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COLLABORATIVE LIVING 2.0:
AN ALTERNATIVE MODEL OF LIVING IN THE SHARING CITY

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ABSTRACT

COLLABORATIVE LIVING 2.0:
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Architecture

The sharing economy is a new economic model of resource sharing and distribution. With an exponential growth in value in the past ten years, it is becoming a major part of the global economy. The impact of the sharing economy extends beyond economic structures and public policies. Based on current literature, it is concluded that the sharing economy has the potential to alter urban form and give rise to new building typologies.

The focus of the research is on current housing issue that fast-growing cities like Seattle are experiencing. This thesis proposes that architectural design can employ the sharing paradigm to encourage resource-exchanges and community-based cultures to address problems of high-density living in big cities. Living spaces can be more efficiently utilized to reduce housing costs at the same time enhance quality of life.

A three-part approach is devised to demonstrate how the sharing paradigm can be applied to architecture. It includes optimizing spatial uses, redefining privacy, and fostering economic relationships among residents. It is manifested in a new typology of housing rooted in the principles of the sharing economy. This architectural investigation takes place in Capitol Hill - a young neighborhood with a growing population in Seattle. The proposal speculates an alternative model of living that responds to the current socio-economic trends and the rising costs of living in cities.

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CHAPTER 1

INTRODUCTION

1.1 PROBLEM STATEMENT

Growth in urban populations has been a popular topic in architectural discourse for the past few years. Projections show that world cities will grow by another 2.5 billion people by the year 2050, which means an increase from 54 to 66 percent of the world's population.[1] The rate of construction in urban areas in the next decade will exceed the rate at any period in history.[2] One of the biggest challenges that planners and architects face in this era of rapid urban growth is housing the additional 2.5 billion people moving into cities all over the world. Environmental concerns add another layer of complexity to this puzzle. Overconsumption of resources in cities poses limitations on urban growth. Thus, the issues of density and sustainability require innovative approaches to planning and design in order to address urban growth in the near future.

In the past decade, big cities have witnessed the rise of a series of innovative businesses aimed at maximizing the value of idle assets, ranging from personal cars to human resources. Owing to the development of information technology, these innovations have transformed the way people move and use resources in cities. With ever-growing popularity and financial capital, they have gained a significant place in the emerging crowd-based economy.

This sharing economy is an ongoing phenomenon that is transforming the existing urban fabric. It has brought about social and cultural changes that dictate the way we utilize space in big cities. Some building types are becoming obsolete, while others are thriving under new

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1 "World's population increasingly urban with more than half living in urban areas", *United Nations*, July 10, 2014, accessed June 1, 2017, http://www.un.org/en/development/desa/news/population/world-urbanization-prospects-2014.html

2 "Steering Urban Growth: can planning and architecture manage?", *Deutsche Bank*, 23 November 2015, accessed June 1, 2017, https://www.db.com/newsroom_news/2015/cr/steering-urban-growth-can-planning-and-architecture-manage-en-11336.htm

demands. However, so far architectural responses to new demands of the sharing economy have been reactive and market-driven, such as the case of co-working and co-living building design trends. The topic of the sharing economy is often overlooked in architecture.

At its core, the sharing economy is a way of capitalizing on dense urban living in order to maximize resources including space. Economists and sociologies have argued that this new way of doing business reveals a paradigm shift in people's perception of ownership and collaboration as well as the work-life relationship. Using this approach in architectural design opens up an alternative understanding of space as a physical and social construct. This thesis will examine the issue of urban growth and density through the paradigm of the sharing economy. It places architecture in the active role of adopting this new model of living and working in order to address the issue of housing in the future of urban densification.

1.2. CLAIM

This thesis makes a case for considering the impact of the sharing economy on the built environment in the near future. Research into the economic and social implications indicates that this type of peer-to-peer exchange has the potential to physically transform the built environment. This thesis proposes that architecture can tap into the potential of the sharing economy for high-density developments that can facilitate local economic growth and build sustainable communities. By encouraging resource exchanges and community-based cultures, architects can design living spaces that address problems of high density living in big cities.

The thesis proposition is explored through the architectural design of a new large-scale housing typology for Seattle. The building project attempts to incorporate the social, economic, and cultural dynamics of the sharing economy in order to create a high-density and sustainable community. The project takes a pro-active and visionary approach to future living embraced by participants of the sharing economy. The final design speculates an alternative model of living in the city of connectivity and collaboration.

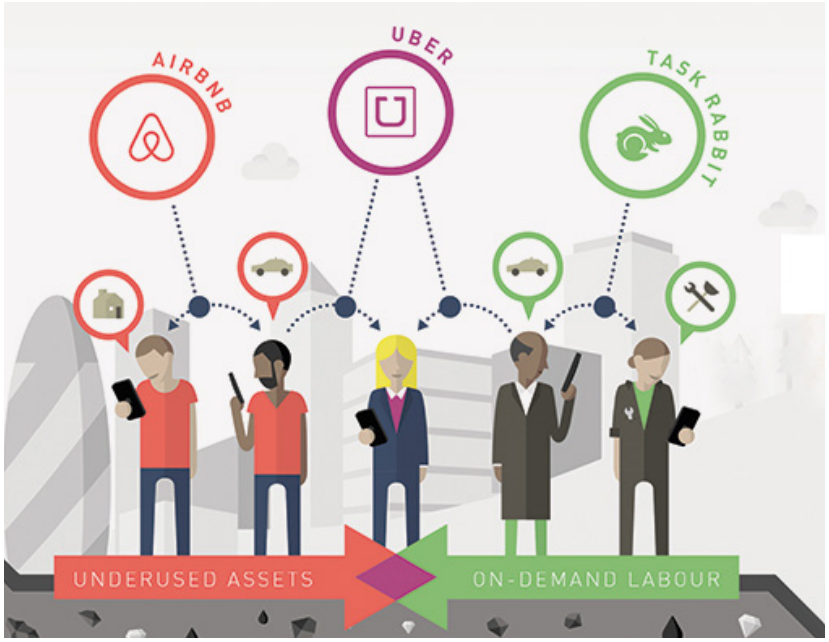
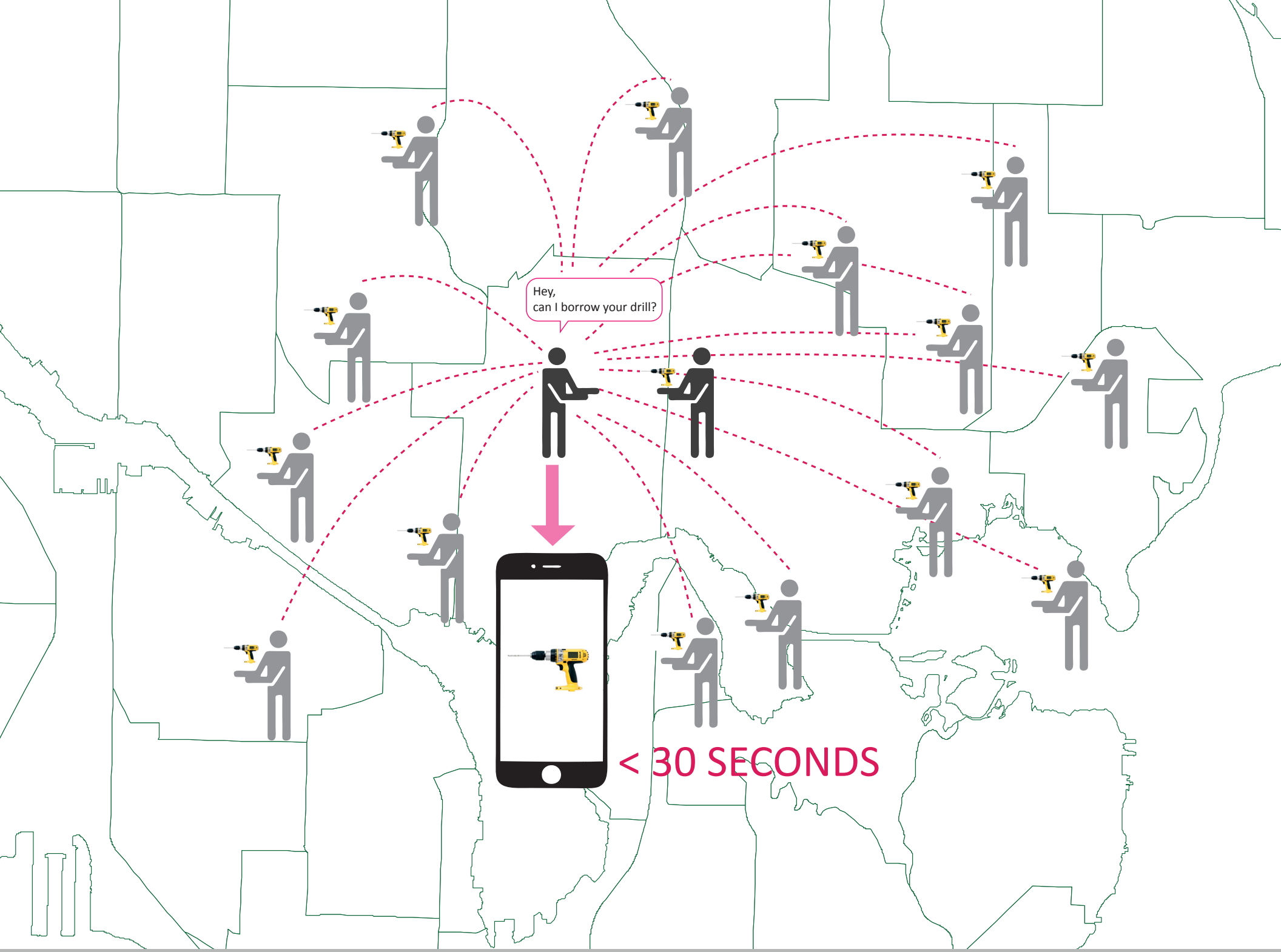


Image source: RSA

CHAPTER 2

THEORETICAL FRAMEWORK


Hey,
can I borrow your drill?
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This chapter first examines literature from economists, market analysts and sociologists on the sharing economy in order to understand its drivers, components, and operations. Then the scope focuses on how this way of distributing resources relates spatially to cities and the built environment. This analysis serves as a framework for understanding how the sharing economy can shape the physical form of the built environment. Then this thesis will analyze emerging trends in how spaces are used and what the implications are for architectural design.

2.1. THE SHARING ECONOMY

Definition

The sharing economy is defined as a peer-to-peer model of distributing resources for a fee or other compensation that relies on online participation. In this model, resources range from tangible items such as cars, clothing, or tools to intangible assets such as time, services, or experience.[3] According to Rachel Botsman and Roo Roger, principles for the success of these ways of resource sharing include both quantitative and quality factors. They include the critical mass of participants and idling capacity of resources, along with the belief in the commons and trust between strangers[4]. In terms of market approach, the sharing economy emphasizes access over ownership in order to maximize under-utilized assets.[5] Thus, it is associated with saving resources and promoting sustainability.

Economists Botsman and Rogers are credited with popularizing the concept of the sharing

3 Juho Hamari, Mimmi Sjokline, and Antti Ukkonen, "The Sharing Economy: Why People Participate in Collaborative Consumption", *Journal of the Association for Information Science and Technology 67* (2016): 2047-059.

4 Rachel Botsman and Roo Rogers, *What's Mine is Yours: The Rise of Collaborative Consumption* (New York: Harper Business, 2010)

5 Ibid.

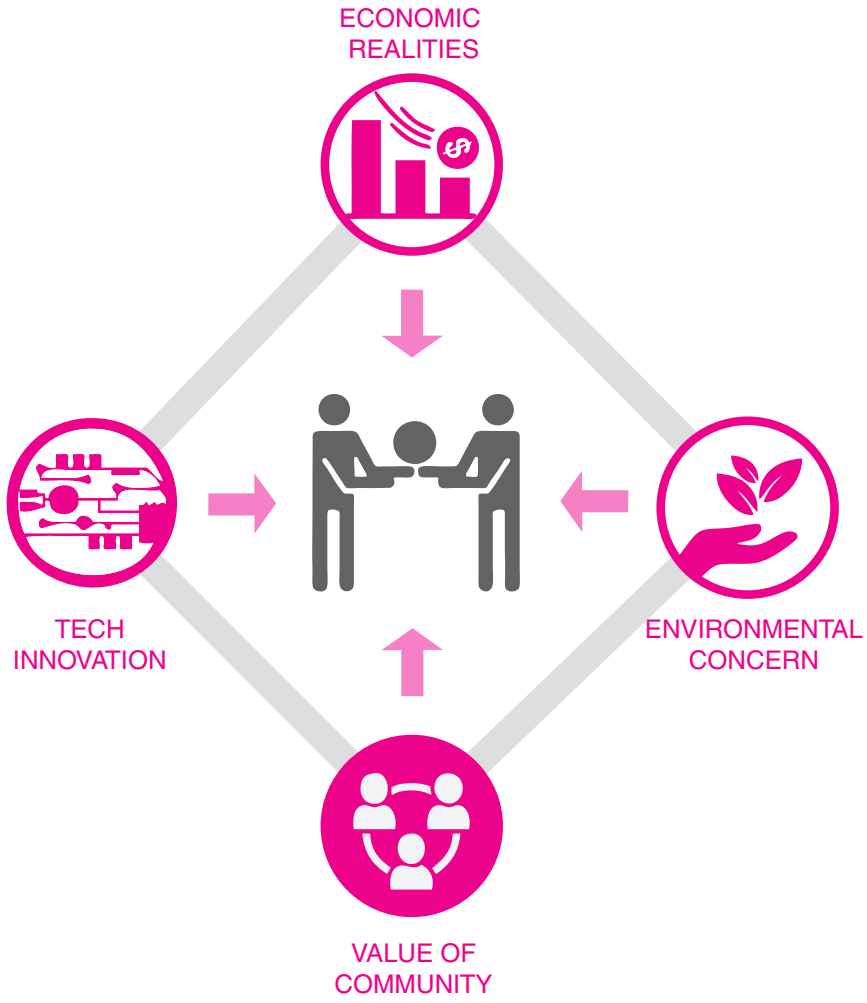

Figure 1 | Key drivers of the sharing economy

economy. Written during the emergence of start-up businesses in the early 2000s, the book "What's Mine is Yours" analyzes new possibilities in market exchanges. The authors observe that participants in the sharing economy "are not Pollyannaish do-gooders and still very much believe in the principles of capitalist markets and self-interests."[6] Other terminologies are often used interchangeably to depict this model as a social and economic system in different contexts, including on-demand economy, collaborative economy, collaborative consumption, peer economy, crowd-funding, and crowd-sourcing economy. In this thesis, sharing economy is used as an all-encompassing term for this new model of the economy powered by technology and rooted in collaboration.

Key drivers

The emergence of the sharing economy is attributed to technological developments in the sharing of information and goods in recent years (Figure 1). The development of Web 2.0 - the portal for online user-

6 Ibid.

generated content - fuels the proliferation of social media and online platforms. This made possible the network of exchange for the new model of economy, monitored by feedbacks and ratings between participants.[7] The shift in societal values in recent years is another important factor for the rise of the sharing economy.[8] The 2008 recession followed by a housing crash in the US brought economic realities to the forefront. The resulting instability in large-scaled institutions made many people turn away from big purchases and loans. In this context, the economic benefits of sharing and trading secondhand resources began to outweigh the conventional ownership model. In addition, environmental concerns due to overconsumption had an impact on people's consuming habits. This combined with the rising popularity of online community through social media increased the willingness to share among younger generations.[9]

The rise of the sharing economy

Botsman and Rogers observe the sharing economy is the way of the future. Statistics show a steep rise in the value of businesses adopting this model of exchange over a short period of operation. For example, after less than a decade in operation, Uber is one of the most profitable tech startup companies, valued at $69 billion.[10] Similarly, Airbnb can be considered one of the biggest hotel companies in the world, currently valued at $30 billion, about the same as Marriot International.[11] The peer-to-peer economy is expected to grow from $14 billion in 2014 to $335

7 Ibid.
8 Ibid.
9 Ibid.
10 Brad Stone, "The $99 Billion Idea", ***Bloomberg Businessweek,*** January 26, 2017, accessed 1 June 2017, https://www.bloomberg.com/features/2017-uber-airbnb-99-billion-idea.
11 Ibid.

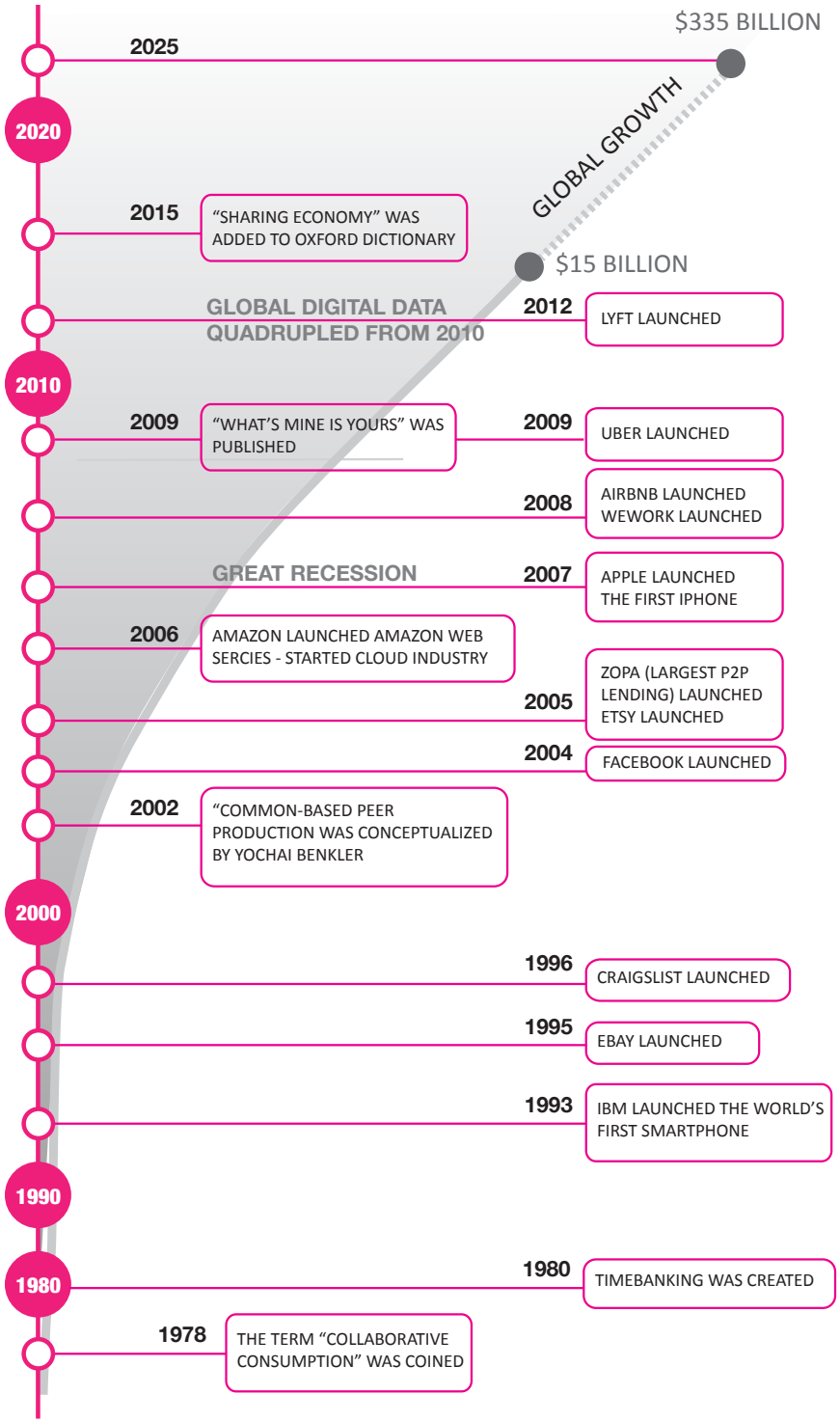

Figure 2 | Timeline of the sharing economy

billion by 2025.[12] (Figure 2)

The rise of the sharing economy is associated with the plethora of tech startup companies. While often considered the disruptor of traditional businesses, these companies are able to find innovative ways of adapting technology to optimize resources. In 2014 it was estimated that there was approximately 700 startup businesses in Seattle[13] that were estimated to raise $1.95 billion investments in the following year.[14]

Apart from capital gains of these highly successful companies, the success of the sharing economy can be measured through popularity and participation. It is estimated that there were 21.7 million users of sharing services in 2015.[15] Urbanist Serena Lei reports that 40

12 Niam Yaraghi and Shamika Ravi, "The Current and Future State of the Sharing Economy", ***Brookings***, 29 December 2016, accessed June 1, 2017, https://www.bloomberg.com/features/2017-uber-airbnb-99-billion-idea.

13 Rachel Lerman, "Keep watch in 2016 on these Seattle startup stars", ***The Seattle Times***, 3 January 2016, accessed June 1, 2017, http://www.seattletimes.com/business/technology/keep-watch-in-2016-on-these-seattle-startup-stars.

14 Ibid.

15 "How Popular Is the Sharing Economy?", ***eMarketer***, 27 June 2016, accessed 1 June 2017, https://www.emarketer.com/Article/How-Popular-Sharing-Economy/1014135.

million U.S. participants are predicted to join the sharing economy by 2020.[16] In a 2017 consumer survey, 41 percent of Americans with a minimum annual household income of $100,000 report using at least four sharing economy services.[17]

Critique of the Sharing Economy

Although the idea of the sharing economy seems to have been embraced by economists and urban planners in their visions of the future of the city, it has also been met with some criticism. Without appropriate regulation, the promise of communal generosity can be replaced by the self-interests of participants and in some cases, of online service providers.[18] Tom Slee argues large-scale sharing corporations who dominate the current system diminish the potential of a true peer-to-peer model.[19] Slee is among numerous observers of the economy who feel there is a disconnect between concept and reality in the actualization of the sharing economy.

Business professor Arun Sundararajan offers a different perspective in his book on "crowd-based capitalism".[20] He acknowledges the complexity and multi-faceted nature of this model. The term crowd-based capitalism is used in Sundararajan's book to describe the fundamentals of the sharing economy in which the peer-to-peer model has allowed people to get goods and

16 Serena Lei, "Five Things Cities Can Do to Make the Sharing Economy Work for Everyone", *Urban Institute*, 29 June 2016, accessed 1 June 2017, http://www.urban.org/urban-wire/five-things-cities-can-do-make-sharing-economy-work-everyone.

17 "The Sharing Economy - Consumer Intelligence Series", *PwC*, accessed 1 June 2017, http://www.pwc.com/us/en/technology/publications/assets/pwc-consumer-intelligence-series-the-sharing-economy.pdf

18 Tom Slee, *What's Yours is Mine: Against the Sharing Economy* (New York: OR Books, 2016)

19 Ibid.

20 Arun Sundararajan, *The Sharing Economy: The End of Employment and the Rise of Crowd-based Capitalism* (Cambridge, MA, London, England: MIT Press, 2016)

services they could not otherwise afford. It is, by nature, the decentralization of the economy into a more democratic practice of resource distribution.

The goal of this thesis is not to prove or disprove the promise of the sharing economy. Whether the sharing economy is an alternative to capitalism or a fuel to hyper-capitalism, it has nevertheless altered the way people live and work, blurring the lines between public and private. This thesis acknowledges the sharing economy as an ongoing socio-economic process that has activated major shifts in urban life.

2.2. THE SHARING ECONOMY AND ITS URBAN CONTEXT

The spatial dimension of the sharing economy

The sharing economy makes use of ubiquitous information technology that transcends geographical limits. However, its operation is in fact place-based and facilitated by dense urban areas. Compared to the 20th century form of globalized economic exchange, the sharing economy is more grounded in its spatial context through GPS technology. In particular, its participation requires a critical mass in proximity to redistribute resources efficiently.[21] (Figure 3) Density is thus the catalyst for success of the sharing economy. In ride-sharing platforms, the spatial nature of the exchange is key to efficiently moving people around cities. In the case of home sharing like Airbnb, when proximity is irrelevant, the exchange is place-specific, and consumers benefit from having a variety of options in urban areas. It is this spatial dimension of the sharing economy that has broader implications on the physical and social fabric of the city.

21 Nestor M. Davidson and John J.Infranca, "The Sharing Economy as an Urban Phenomenon", *Yale Law & Policy Review 34*, no. 2 (2016): 215-79.

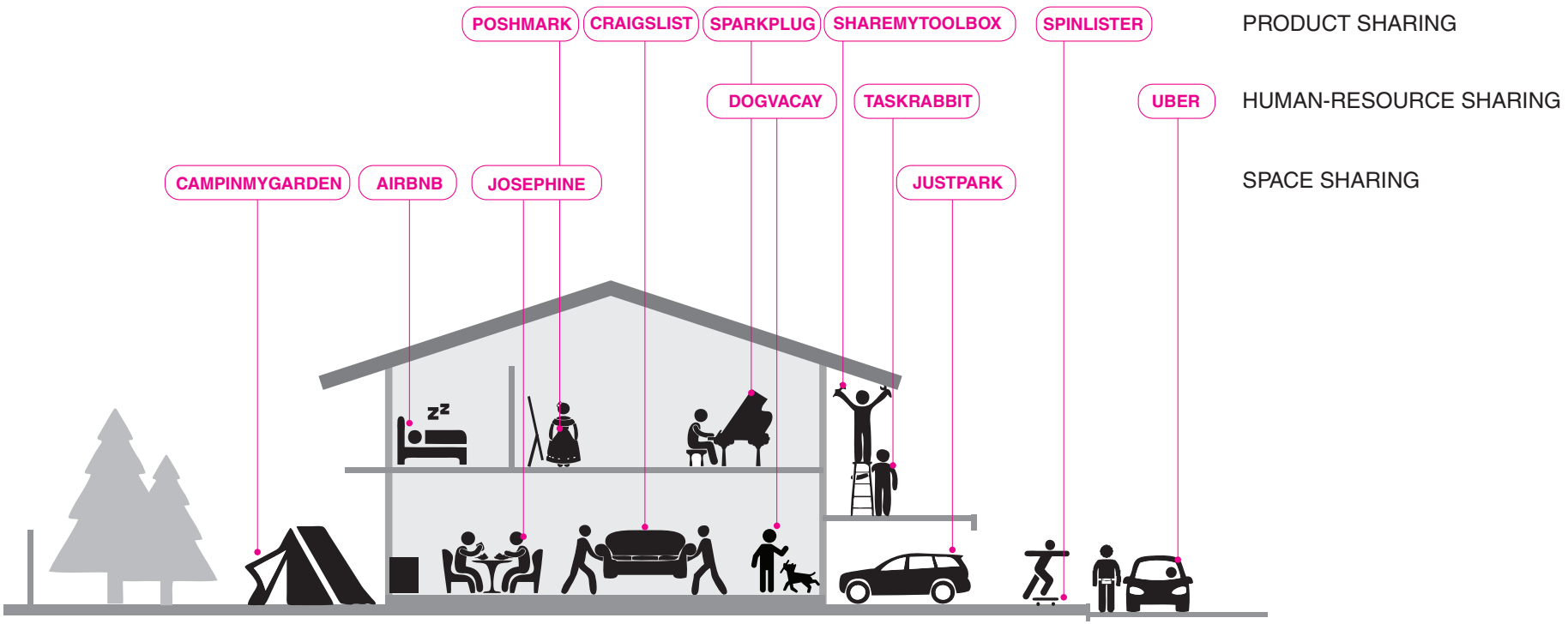

Figure 3 | How people participate in the sharing economy in their daily lives.
The pink texts call out digital apps related to certain sharing services

There is little literature focused on the spatial dimension of this new model of economic exchange. Davidson and Infranca situate the sharing economy in the city context in order to discuss related changes in urban politics and the economy.[22] Referencing the work of Jane Jacobs, the authors argue that these peer-to-peer exchanges are another way of creating new goods and services in order to solve problems of urban density.[23] The authors assert that the

22 Ibid.
23 Ibid.

sharing economy "represents a strain of innovation firmly rooted in urban geography."[24] This conceptualization of the sharing economy brings forward the interdependence of its system of exchange with the city fabric.

The Sharing Paradigm and Vision of Sharing Cities

The book The Sharing Cities, written from the perspective of urban planning, investigates the relationship between the sharing economy and the city in detail. Duncan McLaren and Julian Agyeman describe collaborative consumption as a catalyst for the "Sharing Revival" phenomenon in cities.[25] They observe that cities were historically formed on an infrastructure of shared production and exchange.[26] However, with the rise of commercialization and neoliberalism, economic participants who were "natural socio-cultural sharers" came to be seen as "selfish, individualist welfare maximizers (homo economicus)". Sharing is thus pushed to the back seat of modern society. McLaren and Agyeman advocate re-incorporating "sharing infrastructures" back into city planning to tap into the potential of the sharing economy.

McLaren and Agyeman elevate "sharing" into a paradigm, through investigating the shifts in socio-political-cultural domain in cities.[27] Cities have made efforts in their policies to facilitate this form of sharing, such as the Sharing Economy Working Group 2012 in San Francisco, or the Sharing City 2012 project in Seoul. These efforts speak to the potential of a social transformation when sharing is elevated to a paradigm for others to follow. The sharing paradigm

24 Ibid.

25 Duncan McLaren and Julian Agyeman, *Sharing Cities: A Case for Truly Smart and Sustainable Cities*. Urban and Industrial Environments (Cambridge, MA: MIT Press, 2015),

26 Ibid.

27 Ibid.

UBIQUITOUS COMMUNICATION TECHNOLOGY

Sattelites
Cables
Routers/ Modems

SHARING PLATFORM

Servers
Computers
Service provider headquarters
Supporting infrastructres

USERS' INTERFACE

Mobile devices/ Computers

SHARING ACTIVITIES

Shared resources
Place where exchange happens

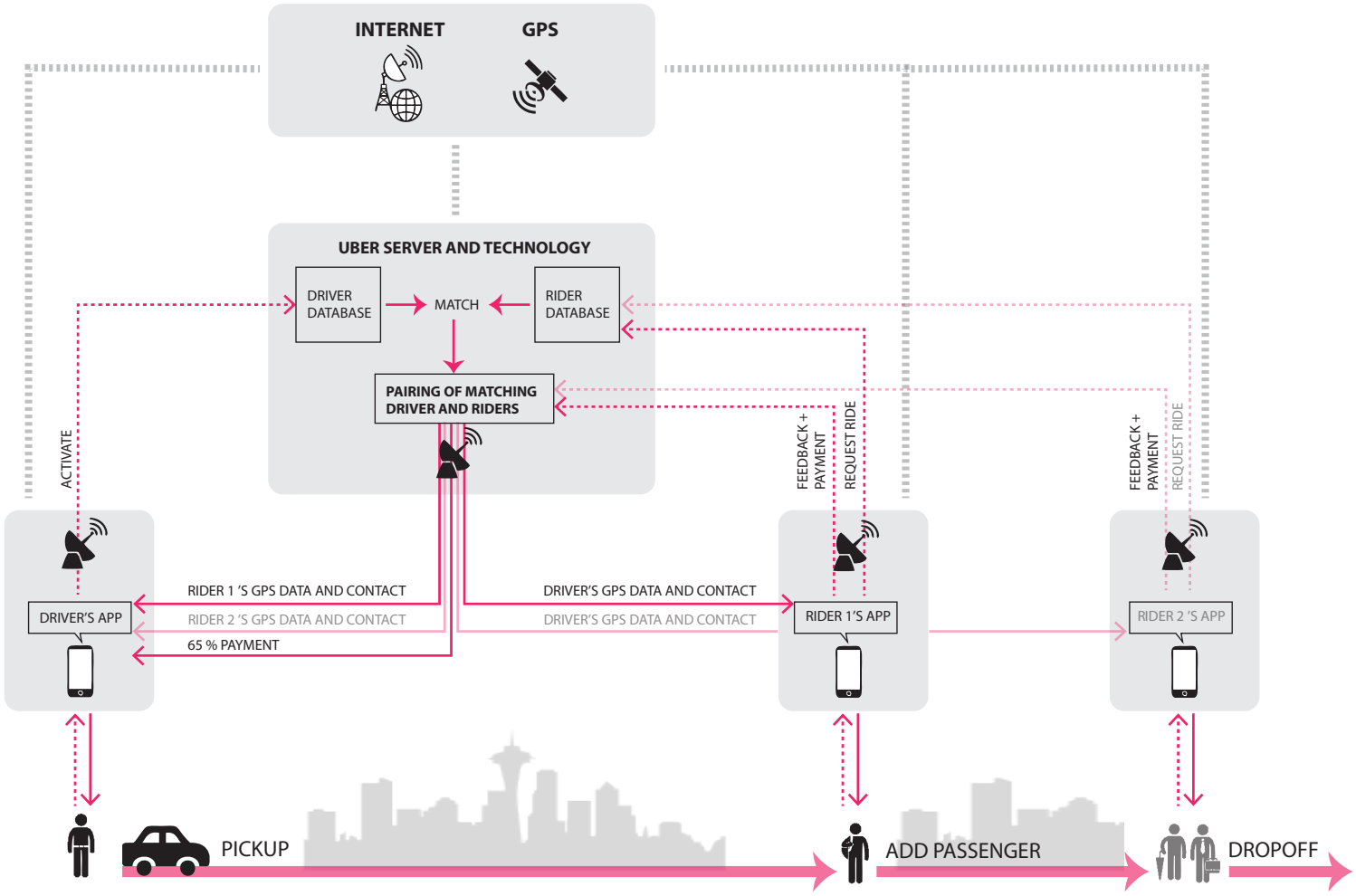

Figure 4 | The infrastructure of the sharing economy illustrated through Uber model

is conceptualized as a vehicle to deliver justice, equity, and sustainability in the built environment.[28] McLaren and Agyeman envision an approach in city planning that departs from the capitalist market-based characteristic of the sharing economy toward a more socialist and idealistic society:

> Imagine, if you will, a city which enables citizens to self-build sustainable low-energy co-housing (...) In such a city shared meals, pop-up restaurants, and community kitchens might replace fast-food restaurants; and shared streets for walking, shared bikes, and mass transit could displace private cars (...) Could not such a city produce more of its food in shared gardens and on community energy systems and rooftop power renewables - reducing its reliance on environmentally damaging imports of commodity crops, manufactured materials, and fossil-fuelled electricity?[29]

Theoretical Synthesis

These writings demonstrate that the sharing economy is grounded in cities in ways beyond GPS technology, with the potential to bring about economic, social, and cultural transformations. Most research in this area focuses on governance policies and city planning agendas. However, this thesis argues that the impact of the sharing economy on cities extends beyond economic structure and public policies. New economic growth can tremendously shape physical forms of the built environment, as often demonstrated throughout the history of cities.[30] Likewise, the exponential growth of the sharing economy has the potential to alter urban forms and give rise to new building typologies. It creates new demands in the physical infrastructure in response to the economic, social, and cultural changes.

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28 Ibid.

29 Ibid., 246

30 Sam Bass Warner, and Andrew H. Whittemore , *American Urban Form: A Representative History,* Urban and Industrial Environments (Cambridge, MA: MIT Press, 2012)

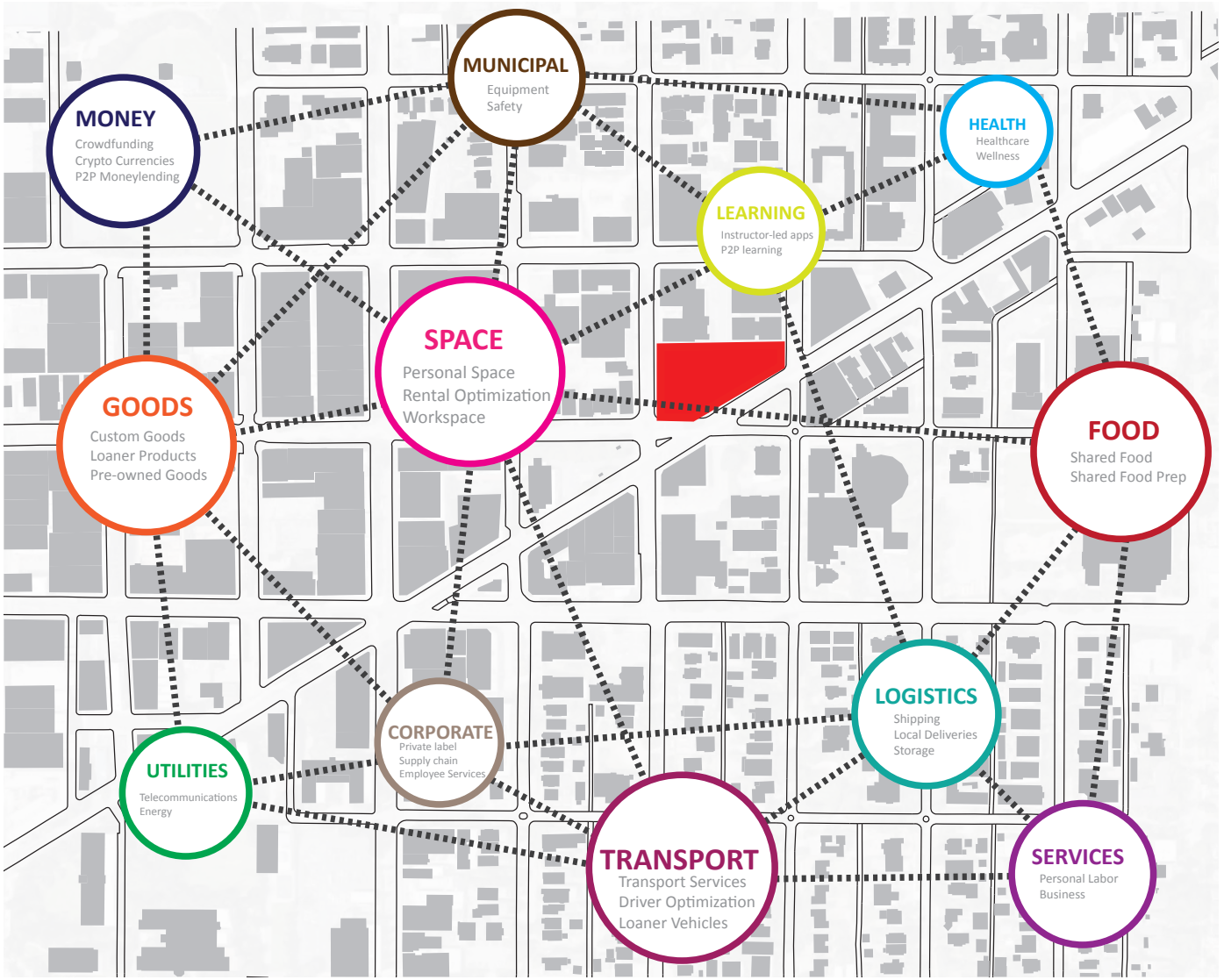

Figure 5 | Researchers point out how the sharing economy encompasses multiple dimensions of our economy and social life
Diagram adapted from Honeycomb 2.0 by Jeremiah Owyang

2.3. THE SHARING ECONOMY AND EMERGING SPATIAL PATTERNS OF LIVING

This section identifies the changes in living patterns that have emerged from the sharing economy that have ramifications for architecture, particularly in the housing sector.

Shifting boundary of privacy

The success of companies like Airbnb and Couchsurfing illustrate that people are willing to scale back their usual boundaries of private space for economic gain. The idea of sharing one's home with strangers has become socially acceptable due to these peer-to-peer accommodations. With people becoming more comfortable with sharing parts of their home, the traditional notion of privacy in domestic architecture needs to be revisited.

The merging of privxate and public spaces in the sharing economy has already emerged as a topic of public attention. Occupied - an architectural exhibition curated by RMIT Australia - showcases Supershared, a shared loft-like space projecting out into the public gallery space. Students can book this space through online platforms during the exhibition and experience living in the "in-between" zone of public and private domain.[31] According to the curators of Occupied, "today's creative thinkers must find space for an ever-growing populace within a finite and decaying urban fabric."[32] The compromise of the nature of the private domain speaks to the issue of housing scarcity in urban areas that is prevalent in big cities.

The blurring of private and shared space in the urban environment is most apparent in co-living arrangements. Essentially dorms for adults, this model emerges as an answer to housing

31 "Occupied", *RMIT University*, accessed 1 June 2017, http://designhub.rmit.edu.au/exhibitions-programs/occupied

32 Ibid.

crisis in big cities. The concept of shared living spaces between city dwellers goes as far back as tenement houses in the early days of Industrialization. However, in the last decade, following the burgeoning of the sharing economy, it has taken on a new meaning. The shared housing model defines the lifestyles that emphasize productive collaboration and social interactions.

Compared to multi-family housing, co-living scales down the private individual units to increase social interactions in common areas between residents. This housing type has been hailed as a growing trend in the housing market of major cities such as London, New York, and San Francisco. For example, Open Door, a co-living startup, plans to expand from 40 bedrooms to 1,000 rooms by the end of 2018.[33] At its core, this trend reflects the financial struggle of city dwellers to find a spot in expensive housing markets of big cities. It also demonstrates that people are willing to scale down their private space in exchange for the amenities and opportunities of urban living.

Domestic experience as a commodity

Domestic space accommodates different modes of production in the sharing economy. Take an example of meal sharing, which has prompted the launch of numerous apps, including Mealsharing, Eatwith, and Josephine. These apps scale down the food industry into local kitchens. Home cooks can make food from their own kitchen and offer their dining table to host neighbors. Homemade app works like a crowd-funding campaign in which the chef lists the number of servings needed to activate the deal for a lower price. Meal-sharing connects tourists

33 Melia Robinson, "Millennials are paying thousands of dollars a month for maid service and instant friends in modern 'hacker houses'", *Business Insider*, 8 March 2017, accessed 1 June 2017, http://www.businessinsider.com/what-is-co-living-2017-2

to home cooks for a local home meal experience. Private kitchen and dining rooms become part of the sharing economy, in which the experience of domestic living is knit tightly with the practice of exchange.

Another indication of this trend is home-sharing platforms. The advantage of home sharing compared to hotels is the immersive local experience it offers. The anonymous, standardized character of hotel rooms is not as appealing to tourists compared to a home full of personality and local character. Encounters with local hosts offer a desired experience for those seeking an authentic immersion in a new place. The whole experience of domestic space is packaged as a commodity in the sharing economy.

The commodification of domestic experience is also found in the marketing of new living spaces. These companies offer a desirable lifestyle among young professionals who seek a socially active environment. WeWork, a renowned startup that provides coworking spaces all over the U.S., recently launched the new co-living building - WeLive. The building is advertised as increasing social interactions between residents and curating frequent communal events. Co-founder Miguel McKelvey claims that "You don't have to go on social media, you don't have to plan all of your interactions. Things happen spontaneously, and they evolve from there"[34]. Living space is not just about shelter; domestic experience goes beyond the comfort of one's private zone to include shared experiences. It has been branded as a lifestyle focused on new experience and social interaction.

34 Deanna Ting, "Here's Why Co-living Could Be the next Big Hospitality Trend", ***Skift***, 6 June 2016, accessed 1 June 2017, https://skift.com/2016/06/06/heres-why-co-living-could-be-the-next-big-hospitality-trend

Blurring the boundary of work and life

Employment trends indicate that the biggest drivers of transformation in future jobs are more flexible model of work including co-working spaces, free-lancing, and telecommuting.[35] Amazon recently announced the hiring of 5000 home-based workers to join its customer service team.[36] This trend implies the merging of private life and work in a physical setting. Not only does it call into question the copious amount of office floors in existence, but also redefines the relationship between leisure and work spaces in the domestic realm.

Co-working spaces are a relatively new phenomenon that has emerged alongside the rise of the sharing economy starting in the mid-2000s. This service enables people to pay for a spot in an open office with amenities, and work along side with other unaffiliated professionals. The Global Coworking Survey predicts that by the end of 2017, nearly 1.2 million people worldwide will have worked in a co-working space, and 14,000 co-working spaces will be in operation.[37] Seattle is one of the top five in the U.S. for co-working spaces, with 41 co-working centers in 2016.[38]

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35 "The Future of Jobs 2015-2020", ***World Economic Forum***, accessed 1 June 2017, http://reports.weforum.org/future-of-jobs-2016/employment-trends

36 "Amazon to Hire 5,000 At-home Workers in Mass Hiring", ***KING5***, 9 April 2017, accessed 1 June 2017, http://www.king5.com/news/local/amazon-to-hire-5000-at-home-workers-in-massive-hiring-binge-of-30000-part-time-employees/429614716

37 "More than one million people will work in coworking spaces in 2017", ***Deskmag***, accessed 1 June 2017, http://www.deskmag.com/en/the-complete-2017-coworking-forecast-more-than-one-million-people-work-from-14000-coworking-spaces-s

38 "Seattle Named a Top City for Co-working Spaces", ***The Seattle Times***, 6 May 2016, accessed 1 June 2017, http://www.deskmag.com/en/the-complete-2017-coworking-forecast-more-than-one-million-people-work-from-14000-coworking-spaces-s

By offering spatial, technological, and social infrastructure, co-working spaces responds to the demands of the sharing economy. The design of co-working spaces often re-examines the various aspects of working culture. Cubicle division is replaced with openness, transparency, and accessibility. As the nature of work becomes more flexible, work amenities are not limited to a desk space, but include yoga space, meditation room, game room, exhibition, and event space. Workplace encompasses a multitude of activities not found in traditional office setting in order to bring work closer to daily living experience.

The integration of work into domestic life is a new phenomenon made possible by the ability to work flexibly in regards to hours and location. Forbes Magazine reports in May of 2016 that the phrase "work life balance" has been replaced by "work life integration" by recent generations of over-worked professionals.[39] The sharing economy creates immense opportunities for small start-up entrepreneurs or creative professionals whose work schedules cannot fit in the traditional 9-5 hours. The assumption that people can compartmentalize activities into either "work" or "life" falls apart when their limited schedule does not allow a total devotion to one thing at a time.[40] Such integration merges the two domains of activities that were traditionally segregated. These changes call into questions the conventional establishment of office building and apartment housing as separate structures.

39 "Work Life Integration: The New Form", ***Forbes***, 6 May 2016, accessed 1 June 2017, https://www.forbes.com/sites/danschawbel/2014/01/21/work-life-integration-the-new-norm/#139eadfff291

40 Ibid.

Culture of sharing

Trust-building and social interaction are at the heart of the sharing economy. Increasing interest in community-based living and working is evident in co-living and co-working trends in major cities through our the country. Community kitchens and shared gardens in urban environmentsare also indications of this refocus on the value of community. These trends point to the need to prioritize social interaction and community activities in building design.

The model of the shared economy has direct implications for the spaces in which people live. For example the size of housing is expected to decrease in the emerging practice of even sharing household items. Storage spaces can be scaled down with the rise of a sharing culture. But conversely physical space for shared tools and kitchenware may increase in demand in shared spaces. These neighborhood infrastructures can facilitate participation in the sharing economy as well as build communities.

Space as interface with the digital world

The sharing infrastructure is based on invisible networks of technology. But it has the capacity to connect people and mobilize resources in our physical sphere, where the sharing activities happen. It demonstrates that our physical space is in fact an interface between the physical and the digital world. If space is considered a resource, the integration of digital information can help maximize it in the sharing economy.

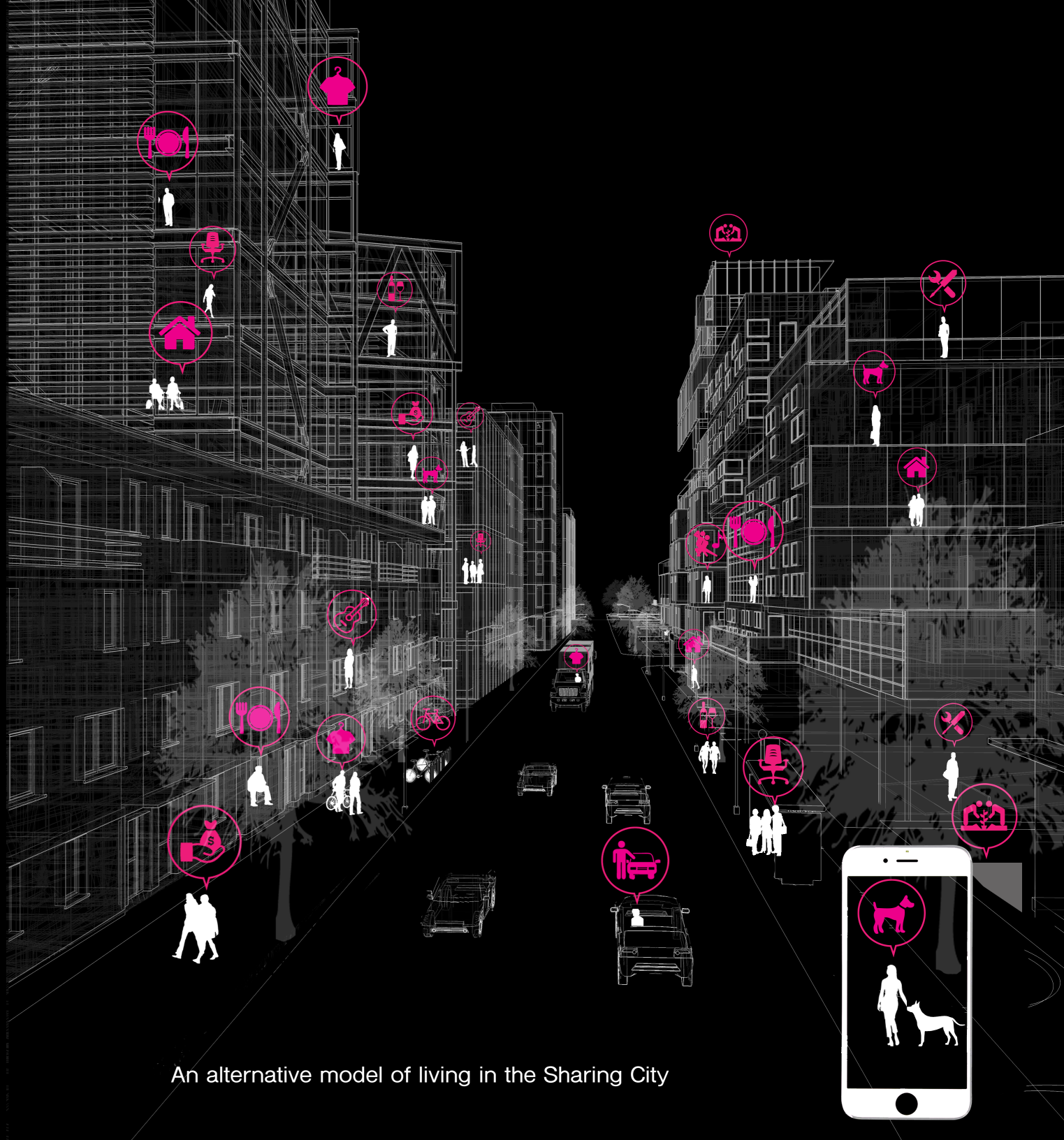

Figure 6 | The sharing economy is integrated in our urban living space - it is a new way of thinking about how we can access resources in the context of the built environment.

2.4. PRECEDENTS

The precedent study section examines two projects that are considered innovative in their approach to domestic living. In Old Oaks Collective The Old Oaks Collective in London, England is studied for its scale and distribution of program. The Rental Space Tower prototype for Toyko is analyzed for the architects' visionary approach to housing solutions.

OLD OAKS COLLECTIVE

The Old Oaks Collective is an 11-story complex located along a canal in northwest London. The project is a literal product of the sharing economy, run by the co-living startup company, the Collective. The building caters to city-dweller demographics of largely millennials of mid income level. James Scott, the company's entrepreneur, capitalizes on the social trends of "suspended adulthood", in which young people take time to experiment socially and culturally before committing to settlement.[41] James Scott, of the Collective states that the building is designed around the concept of "living as a service" so rent includes utilities, cleaning service and access to amenities.[42] Lease agreement to rent in the building is conceived as "membership to the Collective", generating a sense of belonging to a community.

The Old Oaks Collective is claimed to be the largest co-living building in the world, with a total area of 170,000 square feet.[43] It accommodates 550 beds and 400 co-working spaces.[44]

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41 Jessica Mairs, "In the future we will all be homeless", ***Dezeen***, 15 July 2016, accessed 1 June 2017, https://www.dezeen.com/2016/07/15/in-the-future-we-will-all-be-homeless-says-co-living-entrepreneur-the-collective-james-scott-housing/

42 Ibid.

43 "London's old Oak to Welcome World's Largest Co-living space", ***The Spaces***, 09 February 2016, accessed 1 June 2017, https://thespaces.com/2016/02/09/londons-old-oak-to-welcome-worlds-largest-co-living-space/

44 Ibid.

Figure 7 | Old Oak Collective Street view and location
Image source: PLP Architects

Private living space is reduced to the bare minimum in order to dedicate space to shared amenities (Figure 7). The project provides a wide range of unit options, from studio with a private kitchenette to private units with a shared kitchenette. Shared-kitchenette units are less than 120 square feet. The quality of finishing materials and efficient design makes up for the small living areas.

The co-living concept is emphasized in the generous amount of amenities included. A large kitchen with a dining table is located on every floor, shared between 30 and 70 residents.[45] A restaurant and co-working spaces are located in the lower floors of the building. Other amenities that residents have full access to include launderette, gym, spa, cinema room, roof terraces, library, and game rooms. Social events and gatherings are often curated to build community in the building, such as talks, music, and cinema nights.

Vacancies are going rapidly at Old Oaks Collective. The rate at Old Oaks Collective is not different from other similar properties in London, but its amenities appeal to a large group of residents. Some residents like the fact that they can utilize a wide range of spaces in the building

45 Ibid.

Figure 8 | Old Oak Collective program organization
Image source: PLP Architects

without feeling confined in a small unit all the time. With its success, the same company is looking to gain permits for another similar development in East London, scaling up to 30 stories of co-living space. This speaks to current demands in a new housing option in big cities.

On the other hand, the project also receives criticism from UK news outlets. Some renters find the price too steep for the small unit it offers. "It replaces independent living with an ongoing studenthood."[46] Its location is another drawback, since it is located in the gap between

46 Jonn Elledge, "Collective Living's Fine For Students But For Everybody Else It Stinks", The Guardian, 28 April 2016, accessed 1 June 2017, https://www.theguardian.com/commentisfree/2016/apr/28/collective-living-students-london-housing-crisis

major railway junctions and post-industrial land on the outer edge of London, although the project anticipates the 2019 arrival of the high-speed rail to London center.[47]

The architectural response to housing need in Old Oaks Collective is definitely not a new approach. The project is compared with Modernist's experiment with shared-living in London called Isokon built in 1930s.[48] According to Matthew Stewart, Old Oaks Collective and co-living trends "mark a worrying shift where not only does neoliberal urbanism erode the last remnants of the welfare state – in the form of council housing sell offs and redevelopments – it further hijacks and monetizes the very ideas traditionally in resistance to unfettered development."[49] Stewart believes that monetary gain is the end goal in disguise of a progressive housing strategy.

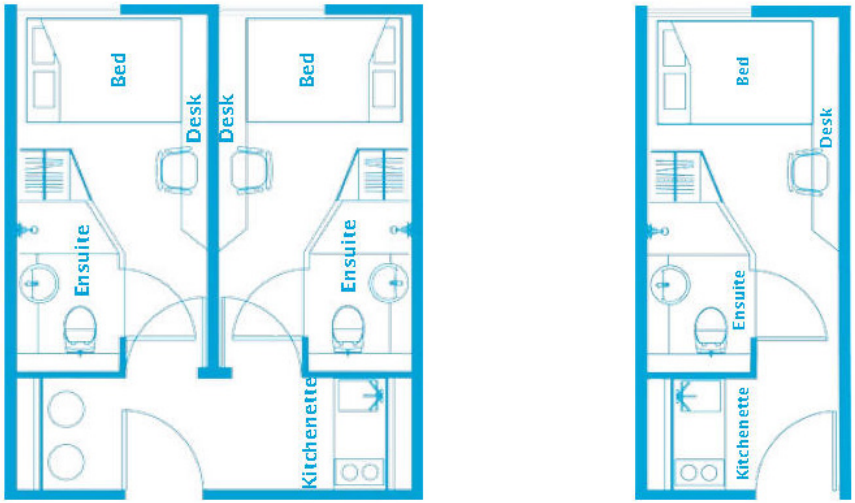


Figure 9 | Old Oak Collective - Unit plan with shared kitchennete
Image source: PLP Architects

47 Ibid.

48 Matthew Stewart, "The Collective is Not a New Way of Living - It's an Old One, Commodified", ***Failed Architecture***, 2 December 2016, accessed 1 June 2017, https://www.failedarchitecture.com/the-collective-is-not-a-new-way-of-living-its-an-old-one-commodified/

49 Ibid.

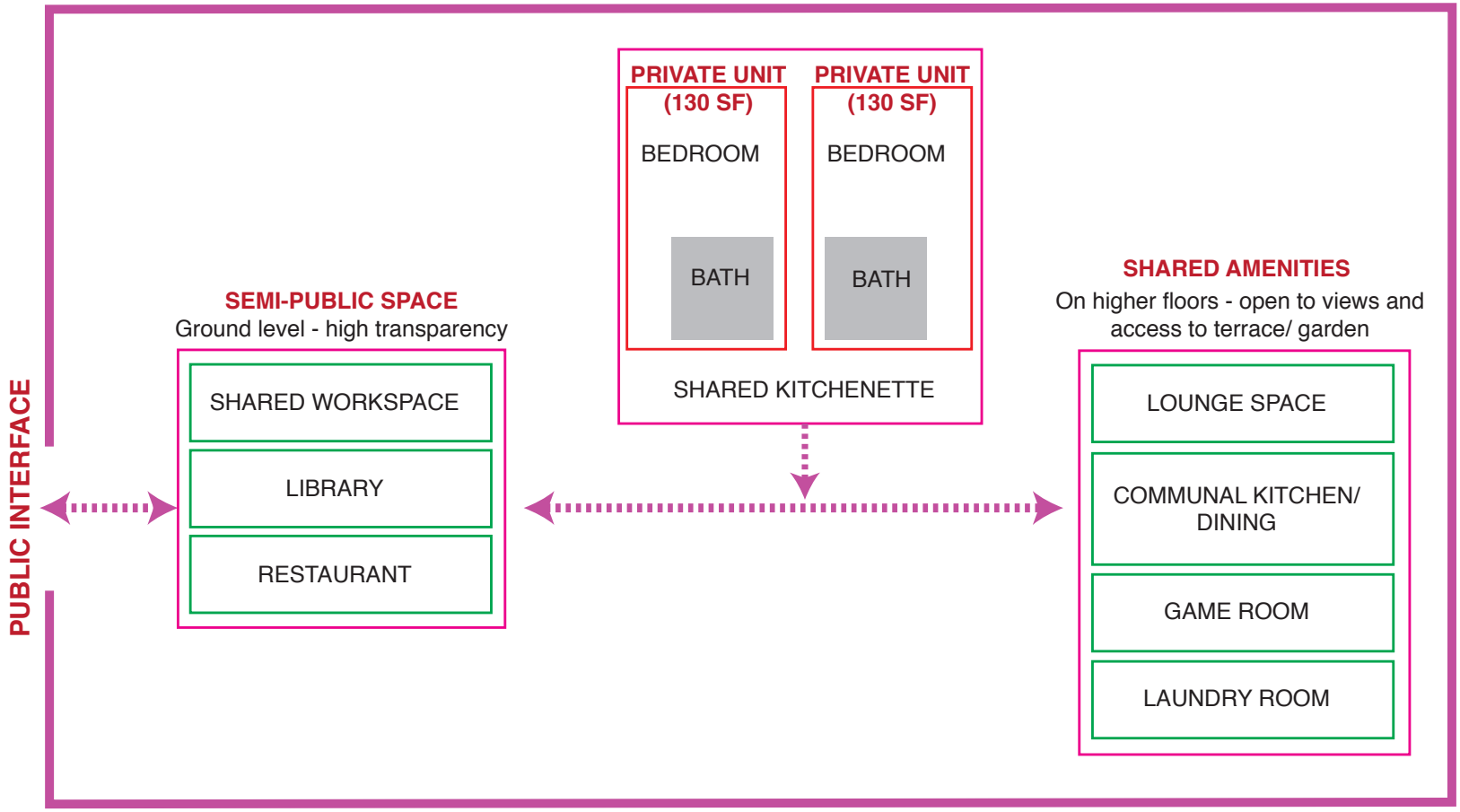


Figure 10 | Diagram of program organization at Old Oak Collective

Figure 11 | Rental Space Tower built at full-scale model
Image source: Sou Fujimoto Website

RENTAL SPACE TOWER CONCEPT

The project is a visionary concept built as part of the House 2016 Exhibition. The exhibition held in Tokyo is partly organized by the largest house-sharing company-Airbnb. The design of the 12 housing prototypes explores the question of how to reconnect individuals in rural and urban areas bounded by fragmented technologies.[50]

The structure - named Rental Space Tower - is a prototype for shared living space that is in line with the current trend for co-living developments (Figure 11). Sou Fujimoto uses timber cubes as a unit of construction to create a stacked tower with a pixelated appearance. The tower form is dynamic and fluid in its spatial composition.

The project challenges the social perception in Japan that rental is inferior to ownership due to more restricted access in rental properties. According to Fujimoto, it is the temporary quality of rental assets that

50 Jessica Mairs, "Sou Fujimoto, Kengo Kuma and More Propose Future Houses in House Vision Exhibition", ***Dezeen***, 4 August 2016, accessed 1 June 2017, https://www.dezeen.com/2016/08/04/japanese-architects-homes-of-the-future-house-vision-exhibition-sou-fujimoto-kengo-kuma-shigeru-ban-muji-airbnb/

Figure 12 | Rental Space Tower elevation
Image source: Sou Fujimoto Website

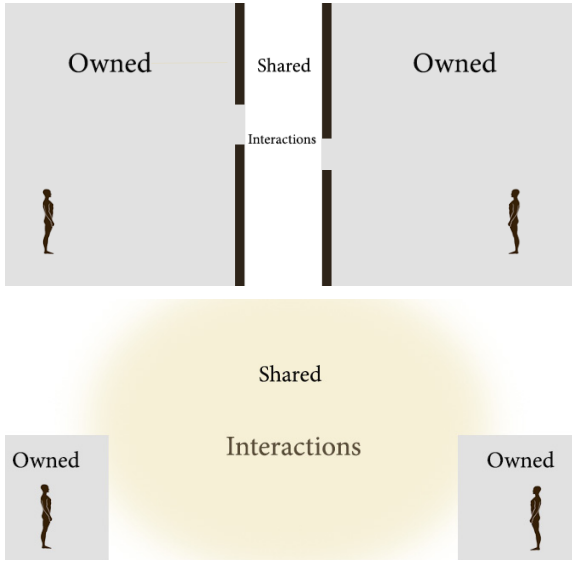


Figure 13 | Rental Space Tower - conceptual diagram
Image source: Sou Fujimoto Website

distinguishes rental from ownership.[51] Fujimoto sets out to take advantage of this quality by adding flexibility and ambiguity in the spatial arrangement (Figure 13). The space could be divided and re-divided at any time, based on people's temporary demands. Certain spaces are left ambiguous that can be activated in different ways.[52]

The design is a critique of the current condition of rental properties in Japan, in which young people can only afford to rent small rooms in apartment complexes[53]. These rooms are rows of plain individual cells isolated from community spaces. Common spaces are often compromised to add more area to individual units, which is thought to increase rental value; but in the end this increase in private units is insignificant because of the large number of units.

In the Rental Space Tower, Fujimoto does the exact opposite (Figure 13). Private space is minimized in order to maximize common areas. The conventional unit-corridor relationship is abolished. He removes walls

51 "Rental Space Tower: Potential of temporary", Interaction Green, accessed 1 June 2017, http://www.interactiongreen.com/rental-space-tower-sou-fujimoto-2-house-vision-2016/
52 Ibid.
53 Ibid.

and boundaries that block the flow of people to increase spatial fluidity between different zones. Open areas, rooftop decks, open-air stairways are transition areas between the common and the private space. Privacy is secured in individual units by having them on slightly different levels, but tenants can open up their space depending on their needs. Small units and their connecting spaces function organically to accommodate the multiple activities and social needs of tenants.

SYNTHESIS

The precedents offer different approaches to setting the relationship between privacy and common spaces in building design. The minimum limit of private space is clear in Old Oaks Collective: a bed with attached bathroom and some storage. Boundaries in this project are clear and rigid: between private and common areas, between common areas and public interaction. On the other hand, Rental Space Tower seeks to blur those boundaries, but in the process creates ambiguous zones in between. Both projects do not reflect the end goal of this design exploration, but inform strategies in spatial relation between program elements.

Figure 14 | Rental Space Tower -shared terrace space
Image source: Sou Fujimoto Website

CHAPTER 3

DESIGN METHODOLOGIES

3.1. THESIS GOALS AND OBJECTIVES

This thesis aims to incorporate the economic, social, and cultural dynamics of the sharing economy into the building design in order to create high-density, sustainable communities. It depicts an alternative model of living based around the decentralized and participatory process of the sharing economy. The culture of sharing is the main theme explored in the design. The design projects the near future and anticipates the full build-out of currently planned constructions in the area. In regards to the future, it assumes the prevalence of the sharing economy and ubiquitous access to supporting technology, rather than predicts future technological advancement.

Based on the theoretical framework delineated in the previous chapter, the architecture investigation explores a new multi-family housing typology that reflects the living patterns of the sharing economy. This new typology will address the housing problem of growing cities, targetting the demographic group of mid to low-income millenials. Co-living and co-housing arragements are used as a starting point for the design, but the design objective is to incorporate principles of the sharing economy on a deeper level.

3.2. DESIGN APPROACHES

This thesis proposes a three-part design approach that emerges from the application of the sharing paradigm to the built environment, as follows:

1 - optimize spatial usage

2 - redefine the notion of privacy

3 - foster economic relationships via peer-to-peer exchanges among residents

DESIGN APPROACH - PART 1: OPTIMIZING SPATIAL USAGE

Using the sharing paradigm, space can be viewed as idle assets that can be optimized for usage. Startup companies have used this approach to offer new solutions to the rising cost of real estate. Spacious - an online platform based in New York city- partners with restaurants that are closed during the day to use their spaces for co-working. This partnership model allows for a lower cost to co-working members while generating income for restaurant owners. Similarly, Peerspace allows people to offer their kitchen, loft, or patio for cooking classes, filming venues or small parties.

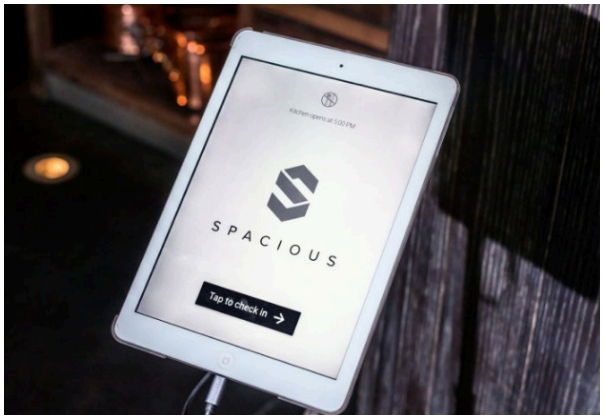


Figure 15 | Spacious app
Image source: Business Insider

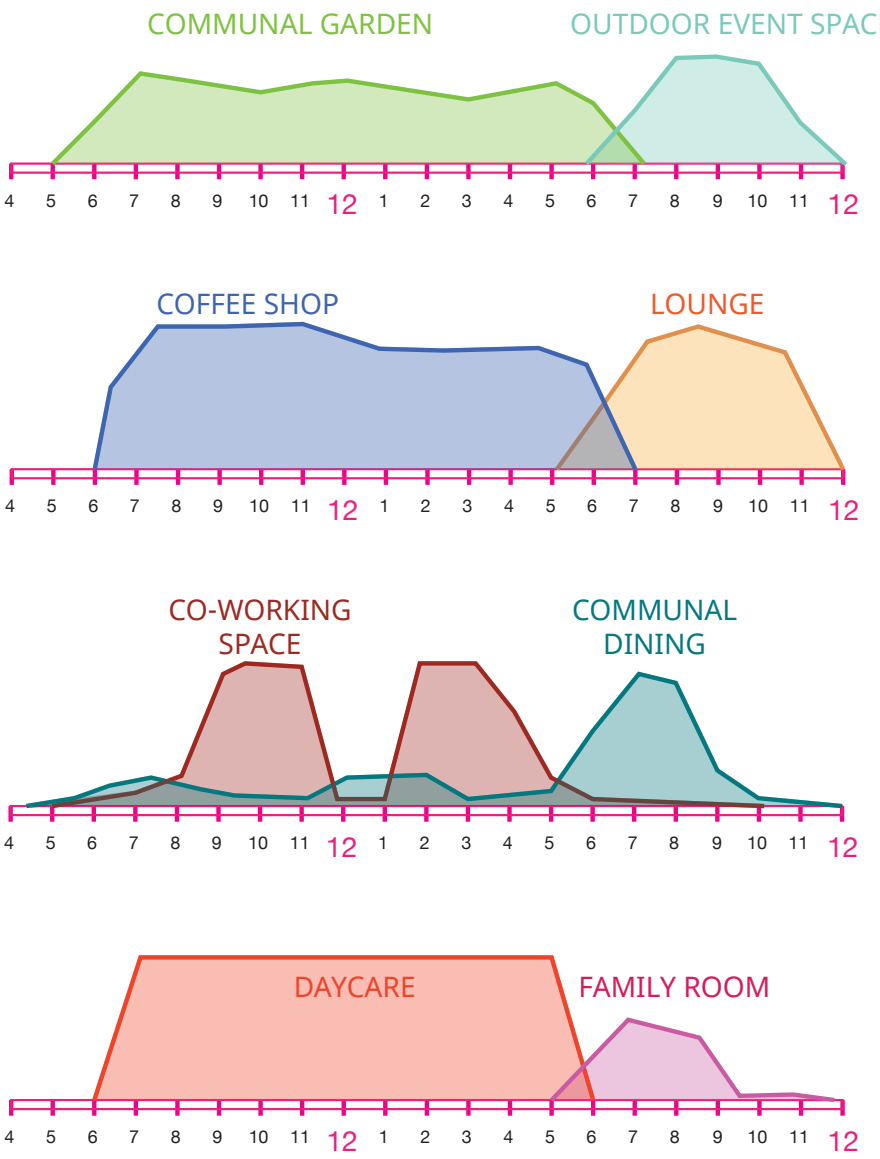


Figure 16 | Examples of similar program functions with different daily schedules

It is important to think of what this means in terms of spatial organization that accommodates flexibility of access. Programs with similar spatial requirements but different time schedules can be paired up in one space so that the amount of amenity spaces can be downsized (Figure 16). Public-oriented functions can be turned into more private use upon demand, and vice versa. Consideration for security and access point would be a topic of investigation in this context.

DESIGN APPROACH - PART 2: REDEFINING PRIVATE BOUNDARIES

The demand for privacy in domestic settings can morph to different socio-economic conditions. According to Witold Rybczynski[54], our modern perception of privacy in domestic environments did not occur until the Enlightenment. Houses in the 16th century Europe used to be shared between apprentices, servants, and the family to accommodate production and trading in the city. The growing consciousness of family and self that emerged from the Enlightenment led to the demand for privacy in domestic settings. Corridors were used to provide access to private rooms, and the house lost its public character. When manufacturing and delivery of services became the basis of economy during the Industrial evolution, the separation of residential sectors from central business districts and industrial zones further reinforces the notion of privacy and associates it with the comfort of home.

Figure 17 | A cabin in a loft - Airbnb house-in-house concept
Image source: Pop-up City

54 Witold Rybczynski, *Home : A Short History of an Idea,* New York, N.Y., U.S.A.: Viking, 1986.

As we transition into a different mode of resource and service distribution in the sharing economy, the perception of privacy in domestic environments has been modified as well. Chapter 2 explains how co-living, peer-to-peer accommodations and space-sharing services challenge our notion of domestic space as the ultimate private sphere. Jude Fulton defines the most private space as space that she "would not be comfortable sharing with [her] Airbnb guests" [55]in her Master Thesis on the idea of private-public space. The line of the most private space is pushed from the front door of the home to the door of the bedroom, even in the case of a single-occupancy unit. In categorizing her belongings into groups of different levels of privacy (Figure 18), she found that most of her daily activities occur in between the most private and most public space. This grey area is between her bedroom door and her apartment unit door. Jude Fulton concludes that this reflects "our needs for a variety of conditions in which to dwell."[56]

55 Jude Fulton, "Private-private Spaces and Private-Public Spaces: Gradient of privacy in the Airbnb Age", ***Medium***, Accessed Oct 23, 2017, https://medium.com/@heyjudesue/private-private-spaces-and-private-public-spaces-ba1c15cf690a

56 Ibid.

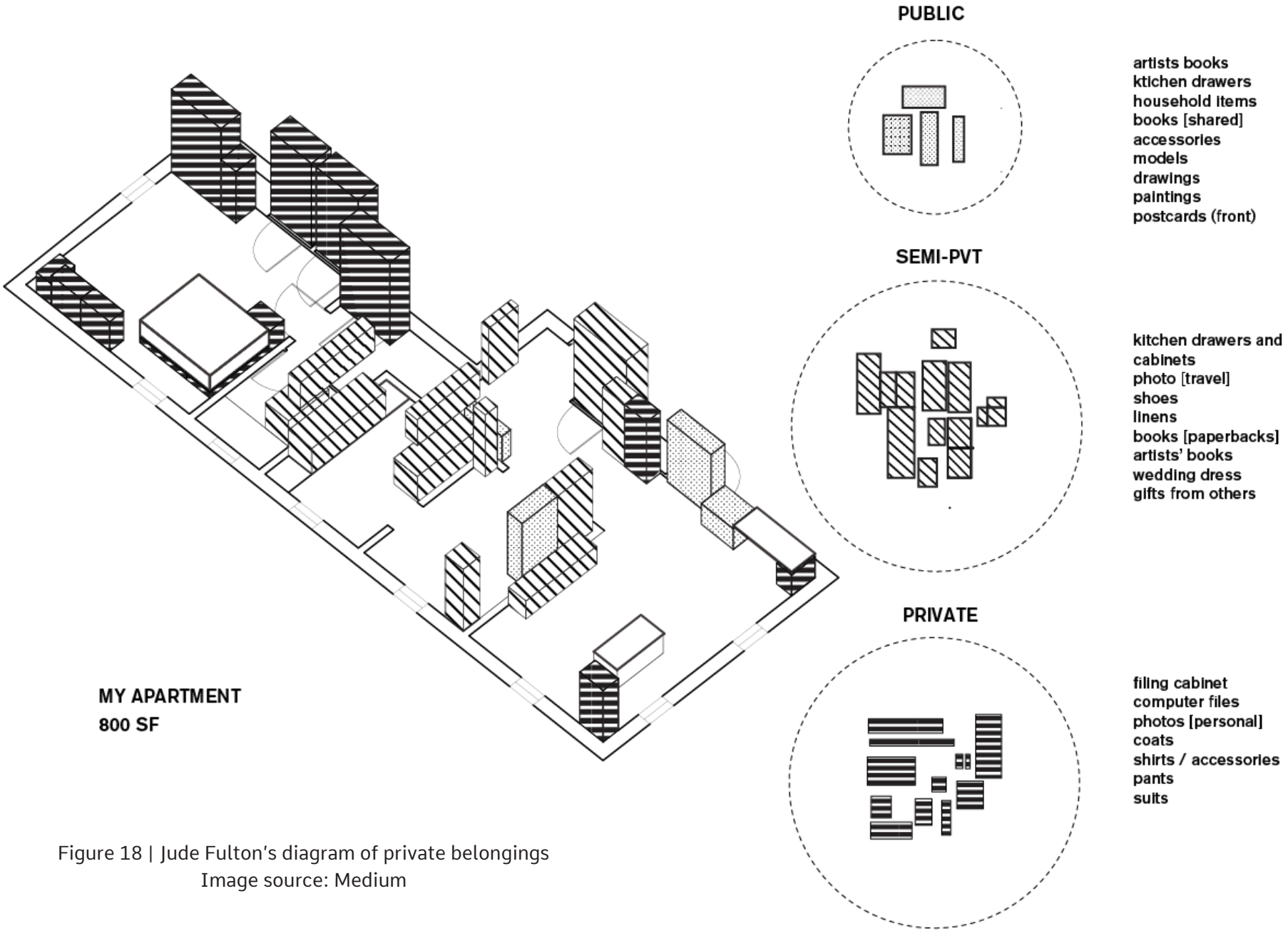


Figure 18 | Jude Fulton's diagram of private belongings
Image source: Medium

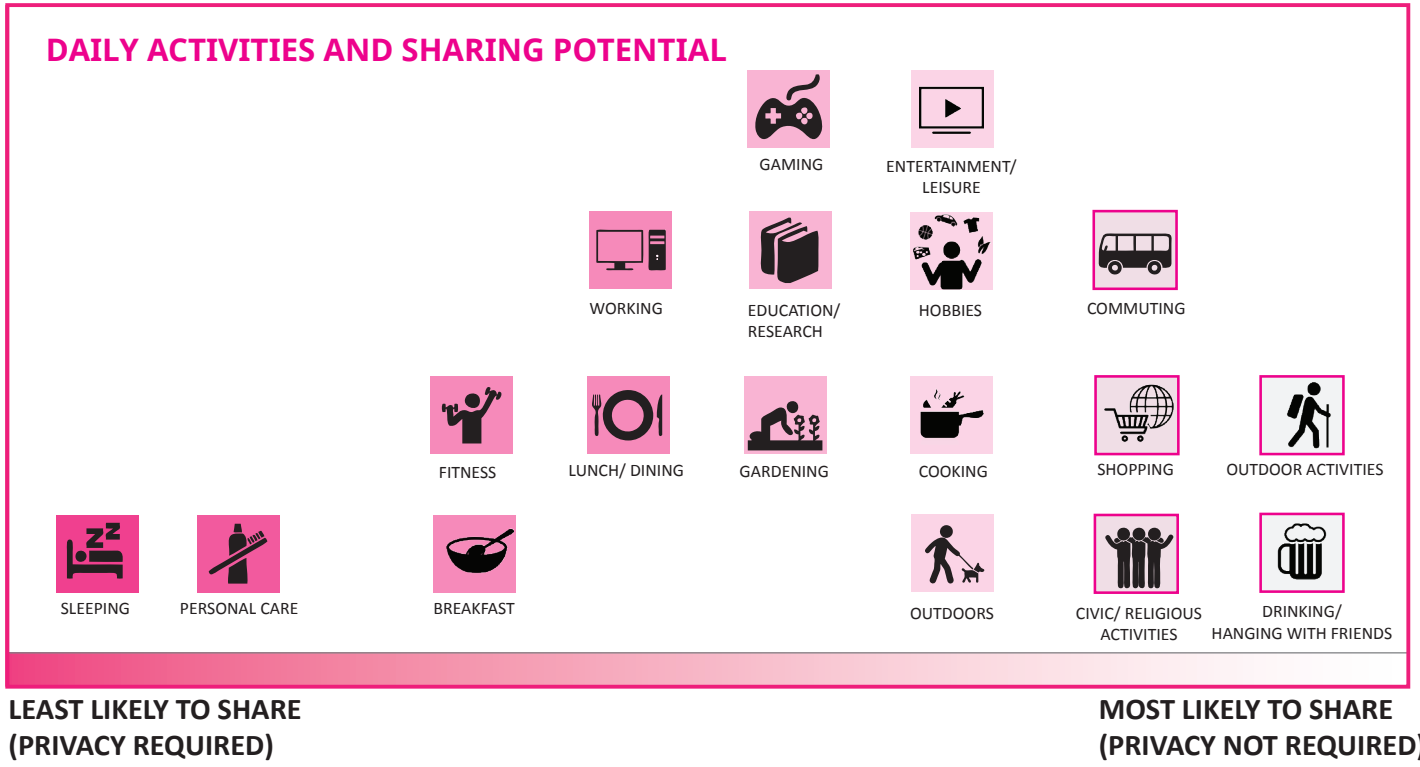


Figure 19 | The shareability spectrum based on personal activities

Based on Jude Fulton's approach to privacy, Figure 19 shows a scale of shareability in daily activities, which also reflects how much privacy one would need in their domestic life. The scale can vary based on individuals but most people can agree that the most private space is usually prioritized for sleeping and personal care. By acknowledging that the most private sphere can be scaled down, housing design can open up to opportunities of shared spaces among

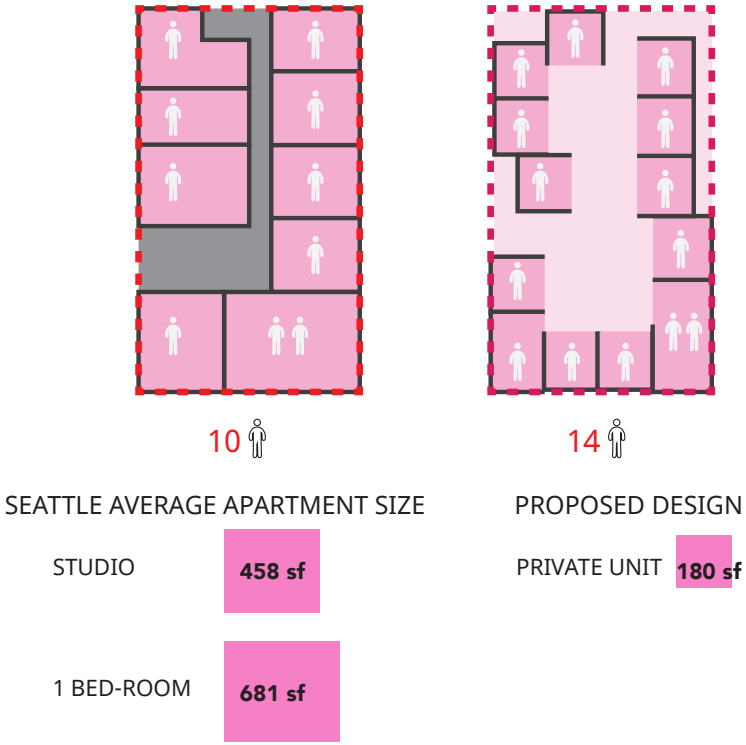


Figure 20 | Strategy for unit layout

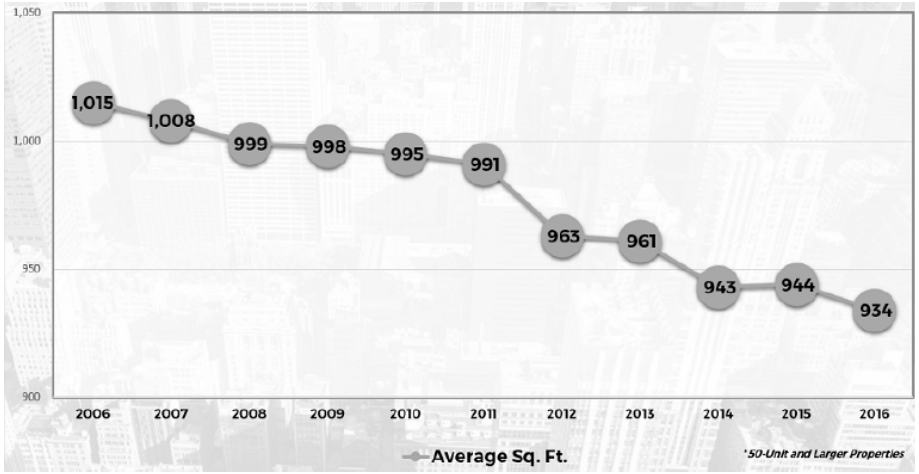


Figure 21 | Decrease in average apartment size in the US (2006-2016)
Image soure: Rent Cafe

residents. This can facilitate a spectrum of privacy to fulfill one's needs and at the same time foster social interactions within the community.

Figure 20 demonstrates this approach in housing unit layout. The typical Seattle apartment layout has double-loaded corridors in most cases that are mostly used for circulation. Units open up on one side to the street or interior courtyard for light and air. Each unit is a separate entity with minimal spatial interactions. The proposed strategy on the right hand side of the figure shows how to minimize the most private space to create a variety of in-between zones that are open to sharing. The dark, narrow corridor is replaced with functional spaces that are shared between residents. Each individual unit size can be scaled down to 180 square feet in the design. The smaller unit size reflects the current trend of significant decrease in unit size in the US (Figure 21).

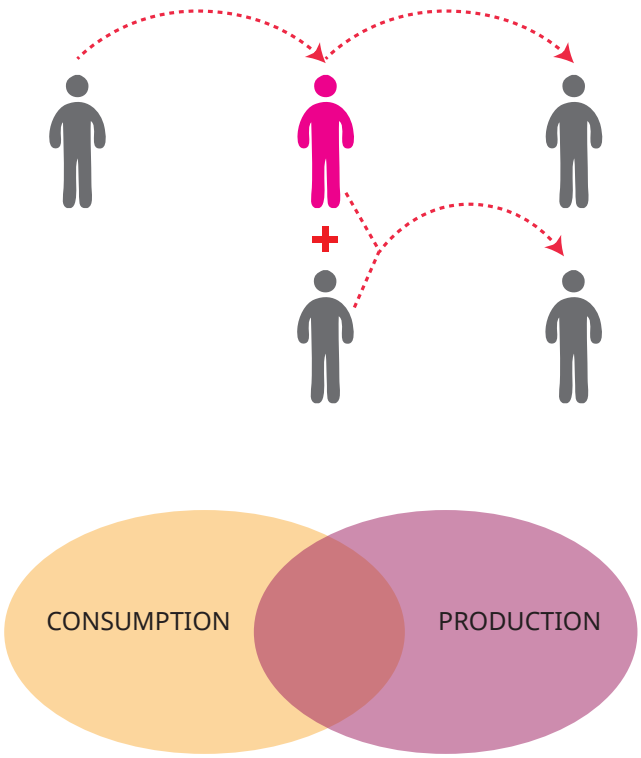


Figure 22 | Diagram showing potential economic relationships between participants of the sharing economy

DESIGN APPROACH - PART 3:

FOSTERING ECONOMIC RELATIONSHIPS

The sharing economy provides an alternative to the traditional economic relationship between consumers and service providers. Peer-to-peer exchanges deformalize the traditional socio-economic structure in order to reduce marginal costs. One can act as both consumer and provider of goods and services (Figure 22). Collaboration for production is encouraged through a network of information exchange. The informality of the nature of work has turned home into a space of production due to reduced overhead cost.

As Figure 23 shows, houses can be transformed into small shops, service kitchens, Etsy merchandise production, or rented out for profits. In multi-family housing, there are much fewer opportunities for home-based businesses because the access to home is highly secured and the connection to public realm is missing on upper levels (Figure 24). The connection between domestic space and production space becomes vital in allowing economic growth of the micro economy in peer-to-peer exchange businesses.

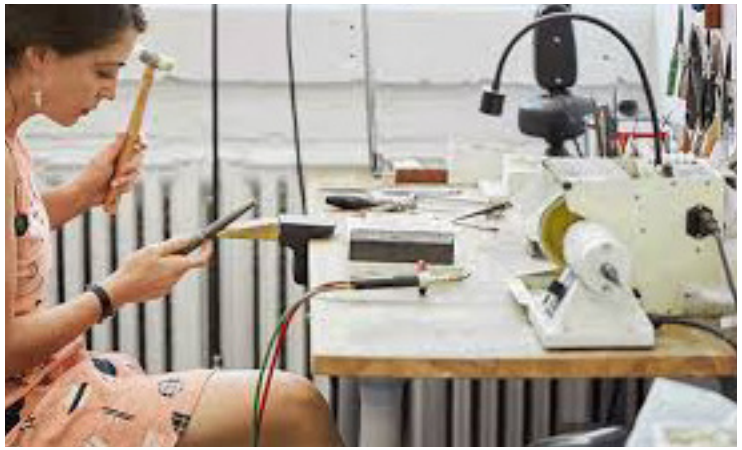


Figure 23 | Home-based businesses : Etsy jeweller production (top image) and weekend shop displayin a house in Tokyo (bottom)
Image source: Pop-up City

Figure 24 | Connection to public realm can increase opportunities for peer-to-peer businesses - Helsinki's Restaurant Day
Image source: Pop-up City

CHAPTER 4

PROPOSED ARCHITECTURAL INVESTIGATION

4.1. SITE SELECTION AND ANALYSIS

The site selection process is determined based on three main factors: density, urban living, and the sharing economy. A site that speaks to these factors has the most potential to capitalize on the sharing economy. A list of characteristics that the site needs to meet is generated from the three factors mentioned:

- The site is within a dense, mixed-use urban neighborhood
- The site is close to public transport, preferably light rail stations
- The neighborhood is experiencing growth in population, with a high portion of millennials in the demographics
- The neighborhood has high demands in housing
- The neighborhood is heavily influenced by the sharing economy with co-working/ co-living spaces
- The site is visible within the neighborhood and can have positive impacts on neighborhood in terms of urban connections.

A series of mapping is used to understand Seattle's participation in the sharing economy (Figures 25,26,27). Capitol Hill neighborhood is selected based on the result of the mapping analyses.

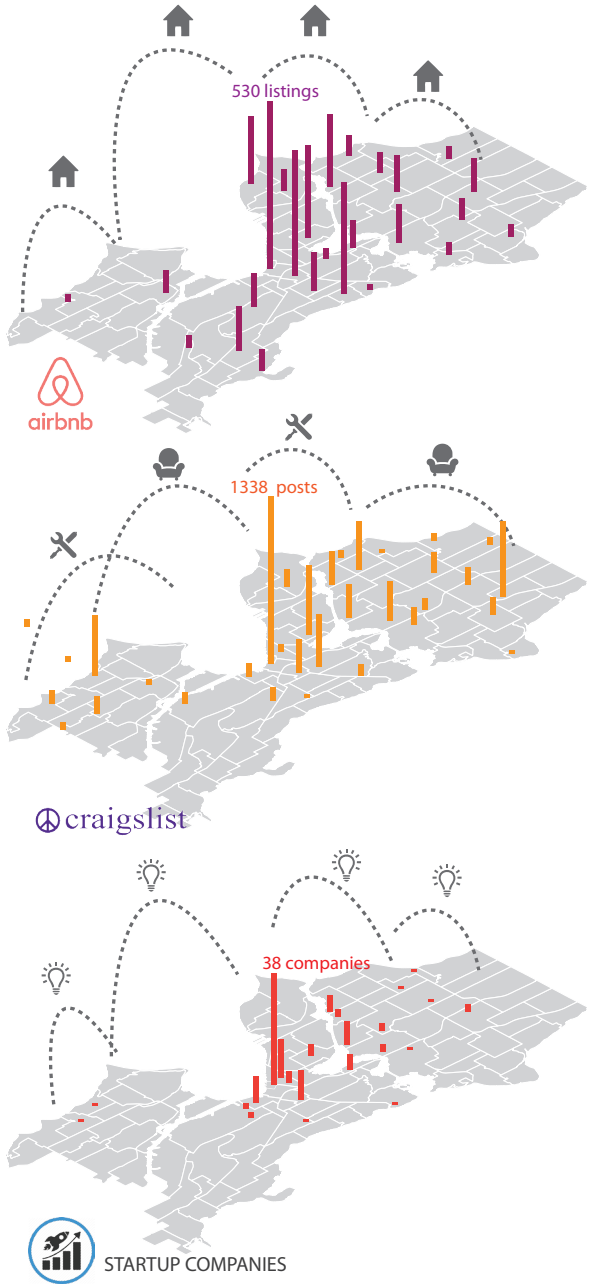


Figure 25 | Seattle's level of participation in the sharing economy concentrates around downtown area and denser neighborhoods close to the center.

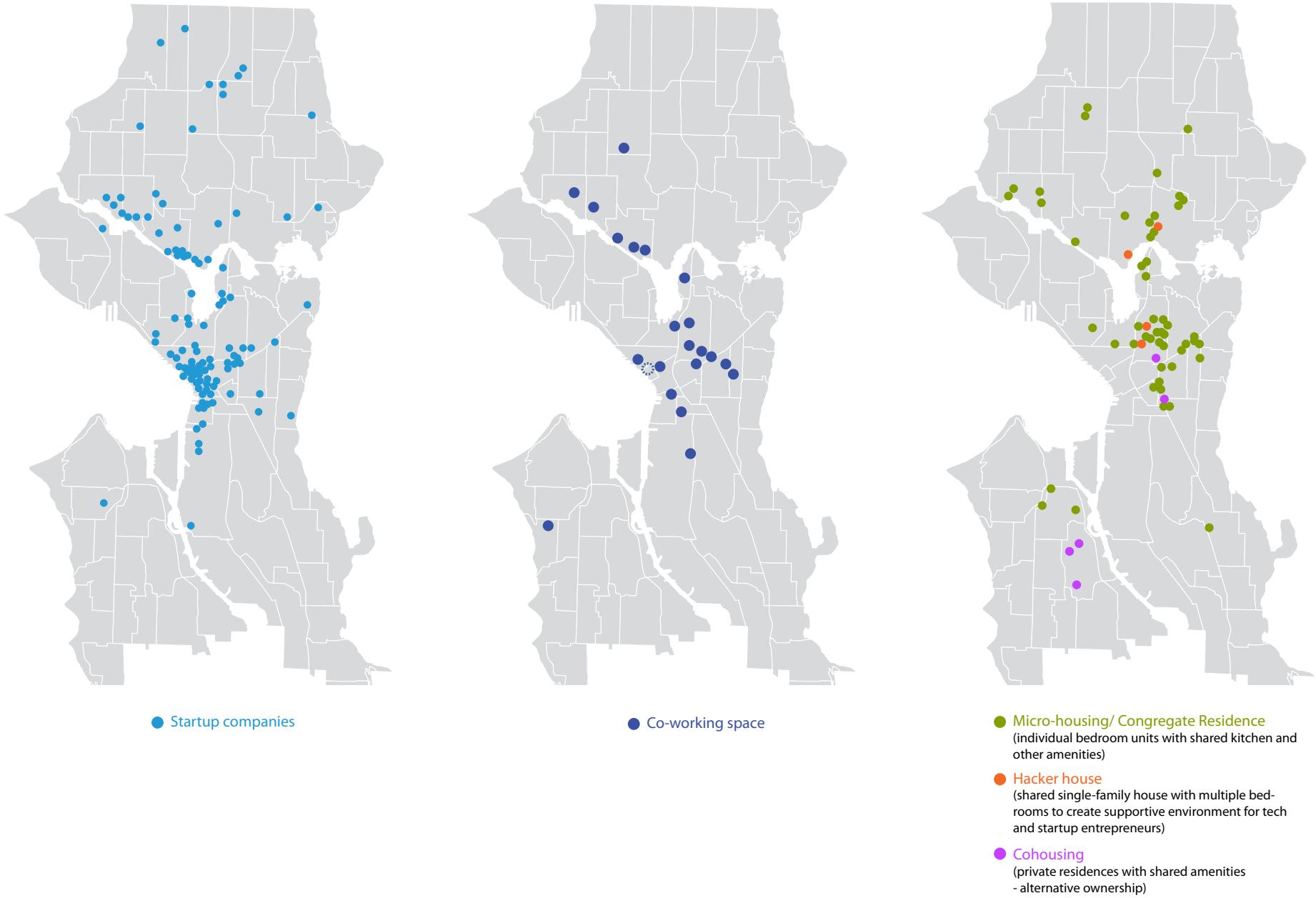
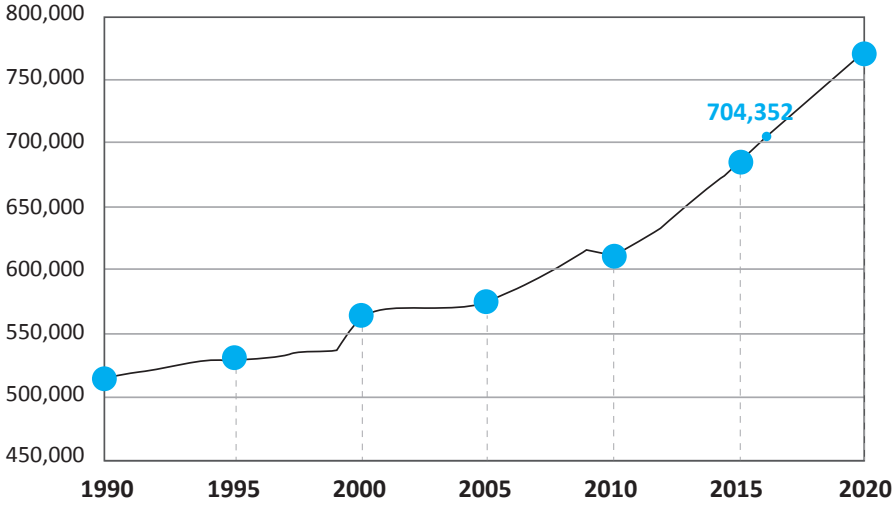
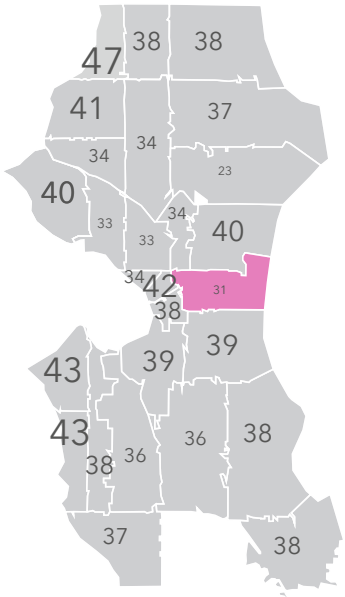


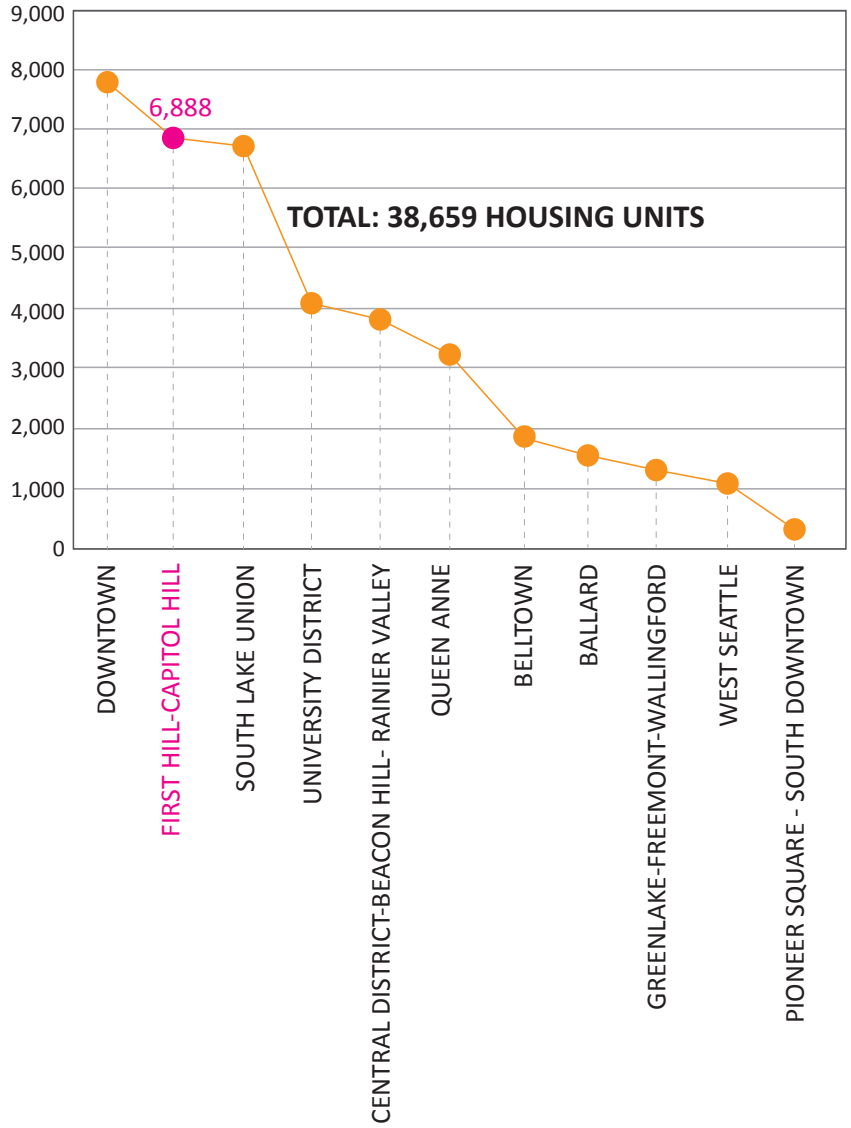
Figure 26 | Mapping of built infrastructure of the sharing economy in Seattle



SEATTLE CITY POLULATION PROJECTION



MEDIAN AGE IN SEATTLE BY ZIP CODE



NEIGHBORHOOD NEW HOUSING UNIT PLAN (2017-2020)

Figure 27 | As Seattle's population steeply rises, the problem of urban density and housing shortage becomes inevitable in the near future. Capitol Hill area has the second highest number of housing units to be built, as well we the youngest median age of 31 in Seattle

NEIGHBORHOOD CONTEXT

The neighborhood supports a colorful, vibrant urban scene that is immensely popular for restaurants, and nightlife activities. It has a collection of historic Auto-era warehouse structures, newly constructed multi-story housing, and small storefront with office spaces. It also has the open space of Cal Anderson Park and the Seattle University campus within walking distance. The Light rail station recently opened a few blocks away from the site brings a large amount of pedestrian traffic to the neighborhood.

It is targeted to become one of the densest areas in the city in terms of housing and employments (Pike/Pine Urban Center Village Design Guidelines). This neighborhood is experiencing rapid urban growth due to being close to Seattle downtown core and around 20-minute walk to Amazon campus in South Lake Union. It also connects these business areas with the dense residential neighborhood of Capitol Hill and First Hill. The Seattle Community College and Seattle University within walking distance of the site brings a large student population to the site. A large population of tech workers resides in the area since it is in close proximity to Amazon campus. Such demographics can trigger opportunities to develop an alternative living model based on the sharing economy.

Figure 28 | The site is located at the east end of Pike-Pine corridor, bounded by East Madison Street, 14th Avenue and 15th Avenue

Figure 29 | Figure-ground drawing shows the larger scale of developments on the north side of East Madison Street, while small single family houses populate the south side of East Madison Street

The speed of growth in the area has been accelerated. Most residential growth in the neighborhood has occurred in the past five years, adding 1,669 new units. Condominiums and apartment buildings now dominate the neighborhood. Under the rising housing demand, the Pike-Pine area is being converted from an area of local retail shops and a small number of housing units to majorly multi-family housing developments with retail shops at ground level (Figure 29).

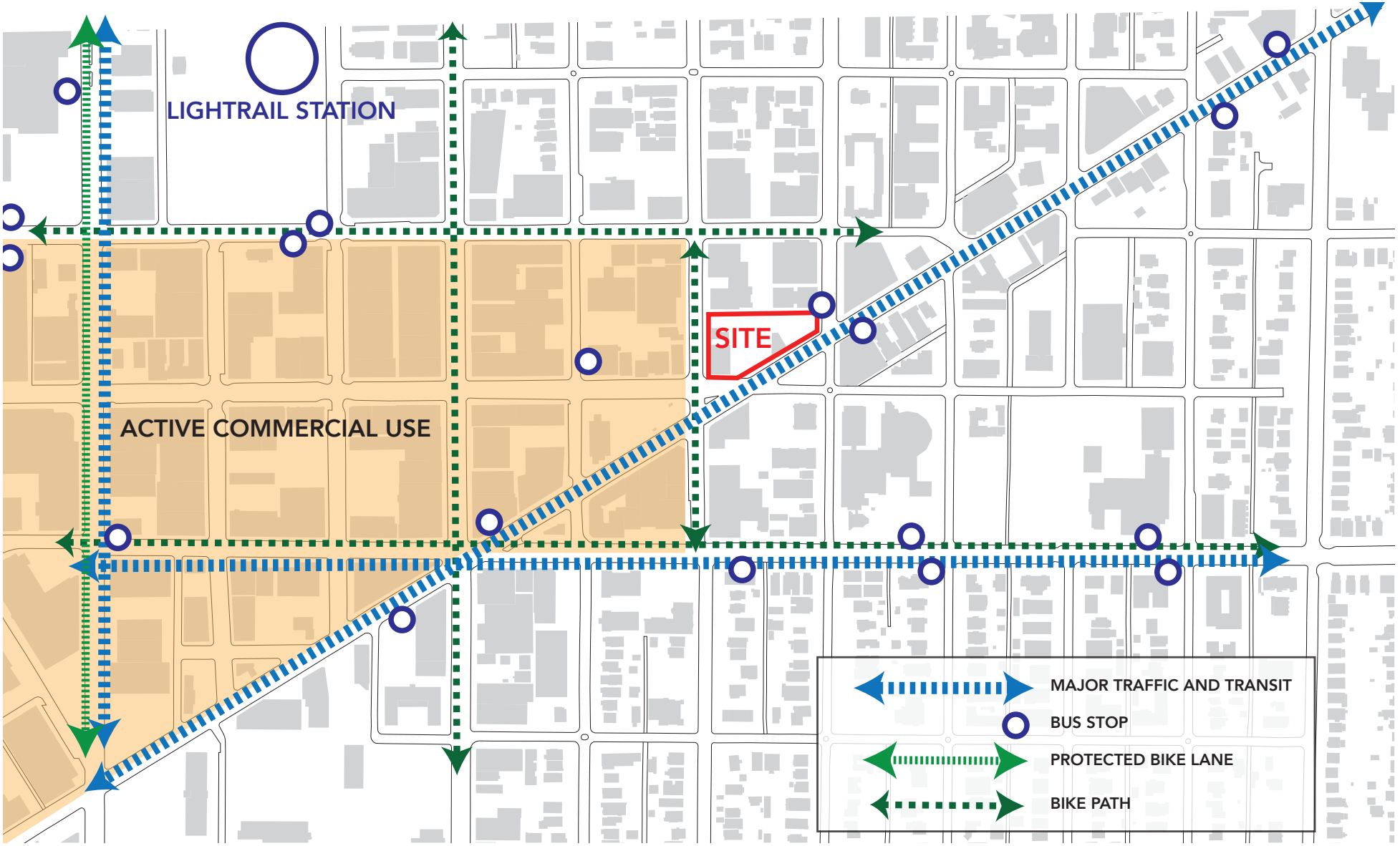


Figure 30 | The traffic analysis shows good transit connection from the site and proximity to vibrant neighborhood commercial scene

Figure 31 | The site is located on a steep slope and adjacent to recently built multi-family housing projects

4.2. PROGRAM

> Peer-to-peer marketplaces where people sell their excess capacity (cars, energy, spaces, products, food, and skills) will be viewed as a second source of income. Redistributing and swapping goods will become as second nature as throwing stuff away. Car companies will see themselves in the business of mobility, not in vehicles or in transportation. There will be an explosion of services that enable you to repair, upgrade, and customize owned or second hand products (...) Neighborhood networks such as EveryBlock or NeighborGoods will explode and enable local crowdsourcing between residents on creative and social projects (...) A collaborative and sharing culture will be the culture. [57]

This vision by Botsman and Rogers is chosen to guide the design scenario. Figure 32 illustrates the imagined daily life activity of tenants in the proposed housing typology. With app culture embedded in daily life, the sharing economy guides every aspect of consumption by maximizing resources in the proximity. Based on this, the proposed program includes:

- Living units
- Recreation space: Games room, Cinema, Gym, Library, Roof-terrace
- Social space: Lounge, Laundry, Dining, Event space
- Production zone: Communal kitchen, co-working zone, meeting rooms, food garden, and fabrication shops.

The design focuses on investigating the relationship between different functions, between private and common areas, between consumption and production space. It challenges the conventional spatial relation of units, corridor, and shared amenities.

57 Botsman, Rachel, and Rogers, Roo, What's Mine is Yours: The Rise of Collaborative Consumption (New York: Harper Business, 2010), 224

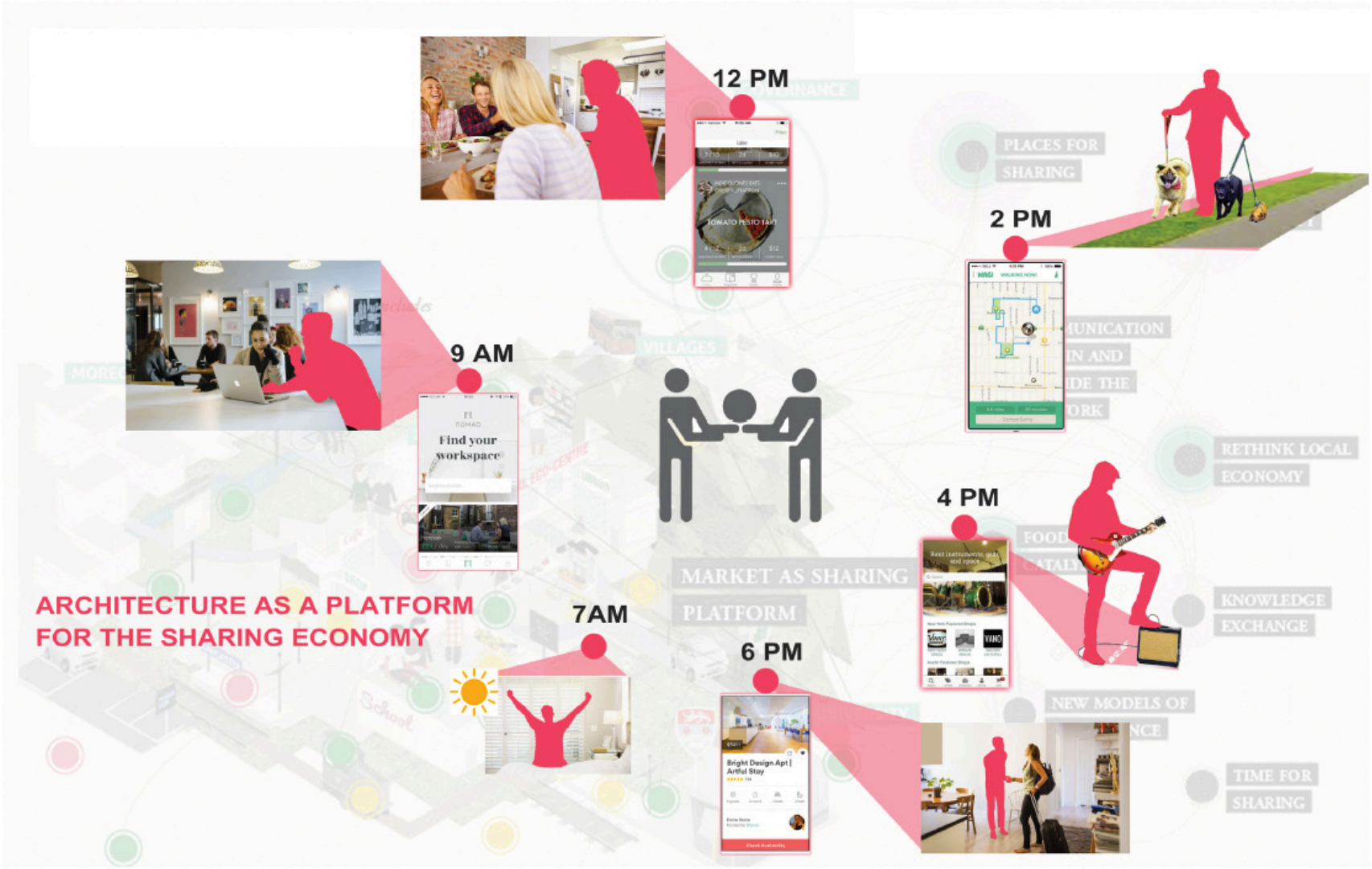


Figure 32 | The app culture is embedded in daily life

4.3. DESIGN RESPONSES

PROGRAM ORGANIZATION

The design embodies the concept of minimizing private space and creating multiple levels of privacy in shared spaces. Figure 33 explains different levels of privacy from the very personal spaces to public spaces. Personal space - the most private area - is defined by having single access and the ability for individuals to personalize their own space. In the design, this area is standardized as a 180-square-foot unit with a bathroom, small kitchen sink and microwave. The unit does not come fully furnished with built-in furniture because the ability to personalize one's living space provides domestic comfort and reinforces the sense of privacy.

As one transitions into shared spaces, the fixed spatial boundaries start to diminish. Transparency and openness foster social interaction and allow amenity spaces to be shared between individuals. The issue with amenity spaces not being used well enough in apartment buildings these days is that they are designed as one generic space for one function. They also lack proximity to units, therefore perceived as a space for special events instead of a place to spend time in on daily basis. It is important to create spaces of varied sizes and transparency to accommodate different personalities and different levels of intimacy. For instance, a dining area where everyone can gather at the center of the space, a bar counter off to the side for a smaller group of friends, an elevated area with seats that look out to gathering spaces, a reading nook with windows to garden space, a partitioned area for private conversations, etc. The shared spaces in the design proposal need to also allow for customization to the needs of the resident group. Digital communication tools like apps and schedules should be integrated into the use of the space to access certain areas of limited availability.

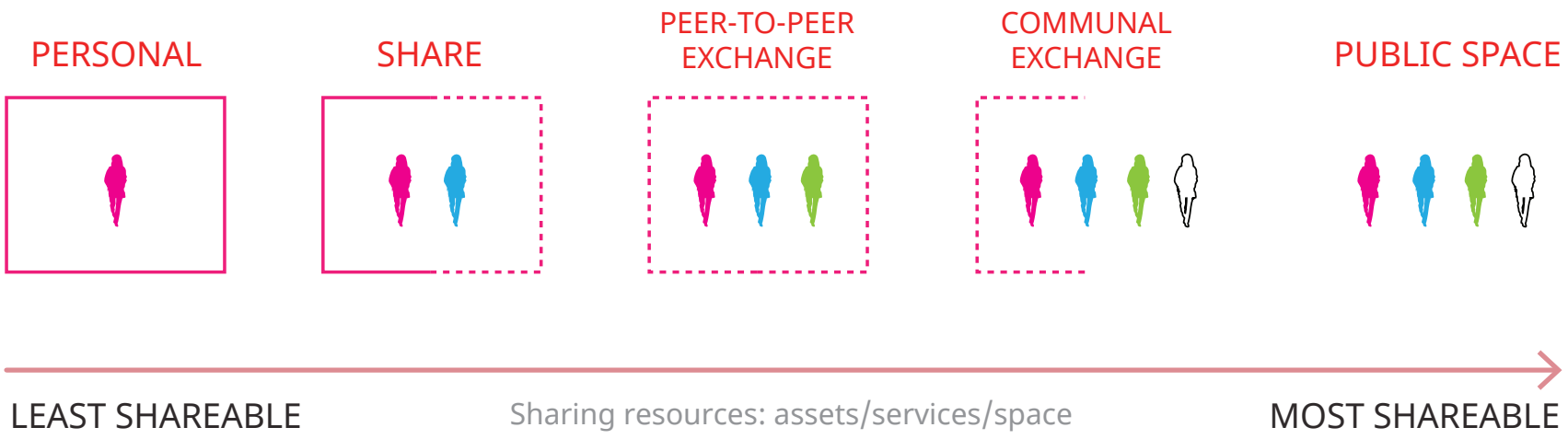


Figure 33 | Gradient of privacy in programming spaces

The next type of program is resident exchange spaces, where peer-to-peer exchanges can happen between residents and the outside public. This space is adjacent to and has a visual connection with the residents' shared spaces. Residents can set up shops, use shared kitchen for small businesses, or book co-working spaces here. As this place of exchange is embedded in the shared domestic realm, it reinforces the integration of production into living spaces. Since the nature of peer-to-peer exchange is informal and home-based, this proximity allows residents

to use their unit and shared space for producing goods and extending this out to the resident exchange space for shop display and interaction with the public.

The communal exchange space is the most public program in the building. It provides a space for people within the surrounding neighborhood to participate in the sharing economy, such as shared equipment exchange, local grocery package pickup, and meeting for collaboration.

DESIGN CONCEPT

The design proposes a community module of three levels of 18 personal pods, with shared amenities in the center that connect vertically. The number of pods in each community is needed to have an adequate amount of shared spaces. The personal pods -the most private area- are about 180 sf with windows, and elevated 4 ft above the shared space to create perception of separation from the shared level. They can be pre-fabricated to reduce construction costs. In front of each pod is a small area that can be thought of as “front porch” - where one can personalize the space and transition from the very private to the shared space. It acts as a threshold from the most private to a more public area.

Three levels of personal pods comprise a “neighborhood module”. The second level of this module is connected with the resident exchange space. The resident exchange space spans across every two modules facing each other. This space is also adjacent to the shared space between units. Access to the resident exchange is open to all residents, but the public cannot enter the shared space of the “neighborhood module” from it.

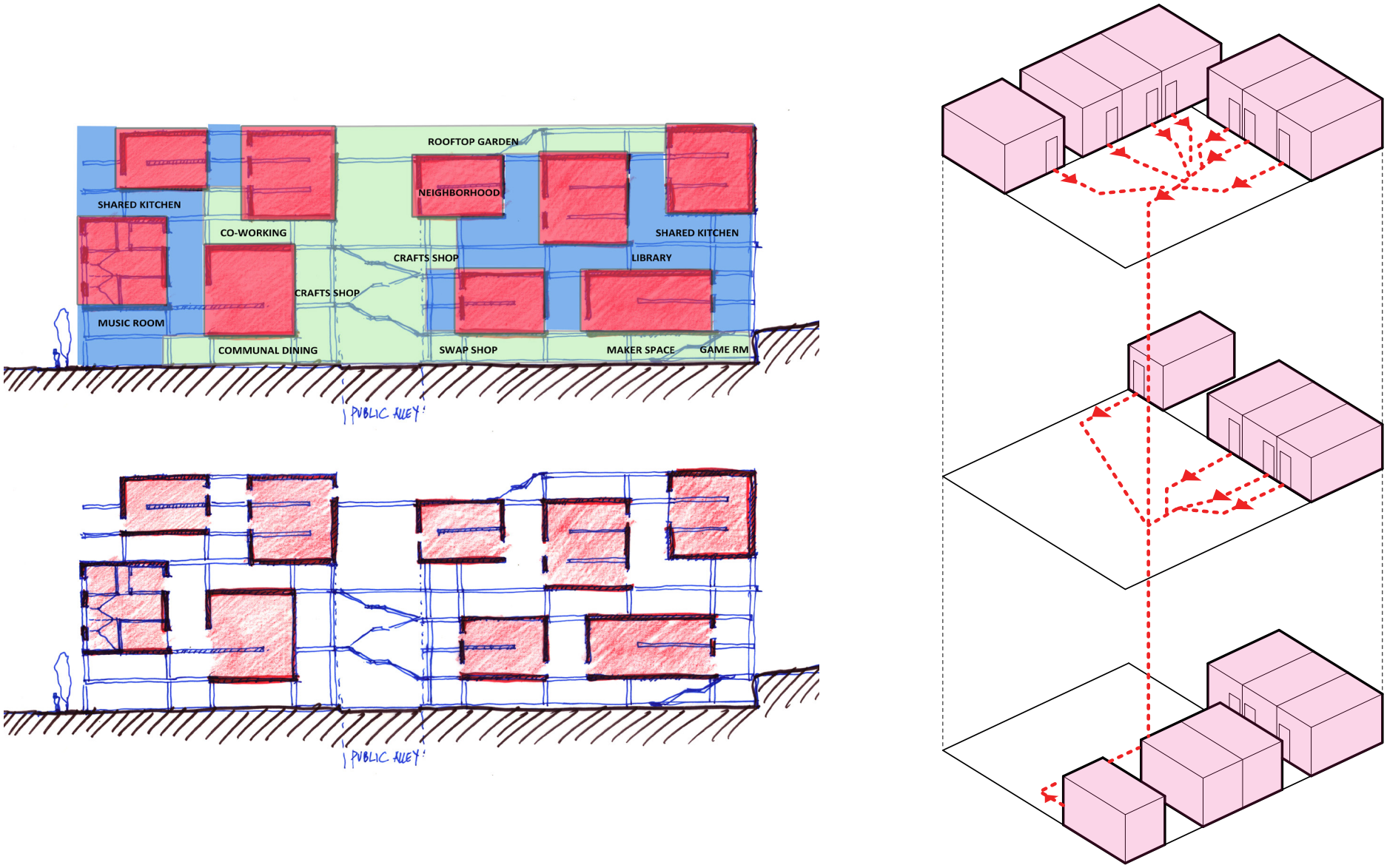


Figure 34 | Initial concept diagram of program organization with public function weaving into the building - small community shows in red, building community shown in blue, and neighborhood community shows in green

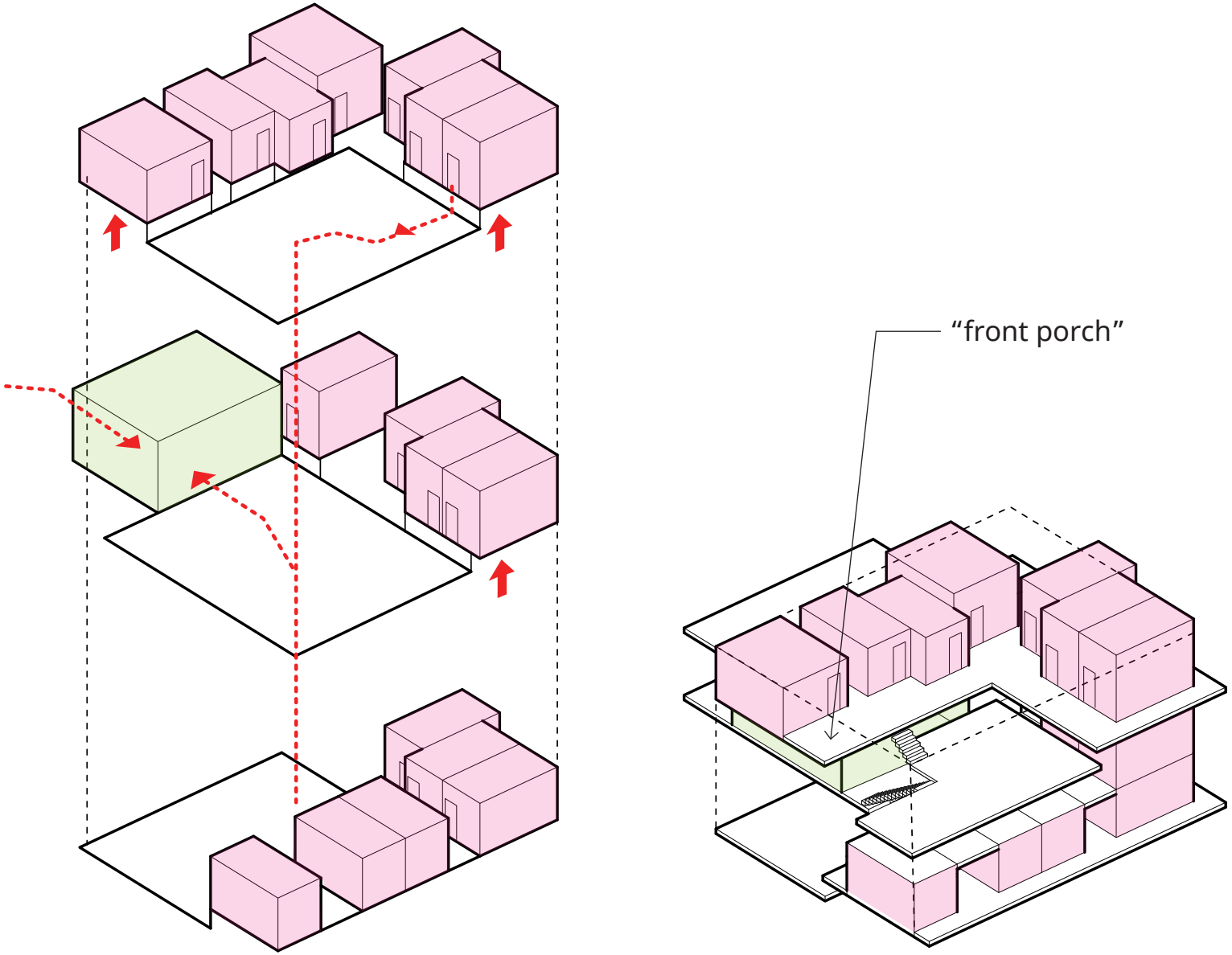


Figure 35 | The design proposes a neighborhood module of three levels with personal units that connect vertically.

MASSING

The project consists of two building blocks (Figure 36). The west block holds a prominent street corner with the lowest portion at six stories facing East Madison Street. This allows daylight into units in the north portion of the block. While the west block is built up to the property line, the east block has significant setback from East Madison Street at upper levels to break up the scale of the building from street level perspective. The building height steps up with the site topography to ten stories on 15th Avenue. The massing aims at maximizing the number of units on site, but at the same time respects the scale and rhythm of the neighborhood. Rooftop gardens on top of the second level and on building roof are created to provide ample greenery and urban agriculture space for residents.

The design proposal can accommodate 281 units, at an increase of 30 percent compared to the most efficient apartment building recently built in the neighborhood (Figure 36).

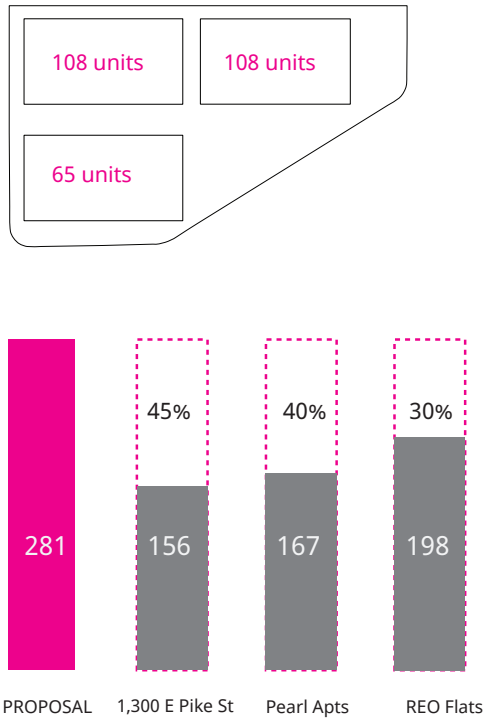


Figure 36 | Number of housing units in the design proposal

Figure 37 | The massing aims at maximizing the number of units on site, but at the same time respects the scale and rhythm of the neighborhood.

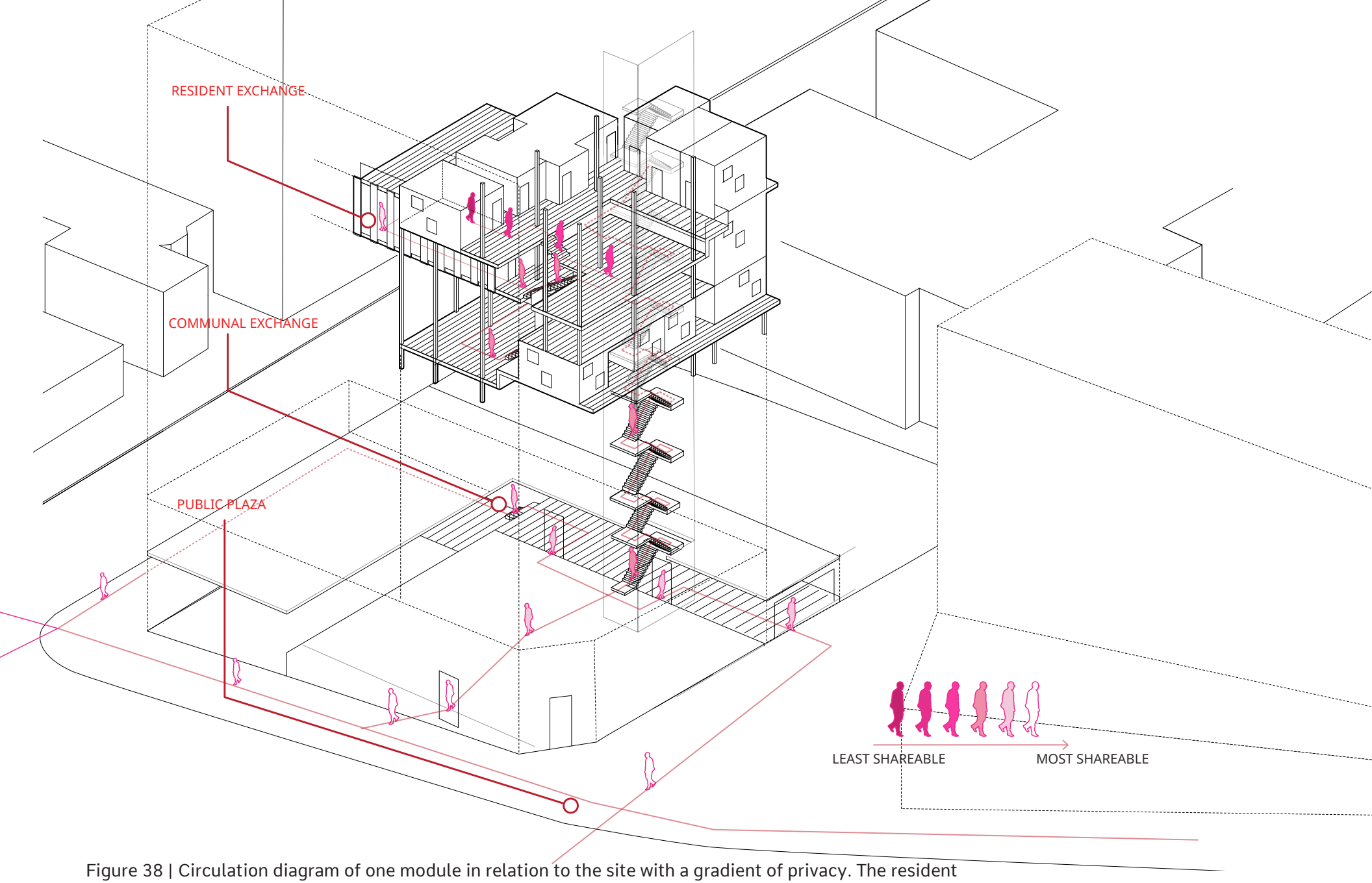


Figure 38 | Circulation diagram of one module in relation to the site with a gradient of privacy. The resident exchange space spans across every two modules facing each other. This space is also adjacent to the shared space between units. It is a space for residents to trade and exchange goods and services with people outside of the building. A higher level of sharing is experienced at ground level with the communal exchange area, where people around the area can meet up, pick up food or services from others. The public plaza provides amenities for the neighborhood.

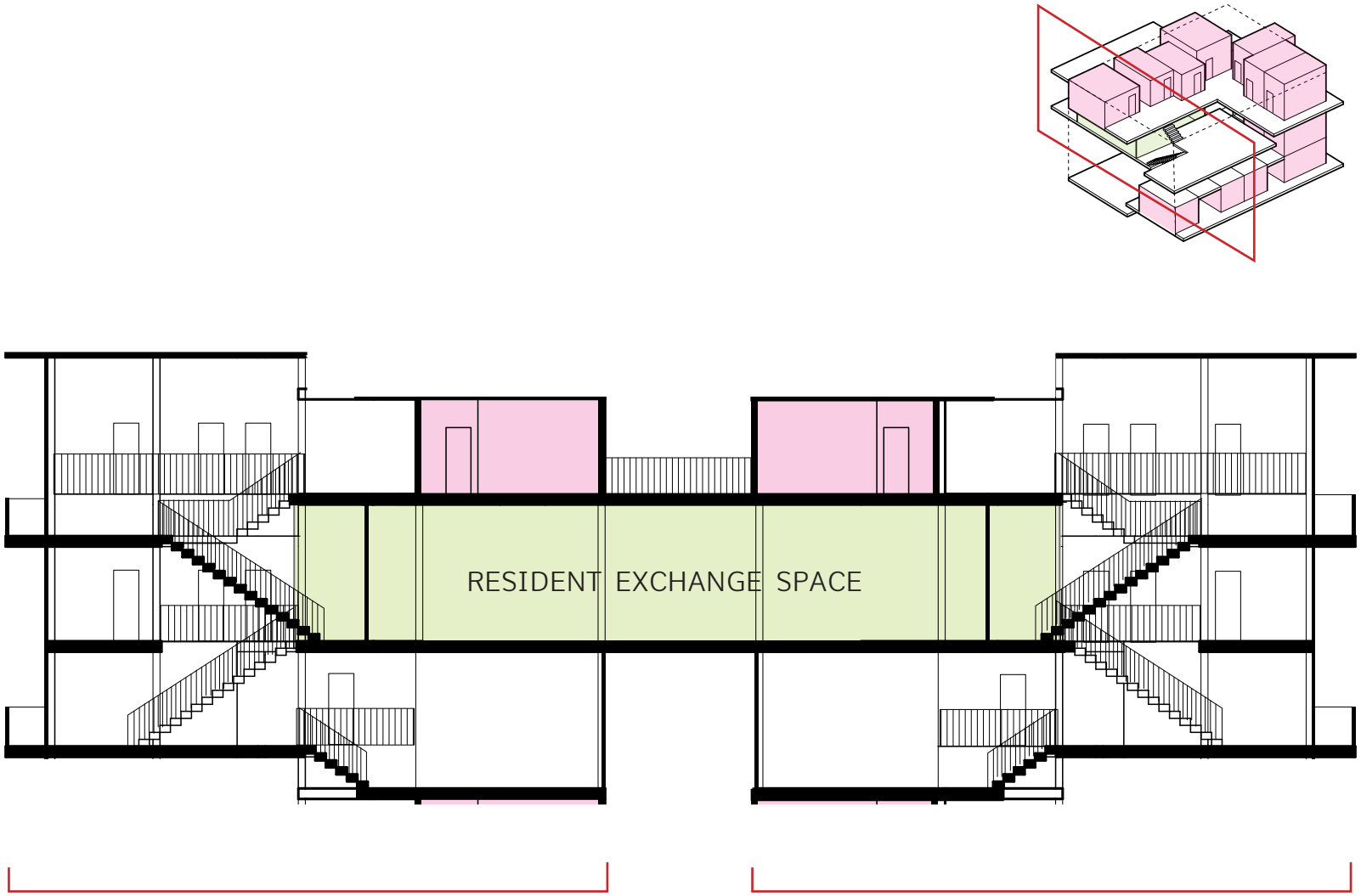


Figure 39 | Section drawing of two modules next to each other with the resident exchange place at the mid level.

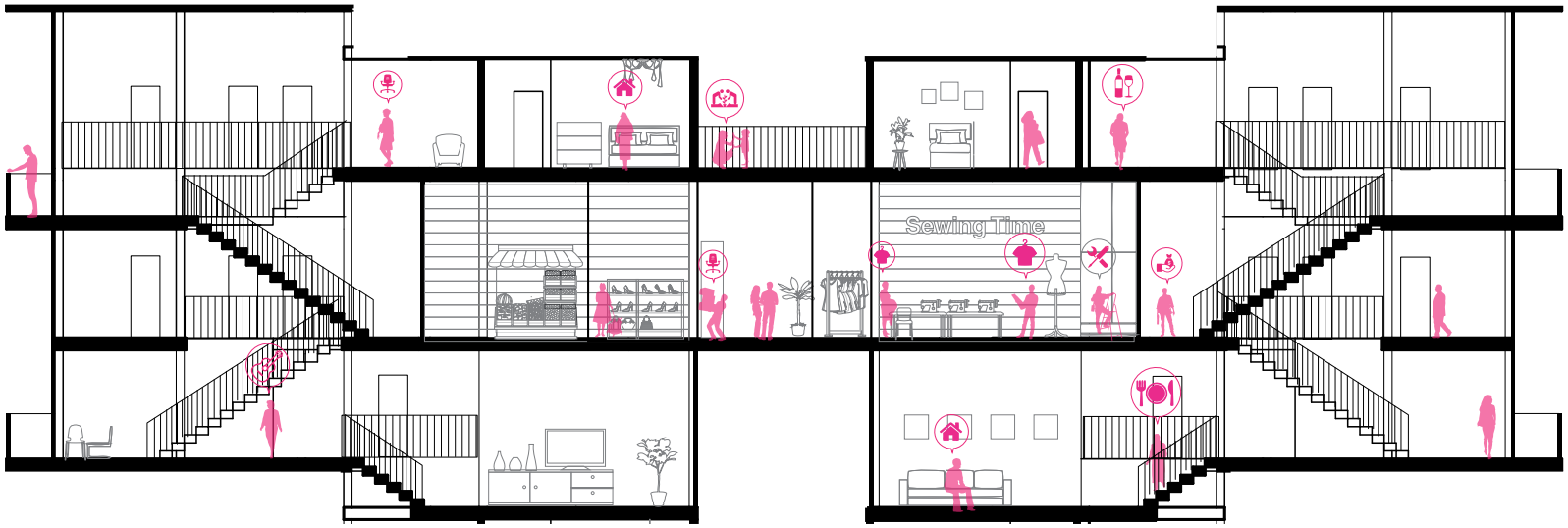
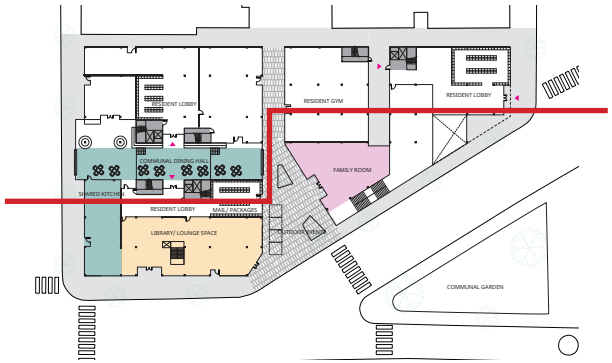
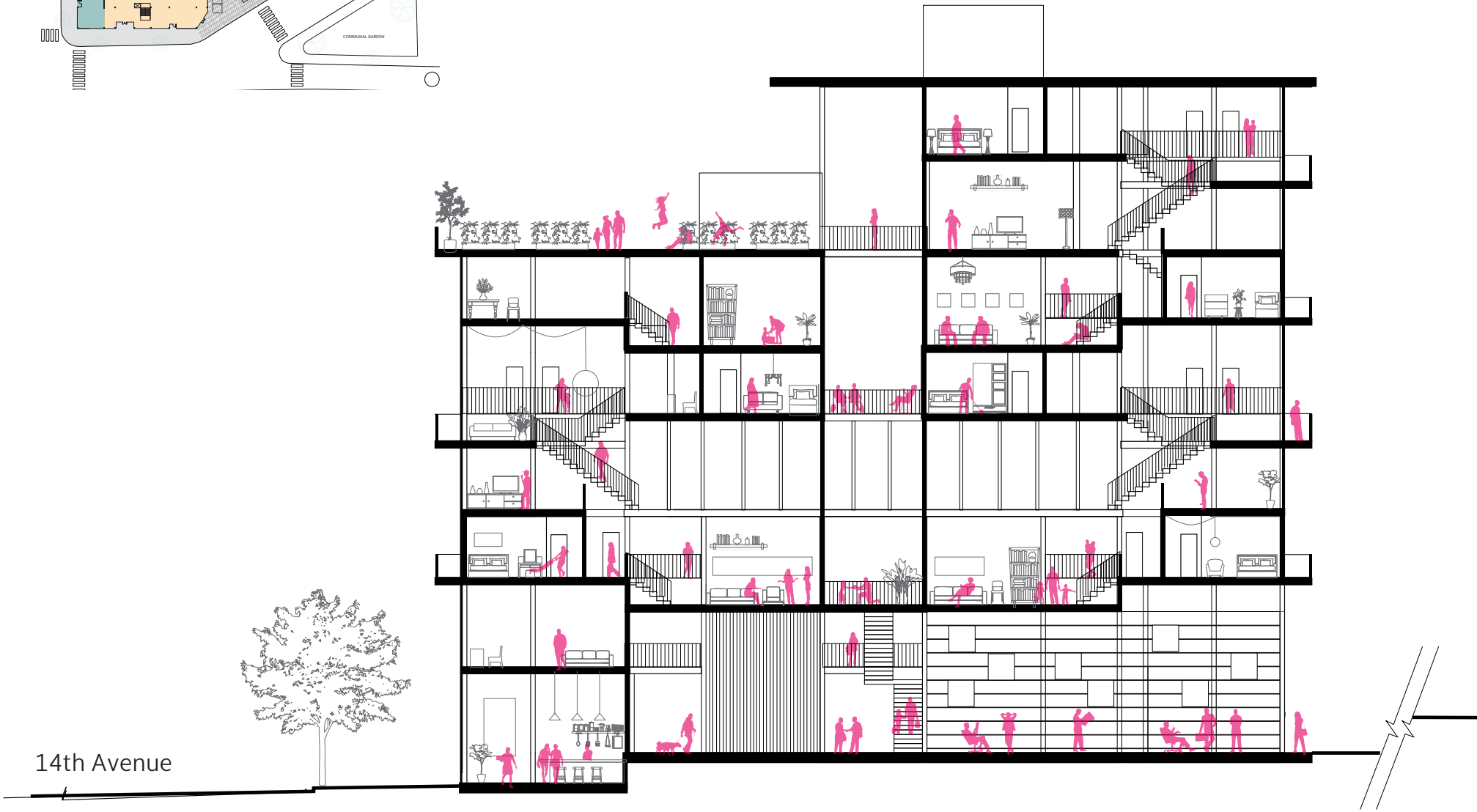


Figure 40 | Section drawing showing activities in the resident exchange


RESIDENT LOBBY
RESIDENT GYM
RESIDENT LOBBY
COMMUNAL DINING HALL
FAMILY ROOM
SHARED KITCHEN
RESIDENT LOBBY
MAIL / PACKAGES
LIBRARY/ LOUNGE SPACE
COMMUNAL GARDEN


14th Avenue

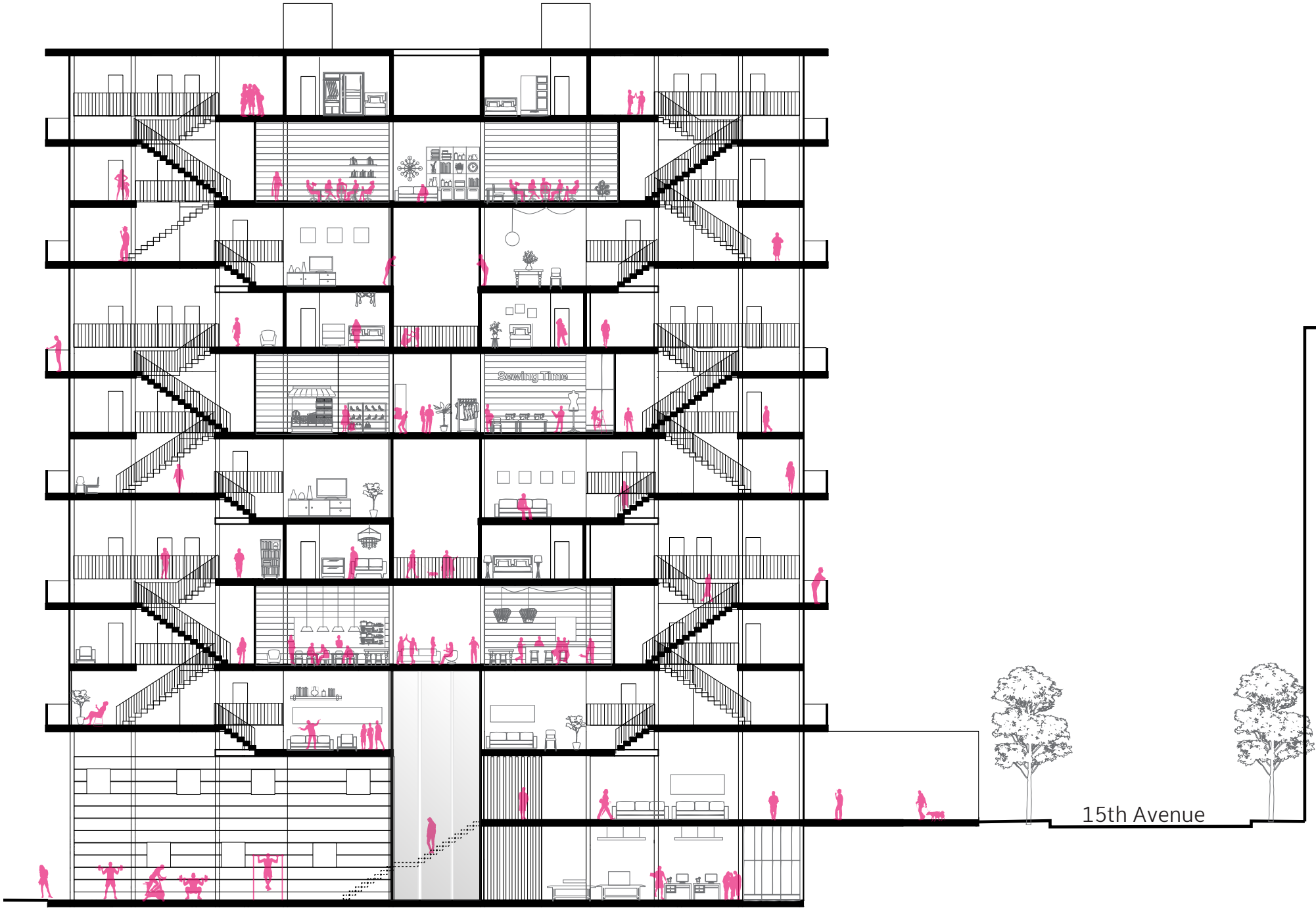


Figure 41 | Longitudinal section drawing

2ND LEVEL OF MODULE

3RD LEVEL OF MODULE

1ST LEVEL OF MODULE

Figure 42 | Typical floor plans

STREET LEVEL STRATEGIES

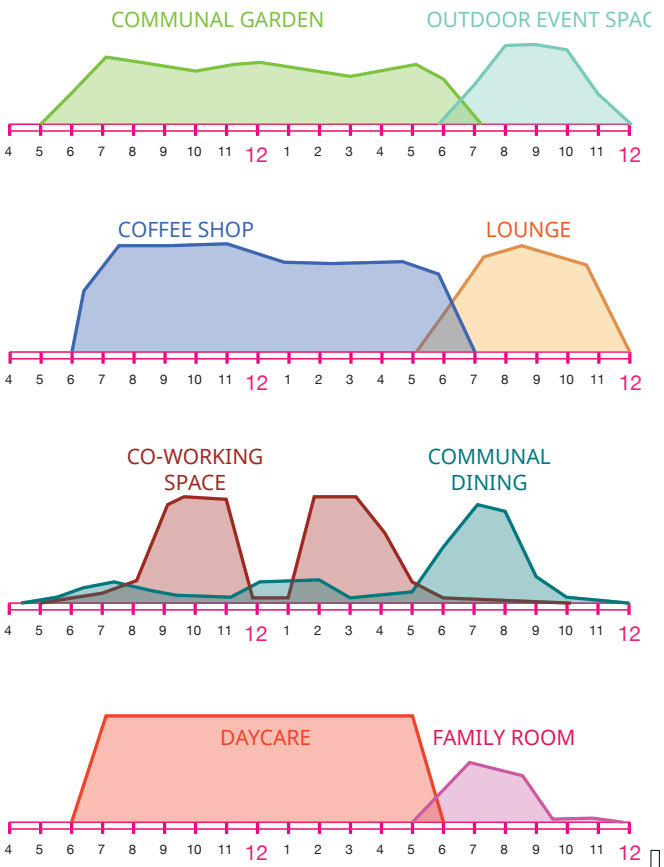
A small plaza is created between the east and west building blocks that enjoy the connection to the existing park across the site (Figure 43). It provides an outdoor public space for popup shops and neighborhood events in the summer. From this plaza, one can enter the main entry into the resident lobby and amenity spaces on site such as daycare center, fitness, and co-working spaces. It also leads to a through-block passageway to the existing alley of neighboring buildings on the north side.

An interior corridor is created in the space between the north and south portion of the west building block. This corridor is open to the public during the day and acts as a communal exchange areas where one can trade goods, pick up groceries and collaborate on projects. It can be accessed from 14th Avenue - the street with most foot traffic on site - on one end and leads to the plaza on East Madison Street on the other. The communal exchange space acts as the threshold between the public and the residents, from which the public can access the vertical circulation to go up in the resident exchange spaces for goods and services.

While the resident exchange space on the upper floors is reserved for peer-to-peer exchange culture, the ground floor of the building has a more traditional public program to attract the larger public including a coffee shop, co-working space, and daycare center. However, in order to maximize the use of space, these programs are proposed to be public-focused during daytime, and reserved for resident community during the evenings (Figure 45). Daycare center can be used for family play room, coffee shop becomes lounge space for board game events, communal exchange space can be turned into dining hall after hours. This strategy can help downsize the amenity spaces for the residents and make the most efficient use of resources. During night hours, the ground floor spaces can still be activated by resident activities to ensure a safe, vibrant public realm in the neighborhood.

Figure 43 | Ground plan - A small plaza is created between the east and west building blocks that enjoy the connection to the existing park across the site. From this plaza, one can enter the main entry into the resident lobby and amenity spaces on site such as daycare center, fitness, and co-working spaces. It also leads to a through-block passageway to the existing alley of neighboring buildings on the north side. An interior corridor is created in the space between the north and south portion of the west building block. This corridor is open to the public during the day and acts as a communal exchange areas where one can trade goods, pick up groceries and collaborate on projects.

Figure 44 | East entry to the building on 15th Avenue with rooftop gardens making visual connection with the streetscape



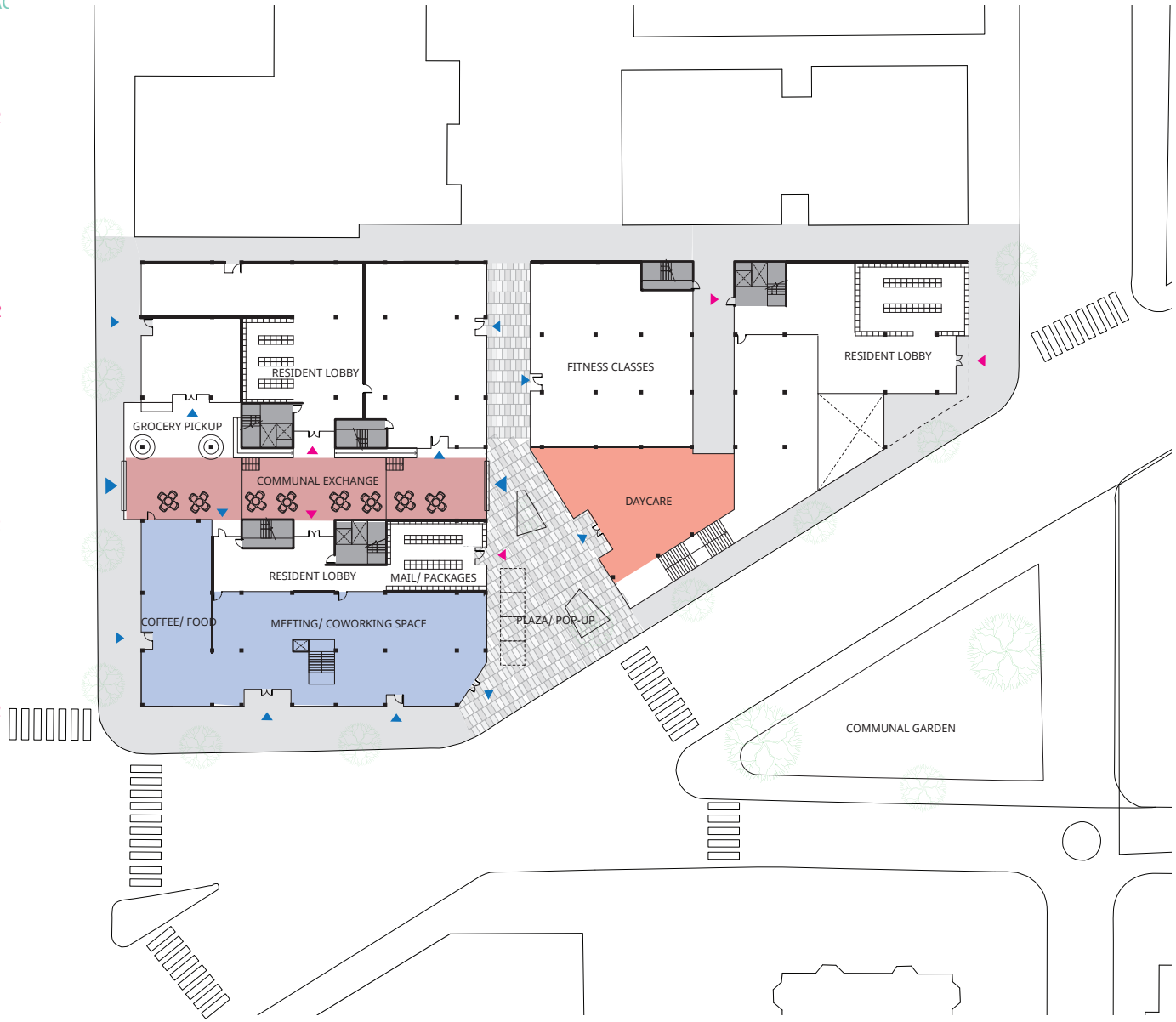


Figure 45 | In order to maximize the use of space, these programs are proposed to be public-focused during daytime, and reserved for resident community during the evenings

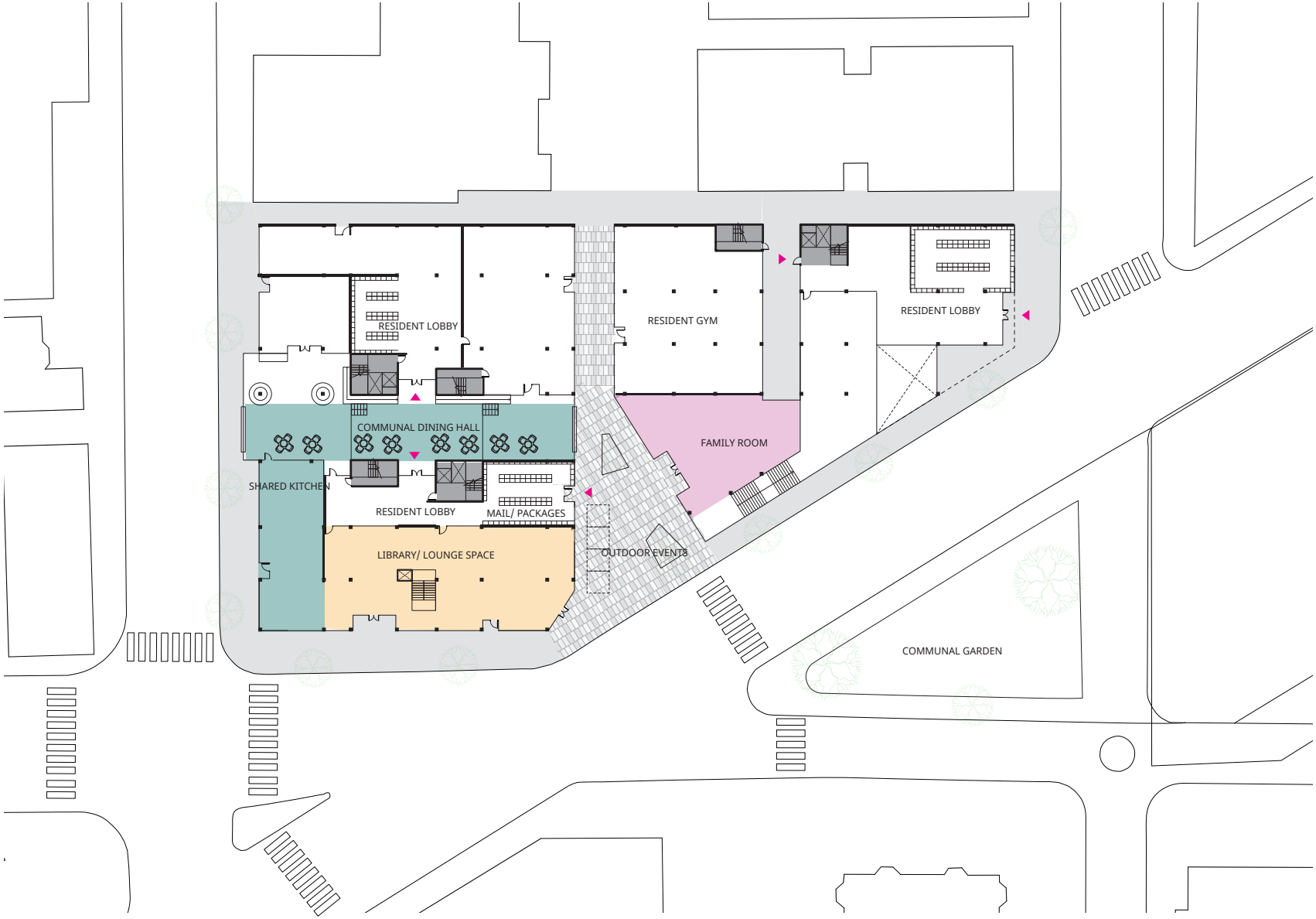


Figure 45 | In order to maximize the use of space, these programs are proposed to be public-focused during daytime, and reserved for resident community during the evenings

PARTICIPANT PROFILE

-MILLENIALS
-DIGITAL NATIVES
-VALUE ACCESS OVER OWNERSHIP
-"NEO-SHARERS"

Figure 46 | User Profile of George, a new member of the Altervative Housing Typology in Capitol Hill

DESIGN VISIONS

A character-George - is used to understand how the housing typology operates. He fits the millenial profile and just moved to Seattle from San Francisco for Grad school in Architecture. His daily acitivities are integrated with the app culture.
When he applied for a vacant unit, his profile was matched with a module that have a mix of designers and artists living together.

Figure 47 | With $600/month, George became a member of the Housing Community and moved into the 180sf unit, with built in closets and a small microwave and sink in the unit.

Figure 48 | Here is the shared space in front of George's apartment. Each unit can personalize the space in front with furniture that reflects the individual's personality. This space is the "front porch" - threshold between the very private to the shared space between residents.

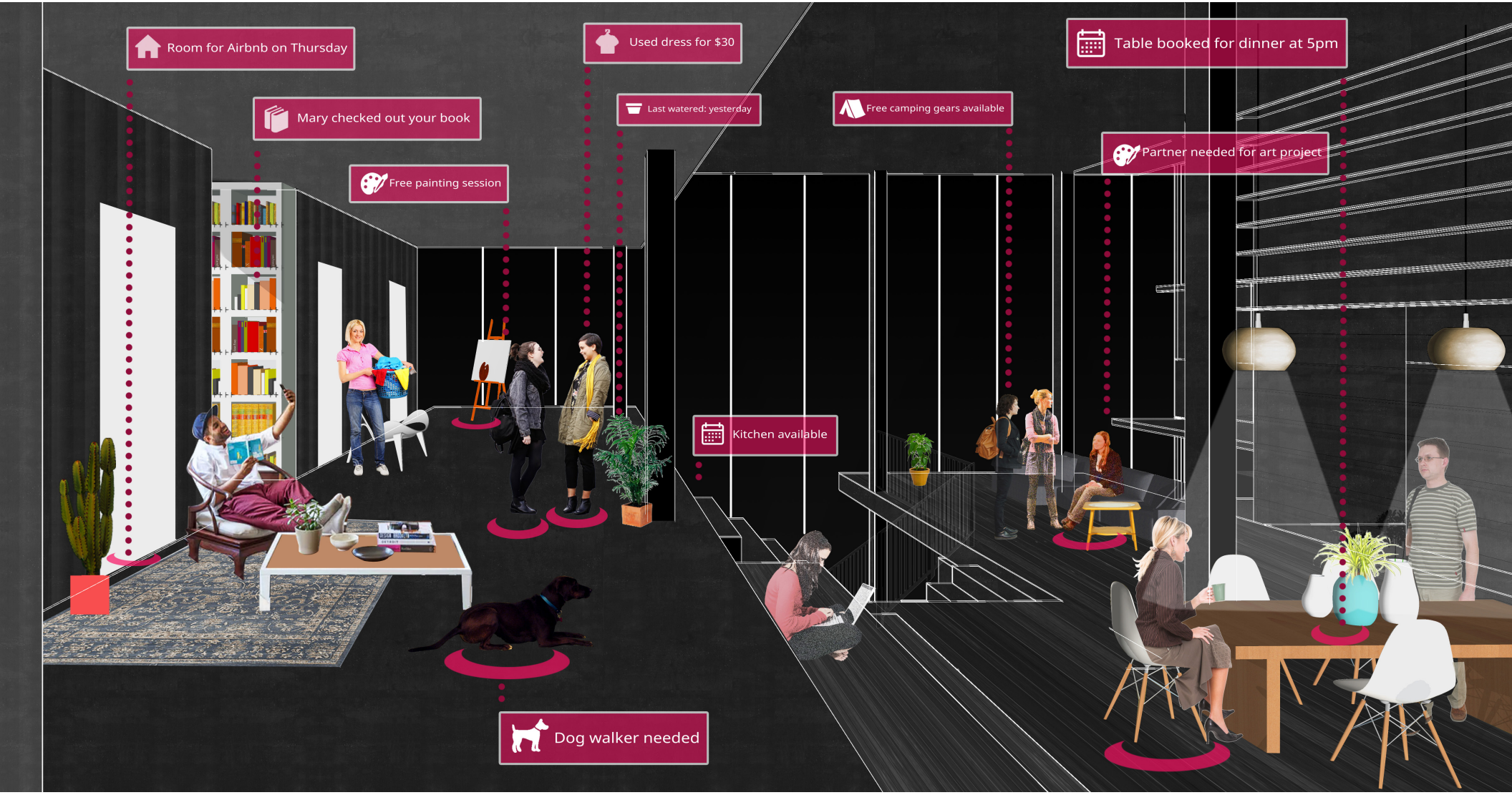


Figure 49 | Interactions are facilitated through communication technology embedded in the physical space. People can book certain spaces during the day in order to maximize usage and foster sharing. George can also organize his collection of Architecture magazine in the communal book shelves for other to check out. The app helps him manage his personal resources.

Figure 50 | In the exchange space, residents can occupy the space with their small businesses. George sometimes finds free food from his neighbors who try out a new recipe and end up making way too much food for themselves.

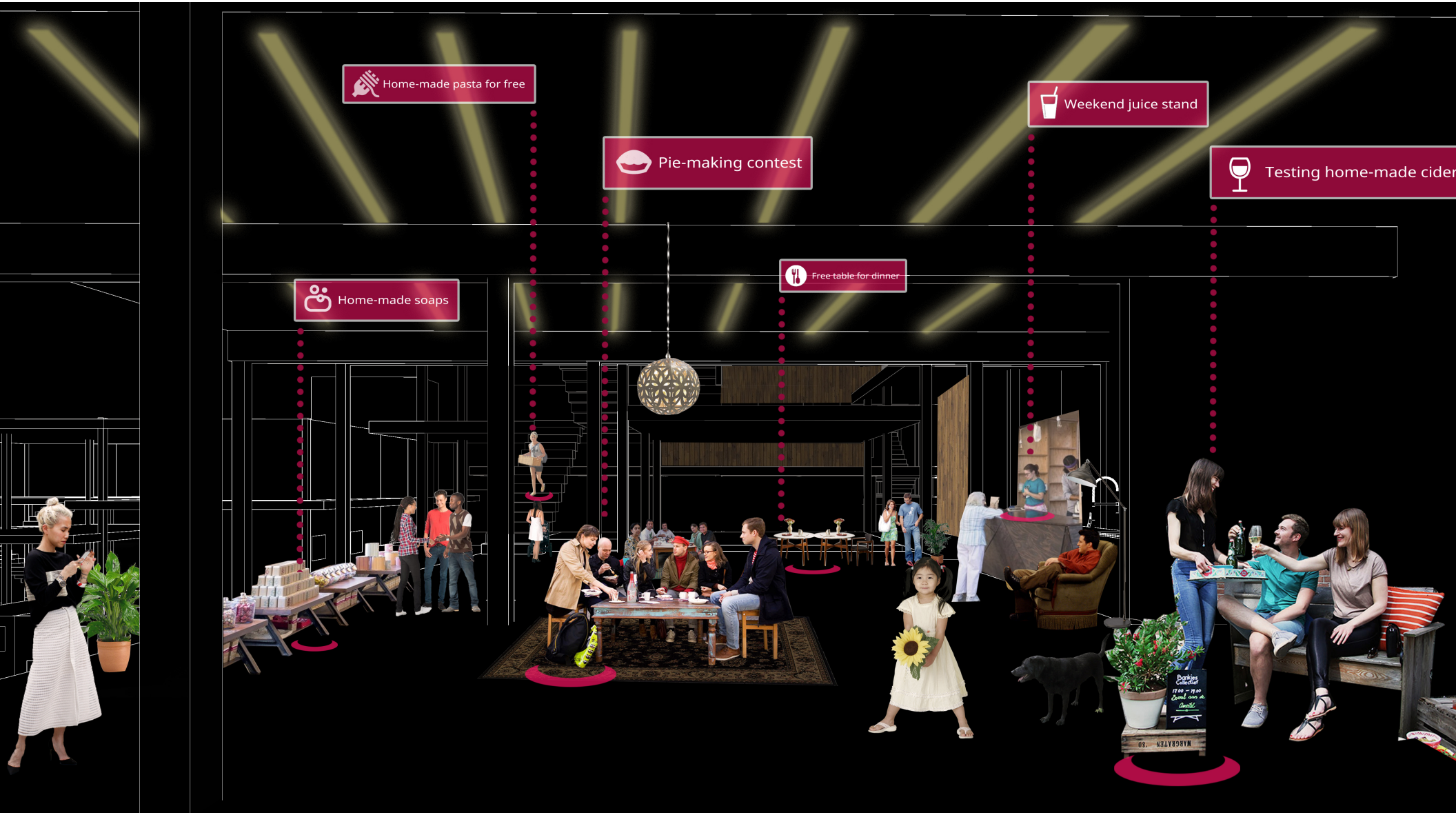


Figure 51 | Communication technology and the building's circulation help people from outside of the building make their way into this public zone and activate these small businesses.

CHAPTER 5

CONCLUSION

This thesis began as a search for a new housing typology that responds to the demands of the millennial generation who are struggling to pay rent in the city.
As the thesis developed, it became an investigation into how the socio-economic model of collaborative consumption impacts the way we live and use spaces in the city. There is currently very little research on the implications of the sharing economy on architectural issues. This thesis attempts to frame an approach that allows digital networks to have a stronger impact on the design of our physical space.

The sharing economy initially grew out of economic hardships after the recession. It offers innovative solutions to conventional problems and generates financial profits on the premise of low marginal costs. In this new economic model, “sharing” refers to allowing multiple accesses, not an altruistic act in itself. However, as it established the sharing platforms, peer-to-peer exchange and collaboration, it also developed a culture of sharing that can go beyond for-profit purposes. People have used the platforms to exchange ideas, pool together resources to better the community, or simply give away things they no longer need. It is this sharing paradigm that sets up the project proposal.

Figure 52 | Vision of the housing community

The antithesis of this sharing paradigm is the ever-expanding tech industry that is associated with the growth of the sharing economy. Tech companies thrive because of their success in building infrastructures for the new economy, but do not necessarily reflect the fundamentals of the sharing economy. They are institutional in their organization structure. The thesis does not attempt to address this aspect of the sharing economy, but rather focuses on its fundamental concept.

The thesis applies the sharing paradigm the problem of housing in a fast-growing city. It challenges the conventional perception of domesticity and segregation of program types. The design proposal is a dense living typology that allows residents to use resources more efficiently, have better communal interactions, and engage in peer-to-peer exchanges. It reexamines the nature of work and home in modern life in which these two facets interact and merge into a single urban living experience.

As the integration of work and life is key to project development, the proposal calls for extension of the public realm up inside the building to activate local micro businesses. It is a response to the diminishing commercial spaces in areas of rapidly increasing population and residential buildings. Thus, the design of a new large-scale housing typology in Seattle departs from the traditional typology of ground-floor retail with housing above. By having multiple ground-floor-equivalent trading spaces, the cost of setting up shops could be reduced. This departure would have tremendous implications on the public realm and the urban experience. A thorough investigation of these implications could be the next evolution of this thesis.

The design proposal is intended for a specific cultural context and a specific demographic group that is deeply involved in the peer-to-peer sharing culture. It does not address family

dwellers or those who can afford to own a house. It should act as part of a larger diverse housing scheme in the city. The lifestyles anticipated in the design vision revolve around digital communications in which apps and Internet connections are quintessential for navigating and interacting in the built environment. However, with the current pace of technological advancement, one could speculate that future generations will rely more on technology. It might have sounded futuristic even ten years ago that people have a voice-activated device sitting in their home that could communicate and assist with daily shopping lists. The culture of apps and social media is becoming more and more an integral part of our daily lives. It creates a different way of interacting with the surrounding environment, which should be incorporated in the way we design buildings.

The design proposal is a first step towards a new way of thinking about our urban environments and architecture. It pushes established boundaries and suggests alternative approach to solving urban problems. Ultimately, the project is about creating a denser living environment that is affordable without compromising the quality of life and the sense of community in urban settings.

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LIST OF FIGURES