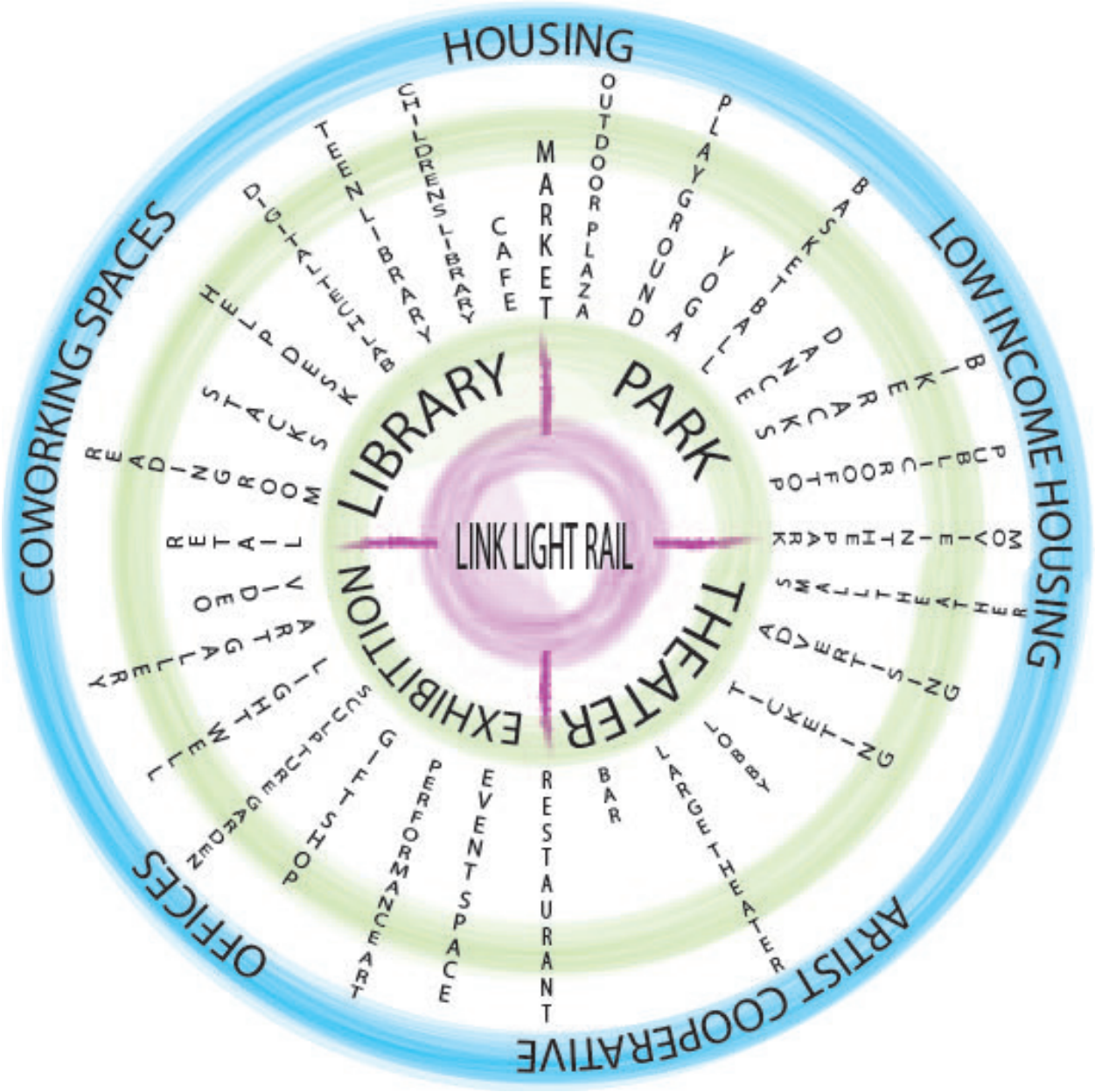
 Figure 72 | Render of the Cut from Platform Level.



The design of this urban public space began sectionally. It recognizes the need to address the ground plane and its connections to both below and above grade. Moving through this section or "cut" creates a parallax of space, opening new experiences of urban public space, programmatic intensity, and connections to the light rail and the rest of the city. (Figure 71) The "Cut" in Seattle has historically altered the landscape to connect parts of the city. The Montlake Cut tied Lake Washington, Lake Union, and the Puget Sound to one another. Here, the cut is altering the urban fabric to bring people together. The cut is formed through circulation but defined by program and user experience. The program is an attempt to identify the possible programming that could inhabit this particular urban space. The design also attempts to allow the flux in programming over time that changes with an evolving society. The cut acts as the primary internal order and the largely open floor plan spaces allow for programmatic flux (Figure 72) (Holl, pg. 12). The form reconciles the future changes through suggested programming. The program at subsequent locations therefore can be scaled to fit the needs of the specific urban environment. Like parallax, this allows users to experience the city from multiple frames of reference. (Figure 73)

Figure 73 | The Cut Section East - West.



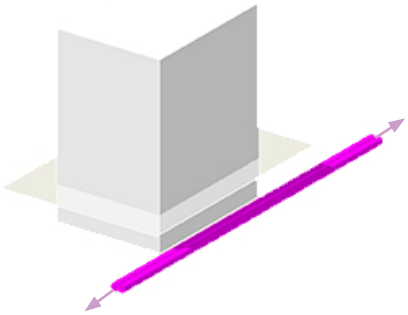


126 Figure 74 | Program Diagram.

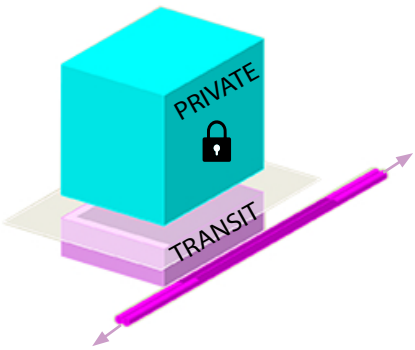
Program Connections

The program is derived from examining the cultural and public spaces or lack thereof in South Lake Union. The programs need to benefit the public, South Lake Union employees, in -house artists, and residents alike. The final program is recognized as three separate but integrated programmatic categories: public, private, and mediating program. The public program consists of the Light Rail Station. The next category is know as the mediating program and attempts to bridge the gap between the private and public programs. The mediating program contains Library, Exhibition Space, Theater Venue, Recreation Center, and Public Market functions. Finally, the private program on the site is envisioned as Office, Co-Working Space, Artist Cooperative, Housing, Low Income Housing. While the private space is included and recognized, this portion was outside the scope of the design for this thesis.

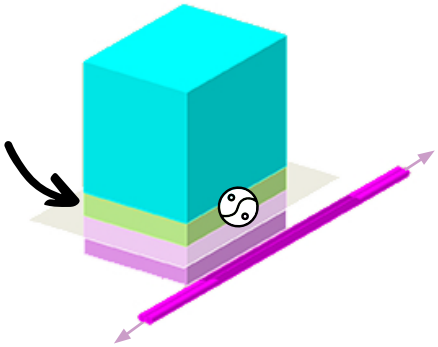
The compounding value of direct visibility between public amenities and public transit has the ability to encourage ridership, provide access to public programs, and make connections between a larger number of people within the community at the nexus of city life. Public transit architecture needs to be integrated into the culture and everyday life of its users in order to encourage diversity and interaction.



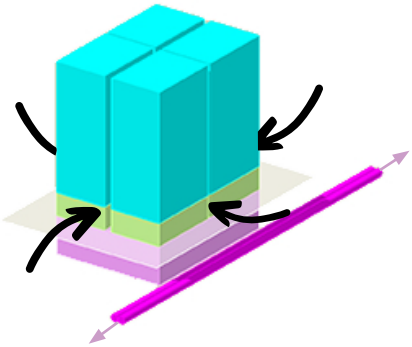
BUILDABLE SITE AREA & METRO



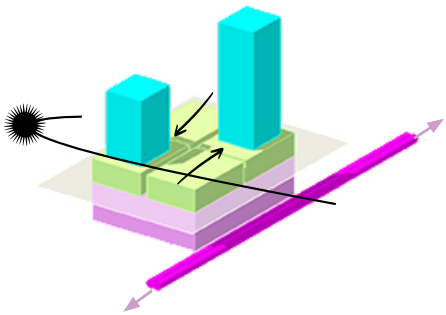
SIMPLE PROGRAM DESIGNATIONS



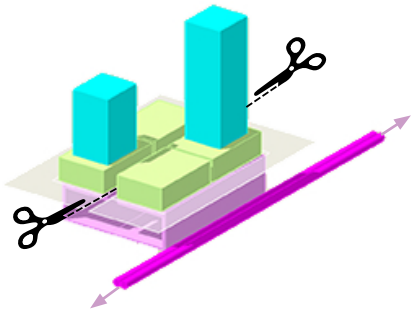
INSERT MEDIATING PROGRAM



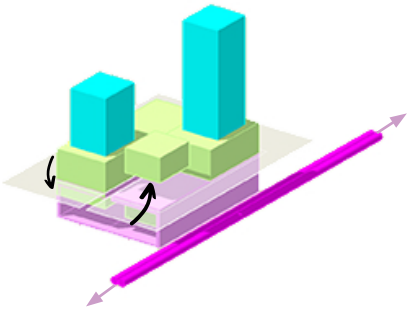
CONTINUATION OF ALLEY & MIDBLOCK



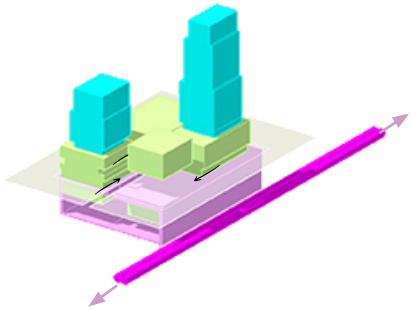
TOWER PLACEMENT & SEPARATION



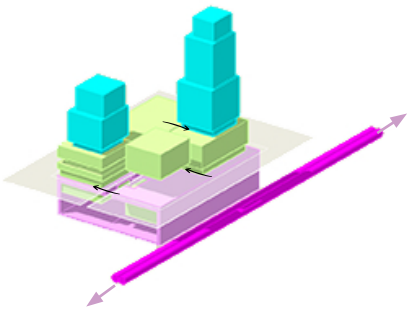
ESTABLISH THE "CUT" IN
LINE WITH TRANSIT FLOW



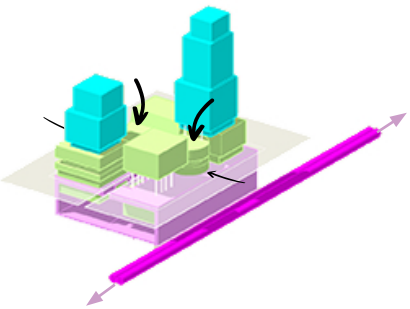
INTEGRATE MEDIATING PROGRAM



CONNECT PROGRAM TO THE "CUT"



CONNECT STREET TO THE PARK



BREAK UP BLOCK THROUGH FORM VARIATION
&
SINK TO BRING LIGHT INTO THE "CUT"

 Figure 75 | Form Derivation Diagram.

Form Derivation

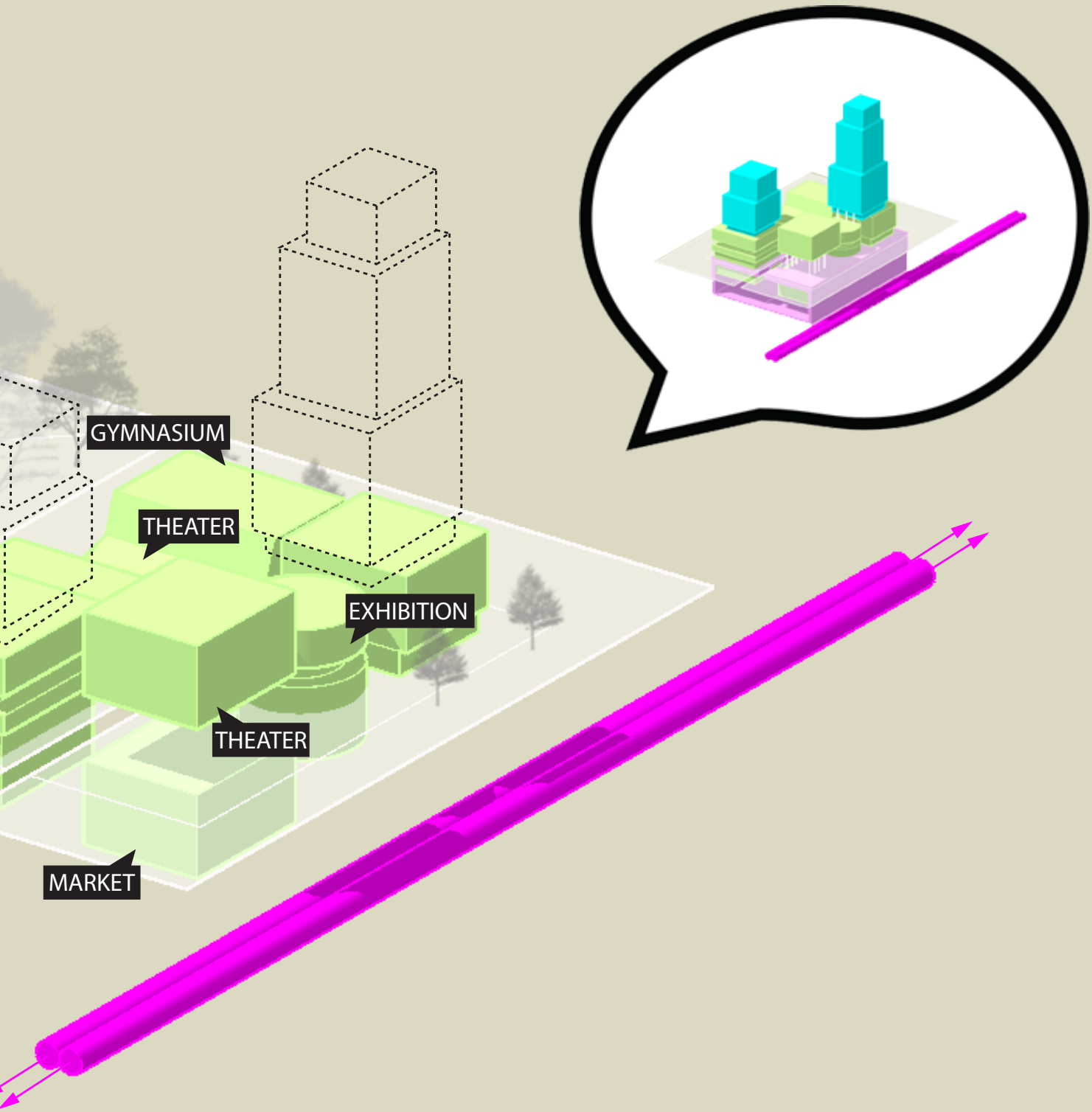
First, the buildable site area is extruded to study maximum building envelope and the light rail line is drawn in. Second, the private and public programs are recognized as separate entities. Next the mediating program is inserted to begin to address the program integration. An initial reconnection of essential block connections from the alley and midblock are carved out. The tower placement and separation are recognized as essential elements of the ground floor design and integration process. The cut is determined based on connection with the flow of transit and the necessary link light rail entrances previously determined. Integrating the mediating program above and below grade begins to address the parallax of space that can be created through the change in elevation off of the urban grid. Connecting the program to the cut through shifts of the extruded building form further integrates the cut, the program, and the internal circulation order. Connecting the park to the street mimics the previous move to expand the urban public space beyond the immediate site designation. Finally, by breaking up the block through form variation at midblock and sinking some of the program below grade further extends the urban public space below grade and brings light down into the cut.

Figure 76 | View of The Cut Entrance at Denny Way and Westlake Avenue.


THE
LION KING

 Figure 77 | Program Placement Diagram.

Mediating Program



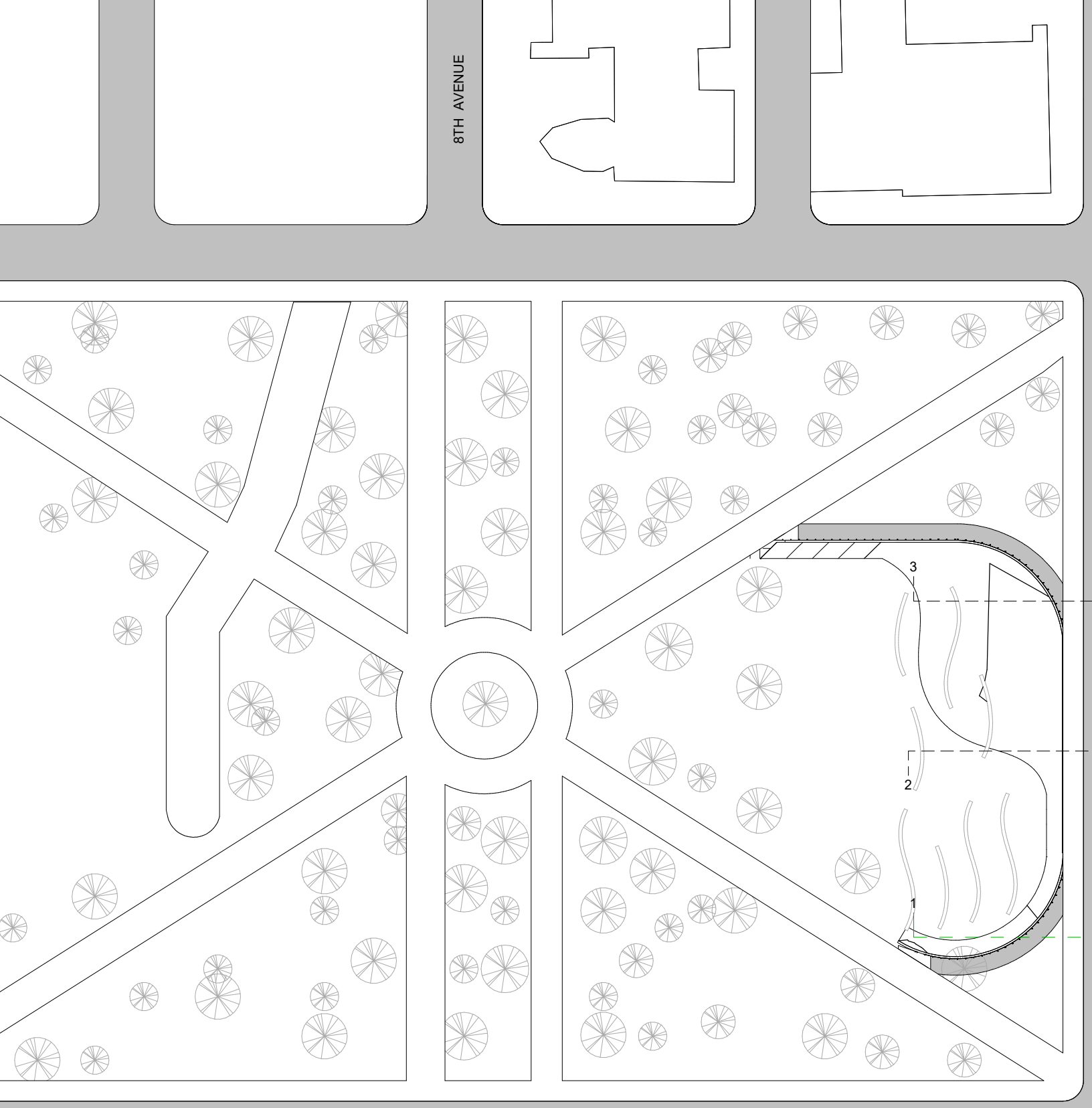
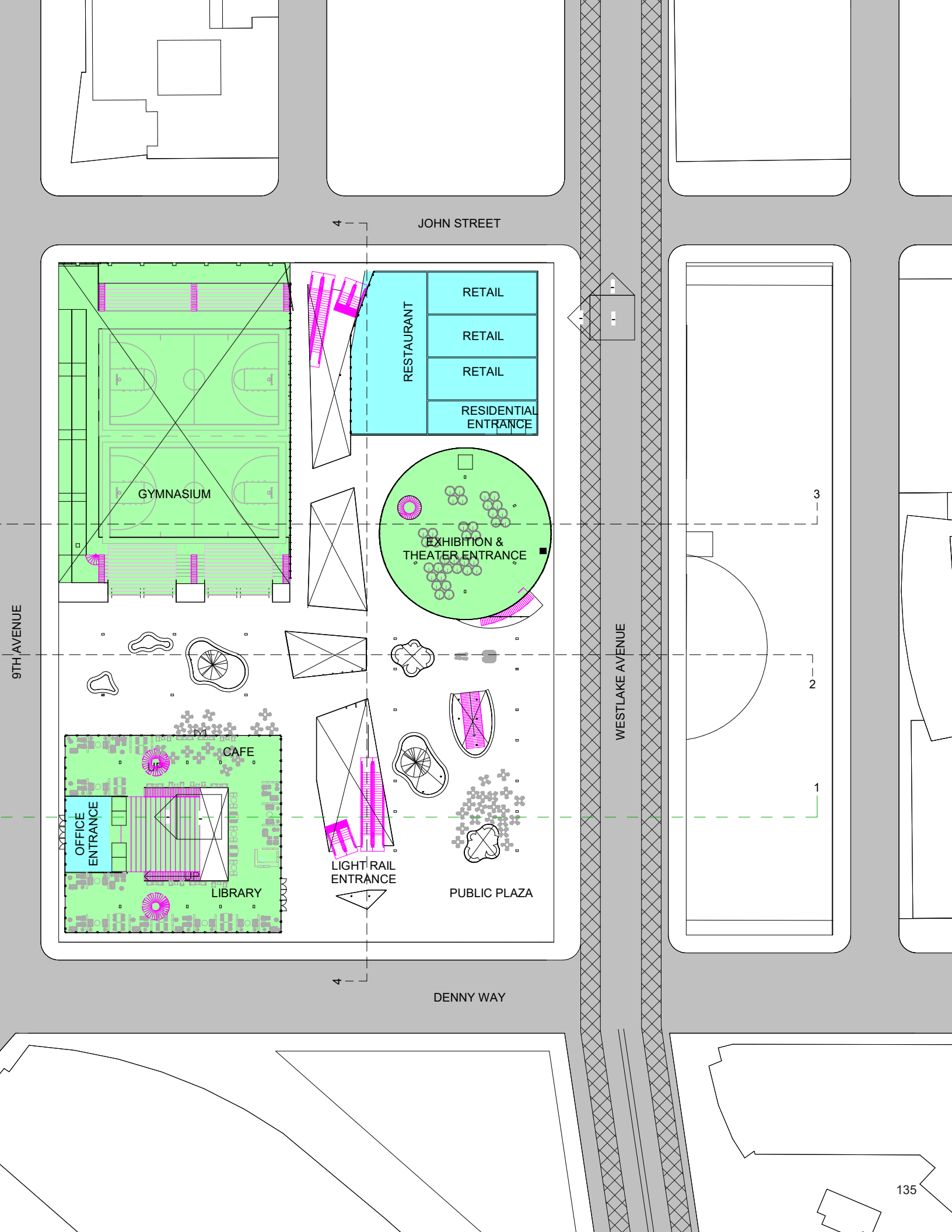


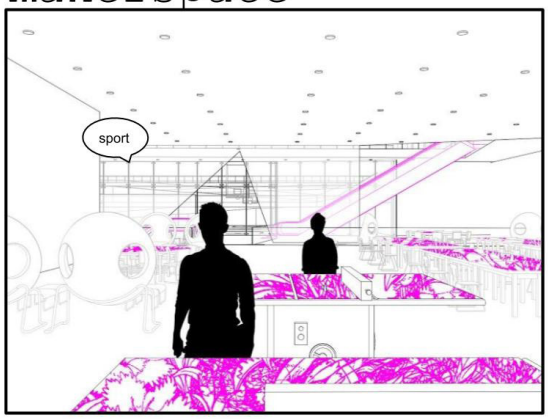
Figure 78 | Site Plan.


JOHN STREET
DENNY WAY
9TH AVENUE
WESTLAKE AVENUE
GYMNASIUM
RESTAURANT
RETAIL
RETAIL
RETAIL
RESIDENTIAL ENTRANCE
EXHIBITION & THEATER ENTRANCE
CAFE
OFFICE ENTRANCE
LIBRARY
LIGHT RAIL ENTRANCE
PUBLIC PLAZA
1
2
3
4
4

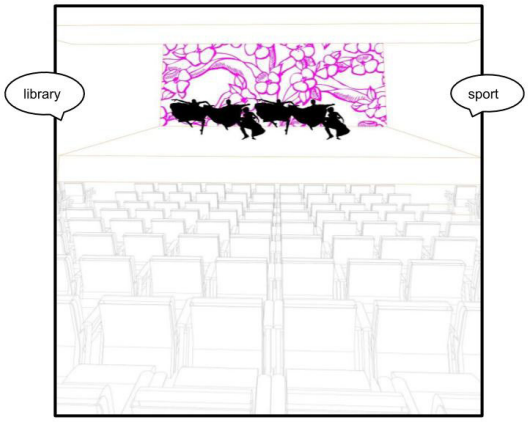
Program Adjacencies

The concept of program placement was to accentuate the connections of each program to as many other programs as possible. The multiplicity of programming strengthens the language of usage and publicness to create a vibrant public center.

makerspace



theater



cafe

gallery

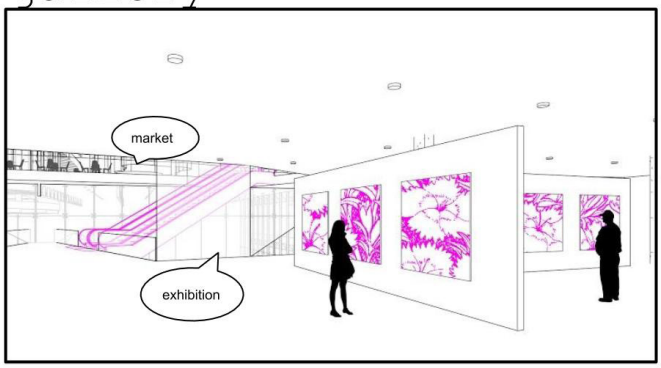
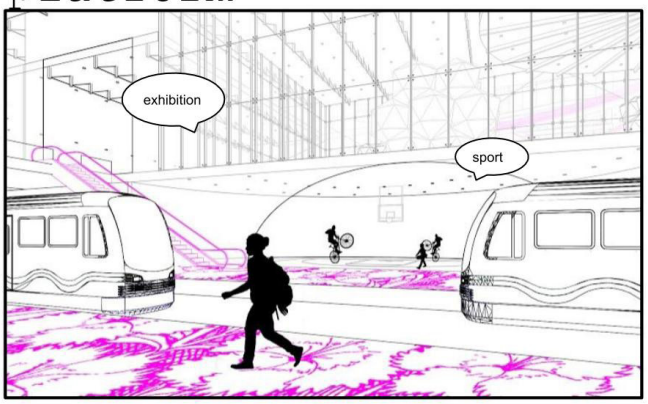
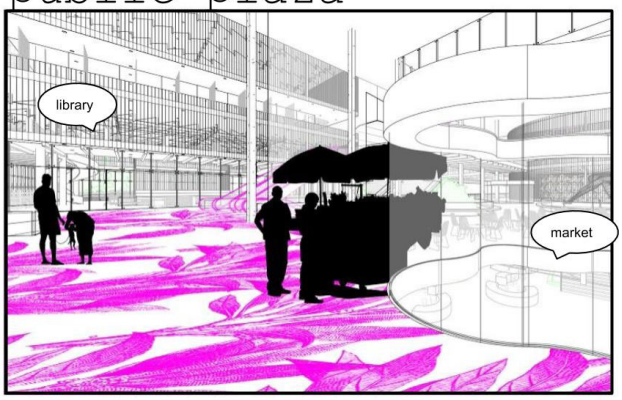


 Figure 79 | Program Adjacencies Diagram.

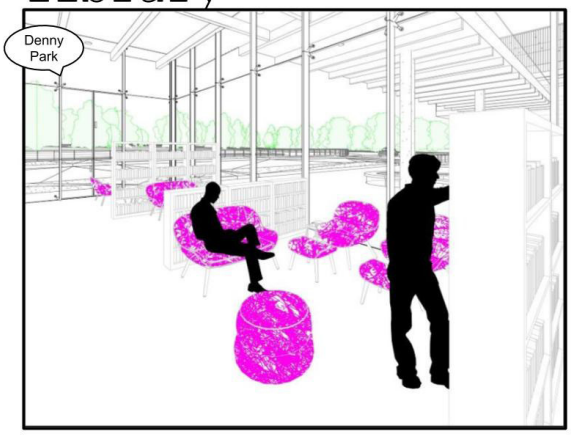
platform



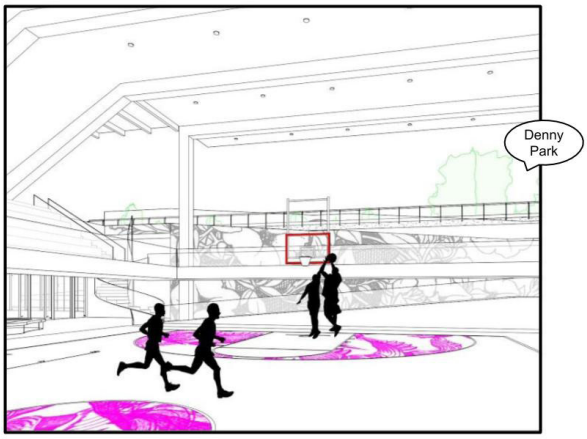
public plaza



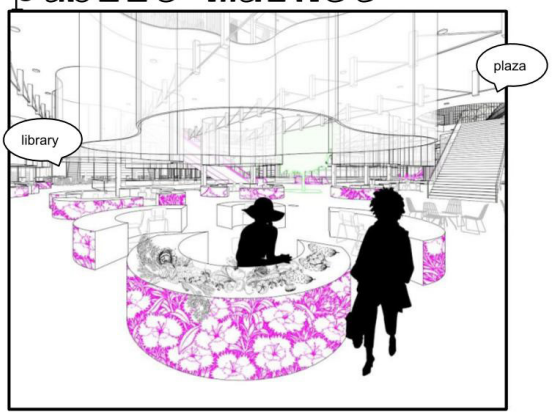
library



basketball



public market



exhibition space

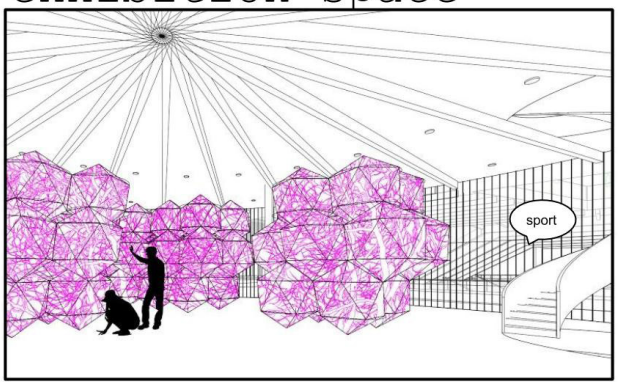


Figure 80 | Render of the Light Rail Platform.

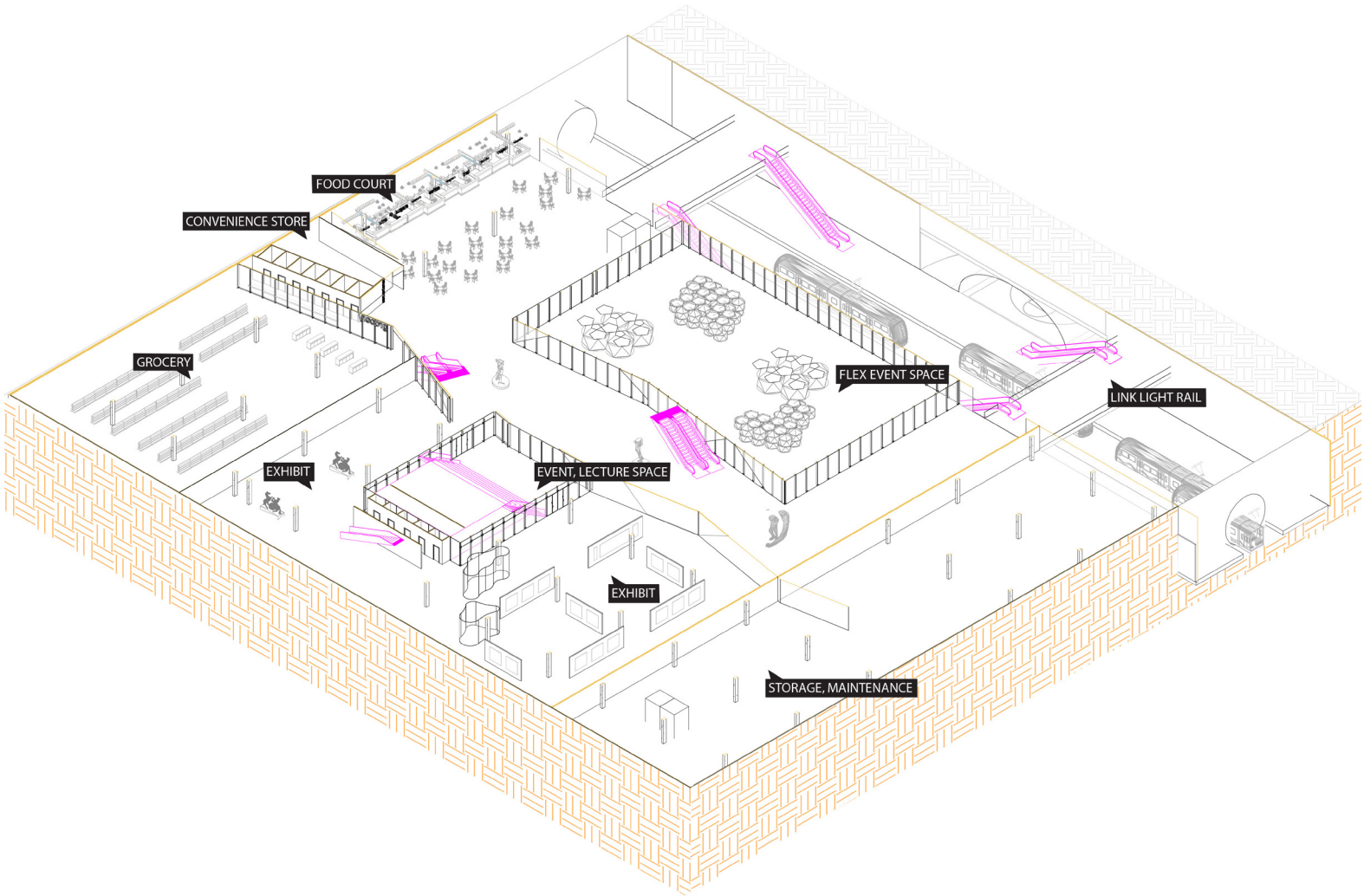


Figure 81 | Level -4 Floor Plan Axon.

Floor Plan Level -4 | Connection of the Cut to Link Light Rail

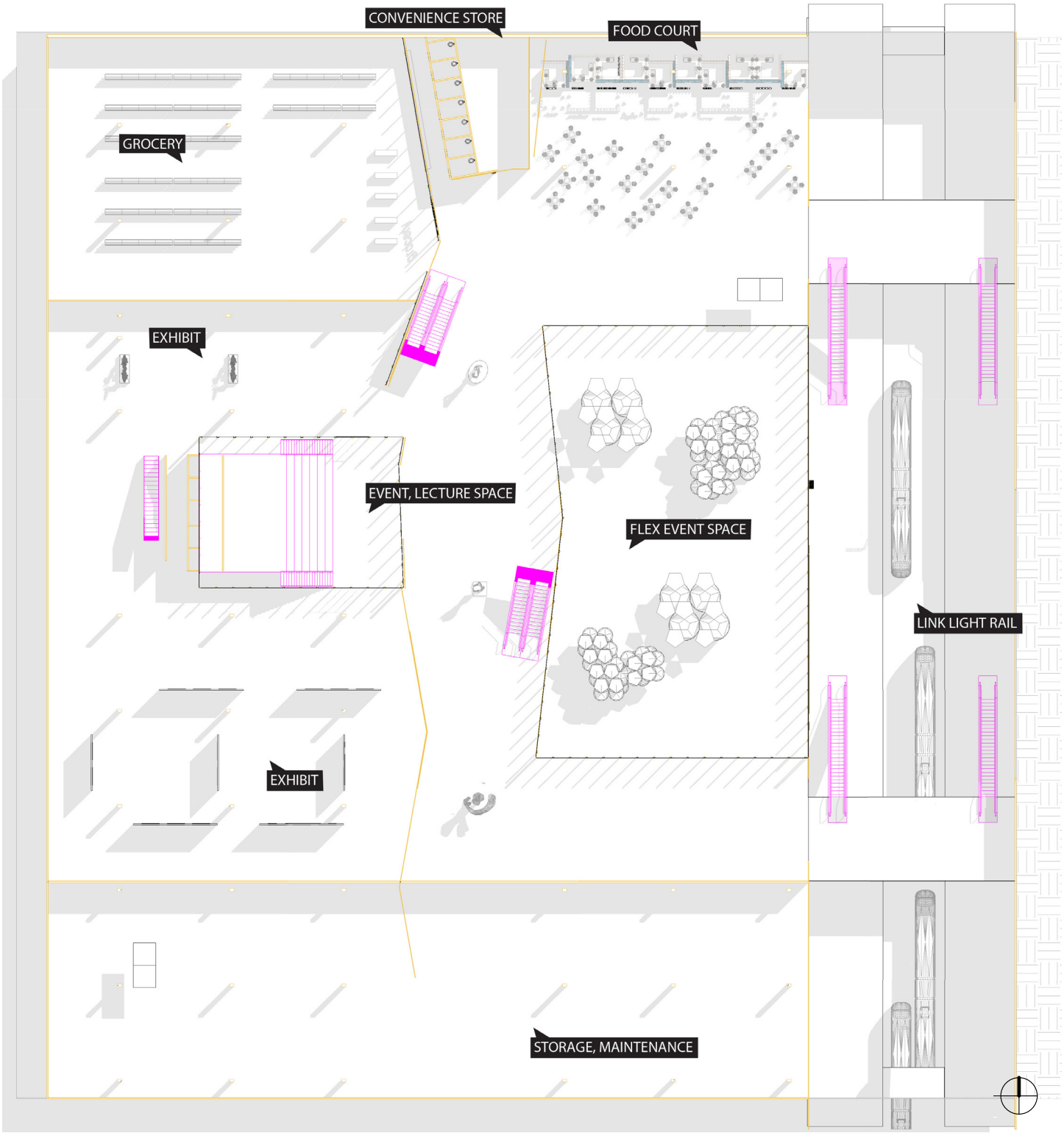


Figure 82 | Level -4 Floor Plan.

Figure 83 | Render of the Lecture / Performance Space.

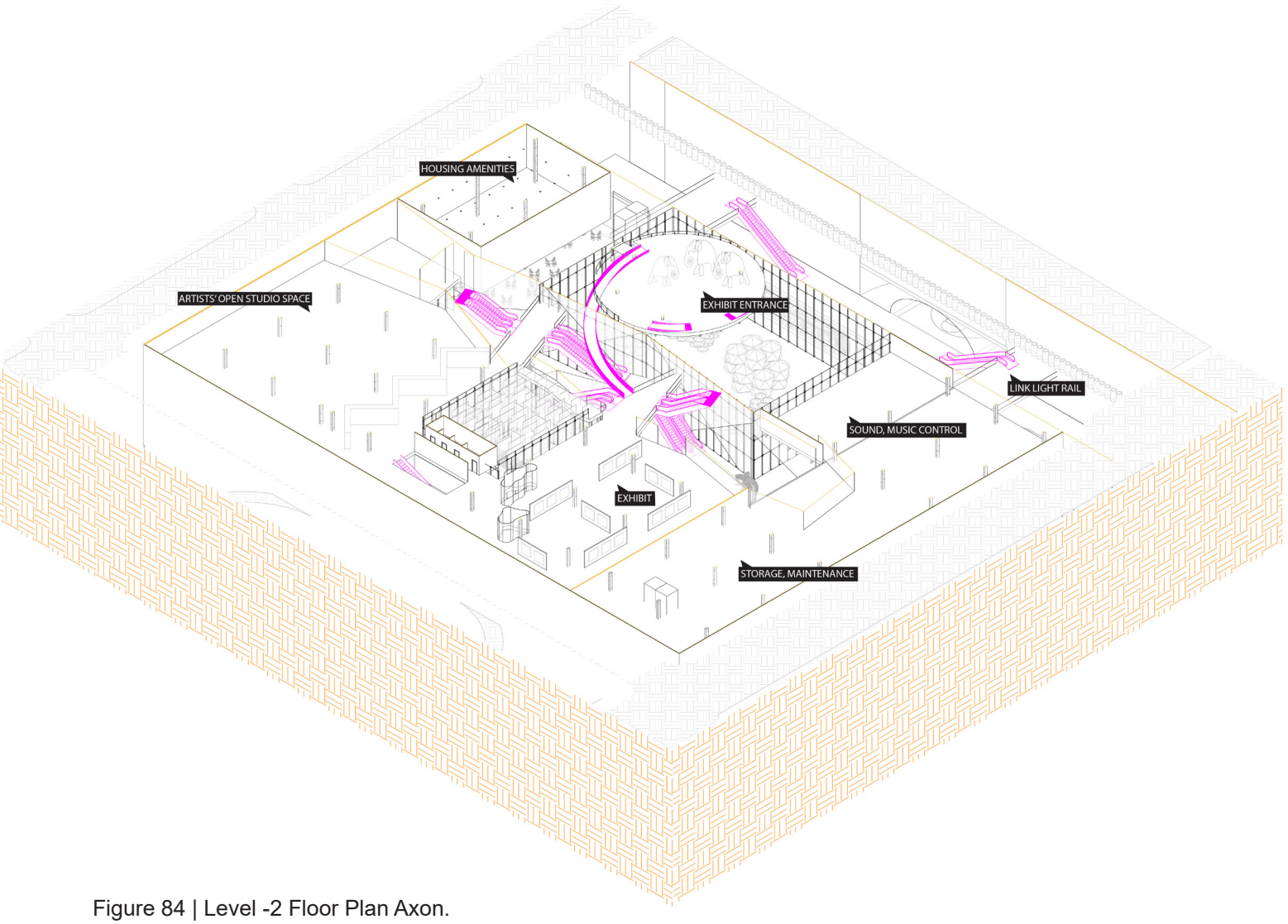


Figure 84 | Level -2 Floor Plan Axon.

Floor Plan Level -2 | Exhibition & Gallery

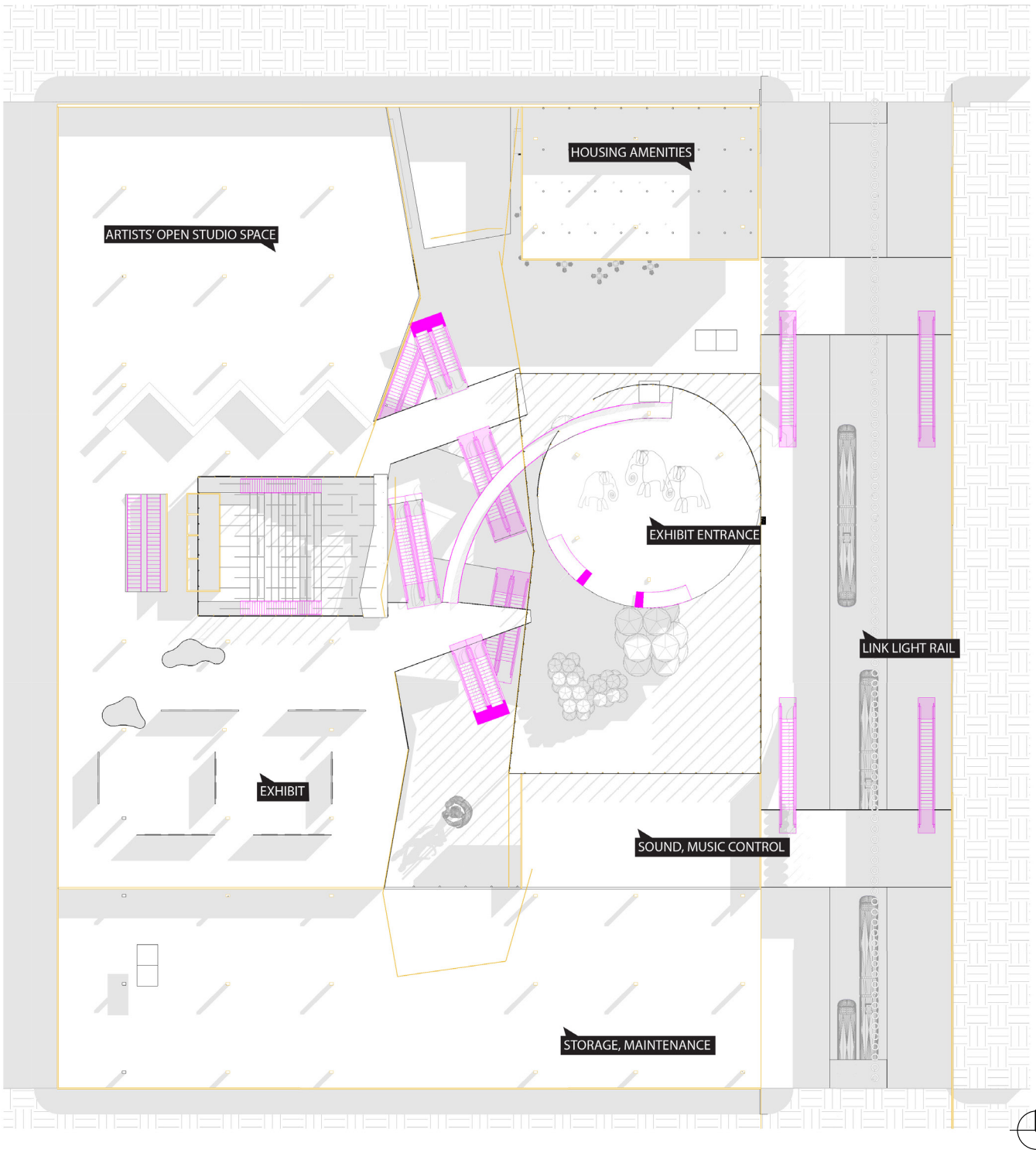


Figure 85 | Level -2 Floor Plan.

Figure 86 | Render of the Gallery Space.

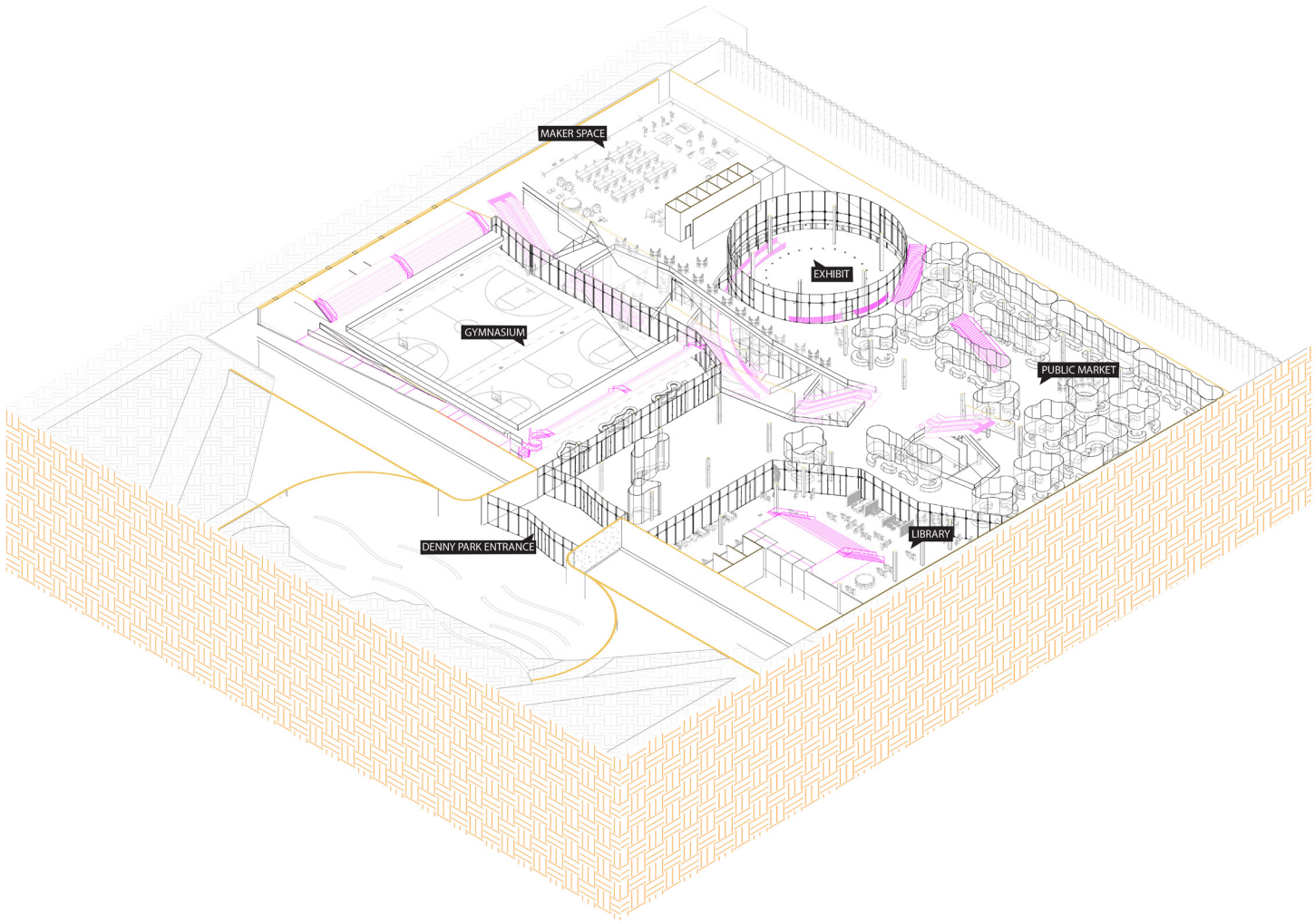


 Figure 87 | Level -1 Floor Plan Axon.

Floor Plan Level -1 | Sport, Market, Library & Makerspace;
Connection to Denny Park Beneath 9th Ave

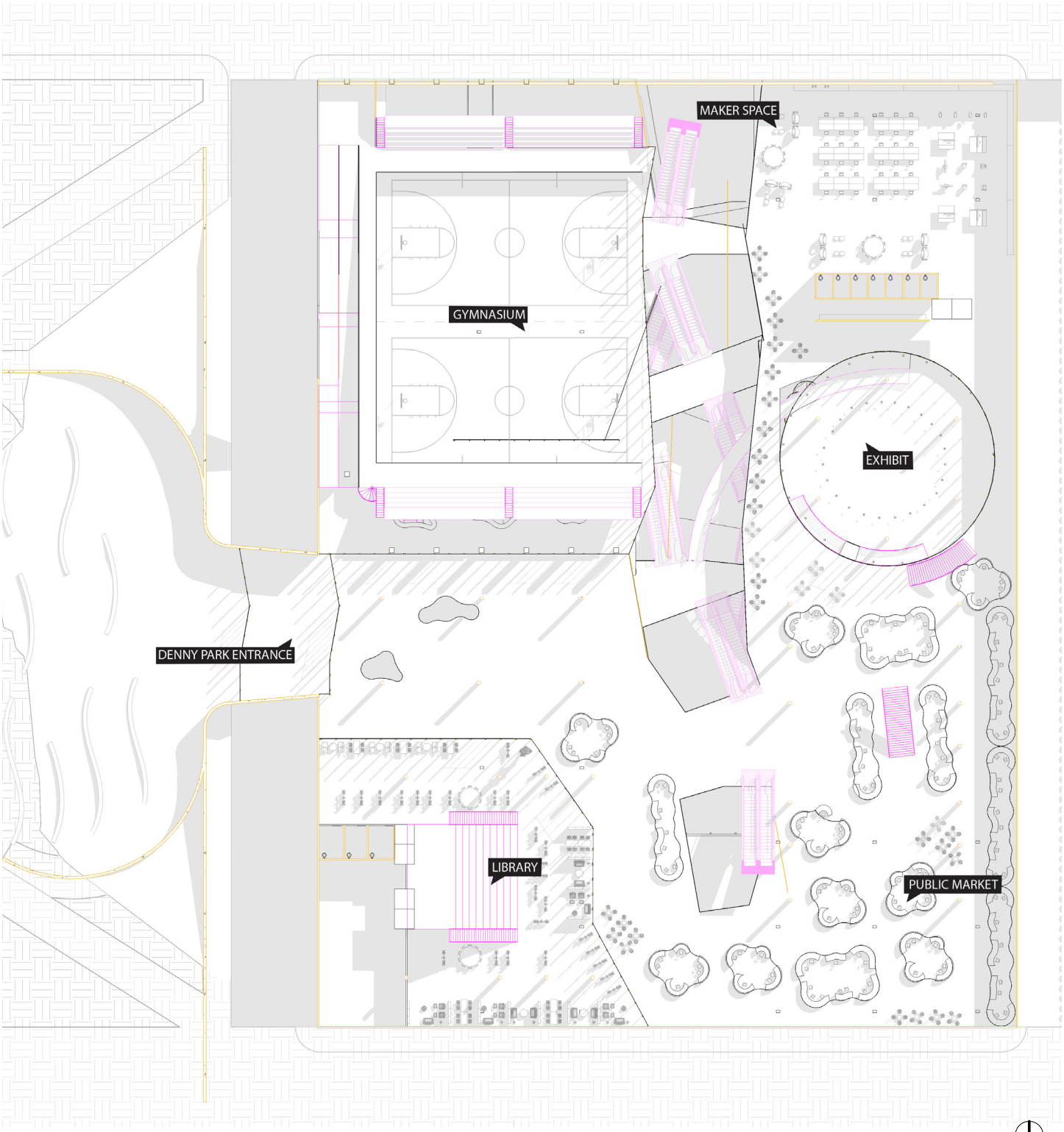


Figure 88 | Level -1 Floor Plan.

Figure 89 | Screen Capture of Basketball Courts from Walkaround Video.

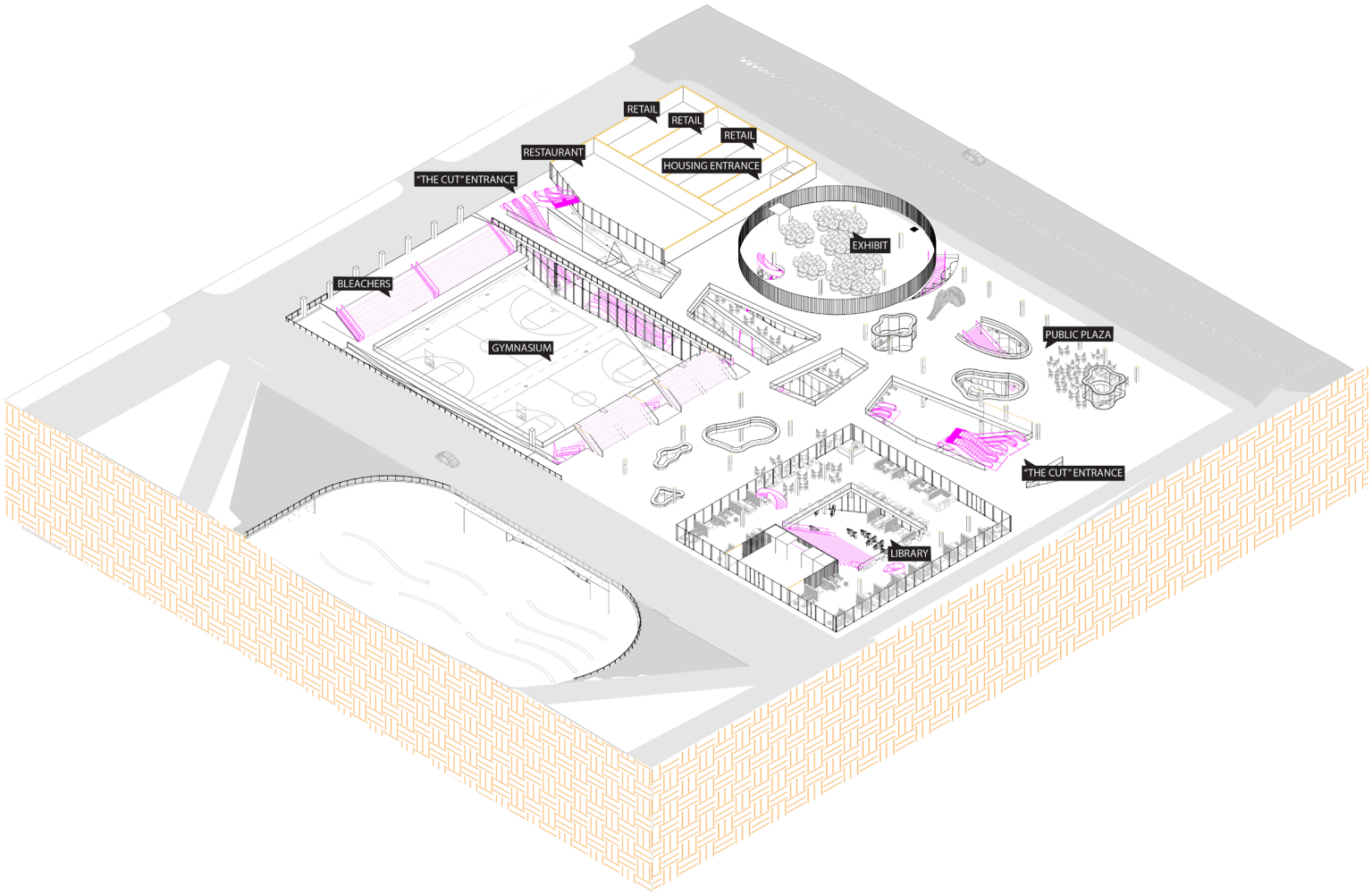


 Figure 90 | Level 1 Floor Plan Axon.

Floor Plan Level 1 | Public Plaza & Library; Access to Residential & Commercial Towers; Retail

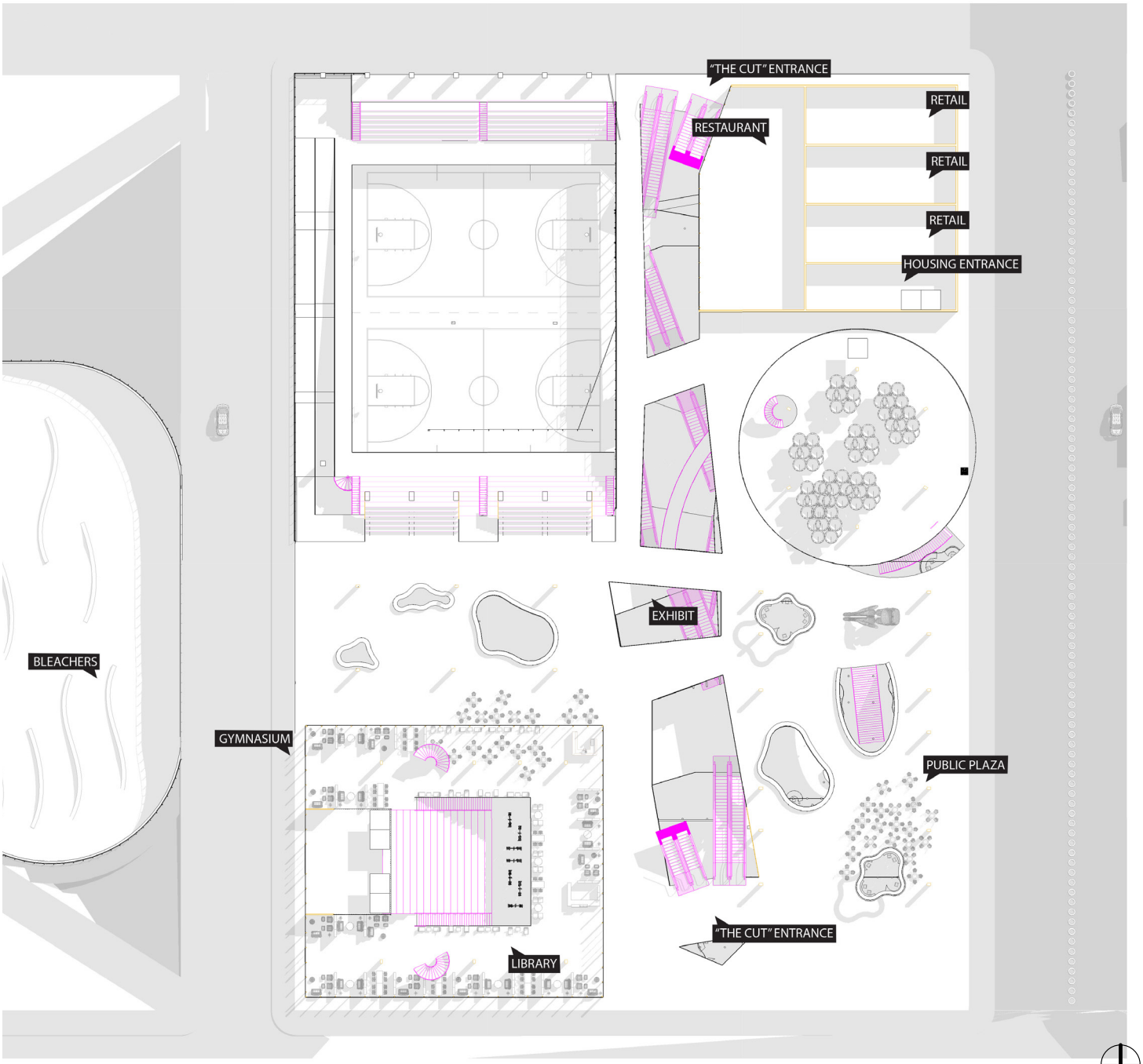


Figure 91 | Level 1 Floor Plan.

Figure 92 | Screen Capture of Library Space from Walkaround Video.

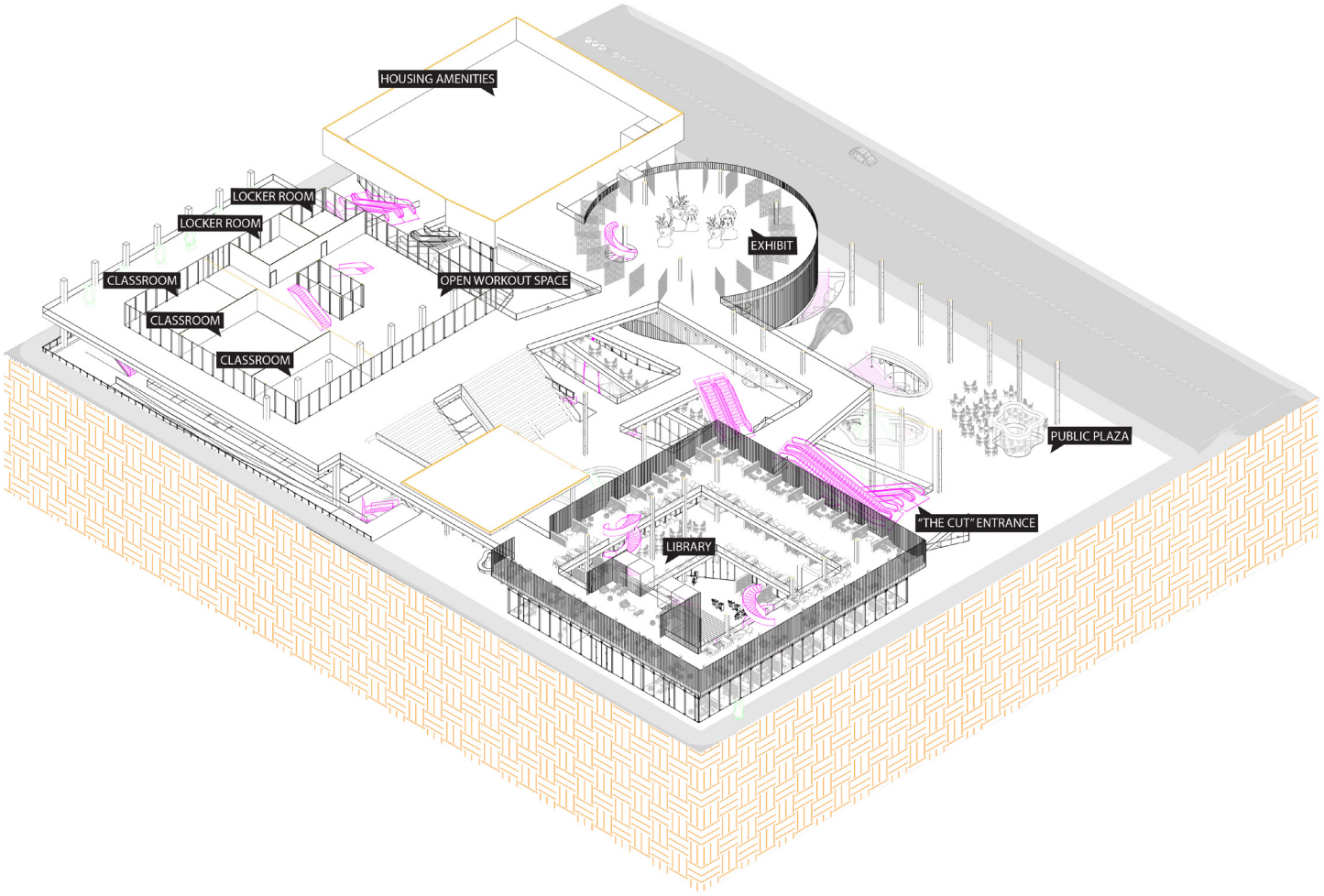


 Figure 92 | Level 2 Floor Plan Axon.

Floor Plan Level 2 | Main Access to Recreation Center, Library, Gallery

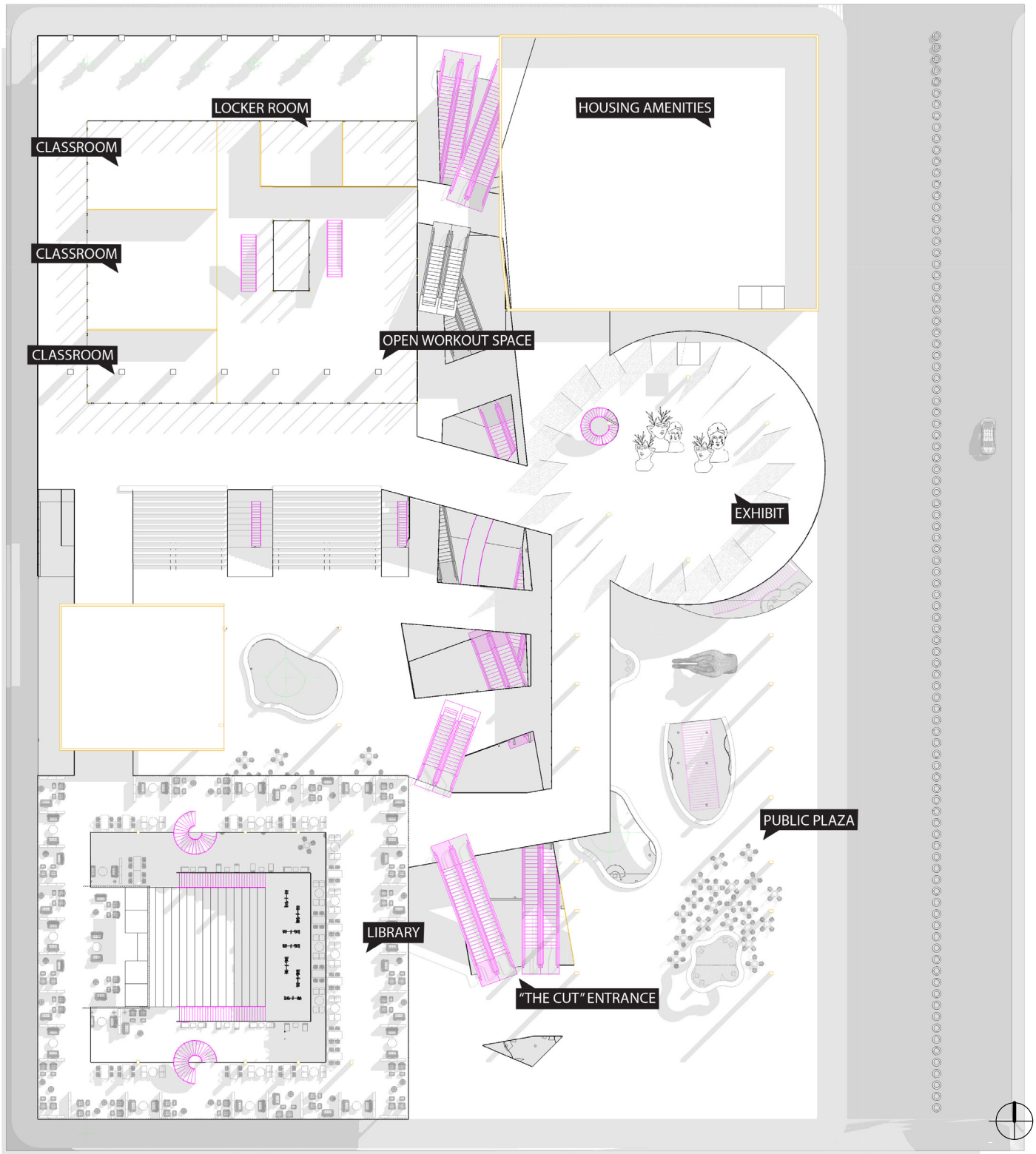
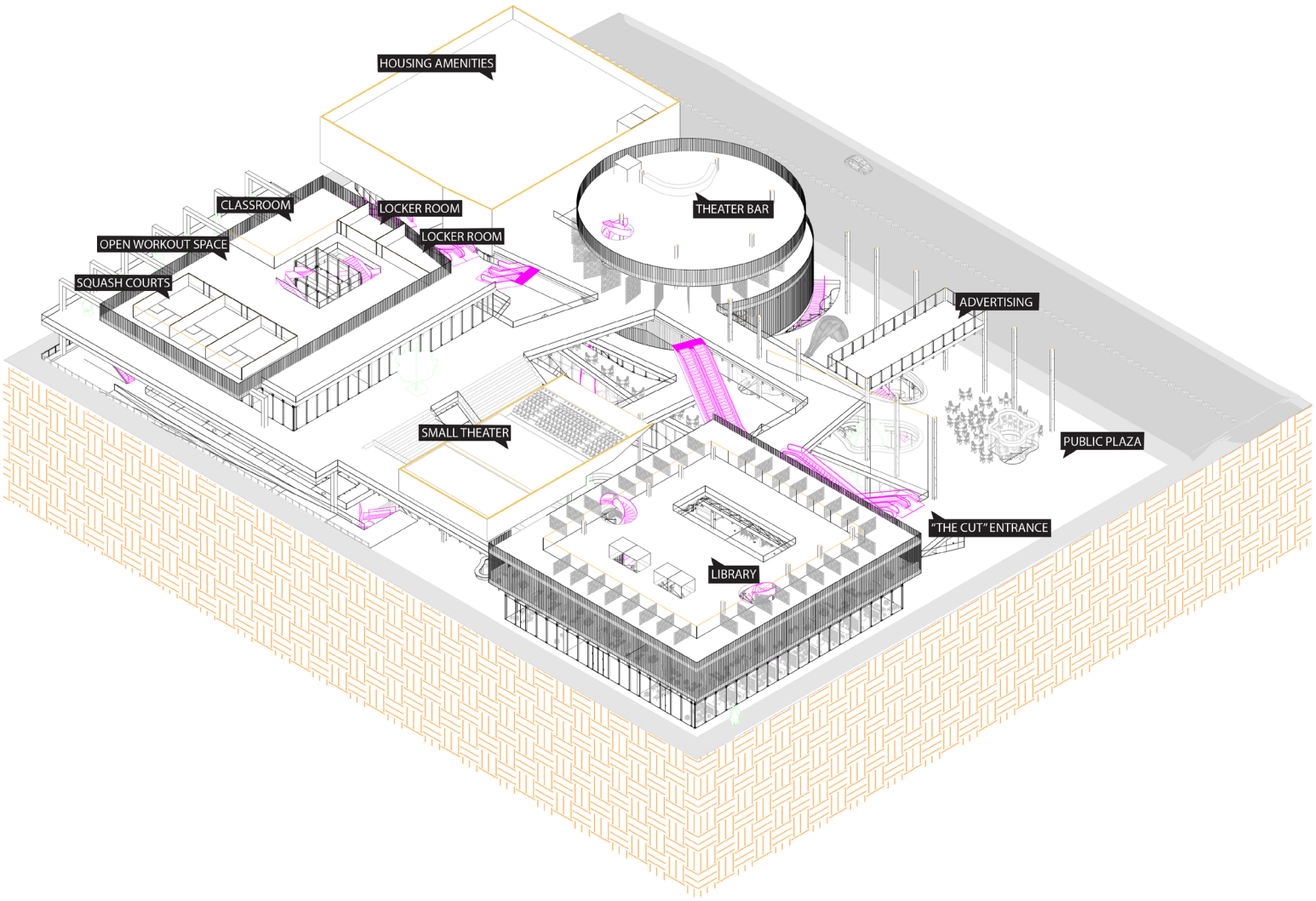


Figure 93 | Level 2 Floor Plan.



148 Figure 94 | Level 3 Floor Plan Axon.

Floor Plan Level 3 | Small Theater Entrance, Recreation Center, Library, Exhibition

Figure 95 | Level 3 Floor Plan.

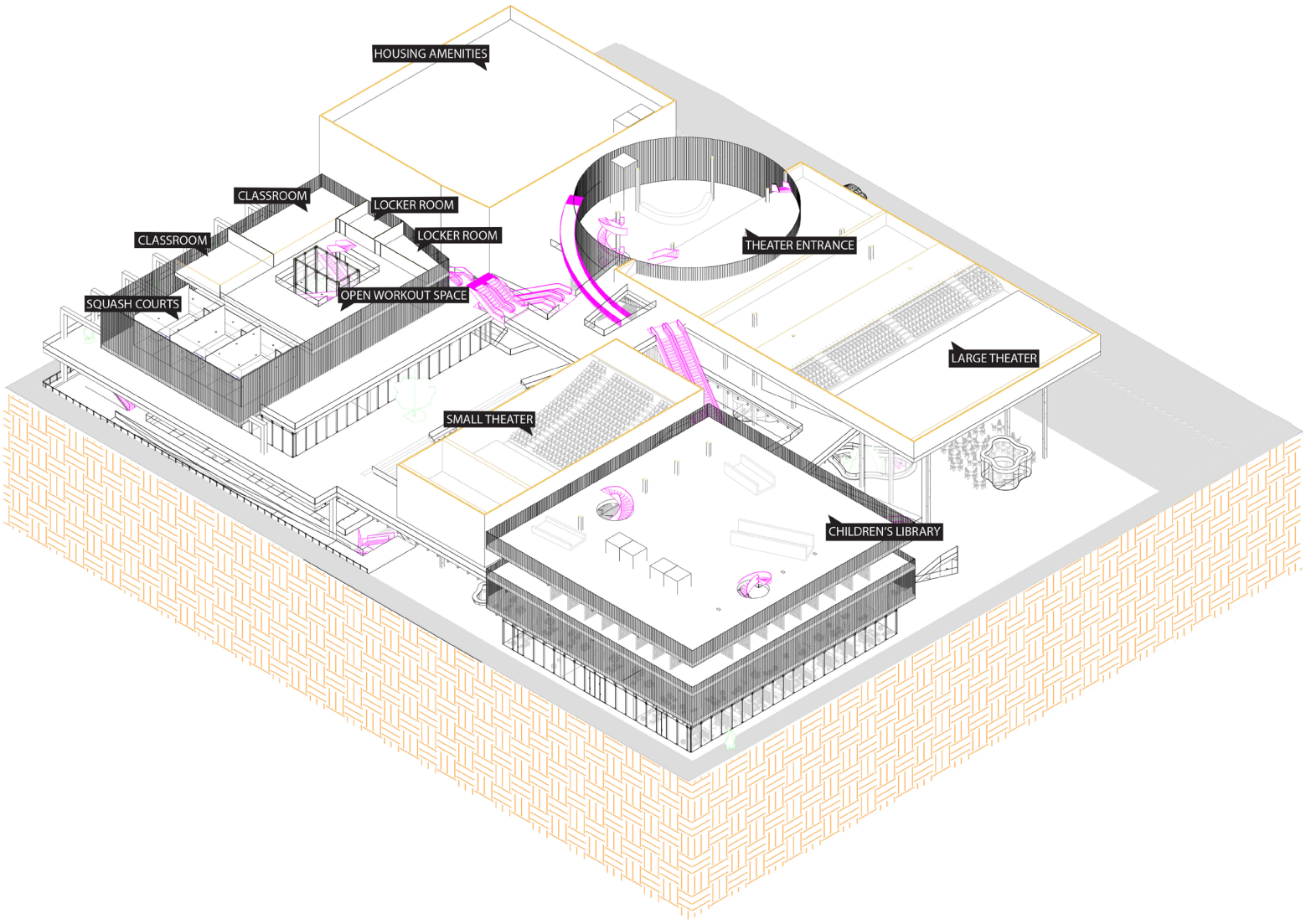


 Figure 96 | Level 4 Floor Plan Axon.

Floor Plan Level 4 | Large Theater Entrance, Theater Bar, Recreation Center, Children's Library

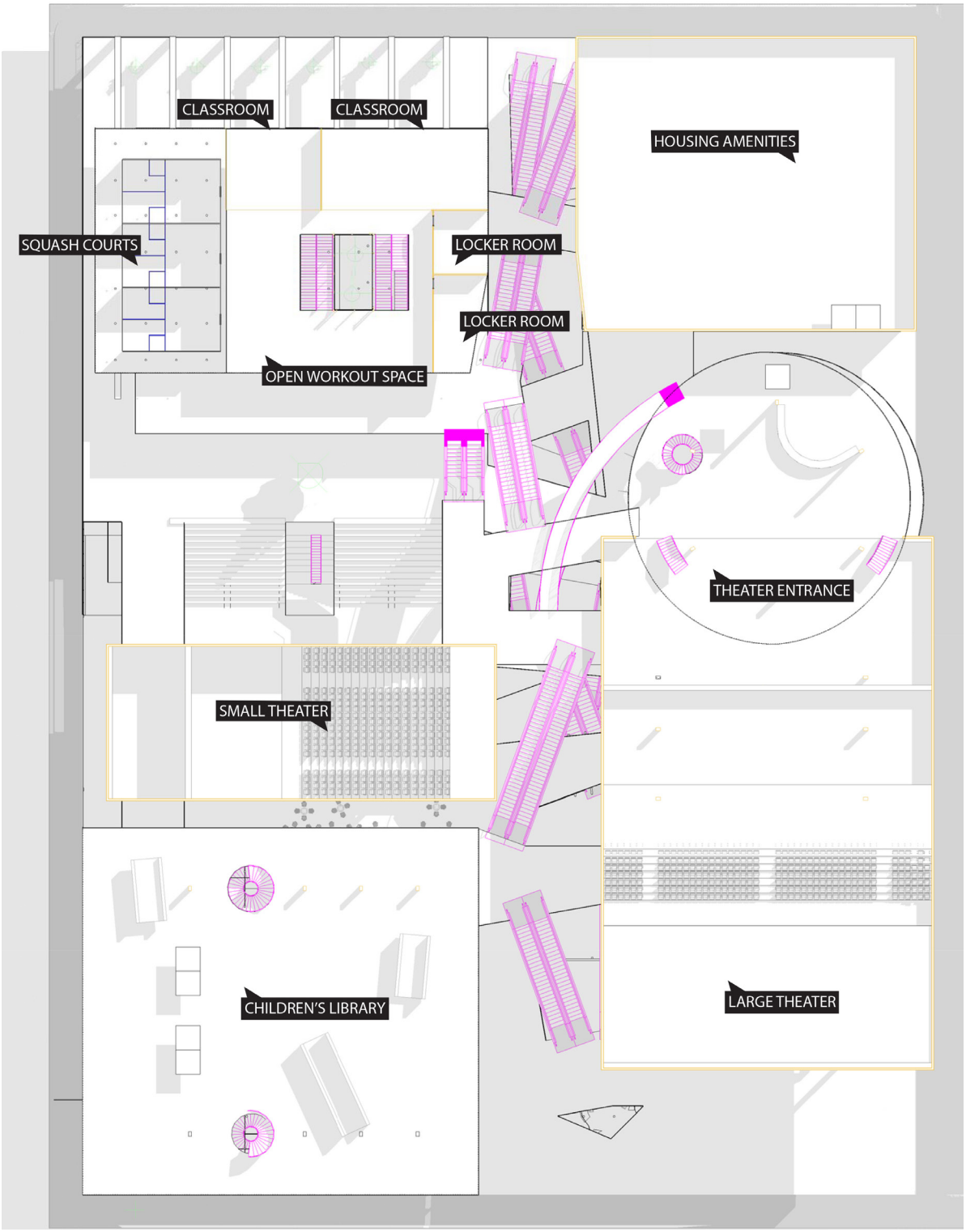


Figure 97 | Level 4 Floor Plan.

Figure 98 | Large Theater Render.

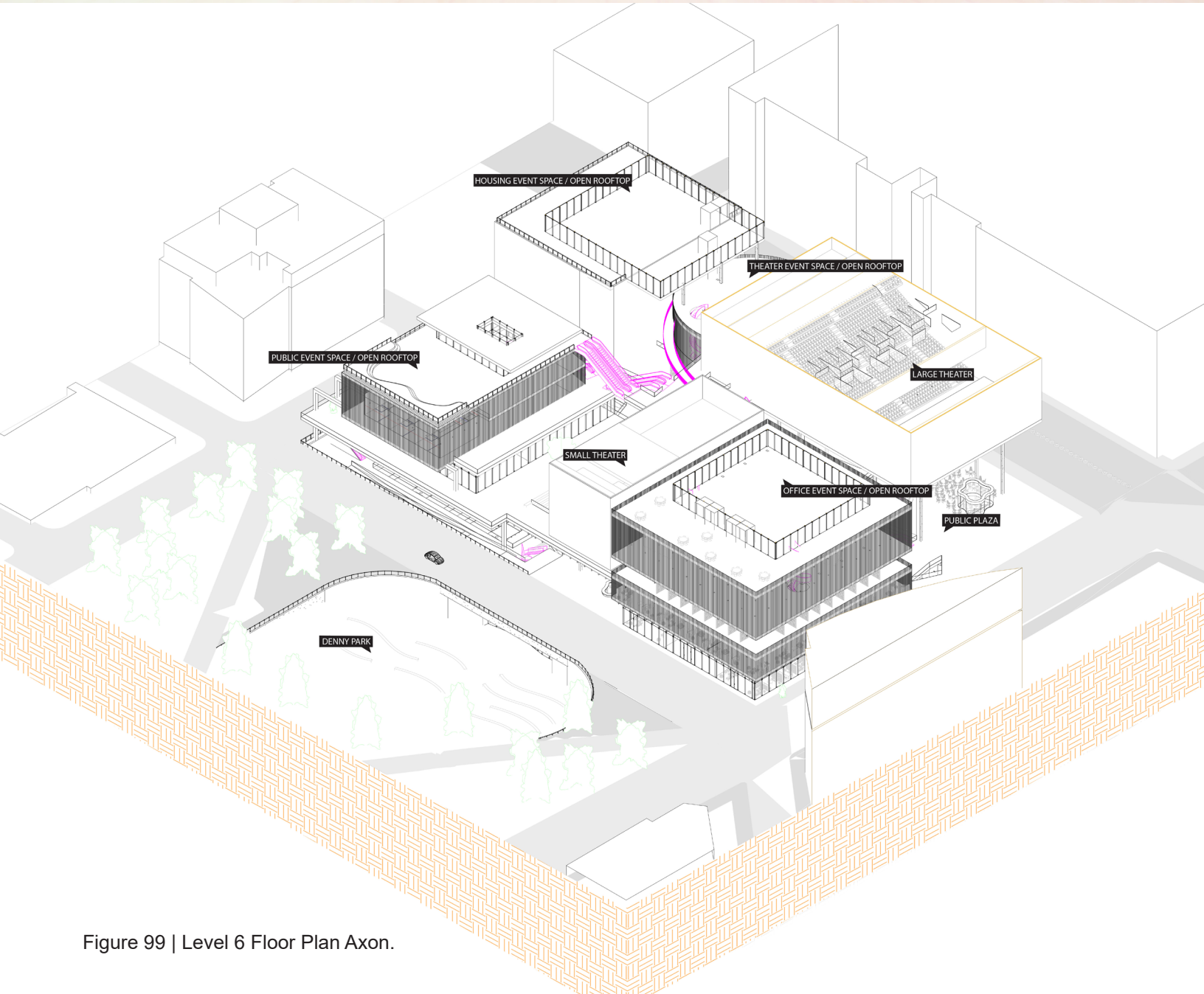


Figure 99 | Level 6 Floor Plan Axon.

Floor Plan Level 6 | Rooftop Access at Recreation Center, Theater, Office Tower, & Residential Tower

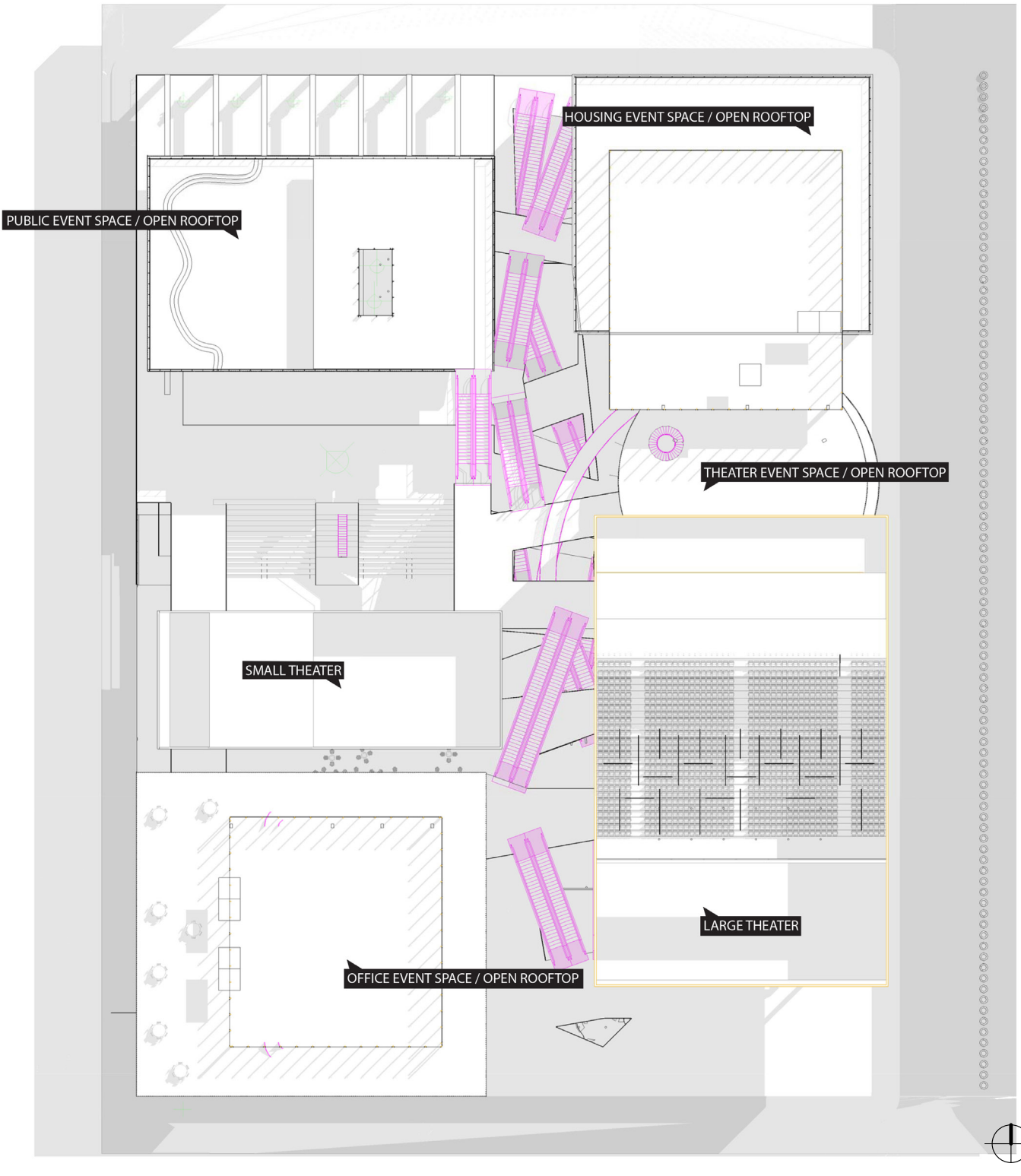


Figure 100 | Level 6 Floor Plan.

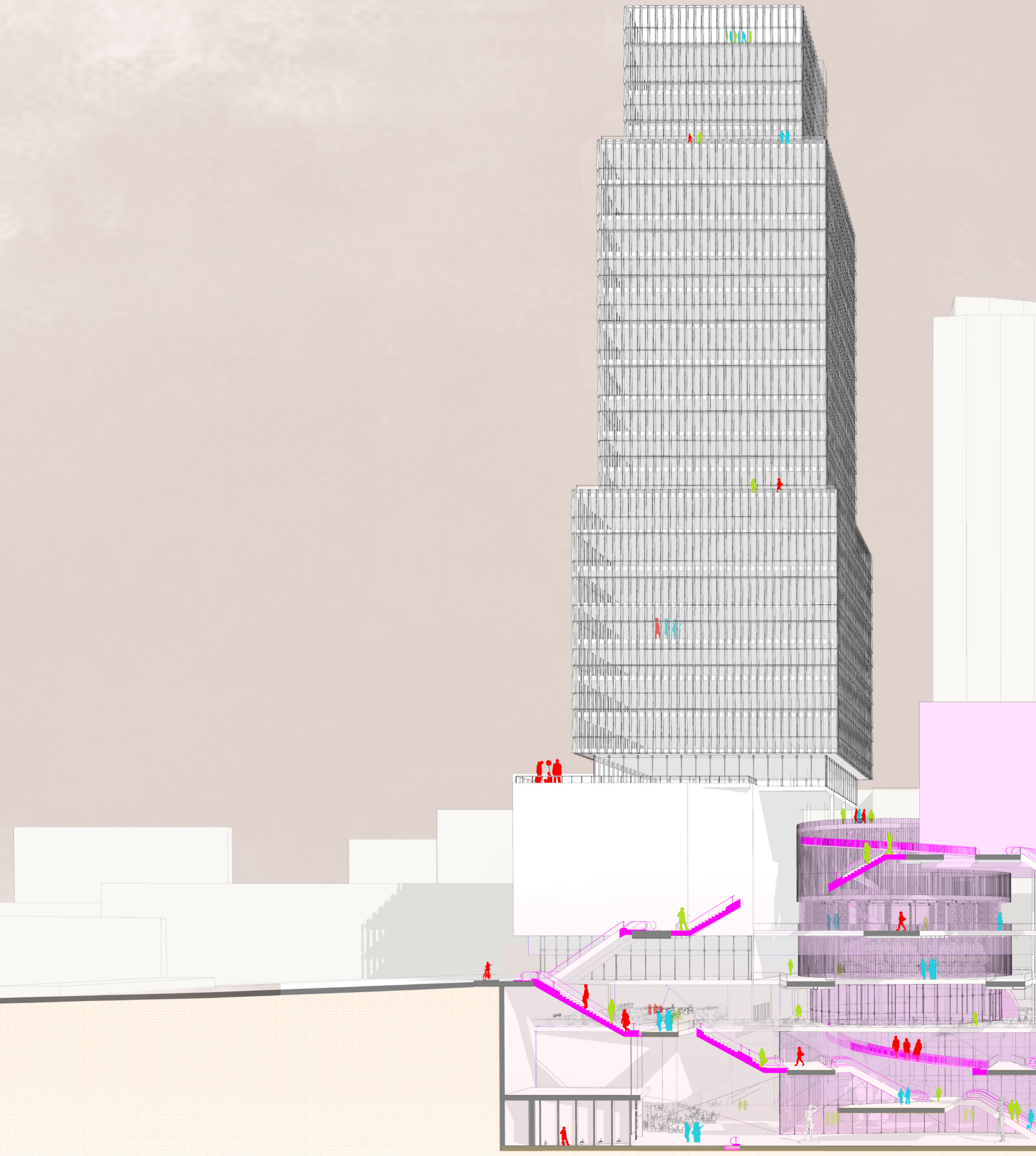
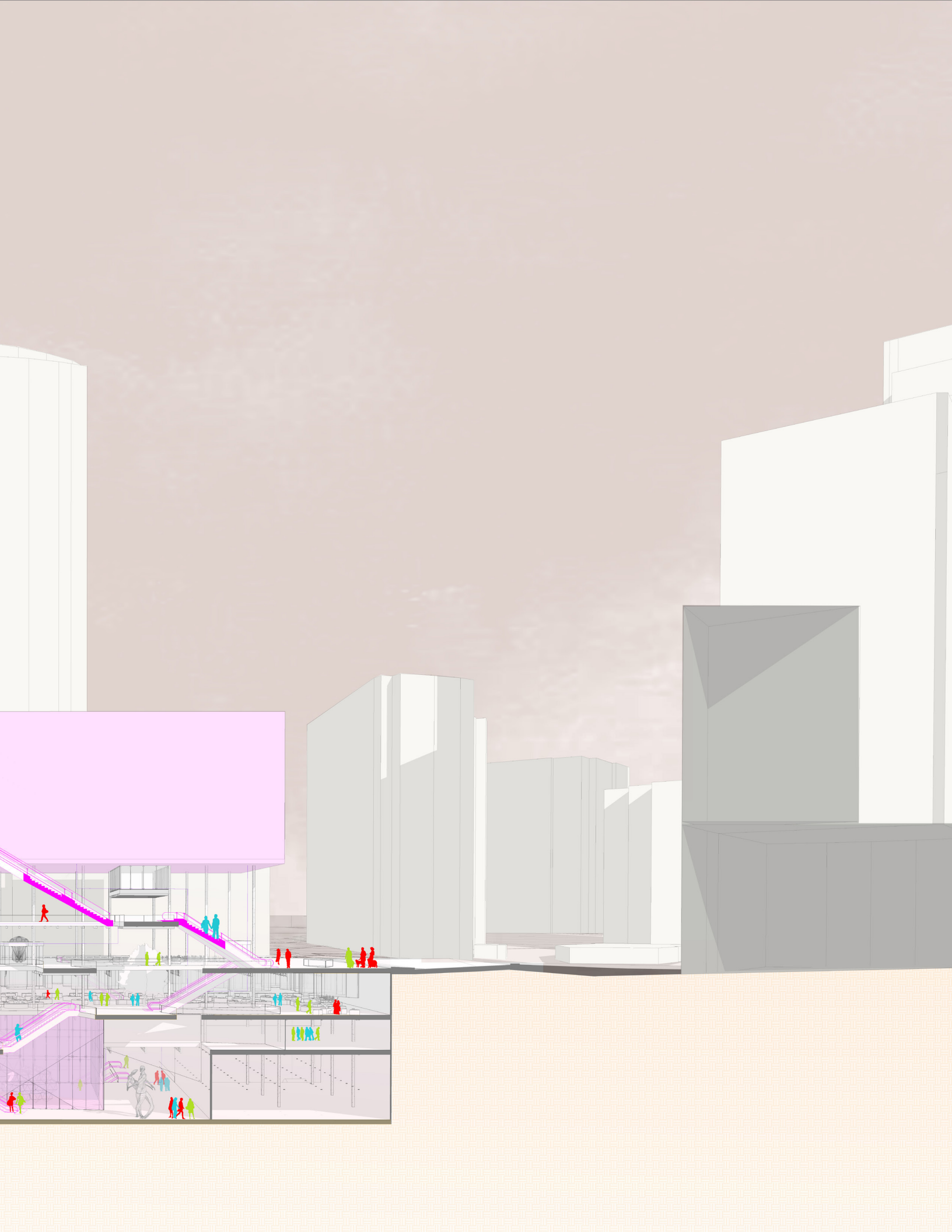


Figure 101 | Section of the Cut North - South.



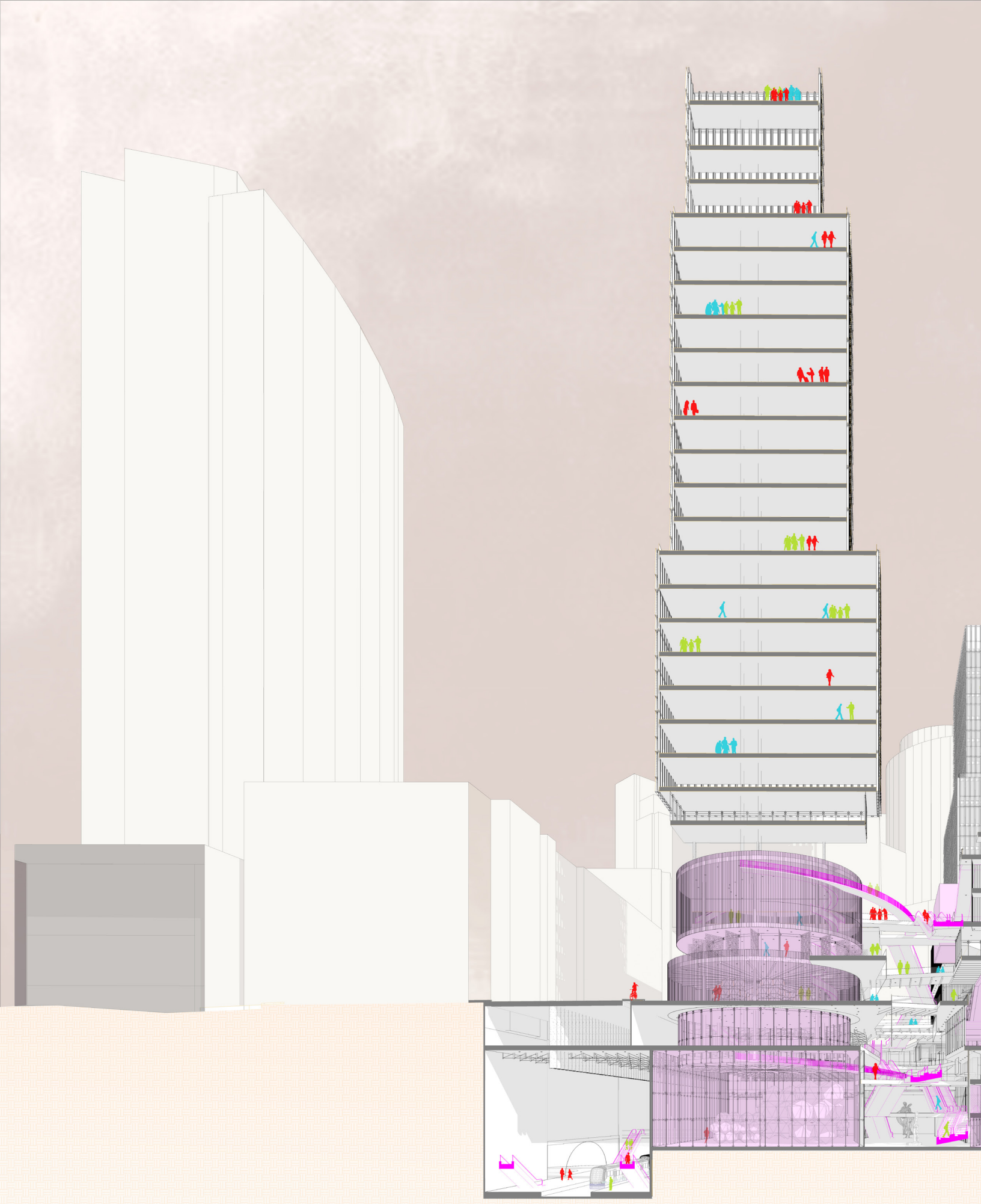
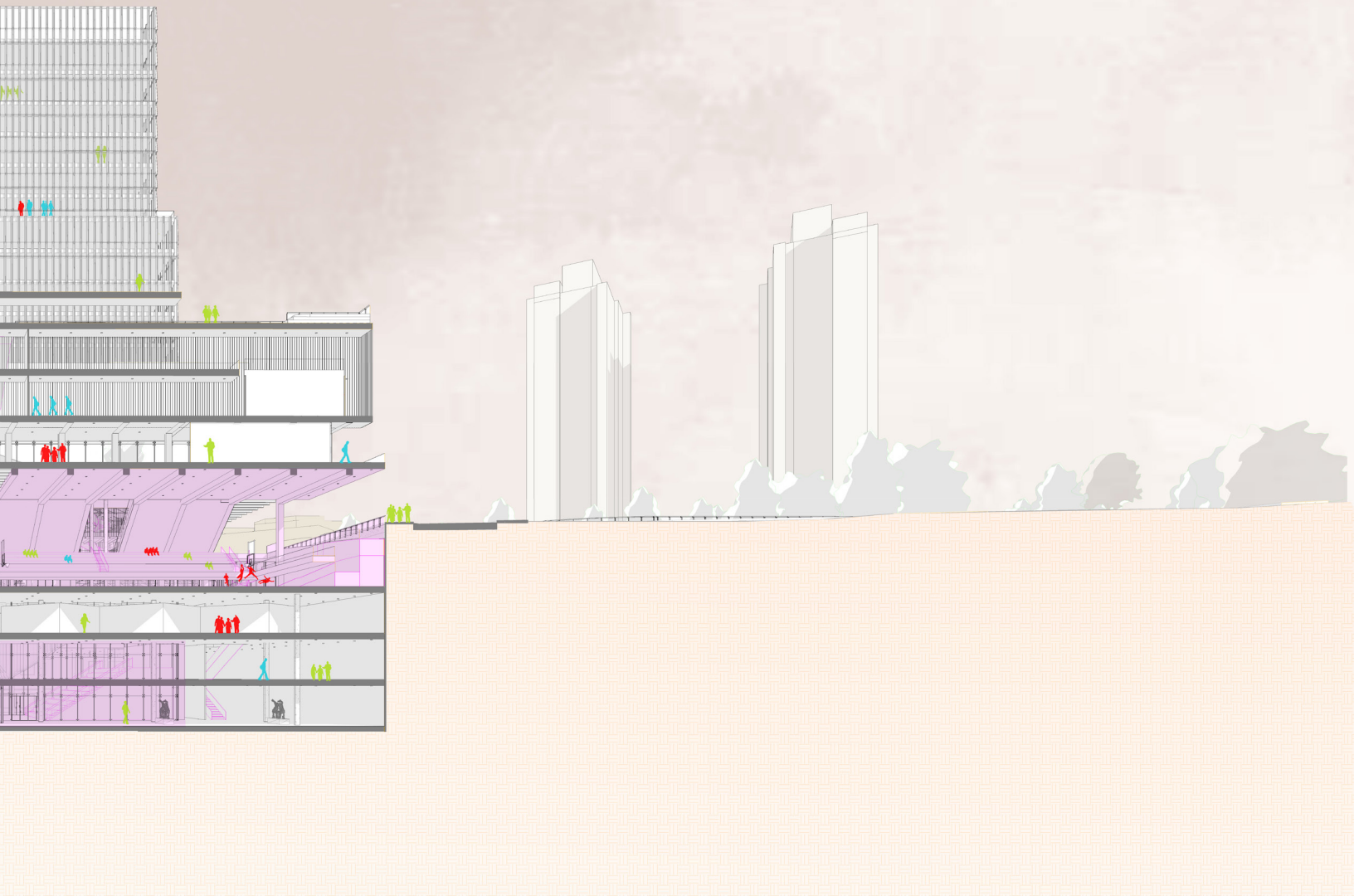


Figure 102 | Section of the Cut East - West.



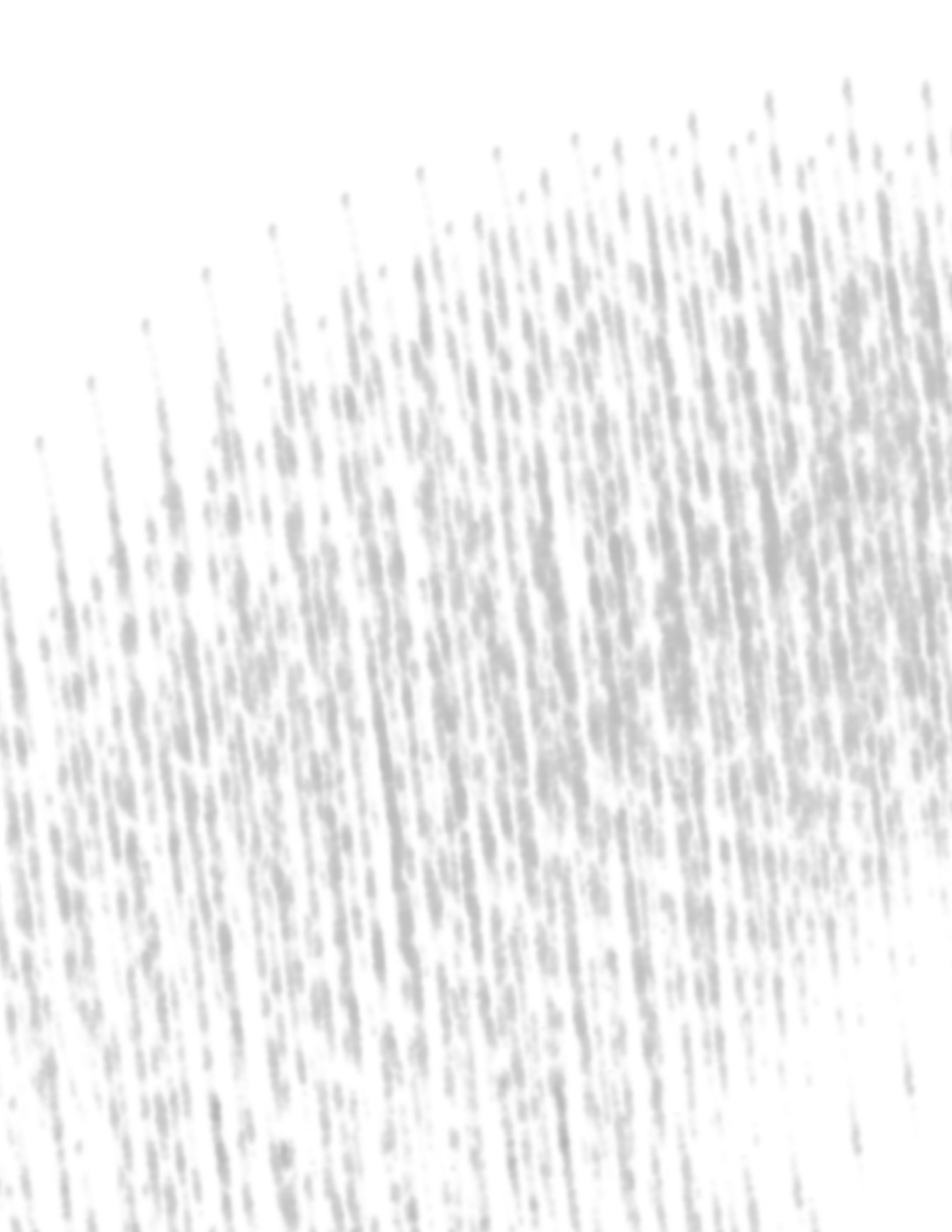
158 Figure 103 | View of the Cut from John Street Entrance.

Conclusions

The experience of the Cut allows the user to experience the urban environment from multiple frames of reference, accentuating the user experience and multiplying the understanding of space, connection, and programmatic opportunity. The connection of the platform level to the natural light of the sky through the continuous shaft of the Cut acts as a wayfinding device throughout the building. The path of continuous movement through the Cut is pierced with bridges that connect program elements & sightlines for a continual exploration of urban environment. Through the Cut, the movement of people to the link light rail is facilitated efficiently and accented by variation of form and program.

We shape our buildings; thereafter they shape us.

- Winston Churchill



Chapter Five

Conclusions

Figure 104 | View of an Outdoor Movie at Denny Park Being Projected on the Small Theater Space.

Conclusions

The public realm in the contemporary age is undeniably accented by movement and transportation. This addition to the previous definition that addressed gathering and place now adds movement as an essential defining piece of the public realm. The urban fabric of a city defines the characters that live there and by integrating culture into the very streets that people move about on, society is promoted and strengthened. Public transportation architecture is a vital connection piece to a sustainable and vibrant urban core. The publicness of this architecture is essential to its belonging to the people. By juxtaposing public transit architecture with relevant public programming, the usage of the station is expanded upon, lending itself back to the community. It becomes a defining aspect of urban public life. Connecting the street life to the public transportation system integrates the public realm with the daily lives of its users.

The development of the Cut is a purposeful integration of the character of the sidewalks and park into the path of movement from the street to the Link light rail line. The permeations through the floor plates render an underground space with light and life. The above ground character of the Cut continues this life to the upper reaches of the development. The path as a continuous whole explores the breadth of programmatic intensification that the mediating program provides both the public and private realms.

By addressing the importance of continuous inclusion of the public realm in the urban fabric, the design of public transit architecture becomes a continuous public realm. This programmatic opportunity can reach out to the city and enhance the lives of its users. Likewise, the programmatic elements can accentuate the importance of public transit in an urban setting to its users. This thesis attempts to explore the importance of sectionality in an urban setting by extruding the public realm through the Cut, encouraging usage of public programs and the light rail station in the urban context.

Intensity of experience in the city is equivalent to serenity and silence in a forest. But urban vitality depends on programmatic and spatial intensification. Programmatic consciousness, essential to spatial composition, is crucial to the quality of urban life. New programs and new modes of organization inevitable in an evolving societal structure must find an equivalent substantiality in urban form. Urban space approached from the simultaneous interaction of program, section, and material interrelates to form a psychological field. From this standpoint, the creation of urban space is a philosophical reflection.

-Steven Holl

 Figure 105 | View of the Cut from John Street Entrance Upper Levels.

BIBLIOGRAPHY

Corey, Evan, et al. United States, Seattle Department of Transportation, “New Mobility Playbook.” *New Mobility Playbook*, vol. 1, 2017, http://www.seattle.gov/Documents/Departments/SDOT/NewMobilityProgram/NewMobility_Playbook_9.2017.pdf.

“Europe’s First Train Station Library.” *RNW Media*, www.rnw.org/archive/europes-first-train-station-library.

Fesler, Stephen. “Map Of The Week: Seattle Subway Vision Map » The Urbanist.” The Urbanist, 18 July 2017, www.theurbanist.org/2017/07/18/map-week-seattle-subway-vision-map/.

Holl, Steven. Within the City: Phenomena of Relations. MIT-Press., 1988.

Manville, Michael, and Benjamin Cummins. “Why Do Voters Support Public Transportation? Public Choices and Private Behavior.” *Transportation*, vol. 42, no. 2, 2015, pp. 303–332.

Pachenkov, Oleg. Urban Public Space : Facing the Challenges of Mobility and Aestheticization. *PL Academic Research*, 2013.

“OVERVIEW.” *Sound Transit 3*, soundtransit3.org/overview.

Ravazzoli, Elisa, and Gian Paolo Torricelli. “Urban Mobility and Public Space. A Challenge for the Sustainable Liveable City of the Future.” *The Journal of Public Space*, vol. 2, no. 2, 2017.

List of Figures

Thank you.