the maslo

HOUSING WITH AN IMPACT

Using the architect-developer delivery method to address housing issues in Los Angeles, California

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ARCHITECT DEVELOPER: THE MASLO - HOUSING WITH AN IMPACT

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THE PROPOSAL

ABSTRACT

The traditional delivery method of an architectural project as we know is a lengthy, linear process. A client has a vision or parcel of land to develop, and they rely on an architect to make it come to life. The architect works with the client on a regular basis to ensure the vision they had in mind is the end result. While this is a viable process, it may ultimately lead to a forfeiture in design quality and social or environmental impact. Architects are in a position that relies on *other* entities to include *them* in the process of designing buildings. Due to the architect's commitment to the greater good of the general public, a self-led development has the potential to create value in ways a traditional developer may not. An emphasis on the social return on investment can create equitable communities that benefit all stakeholders of a project. This thesis will demonstrate the architect pursuing their own work as a developer through the design of a mixed-use commercial and affordable housing development in Los Angeles, California. Mixed-method research conducted in this thesis will include the origins of the architect-developer model, current architect-developer processes, architectural delivery models, the commercial real estate process, the current state of housing and homelessness in Los Angeles, and social return on investment.

F01 | The Continental | San Diego, CA | Jonathan Segal, FAIA

THESIS NARRATIVE

The role of an architect has largely remained consistent throughout history. The architect vies for the opportunity to do what they have worked tirelessly to be licensed to do: design the built environment. An architect's role in a project is usually driven by economic factors to maintain a constant workflow in a firm, and to deliver a financially feasible project to their clients. This role results in a marginal position for the architect as it places limitations on earnings and reduces environmental or social impacts. When client's wishes ask for the most cost-effective design in the least amount of time, this places an emphasis on efficiency. However, there is a major lack of efficiency in architecture offices in this traditional process. Architects draw multiple iterations, create presentations, and ultimately waste valuable time attempting to persuade the client. Moreover, in spite of all of the effort to give the clients exactly what they wanted and earn their services, the final product in the urban landscape is likely to lack in environmental, social, and design responsiveness.

F02 | An example of an unaware building design | Denver, CO

Architects are trained to understand their impact on humanity, along with how to create a beneficial environment that is pleasant to experience. This is a valuable skill in the realm of real estate and is under-appreciated throughout the building process. Developers are trained to collect the highest return on investment on any given property, along with managing a project's risk and reward. These two roles both have legitimate purposes to maximize a project's qualities in their respective disciplines. In most cases, the developer's goals outweigh the architect's, due to the architect working under the developer. The architect's influence on a project can expand to include the developer role as well. Assuming the position of architect and developer creates the opportunity to achieve the perfect balance of design and financial factors in a project. This opens the door to a new set of tools that the architect can use to their advantage for the project to succeed. When these two roles are combined, the result is a project that not only can address environmental and social issues, but also benefits the architect with greater profit.

To illustrate the combined role of architect and developer, this thesis will propose a mixed-use development in Los Angeles, California. The project will feature residential units for various income brackets, with a focus on affordable housing for formerly homeless individuals. Los Angeles has an increasing homelessness issue without a major solution on the horizon. Housing is a major need for low-income or homeless due to the rising cost of living in Los Angeles. This project will provide housing options for those in need, while illuminating the architect-developer role.

Research for this thesis will begin with the real estate development process, identifying and describing the key market research, financial feasibility, and project costs. It is important to understand this position that the architect is taking on and how it affects the project's outcome. Other areas of research will include examples and analysis of the integration of the architect-developer model from the likes of John Portman, Jonathan Segal, and James Petty. Design research may include other examples of affordable housing or neighborhoods and the architectural qualities that make these projects successful. Research will also be conducted on the Los Angeles area and the state of their homelessness population, along with the need for affordable housing. The research collected will allow the design to illustrate the benefits of the architect-developer model, and give clear insight into the social, environmental, economic, and design improvements that are achieved compared to the traditional development process.

F03 | 96 16th St. | Brooklyn, NY | JMA

PROJECT TYPOLOGY

Mixed-Use Residential

Affordable Housing

Commercial Space

Low-Income Housing

Social Services

Family Center

TYPOLOGICAL STUDIES

Typological studies were chosen based on one or more of the following factors:

1. **Typology:**
   Affordable Housing
2. **Location:**
   Los Angeles Area
3. **Communal Spaces**
   Public/Private space for community members and residents
4. **Designer/Developer Relationship**
   A cohesive relationship between the developer and designer where the designer is involved from the project onset, unlike many of today's projects

List of Typological Studies

1. Broadway Affordable Housing / Santa Monica, CA / KDA Architects
2. Isla Intersections / Los Angeles, CA / LOHA
3. Jolene's First Cousin / Portland, OR / Brett Schulz

BROADWAY AFFORDABLE HOUSING

The Broadway Affordable Housing project fulfills a need in the westside Los Angeles area by providing affordable housing for low income families. This project makes an impact on it's social surroundings in the neighborhood, while also being environmentally and economically sustainable. It's clusters of repeating housing blocks surround an interior courtyard that welcomes social interaction.

This project is situated on a corner site at 2602 Broadway in Los Angeles, across from a community park. There are 4 three-story residential buildings around the middle courtyard. A community zone towards the rear of the property includes a children's play area, wired community rooms, and outdoor space. The larger, three-bed units are located on ground level, while the two-bed units are connected by bridges on the upper level.

A sustainable building was a main goal during the design of Broadway Housing. It has a green roof allowing for additional insulation and slower runoff. Custom window frames were designed to protect the units from solar heat gain during the time of day where energy is most expensive. Vegetative screen walls insulate and reflect noise from the streets. There is no A/C in the units, but they remain at a comfortable temperature. Also, recycled water is used from a 15,000 gallon cistern located underground.

LOCATION: Santa Monica, California
ARCHITECT: Kevin Daly Architecture
COMPLETED: 2012
SIZE: 33,000 SF
UNIT COUNT: 33

F04

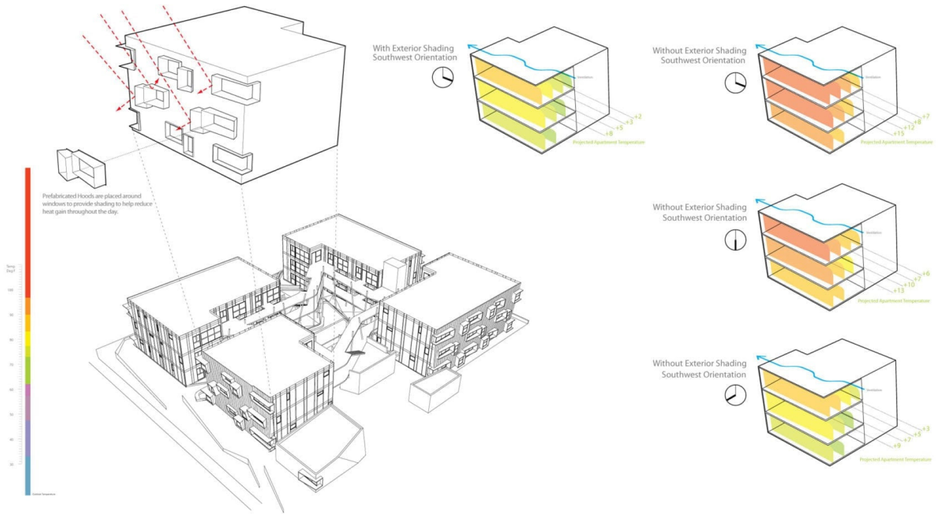
F05 | Interior courtyard from atop mezzanine

F06 | Unique column layout and interior unit organization

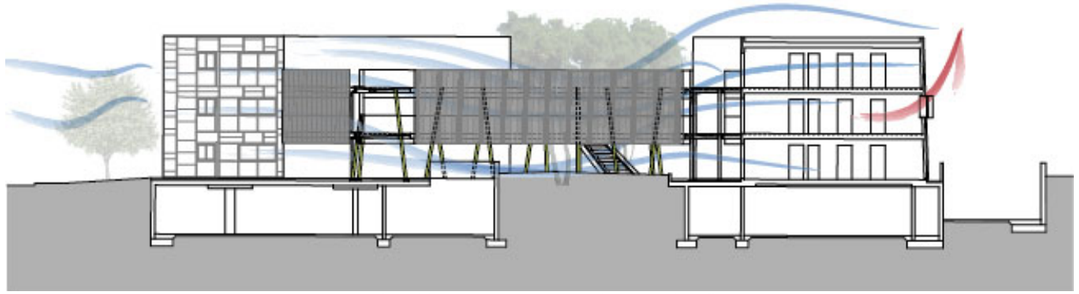
F07 | Spatial organization of upper units and mezzanine

EXTERIOR SHADING

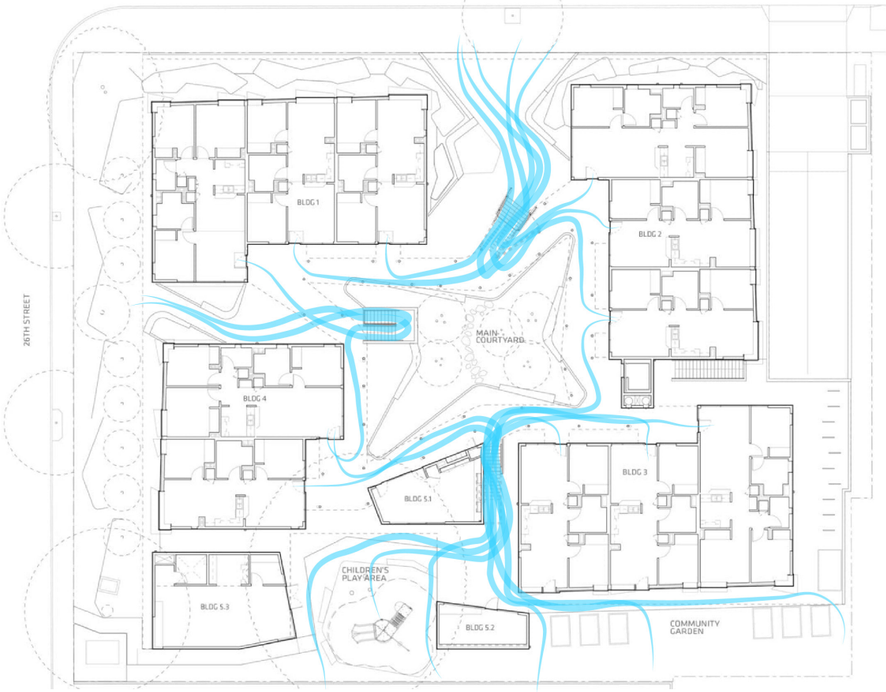
SHADE GLAZING TO REDUCE HEAT GAIN THROUGHOUT THE DAY



F08 | Windows with/without shading devices at different times of the day



F09 | Building section cross ventilation and air flow



F10 | Circulation paths from units on upper balcony

ISLA INTERSECTIONS

ISLA Intersections is one of 1,700 lots from the City of Los Angeles' city-owned parcels that were given to affordable housing developers. Most of these sites are difficult in a multitude of ways, as was the site ISLA is on. Some site issues include the triangular shape, it's location in a traffic island and former railroad right-of-way, and the proximity to one of the world's busiest interstate exchanges between I110 and I105. Even with the difficult site, LOHA managed to create a welcoming environment for all, while providing affordable housing to formerly homeless individuals.

The overall form of the project was organized into a series of sixteen staggered boxes. Three 20' x 8' mod containers make up each of the boxes along Broadway St. They are made of recycled steel and welded together and house 480 sq. ft. per unit. These intentionally scattered towers are connected by suspended walkways to create a unified building. Throughout the project, residents are surprised by pocket parks that are formed by the boxes irregular pattern, promoting a connection to the landscape.

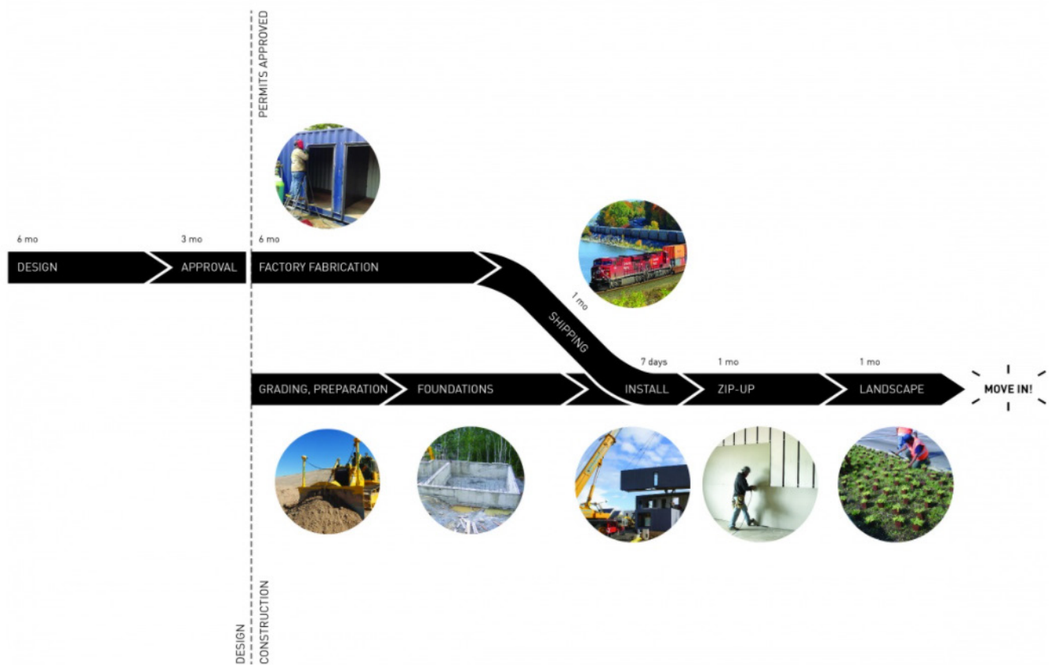
The modular container construction was chosen to reduce construction time and project costs. On and off site work can be achieved during the same timeframe, which cut construction time from 4 years to 2 years.

LOCATION: Los Angeles, California
ARCHITECT: LOHA
COMPLETED: Ongoing
SIZE: 35,000 SF
UNIT COUNT: 54

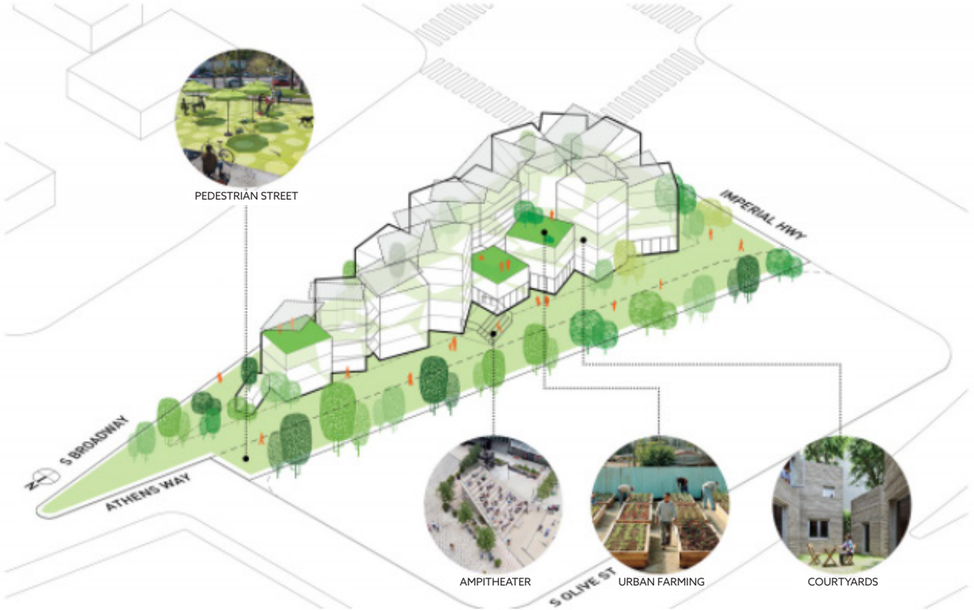
F11

F12

LOHA's goal was to create a compartmental, but solid project that responds to the unique site environment. The building's height shifts from 5 stories to 2 as it moves toward the single family neighborhood on the west side of the site, and along the pedestrian-friendly Athens Way. While the project is mainly residential and green space, it also provides a number of storefront spaces for incubation, job training and support services, and administration offices. Athens Way serves as a "Living Lung" bordering the busy interstates to filter air and noise pollutants from the site. Rooftop farms were integrated to provide fresh produce for weekly farmer's markets on Athens Way.



F13 | Reduced construction time due to pre-fabricated modular containers



F14 | Site features and overall form on the irregular, three-sided site

F15

F16

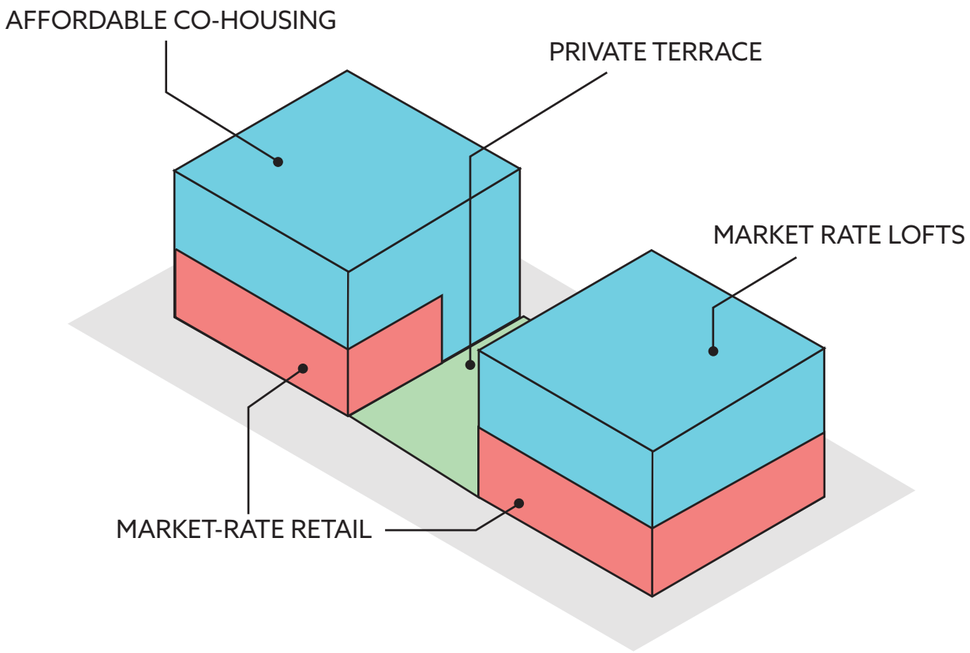
JOLENE'S FIRST COUSIN

Jolene's First Cousin is an affordable housing project located in Portland, OR. Guerilla Development is headed by former architect Kevin Cavenaugh, who has used his knowledge in design, real estate, and finance to create a unique project. The project consists of two two-story buildings that contain 6 total units: three retail spaces, two market-rate lofts, and one unit containing 11 single-resident-occupancy (SRO) rooms.

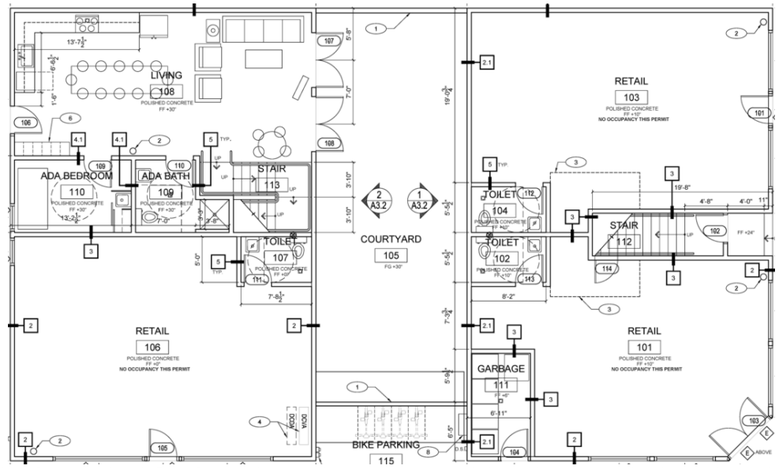
The 100 square foot SRO rooms share amenity spaces to give everyone the proper living essentials such as a kitchen, living and dining room, private courtyard, showers, toilets, and laundry facilities. Each room also has it's own closet, bed, and sink. Each room is on the market for only $425/month, much lower than the market-rate unit in Portland.

What makes this project even more unique is the investments that financed it. To gain the capital needed to build the project, Guerrila Development crowdfunded $300,000 to cover a portion of the costs. Over 50 investors throughout the community bought a share, and they reached their goal in only 72 hours. The idea behind crowd-investing for this project was to allow Portland residents to participate in a real estate investment with a direct social impact on their community. Investors received a 5% preferred return for the first 10 years, and a return of the principal and split proceeds after that.

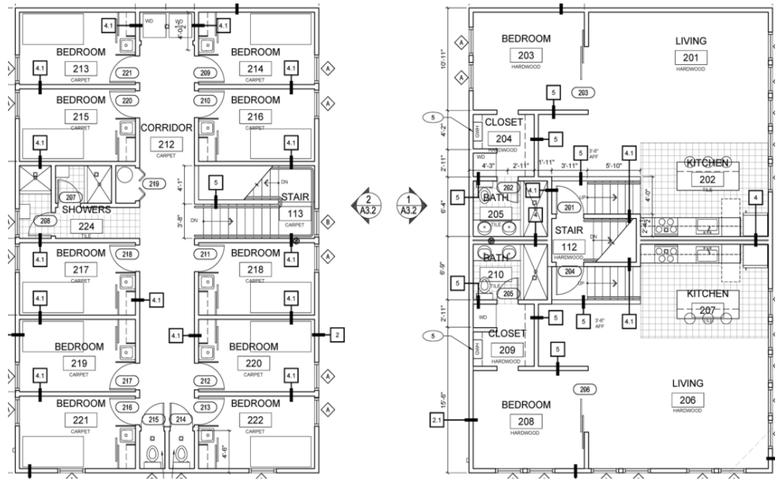
LOCATION: Portland, OR
ARCHITECT: Brett Schulz
COMPLETED: 2020
SIZE: 6,600 SF
UNIT COUNT: 6



F17 | Spatial organization of the two buildings in Jolene's First Cousin



F18 | First Floor Plan of Jolene's First Cousin showing the retail spaces and shared living space for the single-resident occupants



F19 | Second Floor Plan of Jolene's First Cousin showing the two market-rate lofts, and the single-resident occupant rooms

MAJOR PROJECT ELEMENTS

Affordable Studio, 1 Bed, 2 Bed, 3 Bed Units

These units will make up most of the housing in the project to maximize the number available to those in need. Funding may be provided to keep rent low or cover portions of rent.

Market-Rate Units

These units will be included to provide mixed unit types and to balance the lower rent costs of the affordable units. Building managers will also be housed in market-rate units. Slightly lower than market-rate units may also be available for those with lower incomes.

On-Site Parking

Accommodate tenants with vehicles and business visitors

Offices for building manager and case management services

Case management workers will be involved to provide support for formerly homeless tenants. Services will be available to assist in the transition from homeless to housing tenants.

Family Center

Job training, academic support, and computer access

Community Laundry Room

Laundry room equipped with multiple machines for tenant use

Mailbox Area

Main lobby and mailboxes for tenant mail

Trash/Recycling Chute and Room

Dedicated area for trash services and recycling facilities

Roof Decks/Courtyard

Common courtyards for a relaxing outdoor space for leisure time. These spaces will connect many of the units to the main circulation of the building.

Community Lounge

A relaxing setting for community gatherings or visitors.

Ground Floor Retail Spaces

Market-rate ground floor retail for tenant use and employment.

Site Development

Site development will be important to create a community within the project. The project will accomplish more than just housing, it will be a supportive environment for people in need.

USER/CLIENT DESCRIPTION

This project is meant to be inclusive for all people, but there is a focus on who the building is being designed for. The building will be owned by the architect designing the building due to the "architect working as developer" role that has been established. These descriptions will become more detailed as the thesis is developed. The following is a small scope of who would occupy this project upon completion:

Homeless or Transitional Individuals

The primary user of this project will be homeless or individuals in transition who need permanent housing. Los Angeles has an increasing homeless population without many options for affordable housing. These individuals deserve a safe, supportive environment to supply their basic physiological and psychological needs. Moving out of the streets will give them an opportunity for improved wellness and employment opportunities.

Families in Need of Permanent Housing

There are some families who are either homeless, rely on short-term housing, or make a very low income intended to support the entire family. Larger affordable units in the project will give these families a secure and permanent solution. These families will be given the opportunity to settle down and relieve the financial burden upon them.

Aspiring Business Owners

Small commercial spaces on the ground level of the project allow a population of aspiring small business owners to use the building. These owners are operating start-up businesses that only need, and can only afford, a small, permanent space for their business to flourish. Additionally, these owners will be attracted to the proximity to residents living in the building for either customers, or employees.

Social Case Workers

Case workers will have office spaces in the building, allowing them to work with and assist tenants with their transition from homelessness. They strive to help them find jobs or other resources that will allow them to support themselves. They will use the office spaces during the day, but some may live in the building as well, allowing them to be available 24/7.

College Students

College students with a low income and housing need will also be occupying the space due to the lower cost of units. The businesses on the ground level also make for an attractive amenity to food or shops.

Young, Single Individuals

Young, single individuals moving to Los Angeles will be a tenant in the building as well. The high rent prices in the area are likely to push these young people who have entry-level jobs into smaller, efficient, and cost-friendly units like the ones provided in this project.

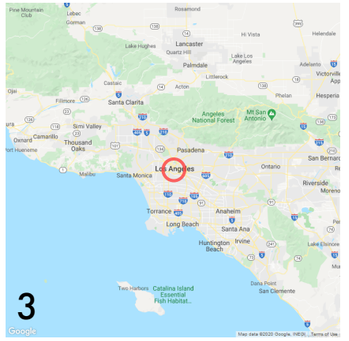
THE SITE

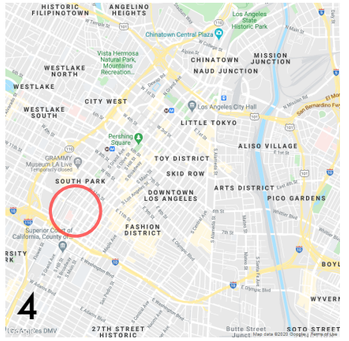
1345 S Grand Ave, Los Angeles, California 90015

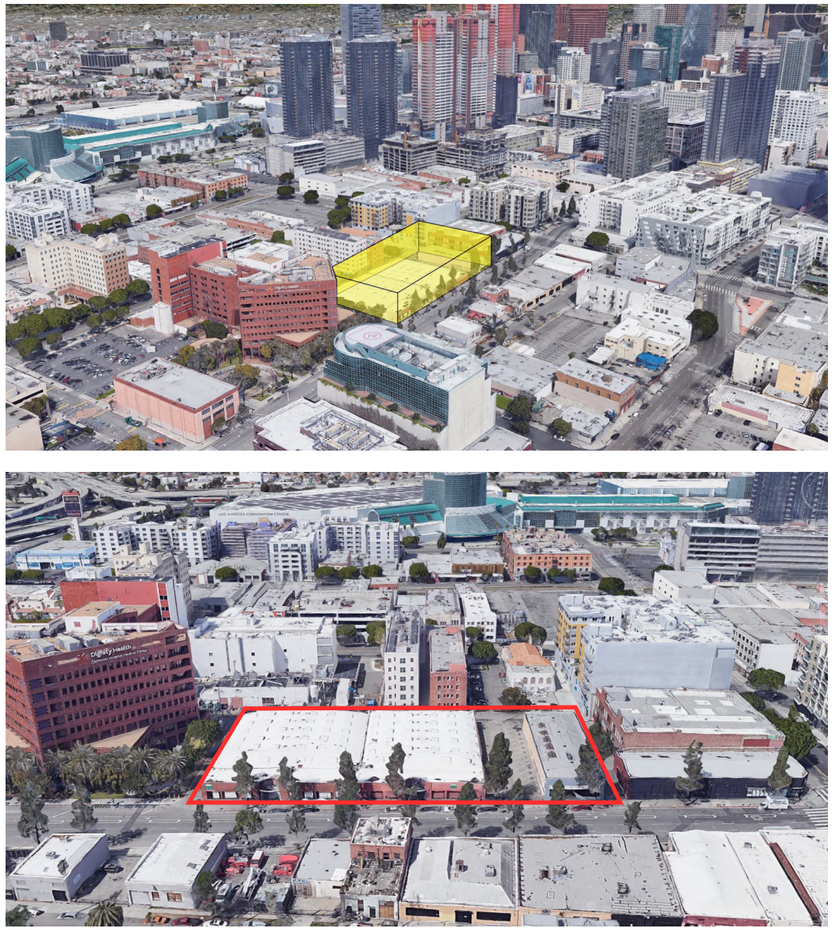
This site is in the South Park District of Downtown Los Angeles. There are two existing one-story retail buildings on the current site. They are underutilized and have many advertisements for leasable commercial space. The buildings will be demolished to allow for a new configuration of the site. The site is next door to the Dignity Health California Hospital, making it a safe location for a residential project. Zoning codes allow a mixed-use commercial building to be placed on this site as well. The site's proximity to many key downtown LA landmarks including the Staples Center make it a desirable location for many. Homeless individuals who are in transition will escape the Skid Row neighborhood where many homeless remain in tents, allowing them to embrace their new lifestyle in shelter.

F20 | Downtown Los Angeles, California

F21







F22 | *Aerial views of the site in South Park, Downtown Los Angeles*

F23 | *Street view of an existing one-story retail building on the site*

F24 | *Street view of the site toward Downtown Los Angeles*

PROJECT EMPHASIS

1. Architect as Developer

The main emphasis of this thesis is to demonstrate the architect taking on the role of developer and the development process that leads to a completed project.

2. Affordable Housing

Another emphasis is to provide affordable housing to the Los Angeles area to address the major homeless population and establish a housing development with a social impact.

3. Profitability in Real Estate

To demonstrate the “architect as developer” model as viable; a secondary emphasis of this thesis is to ensure the project is profitable as a real estate investment.

4. All-Inclusive Design

An underlying emphasis is the goal of an all-inclusive building design that can house multiple people from several income ranges and backgrounds. This emphasis will be demonstrated by creating a space where everyone is comfortable while addressing a major social issue in Los Angeles.

F25 | Dumbo Townhouses | Brooklyn, NY | Alloy Development

F26 | XOCO 25 | New York City, New York | DDG Partners

PROJECT GOALS

Academic

1. Demonstrate proficiency in Revit and other BIM programs to create a detailed building design.
2. Explore new graphic design methods for presentation of the thesis project.
3. Connect the architect-developer role with social issues in a way that makes sense from an economic and design stance.

Professional

1. Research real estate development to further my understanding of the processes. Apply knowledge to real estate developments or investments of my own in a professional environment.
2. Embrace new knowledge created by the thesis project to give readers the confidence to develop projects of their own.
3. Give knowledge or ideas to those unknown with the architect-developer career route and hopefully entice them to pursue it in some capacity.

Personal

1. Gain confidence in my architectural knowledge and ability to create a unique design.
2. Teach myself the real estate process with the research conducted in the thesis to be able to pursue it as a career.
3. Stay focused on the end-goal (degree) while completing the thesis project.

PLAN FOR PROCEEDING

DEFINITION OF A RESEARCH DIRECTION

1. **Theoretical Premise**
   - Real Estate Development Process
   - Real Estate Finances
   - Architect Developer Process - why is it beneficial?
   - Los Angeles Homelessness Crisis
2. **Project Typology**
   - Affordable housing projects
   - Affordable housing financial programs
   - Other existing Architect-Developer's projects - how are they different than the traditional process?
3. **Historical Context**
   - Where did the Architect-Developer role come from? How did it get to where it is today?
   - What kind of reaction was there when this role became a viable option in the field?
   - How did Los Angeles homelessness evolve into the crisis it is today?
4. **Site Analysis**
   - Visit site and perform on-site analysis
   - Los Angeles neighborhood and zoning/land use codes
5. **Programmatic Requirements**
   - Existing affordable housing projects, spacial organization, and building uses
   - Determine appropriate unit layouts and square footages corresponding with affordable housing rent prices
   - Square footage impacts on construction costs
   - Programmatic effects on return on investment

DESIGN METHODOLOGY

1. **Qualitative Analysis**
   - Archival search throughout design process
   - Qualitative site analysis gathered locally
   - Historical research
   - Mixed-method, gathered concurrently with quantitative analysis
2. **Quantitative Analysis**
   - Archival search throughout design process
   - Statistical data acquired through archival search - homelessness statistics
   - Real estate financial analysis to be performed throughout design process and will have direct impact on design decisions
   - Mixed-method, gathered concurrently with qualitative analysis
3. **Graphic Analysis**
   - Display gathered mixed method research to determine conclusions
   - Analyze patterns of spacial organization, circulation, site qualities, etc.
4. **Case Studies**
   - Conducted at the beginning of the research document
   - Compare existing projects and analyze relationship between architectual and financial real estate decisions

DOCUMENTATION OF THE DESIGN PROCESS

Documentation Compilation

- Hand sketches of design iterations or details
- Creation with computer software - Revit, Sketchup, Lumion, Twinmotion
- Representations with Photoshop, InDesign, Illustrator, Microsoft Excel
- Physical model iterations

Important Documentation (in chronological order)

- Site Analysis
- Conceptual design ideas - parti, big idea, key qualities (Hand-sketch, sketchup)
- Schematic design decisions (Revit, Sketchup)
- Final design (Revit, Illustrator, Photoshop, InDesign, Lumion, Twinmotion)

Documentation Preservation

- Document advisor feedback with dates and detailed descriptions
- Backup computer files weekly in multiple locations
- Preserve dated research notes and sketches in sketchbook
- Stay up-to-date with thesis book and documenting sources for all research

Presentation Methods

- Powerpoint walking through entire research and design process
- Physical presentation boards with final design
- Physical model of final design decisions
- Walkthrough video illustrating final design (tentative)

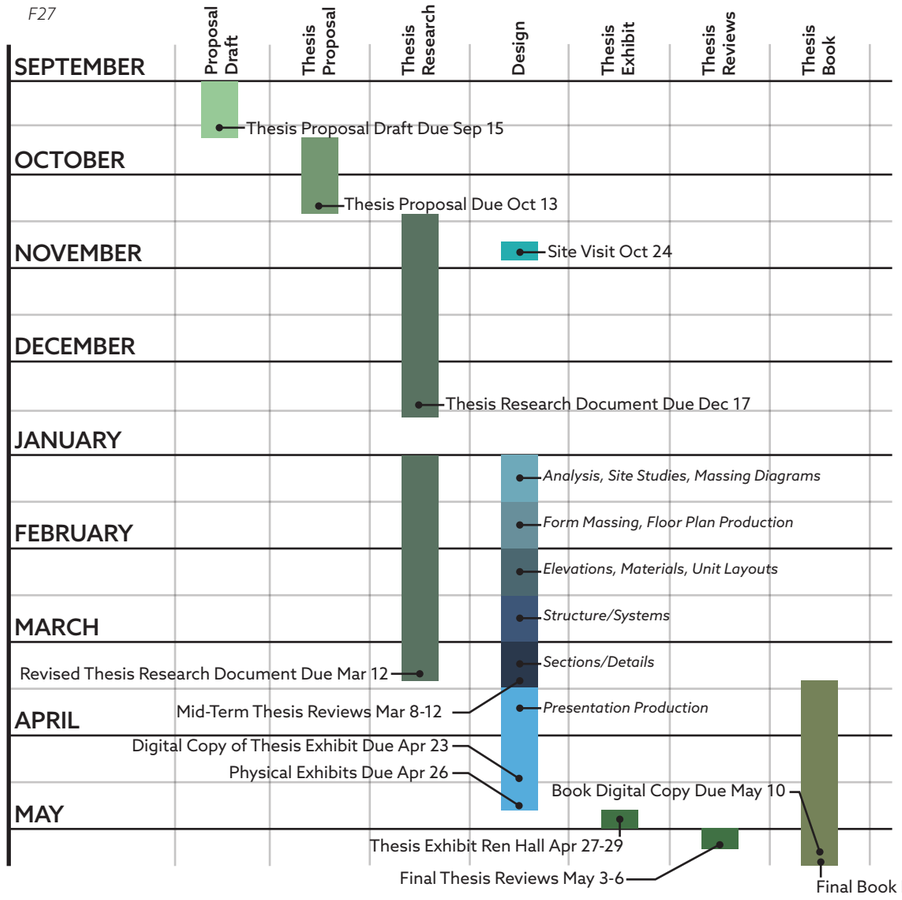
Content Publication

- Final publication will be recorded in comprehensive thesis book
- Available on NDSU Repository upon completion of semester

Collection Interval

- Completion intervals will correspond with the completion date of each category on the project schedule

TIMELINE



RESEARCH

RESEARCH RESULTS

ARCHITECT AS DEVELOPER ORIGINS

The combination of architect and developer has been around for many years, but it was architect John Portman of Atlanta, Georgia who made this role known around the profession in 1956. He began his career working at a traditional architecture firm and was able to follow a number of high-profile buildings throughout the design process, which gave him confidence in his abilities and knowledge. As soon as Portman was able to register as an architect, he opened his own firm. He grew impatient with the small-scale projects he was working on and waiting for new clients to come his way. After learning basic principles of real estate, Portman began to see the connection between architecture and real estate and decided he would combine the two in future projects.

F28 | John Portman

In the book *The Architect As Developer,* Jonathan Barnett explains Portman's issue with the traditional develop-design process. He states, "The architect's role does not usually begin until many important decisions have been made about location, size, character, and budget. If architects could participate in these early decisions, they could design better buildings". Furthermore, Portman believed that two very different types of people are drawn to each profession, and that both professions are unreceptive to each other (Barnett & Portman, 1976).

> "A developer may have creative investment ideas, but his assumptions about buildings are likely to be ordinary and stereotyped. The architect can devise unusual buildings, but he will not be able to assess their practicability as real estate"
>
> **- Jonathan Barnett on John Portman's change to architect-developer**

Portman believed that with this practice model he gained design freedom, and the ability to shape cities in a more cohesive manner, all while earning a handsome profit from his extraordinary buildings (Portman & Barnett, 1976).

John Portman's uncharacteristic move to architect-developer wasn't widely accepted during his time. Many architects, such as Rem Koolhaas, thought of him as rogue or undermining the profession against the greater good (Livesey, 2011). Regardless of the pushback he received, John Portman made the architect-developer role a viable one that others could pursue as well. Fast forward to today, and you will find a growing subset of architects who have embraced the role of architect-developer, and found great success with its implementation. Recent statistics point to the reason they took this alternate route, as they show the low value architects currently present in the traditional design-bid-build method.

> "Based on the AIA Firm Survey from 2012, the overall cost of architectural services averages **6.1%** of a project's total value. Assuming they get a ten percent profit margin, the net value of these services for architects is well **under 1%** of total construction costs, putting them near the bottom of the pecking order of the building industry, at least economically. This compensation is at odds with the outsized role that architects typically play in the development of a building project."
>
> **- Luis Gil and Richard Peiser, *The Architect as Developer***

Current day architect-developers saw this new role as an opportunity to receive proper value for their services, while being able to have creative freedom in their designs (Budds, 2018).

While John Portman grew tired of answering to clients and waiting for projects to come to him, today's architect-developers also describe a disconnection between developer-clients and their inclusion or appreciation of architects in their process. The main arugment is that the architect provides a service that developers find expensive and in some cases, unnecessary. Developers that focus on the cost of projects likely will have their architect cut down on the overall design in order to make a profit at the end of a project (Budds, 2018).

The misunderstanding between some architects and developers stems from optimism in both industries. On the architect's end, they believe their design can solve everything about a project, while developers believe the world will be better off with their building in it. In the design-bid-build method, architects should be comfortable with their role of providing design services well after the project has begun and decisions have been made. This may not be ideal for architects, but it is the nature of the traditional method. Developers that value design often benefit from it, but it is important for them to know that a well-designed building doesn't have to be expensive, and on the other hand, if it's expensive, it doesn't necessarily mean it is well-designed (Budds, 2018).

The specific items that are often decided upon before the architect is brought into the project are the project site, structural programs, the shape and size of rooms based on zoning and building codes, number of floors, building footprint, and setbacks. All of these factors impact a building's design, which can dictate much of what the architect is capable of doing in a project. Developers also sift through architects because of their service-based model, asking many to give them options and choosing only one in the end. They may also only bring in an architect for the building envelope or a difficult issue that needs a creative solution (Budds, 2018).

At its best, the developer-client and architect form a long-lasting relationship that can allow an understanding of how each works and what they need in a project. For architects, it can be hard to pursue this type of work and stay the course, as Mark Swenson, an architect who has succesfully formed a relationship with developer Collin Barr of Ryan Companies, says,

> "this creates a paradox, because developers have the least amount of money to spend on design at the beginning, and that is when my hours are worth the most. The highest value-added work we do is on the front end, often when the developer cannot pay us."
>
> **- Mark Swenson, from the article *Design From the Developer's Viewpoint (2015)***

David Haymes, a Chicago architect, agrees saying, "that has been one of our gripes for many years. You have to give your best ideas and best works at the beginning of the project when you are not even going to get paid. It is always a frustration but you work yourself around that because of the relationships". Architects are willing to forgo being paid for their services, in order to have the chance to work for the developer-client again, and repeat the process of being held back from their income. This frustration that Haymes mentions is one of the main reasons the architect-as-developer model exists. Architects who begin to become uneasy with the traditional model and its downfalls turn to it to take complete control of their career.

Uncertainty in the traditional process, design freedom, improved quality and efficiency, and a greater income are all reasons that led to the architect-as-developer project delivery method. While there is certainly a place and need for the design-bid-build model and providing a service, the architect-developer practice method gives architects the opportunity to have greater control over how a building impacts its surroundings and users, have more freedom in their designs, additional input on the quality of a building, and of course, create more income (Gil & Preiser, 2016).

John Portman, FAIA

Portman Architects, Portman Holdings

F29 | John Portman

John Portman was the pioneer of the architect-developer position and made a name for himself in Atlanta, Georgia for projects like the Hyatt Regency Atlanta at Peachtree Center (pictured on opposite page). Portman's use of a hollowed out center with repeating balconies above gives him a unique style that is used in many of his projects.

Much of Portman's work was generated by his developement branch, Portman Properties. The property arm and architectural arm share staff and sometimes funtion, especially because architectural design starts much earlier in the process when compared to the traditional method. This type of collaboration is exactly the reason Portman pursued his own developments. He found that it was extremely beneficial to use a detailed architectural idea to determine financial feasibility of a property, giving him an advantage over other developers. Land and financing assumptions in Portman's office were tested directly according to the developed design, rather than market averages which is common among traditional property developers. Market studies reflect surprisingly accurate information when using an actual architectural concept, along with cost-analyses of the proposed design. Portman did not have a construction management arm within his office, but he ensured to directly supervise the contractors of his project throughout the construction process (Portman & Barnett, 1976).

F30 | Hyatt Regency Atlanta at Peachtree Center | Atlanta, Georgia | John Portman, FAIA

F31 | *One John Street | Brooklyn, New York | Alloy Development*

F32 | *Jared Della Valle*

Jared Della Valle, AIA

Alloy Development

Jared Della Valle heads development company Alloy Development in Brooklyn, New York. He has implemented a staff of architects to develop and design properties in the area. One key advantage to being an architect-developer according to Jared is, "Our company tends to buy the best worst real estate. We find the things other people can't address because we can do the due diligence in house to solve the problem" (Gil & Peiser, 2016). Della Valle prefers Alloy be termed a full-service development company with a full staff of architects. They do not provide architectural services to anyone else but themselves. In fact, they control the entire development process in-house with their construction company, brokerage company, and staff of architects. They aim to intimately understand every aspect of their projects. Even the residential sales happen within Della Valle's office as they sit down with each buyer of their units. They ask them specific questions about what people like or what they are hesitant about in their project. This is an invaluable source of information and takes advantage of the architect-developer combination. Any comments or concerns about their projects can be directly addressed in the office to continue to enhance the architectural quality. The unique role of architect-developer is exemplified by Alloy Development, as their main goal is not the ultimate profit in their projects, but rather to enhance quality of community and build a place that people are proud of. They focus on only one project at a time to ensure no stone goes unturned within the process (Petty, 2018). Alloy Development has become extremely successful with the architect-developer model, developing over $1.6 billion of projects over the last 14 years (Alloy Development).

Jonathan Tate, AIA

OJT, Office of Jonathan Tate

F33 | Jonathan Tate

Jonathan Tate leads his firm out of New Orleans, Louisiana and has incorporated the architect-developer role into his regular architectural services. OJT started out working on traditional projects, but began mixing in research and investigation into his practice. This research wasn't necessarily supposed to turn into an architectural project, but when he dug deep into the issues with housing in New Orleans, he knew the only way to help the cause was to develop it himself (Petty, 2018). This is a different motive compared to others who made the jump to architect-developer. Jonathan was fueled by his drive to make a change in the New Orleans housing scene. He began developing a series of homes called The Starter Home*. His firm found "small parcels of land that nobody else was paying attention to, principally because they were just difficult to do anything with" (Jonathan Tate). This is a common theme among architect-developers, as they can make creative solutions for these unwanted sites that regular developers tend to steer clear of (Archipreneur).

Tate doesn't see himself as a developer, he doesn't have interest competing with the developers at the top. He does recognize however, that architects can see the built environment creatively, and can find ways to make unique projects profitable. His firm is now operating with a third of their work being developments that they are initiating. He still prefers working with clients and people, but promotes a different kind of relationship with developers (Archipreneur).

In his projects, all parties are considered equals, and everyone has a "seat at the table" (Petty, 2018). It is clear that his clients are not coming to him with their idea and telling him to develop it for them. He prefers a team effort, where the architect is involved early on to develop the project. He describes his method of reframing the architect and developer relationship as follows:

> "The conventional role of practice is that you are waiting for someone to hand you something. Your ownership of the project is an aesthetic one. It is nice to own the intellectual foregrounding of something. There is a real sense of ownership at the end of that. We weren't just given a site and told to put a house on it. This site was created and generated out of our own thought and creativity. You think of development as a play on a program, costs, time of construction, and land. It is a matrix. Those are the principal pieces.
>
> **-Jonathan Tate (Petty, 2018)**

F34 | The Starter Home | New Orleans, Louisiana | The Office of Jonathan Tate*

Jonathan Segal, FAIA

Jonathan Segal FAIA & Development Company

F35 | Jonathan Segal

The most well-known architect-developer in today's profession is likely Jonathan Segal. He worked for two architecture firms before opening his own practice. For his first project on his own, he attempted to find a developer to develop his graduate thesis project consisting of row-houses. After plenty of searching, he had no luck, so he decided to pursue it himself. The profit he received after the first year was a surprise to Segal, leading him on a path to continue self-initiated work.

Jonathan Segal appreciates the efficiency that controlling all aspects of a project presents. He is the sole point of contact for an entire project, meaning his subcontractors receive quick responses to issues or questions, and he can make decisions on the spot to keep the project moving. This creates strong relationships between the subcontractors and Segal's firm, this results in faster construction time and additional leverage in cost negotiations (Budds, 2018).

Segal's main goal is to create architecture that changes cities. He believes that "if you can control all aspects of a project then you have the ultimate control in creating architecture" (Jonathan Segal). He expresses this in his designs that include cost-effective and socially progressive ideas that balance each other. He includes grassy courtyards instead of "stupid" balconies, while his row houses are convertible, meaning the bottom floor can be used as a one-bed low-income rental, or a retail space. This allows the tenant to have flexibility and the opportunity to make money on their investment however they choose. Other projects include ground-level Pilates studios or furniture workshops, attracting young city-dwellers to the units (Greene, 2009).

Other cost-saving, well-designed elements of his projects include elimnating stair and elevator towers, and never implementing underground parking. Segal elaborates saying, "The whole idea of underground parking is sacrilegious to us. Think of the creepiest person you've met. Then, imagine being stuck in a four-by-six box with them. It's called an elevator" (Greene, 2009).

Jonathan Segal and co. have developed over 300 urban residential, mixed use, and live/work units over the last 20 years. He keeps the size of his projects modest, in order to cut out another middle man, private investors. Each project builds on the equity of the last, and allows them to progressively take on larger projects (Stevens, 2018).

F36 | The Q | San Diego, California | Jonathan Segal, FAIA

DELIVERY METHOD COMPARISON

A comparison of popular architectural project delivery methods versus the architect-developer method will provide clear positives and negatives between all of them. These methods will be compared from the position of the architect in the overall process. The project delivery methods chosen are the traditional design-bid-build method, design-build, integrated project delivery (IPD), and architect-developer.

Design-Bid-Build (DBB):

Pros	Cons
Easy to understand and manage	**Linear, time-consuming process**
Client collaboration	**Setbacks can delay entire project**
Low first cost (bidding)	**Less input on program decisions**
Design and construction liabilities are separate	**Two contracts (Architect & Contractor)**
	Lowest income to Architect

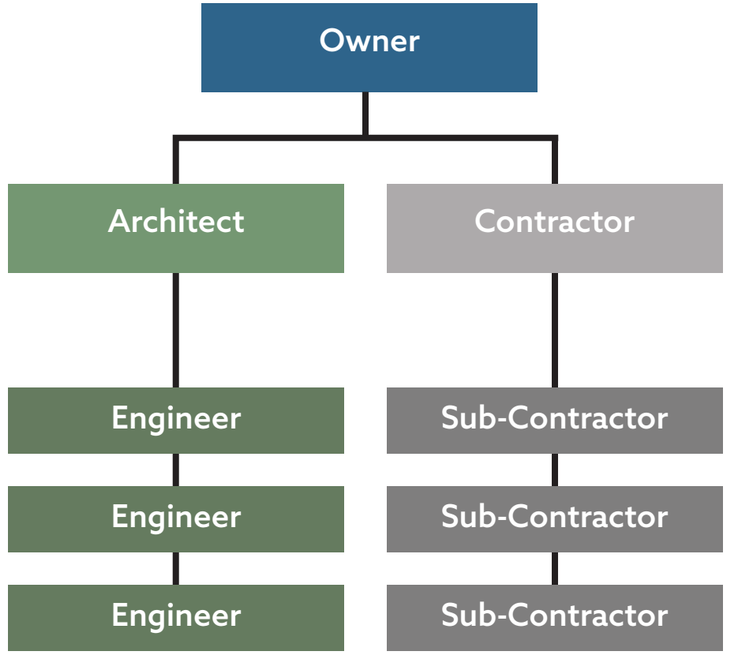
The design-bid-build method is the traditional delivery model in which the owner of a project holds two separate contracts with the architect and contractor. The owner has the architect complete construction documents, and they are then bid on by contractors to build.

- Higher cost than all other delivery methods
- Longer construction time than all other delivery methods
- The owner assumes the risk in this delivery method

All statistics from (Konchar & Sanvido, 1998)

Design-Bid-Build Hierarchy

F37 | Design-Bid-Build Hierarchy



Design-Build (DB):

Pros	Cons
Close construction administration	**Architect's allegiance is with contractor, not the owner**
Lower cost than DBB method	**Additional up-front information needed**
Faster than DBB method	**Owner may be "rushed" into decisions to be able to design and construct simultaneously**
More communication between architect and contractor	
Accurate early cost estimates	
Less delays and change orders	
Greater building quality	

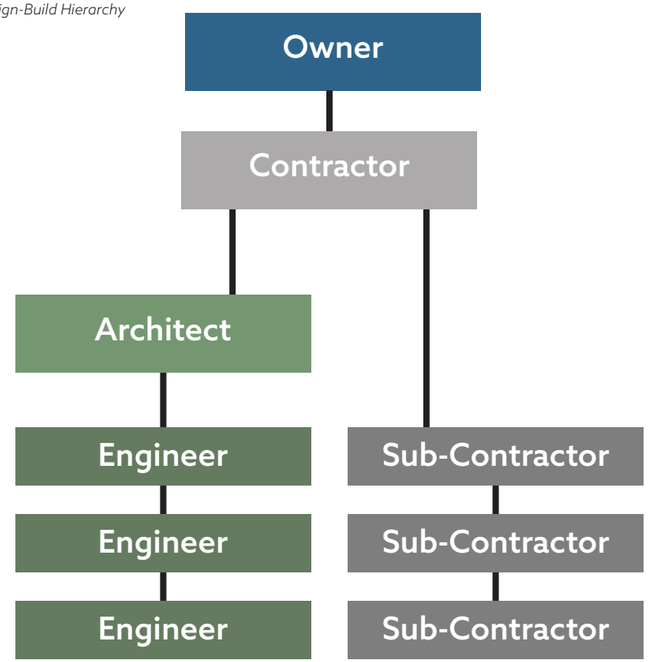
According to the Design-Build Institute of America (DBIA), "design-build is a method of project delivery in which one entity—the design-build team—works under a single contract with the project owner to provide design and construction services." This method provides clients with greater convenience of having only one contract for design and construction. This results in tighter project budgets and timelines, greater collaboration, and higher-quality buildings (Gonchar, 2014).

- 5.2% less change orders in DB vs DBB
- Unit cost is 6.1% lower in DB vs DBB
- Construction speed is 12% faster in DB vs DBB
- Delivery speed is 33.5% faster in DB vs DBB
- Cost Growth is 5.2% lower in DB vs DBB
- Schedule Growth is 11.4% lower in DB vs DBB
- DB found to deliver equal or higher quality than DBB in all categories of startup, callbacks, exterior & structure, interior, environmental, and equipment

All statistics from (Konchar & Sanvido, 1998)

Design-Build Hierarchy

F38 | Design-Build Hierarchy



Integrated Project Delivery (IDP):

Pros	Cons
Architect and Contractor are one entity	Owner may have difficulty securing financing
Design and Construction expertise throughout every phase	Good relationships required
Reduction of costs due to less communication required	Owner may restrict design in favor of cost
Shared accountability as risk is spread evenly	Reliance on owner for proper project launch information
Building profits equally distributed	
Improves efficiency	

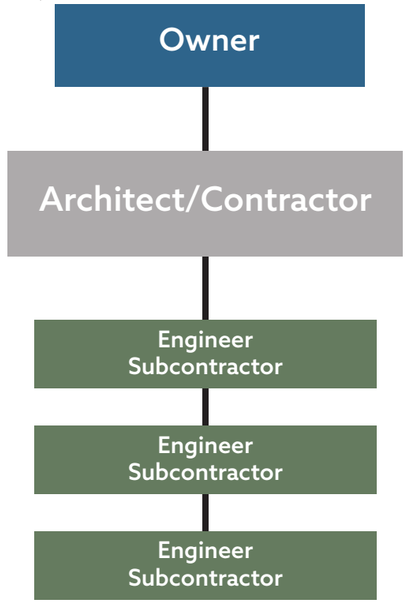
IDP was implemented in response to an inefficient construction industry. A 2007 AIA document surveying industry's efficiencies:

> "[A]n Economist article from 2000 identifies 30 percent waste in the U.S. construction industry; a NIST study from 2004 targets lack of AEC software interoperability as costing the industry $15.8B annually; and a U.S. Bureau of Labor Statistics study shows construction alone, out of all non-farm industries, as decreasing in productivity since 1964, while all other non-farm industries have increased productivity by over 200 percent during the same period."
>
> ***- 2007 AIA Integrated Project Delivery Guide***

The study shows that the construction industry is the only non-farm industry that has become less productive over the last 50 years (AIA, 2007). IDP is supposed to address these inefficiencies by having all three main parties (owner, contractor, architect) start working together on Day 1. This allows for much more open communication and cooperation from the beginning of a project, and allows the contractor to have a say on how the design is ultimately built (Morley, 2017). Money is also an important factor in this method because all three parties typically share any cost savings or overruns. Other standards like LEED certification, may result in additional rewards for the architect. This gives everyone skin in the game and can give everyone involved more reason to put their best efforts forward (Morley, 2017).

Integrated Project Delivery Hierarchy

F39 | Integrated Project Delivery Hierarchy



Architect as Developer (AD):

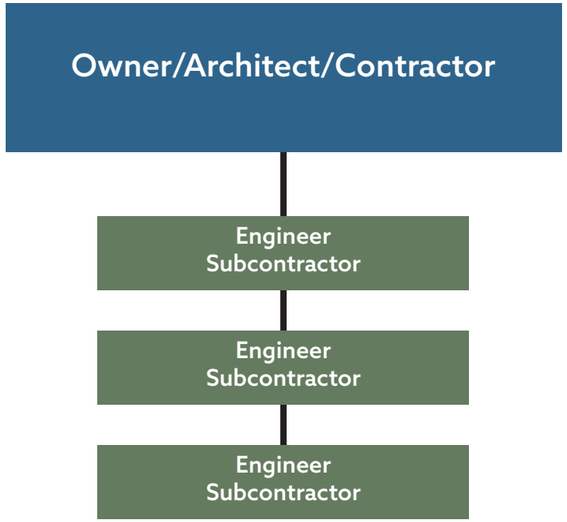
Pros	Cons
Greater control over the built environment	All financial risk falls on the architect
Ability to balance all project factors equally	Additional knowledge on real estate required
Reduction of costs due to less communication required	Potential for conflict of interest as an architect-developer
Great income potential	
Design and creative freedom	
Improves project efficiency	

The Architect as Developer delivery method is similar to the IDP method, but combines all of the roles into one entity. This gives architects full project control with the potential for more income. With the architect assuming the construction manager role as well, designs can instantly be translated into construction information for the builder. The removal of a general contractor saves time and costs and ensures the original design isn't lost in translation (Stevens & Segal, 2018) Adding the role of owner creates an opportunity for architect's to use their expertise on site awareness, building design, and the macro affects of all projects. Architects are able to balance these factors depending on what the project entails.

Architect's earning potential is relatively capped in the traditional DBB method, and grows larger through the DB and IDP methods. It reaches its maximum potential in the architect-developer method, as all potential building profits are given to the architect. The quality of design in this method also increases due to the tight communication, and quick feedback loop of design shortfalls or successes. If there is an issue with the design of a building, the architect will shoulder the consequences as the owner of the building. This could allow for a constant recalibration of the architect's designs and could potentially yield greater rewards down the road (Petty, 2018).

Architect as Developer Hierarchy

F40 | Architect as Developer Hierarchy



BENEFITS OF THE ARCHITECT-DEVELOPER ROLE

After detailing the origin of the role, understanding the various ways the role can be implemented in practice, and comparing the method to others across the profession, there are clear benefits to the architect and developer combination. The benefits found are not the case for every project using this method, as there is always a wide range of outcomes, but the benefits make it clear that this role is a viable option for architects and would be a positive addition to any architectural practice in some capacity, even if just for a learning experience or exercise.

Creative way to find work:
The profession is always ebbing and flowing based on outside factors out of its control. The architect-developer model gives architects an option to create their own work in times where client contracts aren't rich (Shaver, 2016).

Greater control over projects, and the built environment:
Architects are highly concerned with creating beneficial architecture in the cities they're located in. This model gives them the opportunity to have complete project control and guide the building throughout the process, ensuring that it is an asset to its city (Stevens & Segal, 2018).

Create efficiency to cut project costs:
Combining the roles of architect, owner, and contractor creates an efficient communication stream throughout a project. The construction industry is known for its inefficiency, according to Sir John Egan, "what is known as the cost of communication, as much as 30% of project costs are wasted due to inefficiency of the process". The architect-developer role greatly reduces this waste by allowing the architect to be in charge of the construction management (Egan, 1998).

Making balanced decisions during a project:
The architect-developer role allows architects to balance decisions throughout the process based on different factors like design quality and cost. Various decisions may have different weights of impact on the building, and some may be worth an expense if it improves the overall quality. Jonathan Segal describes an example of this situation, "For instance, if we need to clad something and it costs more money and our margin doesn't grow with that, then maybe that's just the way it goes because I don't want to be looking at a bad decision for the rest of my life, we want to be looking at something that we're proud of. And that would be much more valuable than another dollar in your bank" (Stevens & Segal, 2018).

Good design results in a premium price and positive impact on surroundings:
A well-designed building has proven to be an asset to its marketing and surrounding developments. First, good design can demand a premium price for the use of its space if the cost of the design is less than the premium gained. Indirect benefits of good design include increased visibility, decreased unit vacancy, and positive effects on surrounding buildings (Millhouse, 2005).

Great profit for architects:
The profit potential for architect-developers is extremely high when compared to the traditional commission percentages of the design-bid-build model. Architects deserve to yield value for the very value they create with their designs. "An architect developer can make more money from the sale of one great development than five years of practice" (Elkies, 2006).

Use of irregular and unwanted sites and historical preservation of existing buildings:
A frequent finding of architect-developers was their draw to irregular site conditions for development projects. This is because most established, conventional developers stay away from these kinds of sites in fear they won't yield a profit. Architect's creative problem solving skills allows them to take advantage of sites that normally wouldn't be developed. This is a positive addition to the built environment as it can potentially add housing or services in areas of dire need (Livesey, 2011).

Another benefit of architect-developers is the preservation of historic buildings. Again, the architect's creative problem solving can figure out ways to save usable buildings instead of tear them down. This has a great affect on the environment because of the affects that demolition and construction cause. Rather than, creating an entire new building, architects are finding ways to utilize and save city's historic buildings. This is the case with Canadian architect Gene Dub, who has developed over 15 buildings in the last 25 years. Dub admits that profit was not his primary motivation for getting into development. He enjoys the process of taking on interesting projects and aims to save historic buildings on the Edmonton Historic Registry. This type of mindset gives the architect-developer role a positive outlook because of its environmental importance (Livesey, 2011).

REAL ESTATE DEVELOPMENT FACTORS TO CONSIDER

Architects looking to add an architect-developer role to their practice will have to expand on their real estate and development knowledge. The "offering" is a common development package put together to present a project to potential investors, and to present the viability of a project from many angles. This package includes the following sections (Cerezo, 2016):

1. Project Description: a condensed overview of the project type, location, and size

2. Location Analysis: project location and reasons the location is a good fit for the project

3. Market Analysis: a study on who will potentially use the project and reasons as to why this market would be interested in the project

4. Comparables: a look at similar project's earnings and resale value

5. Project Budget: an estimation of how much the project will cost to develop

6. Project Schedule: an estimation of how long the project will take from start to finish, and a breakdown of what happens and at what time of the process

7. Organization Structure: a breakdown of the project team with roles defined

8. Proforma: an analysis and projection of project costs and revenue including profit/loss, cost of sales, operating expenses, interest and taxes, and investor return on investment

9. Capital Call Terms & Returns: a section where you tell investors what you are seeking, and exactly what they will receive in return

10. Risk Mitigation: a breakdown of potential risks of the project and how to avoid them

11. Agreement: a sample of the contract investors will sign if they find your deal feasible

The "Offering" breakdown from, Danny Cerezo, 2016

John Portman's Development Process Aspects to Master:

Successful architect-developer John Portman defines seven aspects of the development process that architects should master in order to participate in all of the critical decisions regarding a building project.

1. The structural organization of the city and its existing growth pattern:

It is important to understand how a city is put together, and where it's heading before adding additional developments to it. Every city possesses this functional structure and displays patterns of growth that can be affected by new developments.

2. The real estate market and the impact of design and cost on marketability

The interaction between building design and marketability is an important one to pay attention to. Buildings often use averages of surrounding projects to determine what range their project should be in. Basing new projects around market averages may result in an average building for the new development as well. A market study assists in finding the market of people who could use a new project. Data about number of families, age, occupation, income, and competitors is collected and applied to decisions in a new development.

3. The preparation of studies that measure feasibility: economic, social, and political

In this category, economic feasibility is likely the largest focus to developers, because social and political feasibility are harder to measure. They still, however, are equally important to a project and can have some of the greatest impacts to a project. An understanding of costs and benefits that a project creates for communities is required.

4. Projections of total development cost, of which building cost is a substantial percentage but by no means the whole story

Developers often use site selection, market studies, and construction costs based on market averages to determine their projections. This can be problematic in that they are placing a ceiling on their current project to only result in an average product. Architect-developers have the benefit of basing these projections on an actual design that can be developed up front in a project. Building construction totals at least three-fifths of a project budget, along with fees associated with developers and architects, both of which go to the architect-developer.

5. Projections of income and expenses over a long period of time, called a "pro forma"

These projections will allow the developer to assess the financial feasibility of the project long-term. It shows the return of investment expected for the future and can ultimately decide if a project is worth pursuing.

6. The financial market and the ways to put together the financing of a building

A developer must have two kinds of financing which are the construction loan, which pays for all of the labor and materials of a project, and the permanent mortgage that is used to pay back the construction loan after completion and then is paid back over a long period of years. The value of a building is based on the income it produces, not the construction cost. This situation is explained by John Portman, "An inexpensive structure returning a high income may easily be worth more than it cost to build; an expensive building with no foreseeable use will be worth almost nothing."

7. The renting and operation of the completed building

The managing of a completed building is a full-time venture, and developers must have a plan for it. The architect-developer likely won't be as involved in this part of the development, but could oversee the operations of a management arm of the firm. The operation of a completed project is important, however, because it can give developers valuable feedback on how all of the project decisions worked out. This feedback can be directly applied to the next project to create a better product for each new development.

Information from (Portman & Barnett, 1976)

LOS ANGELES HOMELESSNESS AND AFFORDABLE HOUSING

Los Angeles County is known for its palm tree-lined streets, Hollywood stars, and beaches, but far less people see the tent and makeshift houses that line streets in neighborhoods like Skid Row. The county has extreme social issues among the positive qualities that make the area home to almost four million people. Two of those issues is its growing homeless population, and lack of affordable housing in the county (Los Angeles Homeless Services Authority).

Results from the 2020 Greater Los Angeles Homeless Count showed **66,436** people in Los Angeles County as currently homeless. This number is a **12.7%** increase from 2019, along with the fact that the count was made before the COVID-19 pandemic, the current numbers are likely much worse from the financial hardships experienced during the pandemic. The city of Los Angeles saw its numbers grow by **16%**, to **41,290** individuals, up from approximately 36,000 in 2019 (LAHSA, 2020).

Even with efforts from local, state, and federal governments to supply bridge housing, and permanent affordable housing, these numbers continue to climb (CHP, 2020). In November 2016, Los Angeles residents approved a $1.2 billion property tax bond to build permanent supportive housing units. In 2017, county voters passed Measure H, a sales tax that raises $355 million per year for affordable housing (Regardie, 2020).

F41 | Los Angeles Homelessness

With this additional funding, according to the Los Angeles Homeless Services Authority, 22,279 homeless individuals were placed into housing last year. However, 82,955 people fell into homelessness last year, and among those, 53,000 people self-resolved their situation.

In 2020, a 45.7% increase in homeless families occurred, adding about 4,000 individuals belonging to a family, 3,000 of which were unsheltered (LAHSA, 2020).

With a clear need for affordable housing, over the past two years, Los Angeles County has leveraged resources to create more than 119,000 affordable homes, a **7%** increase from 2018 (California Housing Partnership, 2020).

The median family income for the area is $73,100. The U.S. Department of Housing and Urban Development classifies three groups, each different levels, of low-income.
Very Low Income (50% of median income)
Extremely Low Income (Greater value of 60% or Poverty Guidelines)
Low Income (80% of median income)

The distinctions between these groups matters, as affordable housing developments are developed for specific income groups in order to meet tax breaks or incentives (Chiland, 2018).
Those who make under $58,450 alone are considered low-income in the Los Angeles area.

FY 2019 Income Limit Area	Median Family Income Explanation	FY 2019 Income Limit Category	Persons in Family 1	2	3	4	5	6	7	8
Los Angeles-Long Beach-Glendale, CA HUD Metro FMR Area	$73,100	Very Low (50%) Income Limits ($) Explanation	36,550	41,800	47,000	**52,200**	56,400	60,600	64,750	68,950
		Extremely Low Income Limits ($)* Explanation	21,950	25,050	28,200	**31,300**	33,850	36,350	39,010	43,430
		Low (80%) Income Limits ($) Explanation	58,450	66,800	75,150	**83,500**	90,200	96,900	103,550	110,250

F42 | 2019 Low-Income Limit Summary | U.S. Department of Housing and Urban Development

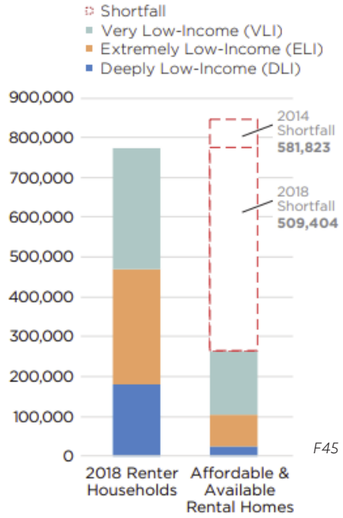
Affordable Housing Shortfall

Los Angeles County has a shortfall of 509,404 affordable homes for the lowest-income renters in the market. There are many households that need affordable housing, but are forced to spend a large percentage of their income on market-rate housing that restricts their finances. This number has improved since 2014, decreasing by 72,419 homes in need affordable housing. (California Housing Partnership, 2020)

F43 **Housing Affordability Gap Analysis for Lowest Income Households**

Renter Group	Cumulative Surplus or Deficit of Affordable Rental Homes*		% Change from 2014 to 2018
DLI	-157,219	↗	4%
ELI	-365,056	↘	-13%
VLI	-509,404	↘	-12%

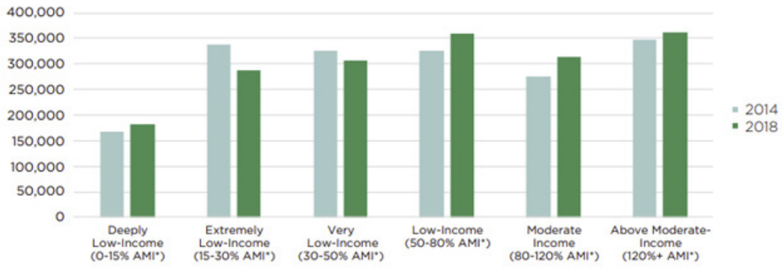
Source: *California Housing Partnership analysis of 2014-2018 1-year ACS PUMS data with HUD income levels and added DLI income group subset. Methodology is adapted from NLIHC gap methodology.*
**The surplus or deficit includes homes occupied by households at or below the income threshold of the income group.*



F45

Los Angeles County Renter Households

Change in Los Angeles County Renter Households 2014-2018

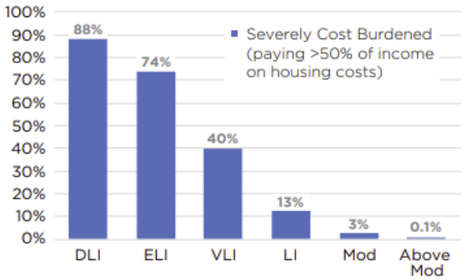


Source: *California Housing Partnership analysis of 2014-2018 1-year ACS PUMS data with HUD income levels and added DLI income group subset. Methodology is adapted from NLIHC gap methodology.*
**Area Median Income (AMI)*

F44 | Los Angeles County Renter Households | California Housing Partnership

Los Angeles County Severe Cost Burden

In Los Angeles, the low-income renters are much more likely than higher-income renters to spend over 50% of their income on housing expenses. 88% of households that earn less than 15% of the median income in the area are forced to spend this much on their home (California Housing Partnership, 2020).



F46 | Los Angeles Cost Burden Breakdown | CHP

Affordable Housing Inventory

The chart below is a summary of affordable housing in Los Angeles County. There are also a number of affordable homes that are at-risk of becoming market-rate units due to expiring covenants or changes to rent restrictions (California Housing Partnership, 2020).

Summary of Federal, State, and County-Administered Affordable Housing and At-Risk Housing in Los Angeles County

Supervisorial District (SD)	At-Risk Affordable Homes*	County-Administered Affordable Homes**	Affordable Homes
SD 1	2,165	7,189	34,043
SD 2	2,461	8,883	33,548
SD 3	2,348	3,448	22,652
SD 4	565	3,744	14,899
SD 5	1,334	3,140	14,612
TOTAL (County)	**8,873**	**26,403**	**119,754**

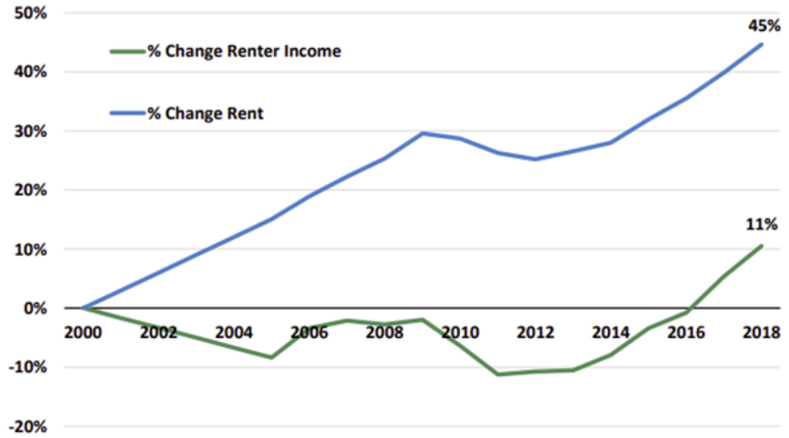
Source: *California Housing Partnership Preservation Database, HUD, LIHTC, LACDA, HACLA, DRP and DMH.*
**This is a subset of the total number of affordable homes.*
***This is a subset of the total number of affordable homes and includes homes affordable up to moderate income households (<120% AMI).*

F47 | Current Affordable Housing | CHP

Median Renter Income vs Median Rents

The relationship between income and rents have not always been positively correlated. At the start of the 21st century, rents were quickly rising while the median income was trending negative, possibly digging Los Angeles a hole that has affected them up until today. The real estate market in the area quickly outgrew the incomes of the average renter. Since 2000, rents have grown by 45%, while income has grown by only 11% (California Housing Partnership, 2020).

FIGURE 3: MEDIAN RENTER HOUSEHOLD INCOME VERSUS MEDIAN RENTS IN LOS ANGELES COUNTY (2000-2018)*



Source: California Housing Partnership analysis of U.S. Census Bureau American Community Survey, 1-year estimates, table ID: S2503, 2000-2018.
**Median renter income and rent from 2001-2004 are estimated trends. Median renter income and rent are inflation adjusted to 2018 dollars.*

F48 | Median Renter Income vs Median Rents | California Housing Partnership

Recommendations for the Future

The California Housing Partnership lays out a list of 6 recommendations to produce and preserve affordable housing throughout Los Angeles County. They believe there must be a wide-ranging set of prescriptions to address the scale of housing needs in the county.

1. Increase Funding for Affordable Housing

2. Ensure Long-Term Viability of Permanent Supportive Housing

3. Increase Availability of Sites for Affordable and Mixed-Income Housing

4. Supportive Innovative and Cost-Saving Strategies

5. Ensure Tenant Protections

6. Strengthen State and Federal Advocacy

Information from the 2020 Annual Affordable Housing Outcomes Report (California Housing Partnership, 2020)

LITERATURE REVIEW

TITLE: The New Master Builders
AUTHOR: Joann Gonchar, FAIA | Architectural Record

Introduction

The design and construction process is often completed with countless hours of consulting, miscommunication, and changes throughout projects. Some of these issues stem from the chain of communication between clients, architects, engineers, contractors, and city departments. This can create frustrating situations for architects throughout a building's design because they are usually the ones in the middle of these issues. Alternative project delivery methods have grown over the past few years to allow architects to gain additional control during the design and construction process. These project delivery methods each have their own pros and cons and vary from one another. Design-build, architect-led design-build, architect-developer, or a combination of these are leading the way towards a new role for the architect. One where the architect can be at the forefront of all design, construction, and financial decisions, resulting in a project that is cohesive throughout. A comparison of these new roles is important to conduct, in order to understand their impacts, and to see if they offer the benefits that are being claimed in this article. Do these project methods deliver a better project?

Design-Build vs Design-Bid-Build

The design-build project delivery method consists of a single contract between owner and architect in which the architect provides design and construction services. This differs from the more standard design-bid-build process where the owner has separate contracts with the architect and contractor. The design-build process is considered highly collaborative between the construction and design disciplines.

Design-bid-build is the most popular process in the building industry in which the owner has separate contracts with the designer and contractor. The chosen designer is expected to provide completed design documents, and then receives price bids from contractors to complete the project. The risk in this model falls onto the owner because the designer and contractor are not tied together whatsoever.

New collaborative methods of project delivery have risen in popularity, as the article states. To determine if design-build results in a better overall project, examining past results achieved using these two methods is important. "According to the CII, the American Society of Civil Engineers (ASCE), and independent research conducted at the University of Nevada, Las Vegas, Texas A&M University, the University of North Carolina, the University of Texas, and other institutions, owner-submitted projects delivered using design-build significantly outperformed others in terms of cost performance, schedule control, number of change orders, and quality of end product with reduced rework" (BeckGroup).

Design-Build Outperforms Design-Bid-Build

The article states many benefits of design-build including convenience for the client, tight control of costs and schedules, and a higher quality building. These claims have proven to be true, according to the research from BeckGroup, a leading design-build firm, and other studies conducted by RS Means, a supplier of construction-costs data. Construction Industry Institute, or CII, conducted a study of projects submitted by both owners and contractors who stated that design-build projects also outperform design-bid-build in terms of practice use. Practice use includes factors such as constructability, team building, zero accident technique, design/information technology use, and change performance. This means that not only does design-build benefit the owner of the project, but firms or teams that conduct the design-build work are gaining valuable skills while working on these projects.

A study at the University of Texas at Austin on the performance of design-build and design-bid-build on U.S. Naval facilities researched 38 design-build and 39 design-bid-build projects. Their conclusions stated, "The results showed that design-build projects took less time, had less cost growth, and were less expensive to build in comparison to design-bid-build projects." Another study by Penn State found that design-build projects had a six percent reduction in change orders, were delivered 33 percent faster in total, and cost six percent less. Those types of percentages can save thousands of dollars on any project, and with an industry focused on efficiency, it is unsurprising that this method of delivery has gained traction in recent years.

Reduced risk is another benefit of the design-build process because the design and construction firms must work closely together during the entire project. Design completeness is improved because the design-build firm takes on the risk of change orders that can blow budgets.

The article also claims that higher quality buildings are the result of a design-build project compared to design-bid-build projects. This is the goal of any design in any project delivery method. The CII conducted a study on completed buildings and found that design-build teams delivered the highest quality in terms of lower difficulty during building start-up, fewer call backs from clients, and success in meeting project needs.

In conclusion of this comparison between design-build and design-bid-build, both delivery methods have their place in the design and construction industry, and they may even be required for certain types of projects. Choosing a delivery method depends on the owner/client's desired position within the project. Some owners may want to oversee and make design-based decisions first before moving on to the construction process and therefore would choose the design-bid-build method.

Architect-Led Design-Build

The article also mentions the role of architect-led design-build (ALDB), which is a design-build process that is led by a designer rather than a contractor. In this method, the architect takes the place of the contractor. Most contractors are trained to keep a project on budget at all costs, so project decisions made may still favor cost over design quality. An architect may sacrifice a project's budget to implement a better design decision. It all comes down to what the owner finds most important for their project. There are many different delivery methods in use for that very reason.

Architect-Developer: The Ultimate Risk

The article mentions the architect-developer role as an offshoot of the design-build method. While there are firms who develop, design, and oversee construction of their projects, it is popular to combine only the architect and developer positions while bidding out the project to contractors like the design-bid-build method. Adding the developer role into the mix removes the client or owner from the process, making it streamlined and solely up to the architect. In this model, design decisions are balanced with financial costs because of the architect's involvement as their own client.

Conclusion

This article adds to the commentary of reevaluating the traditional design and construction process. There are issues in the design-bid-build process that present difficult and challenging situations for many of the parties involved. For the case of architect-developers handling only the developer and architectural services, there is more research to be done. What kind of return do projects that combine only development and architecture receive? However, moving on to integrated delivery models like design-build, architect-led design-build, or architect-developers creates an efficient workflow that ultimately leads to a greater profit for building owners. The percentage of projects using these methods has grown over the years and will likely continue to do so. The result may be better buildings for all to enjoy.

LITERATURE REVIEW

TITLE: The Architect as Developer
AUTHOR: Graham Livesey | Canadian Architect

Introduction

The article discusses the role of architect-developer in Canadian architecture firms. It talks about the potential benefits and weaknesses about this role, in particular the fact that the architect as developer model may be a conflict of interest in the construction industry. Adding the role of developer to an architect's list of duties may muddy the design process and put financial implications higher than usual on their list. An extensive list of new skills must be acquired before diving into this role as well, such as financing, real estate, and marketing. This review will go over the positives and negatives listed in the article and discuss their relevance in today's practice.

Legal Role of Architect and Developer

The article states that many of the architectural associations of Canada accept professionals wanting to pursue development work, but they list bylaws stating how they must go about doing so. Some of these bylaws include architects being required to disclose their development role to all parties involved in a project, and wording that states architectural services must be used fully and impartially. This is understandable language because of the importance of the architect performing their job with the best interest of the public, ensuring codes are met and proper design is used. A potential situation could see an architect developer cutting costs in areas of design that otherwise should be important, just to ensure a profit in their building. It is recommended that the development entity of a firm is separate from the architectural services, to protect the architecture arm if it needed to dissolve. This would be the normal practice today in the United States as well, although it is assumed under the general AIA laws to always act in the best interest of the public. These laws remind architects that they should practice impartial to other entities or motives to ensure the buildings designed are practical and safe.

Differing Opinions

The article continues brings up the work of architect John Portman, someone who is considered a pioneer for architect as developer work. Portman believed the single role of architect was "too passive or uncertain" and instead pursued an alternate path. Not everyone agreed with this path because of the common client work that was the norm in that period. Portman's uncommon path struck Rem Koolhaas in this manner, as he said Portman's combined role was "destructive" and that ridding of the client loses an essential creative element of the process. Koolhaas' comments are misaligned with the practice of architecture in general, as architects are problem-solvers and creative individuals. This role was produced because of the problems Portman had faced in his career, and he came up with a creative solution to it. Portman's buildings are interesting in their own right, and are no different than a Koolhaas design in terms of the significant qualities that can be debated upon. Portman stayed the course with his developments and created a life for himself that few other architects have. He also paved the way for other methods of practice to come forward and innovate the way architects make buildings.

Additional Control

Portman believed in the argument that when the architect is directly involved in development, it gives them a greater influence on the result of the project. This is still the case today because of architect's ability to be involved in site selection, marketing, and programmatic requirements that greatly affect the design of a building but are rarely decided by architects. The architect can use the developer tools and role to enhance their architectural knowledge by selecting a proper site for the function of the project, use their financial knowledge to make architectural decisions that use the project budget effective, and knowing how their designs will affect the future marketing strategy of their building.

Modern Architect Developers

The article talks about today's architect-developers in Canada, which seems to be a few full-time architect and developers, and traditional architecture firms that mix a development project in occasionally. This is like the profession in the United States as very few architecture firms solely act as architect and developer. One interesting role that architecture firm housebrand offers is that of development consultant. They oversee client's developments and assist their client's with putting together projects. This method is interesting because it lets the architect have input on the earlier process of development, a main benefit of the architect-developer role, but without the financial risk of being the sole developer. If the architect were able to be an investor in the project rather than developer, this would be an even more attractive for architects because they could gain greater profits from a successful project.

One architect-developer, John Brown, from housebrand says clients are essential to his practice because being a developer reduces his role to that of selling rather than architect. This seems to be a common thread in people's thoughts on the combined role. They seem to believe it cannot be possible to balance all that a developer does with the responsibilities architect's already have. This may be true in some cases, but not all. It may be a matter of project scale and what is manageable for one to do. This also relates to the size of the team working on these projects and how responsibilities are divided.

Some architects will, however, take on the role full-time and be successful with it. Many of the firms that do so will develop projects that traditional developers will not pursue. This also points out an interesting opportunity for architects and one that goes against Rem Koolhaas' earlier comments. Architects as developers could in fact be extremely valuable to the cityscapes of the world by utilizing sites that present as unusable or difficult to a traditional developer. Architect's creative solutions and knowledge could take advantage of these types of sites and create value where there was none before. The article covers architectural firms in Canada who have taken this route of developing poor sites such as a firm who turned a restricted infill site into a successful housing project. Another valuable role of architects as developers that the article mentions is present at Gene Dub, a firm that has developed projects worth up to 25 million dollars. One of the main reasons they decided to develop their own projects was to preserve heritage structures in Edmonton, another fantastic way for architects to make their mark in the development field.

Conclusion

The article was very successful in stating some of the potential issues and arguments against the architect-developer role, but the benefits seem to outweigh the negatives. The potential legal issues of an architect having a conflict of interest would likely be sifted out by the other disciplines involved in the process, but it is something that is possible to happen. In the past there was a clear divide between architects and architect-developers and their idea of the development work that was being completed. This divide has subsided throughout the years and with the design-build delivery method becoming increasingly popular, different methods of practice are welcomed in the profession. Today's architect-developers have an opportunity to have increased control on the built environment and their projects while making a positive impact on their communities.

LITERATURE REVIEW

TITLE: What Can Architects Do?
AUTHOR: Urban Omnibus - A Publication of the Architectural League of New York

Introduction

Architects, whether they like it or not, are involved in the housing crisis that has taken the United States by storm in recent years. Developers of projects typically aim to maximize their profits, placing affordable housing farther down the list of priorities. This makes it necessary for local, state, and federal governments to ensure, and promote the development of affordable housing around cities. Architects have a powerful position in this equation with their ability to control the design of the buildings being put into the market. The article describes positions the architect can take to aid this housing crisis: pushing agendas, creating your own projects, take focus off the physical environment, and imagining the future.

Housing Crisis

Housing is not a naturally evolving entity that we can all just wait for to fix itself. This market is a heavily diluted, unbalanced maze that needs attention to begin untangling the structure it was built on. The entire development, construction, design, and political structures based around housing need a revamp and a new, clear path towards a solution. Housing is not available to those who need it most, while units sit empty in cities around the country, waiting for people to rent them out on AirBnb. If families can afford a home, those with lower incomes tend to spend much more on them than is comfortably expected. 55% of tenants in New York City are financially burdened by their rent, spending over 30% of their income on it (Urban Omnibus, 2018). The free market of the real estate industry places an emphasis on the biggest profits. This leads to the assumption that governments on every level must step in and take control of the housing crisis, while providing a detailed map on how to reverse the uncomfortable situation millions of people are faced with (Urban Omnibus, 2018).

Push Your Agenda

Deborah Gans has used speculative design to attempt to instill policy change within her community. She uses her designs to create a new set of rules for others to follow, and for her clients to follow. This includes “redesigning” the relationships of 14 public agencies involved with housing in New Orleans during a design competition. This is a great example of architects taking advantage of their unique skillset and exemplifying new ideas to a greater audience. Ideas like this can create a ripple effect in many industries involving housing with its exposure to other disciplines. Opportunities to promote ideas you believe in have to be taken advantage of to instill change in this systematic issue (Urban Omnibus, 2018).

Pursuit of Your Own Projects

The architect-developer has an increased opportunity to change cities and the current landscape of affordable housing. The architect can utilize castoff sites, create unique financing deals, and, of course, design units that can take advantage of affordable housing programs and supply the major need for them. Many architects are based around the goal of creating buildings that blend in to and assist the community they are in. Combining this greater goal with the role of developer creates a unique situation in which the architect is willing to forgo massive profits, to give back to the community and create real change (Urban Omnibus, 2018).

The Question for Architects

Architects position in the housing crisis is a bit of an awkward one. They work closely with developers to create the monotonous or market-rate architecture that is currently flooding the market. It may not be the right decision to completely avoid or abstain from this type of work, even though it is likely not helping the issue at hand. The profession needs an overhaul of their stance on the issue and the next step to the future. If architects can come together and produce a stance on the topic, it could have implications on the development level when developers pursue architects for their projects. Having architects setting the terms of housing projects could be beneficial for the market if there was a common solution that address the housing issue in every project that is on the table for potential development (Urban Omnibus, 2018).

Conclusion

The glaring housing issue in the United States must be addressed among every industry that has a part in producing housing for cities. For architects, they can strongly persuade a direction for the future of housing. Being creative in projecting ideas or in retooling of current organizational patterns of the housing market is a way for architects to use their creative problem-solving skills. Some architects may choose to take the issue into their own hands, developing affordable housing projects themselves to a city's benefit. Focusing on other factors of a project instead of the physical design presence is a viable architectural investigation. Pointing out potential issues on the social, political, or environmental levels of projects is all part of being an architect. Architects can visualize the futures of buildings in their job every day, they may be able to visualize a future for cities and their housing problems as well.

RESEARCH SUMMARY

The architect-developer project delivery method can help architects achieve many beneficial results in their practice. If an architect is willing to assume the financial risks associated with initiating their own work, they are receiving the following benefits:

1. Pursue projects when work is needed
2. Greater project control
3. Greater project efficiency and quality
4. Balanced projects
5. Ability to complete unique projects
6. Increased profit

This method may not work well as a full-time method in all architecture practices, but integrating it in some capacity may yield serious benefits for firms that implement it.

The Los Angeles homeless and affordable housing crisis displays statistics that continue to worsen over the years. The amount of affordable housing needed is incredibly large, and there is not a viable solution in sight. Affordable housing is a serious need in the city of Los Angeles and the architect-developer role could make a small change in the right direction. Architects may use this role to develop projects based on social change and community development as the number one priority. This type of project and priority is not common among traditional property developers, and architects may think of creative solutions to implement affordable housing across many projects. The combination of the architect and developer roles may lead to a thesis design project that balances quality design, social change, environmental sustainability, and a viable return on investment.

PROJECT JUSTIFICATION

Why is the project that you have defined important to you as a person (personal)?

This project is important to me because I am highly interested in combining my architectural education with a real estate development career. Completing this thesis will help me gain knowledge and figure out how to make this path a reality.

Why is doing the project important for the profession at this time?

This project is important for the profession right now because the architect-developer method is somewhat untapped in the profession. Self-initiated work may be an important option for architects, especially with the uncertainty of projects during the COVID-19 pandemic. I want to add to the knowledge base of this method and detail what makes it a viable option for architects.

Why is the project important as an academic exercise at this time?

This is an important exercise because many theses focus on design methods and features, while I wanted to explore the actual process of a project. I want to explore the real-world implications of a project before I enter the profession to gain a better understanding of it, and why it operates the way it does.

How can you justify the project economically?

The project will use real estate finances and systems to make the financing for a real estate project end in a profit. Pro-forma analyses will determine the viability of my project and determine estimates for financing, construction costs, and projected profits. During my design process, I will make some decisions based on economics that affect the end profit.

How can you justify expending the funds to implement the project?

This is the basis of my entire thesis, which is determining the funds and development needed to create a profitable project. My research and final financial projections will justify the architect-developer model and show that architects can earn more this way.

Where might the funds come from for your project and are the sources justified?

The funds for my project will likely come from bank financing and private “investors” that will determine the financial outcome of my project. The numbers I input for financing will be key in showing the projects return on investment.

Is your project justified based on a return on investment? Are these returns monetary, or are they intangible?

Yes, this project is justified based on a return on investment. I must ensure the design returns a monetary profit to the architect developer. Intangible returns on investment could be the impact on the community due to the affordable housing component of the project, or the environmental factors that the project gives.

How is the project justified in its chosen site location?

The site for this project is justified due to it replacing an underutilized building in the South Park neighborhood. The building has no tenants and is located next door to a hospital making it a desirable location. This site is also located outside of the area named “Skid Row” where many homeless live in Los Angeles. This location allows formerly homeless individuals to escape their past life and start anew.

Would your project contribute to the advancement of the profession?

Yes, this project contributes to the profession because it explores a project delivery method that is unknown to many as an option. It will analyze the positives and negatives of this method and give the profession a complete package of how this process can be implemented into any architect’s process.

HISTORICAL CONTEXT OF LOS ANGELES

(1781) Queen of Angels

Originally named "El Pueblo de la Reina de Los Angeles" (The Town of the Queen of Angels), it was founded on September 4th, 1781 during Spain's colonization.

(1880) The Land of Sickness and Sunshine

In the 1880s, promotional content on Los Angeles was common, driving tons of people with illnesses into the city. Soon after, the city became known as a resort for rehabilitation, sanitariums, and health improvement.

(1900) Water and Mulholland

Soon after becoming relatively populated, LA Leaders devised a plan to transport water from Owens Lake to the city of Los Angeles. In 1907, construction began on a massive aqueduct that would supply the city with water.

(1914) Tinseltown

In the early 1900s, film scouts looked for optimal places to shoot, and came across Los Angeles, which was sunny and temperate, along with sea, mountain, and city locations. In 1914, DeMille filmed the first feature film "The Squaw Man" in LA.

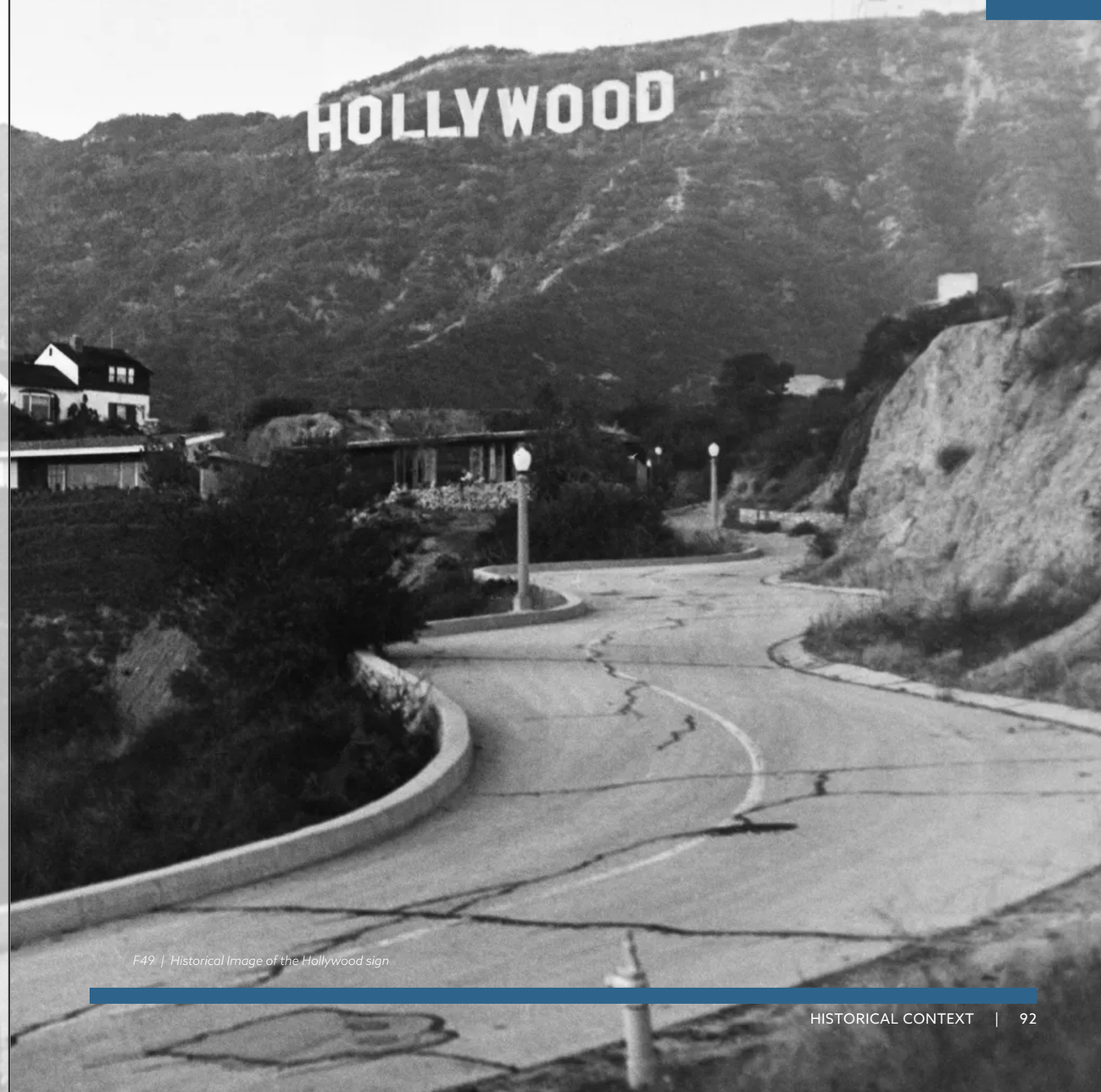
(1923) Hollywood Sign

The Hollywoodland sign was originally built as a real estate advertisement in 1923. In 1930, the "land" portion of the sign was removed to spell "Hollywood" and it became a film industry symbol, signifying dreams of stardom.

(1933) Earthquake City

Los Angeles has been the recipient of three huge earthquakes, The Long Beach Quake of 1933 was a 6.3 magnitude killing 120 people. The Sylmar Quake of 1971 was a 6.6 magnitude that flattened freeways, hospitals, and power stations. The Northridge Quake of 1994 was a 6.7 magnitude, causing more than 466 fires.

Information sourced from (Hadley Meares, 2018)



F49 | Historical Image of the Hollywood sign

F50 | Skid Row | Los Angeles

SOCIAL CONTEXT OF LOS ANGELES

(1933) Redlining

When the "New Deal" was passed in the 1930s, it was meant to assist the housing market. However, land value was ranked according to neighborhood's economic and racial makeup, leading to a process called redlining. Areas with minorities and poorer residents were graded lower, making it difficult for anyone in them to secure home loans.

(1950) Dodger Stadium

In 1950, Chavez Ravine was home to many Mexican-Americans who had lived there since the Victorian era. After a massive public housing project was planned, the city forced the residents to move out. The housing project fell through, and Dodger Stadium ended up purchasing the land and opened in 1962.

(1965) The Watts Rebellion

A young man was pulled over for drunk driving in 1965, causing a scuffle to break loose in the Watts neighborhood. A crowd began to form and get violent, starting days of destruction based on many years of sadness and rage against people of color.

(1991) The LA Uprising

In 1991, Rodney King was arrested by policemen after a high-speed chase. The officers brutally beat King long after he was on the ground, and were acquitted of the crime. This lead to an uproar in LA, causing 63 deaths and $1 billion of damage.

(2018) Homelessness and Housing Crisis

Current day Los Angeles has a housing shortage causing rent prices to soar, and low-income families to suffer. The county has a 509,000 home shortfall for its low-income residents, forcing many to the streets. On any given night, 66,000 people are on the streets of LA County.

Information sourced from (Hadley Meares, 2018)

CULTURAL CONTEXT OF CALIFORNIA

California's Native American Tribes

There were over 300,000 Native Americans on the Pacific Coast before Europeans arrived.

Spanish Explorers

Spanish explorers entered the area in the 1500s. Today, almost 39% of Californians have Hispanic ancestry including people of Mexican, Latin American, and Spanish descent.

California Gold Rush and European Migration

After a war in 1848, the U.S. received California in a deal with Mexico. The Gold Rush then began, starting mass migrations of Americans with European descent to California. Today, according to the U.S. Census, 74% of California's population is White.

African Americans in California

African Americans make up only 6.5% of California's population today. Many former slaves began migrating from Mexico in the 1840s. The Black population slowly grew until World War II when more people moved into the area. In 2010, California experienced its first net-loss of its African American population in 30 years.

Asian Americans and Pacific Islanders

California has the highest percentage of Asian-Americans in the U.S, making up 14% of it's population. It also has the second highest proportion of Pacific Islanders at 0.5%, only trailing Hawaii. In 1870, 100,000 Chinese-Americans lived in California.

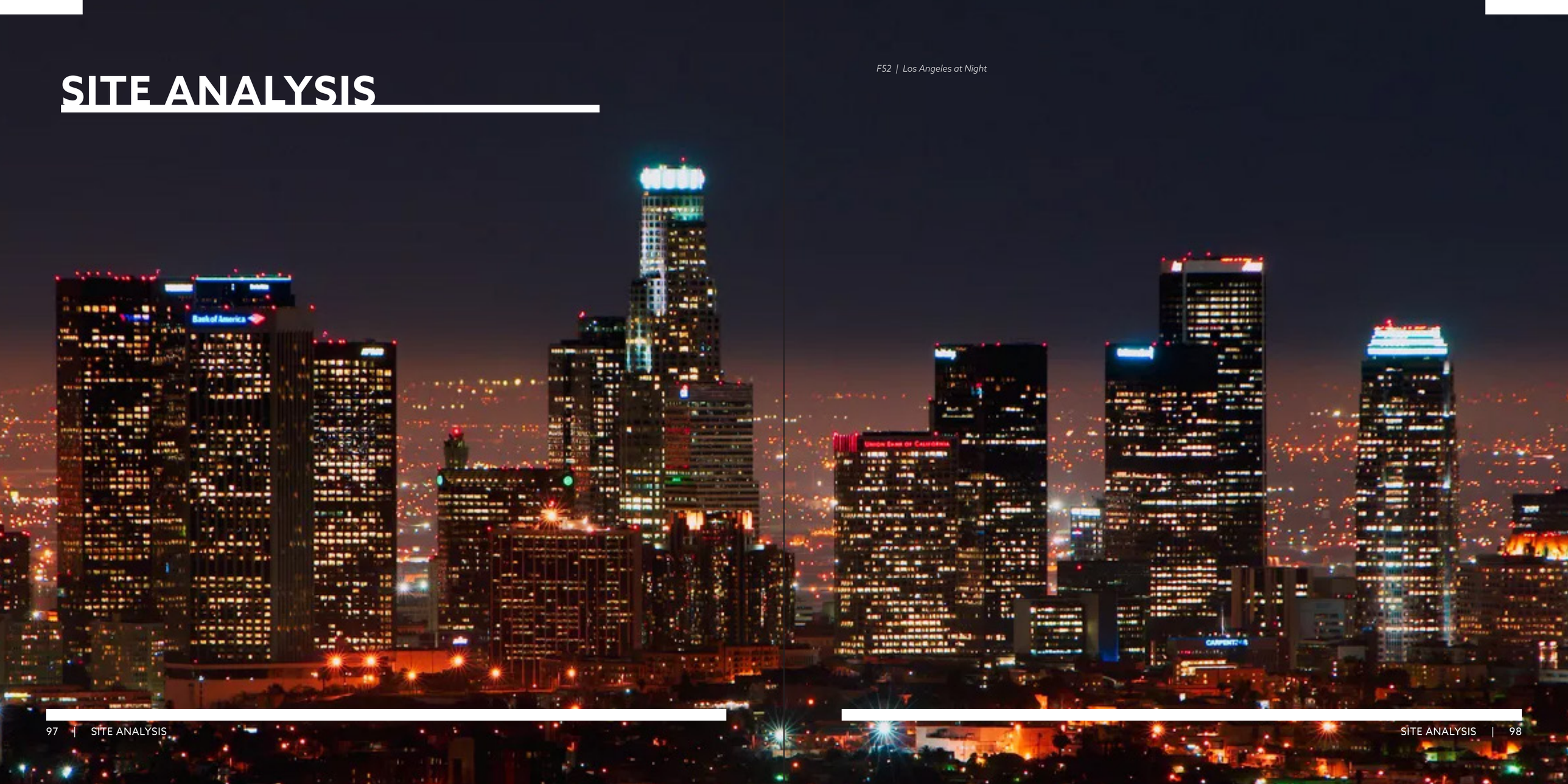
Asian Indians in California

Asian-Indians are designated as people who have migrated from the country of India. Los Angeles has the sixth-most Asian-Indians in the U.S., with 80,000.

Information sourced from (Language Network, 2019)

F51 | Hollywood Chinese Theater

SITE ANALYSIS



F52 | Los Angeles at Night

CITY INFORMATION

F53 | Map of Los Angeles

Median Age
36

People per Square Mile
8,486

Most Common Professional Industry
Business & Entertainment

Median Household Income
$67,418

Median Home Value
$697, 200

Los Angeles, California

MALE 49%	FEMALE 51%

POPULATION: 3,979,537
LAND AREA: 503 square miles
ELEVATION: 285 feet

SITE INFORMATION

F54 | Site Parcel Information

Zoning Classification
C2-2D-O

Total Parcels
7

Total Square Footage
60,943

Existing Buildings
2

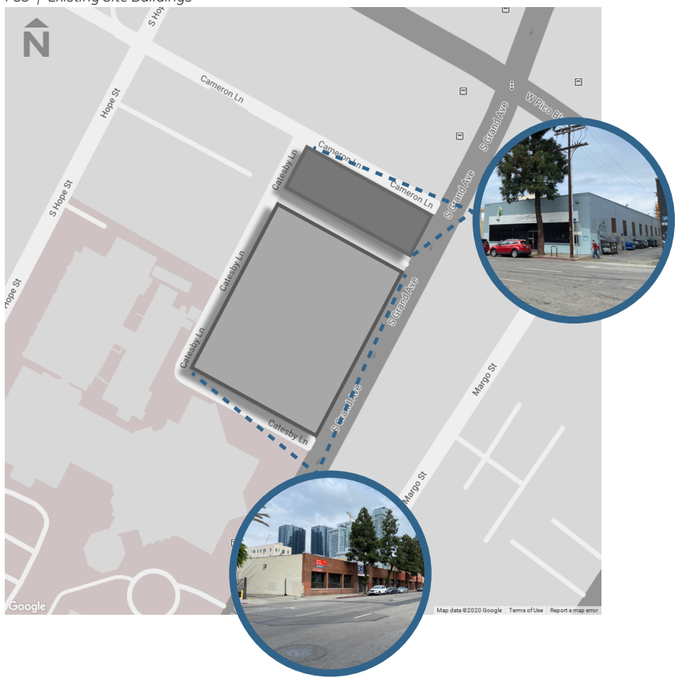
District
South Park

1345 S Grand Ave, Los Angeles, California

The site is located near the intersection of Pico Blvd and Grand Ave. There are seven parcels on the site that will be combined into one 60,100 square foot plat. Two existing one-story retail buildings are currently on the site, they are underutilized with no tenants occupying them. The site is next door to Diginity Health hospital, making it a safe location close to public transit.

BUILT FEATURES

F55 | Existing Site Buildings

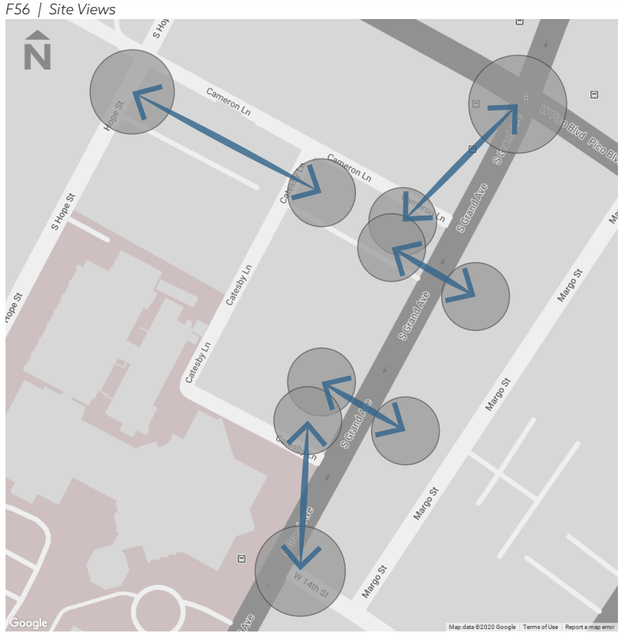


The map to the left shows perspective views of each of the existing buildings. They are separated by an alleyway that functions as a paid parking lot. The lack of street presence these structures posess is shown in the perspectives. The buildings will be demolished to allow for a new site layout in the thesis design.

The site currently has two existing buildings located on it. The larger building contains multiple retail spaces, none of which are occupied. It is not a desirable building by any means and would be difficult to incorporate into a future design. The smaller building has signage of a store, but also has a space available sign on it. The site as it currently stands with these two buildings is extremely underutilized.

VIEWS

F56 | Site Views



This graphic displays the viewing areas to and from the site. These views are directly connected, but are completely different to experience. A street-level view presents views of the future building, while views from the building must maximize attractive views out to the street.

Views on the site are limited to the immediate surrounding streetscape, but there are still opportunities to craft views for residents. The cross-street relationship is important to focus on because of its proximity to the other buildings. There are opportunities for views on the street-side corners of the site as well. These views are dependent on the height of the new design and the possibility of seeing overtop neighboring buildings. A view to Hope Street exists bordering the alley due to parking lots and short structures directly behind the site.

ZONING AND LAND USE

F57 | Zoning Map

Zoning String
[HB3-G1-5] [CX3-FA]
[-CPIO-O-]

Zoning Designation
Transit Core

Form District
(HB3) High-Rise Broad 3

Frontage District
(G1) General 1

Development Standards
(5) District 5

Use District
(CX3) Commercial-Mixed 3

Density District
(FA) Floor Area

(HB3) Lot Parameters

1.	LOT SIZE	*Div. 2C.1.*
	Lot area (min)	n/a
A	Lot width (min)	25'
2.	COVERAGE	*Div. 2C.2.*
B	Building coverage (max)	100%
	Building setbacks	
C	Primary street (min)	0'
	Side street (min)	0'
D	Side (min)	0'
	Rear (min)	0'
E	Alley (min)	0'
	Special lot line (min)	0'
3.	AMENITY	*Div. 2C.3.*
F	Lot amenity space (min)	20%
	Residential amenity space (min)	10%

(HB3) Lot Parameters

1.	FAR & HEIGHT	*Div. 2C.4.*
	Base FAR (max)	7.0
A	Height (max)	n/a
B	Minimum height in stories	6
	Bonus FAR (max)	13.0
2.	BUILDING MASS	*Div. 2C.6.*
C	Building width (max)	350'
	Building break (min)	25'

F58 | Form Parameters

ZONING AND LAND USE

(G1) Frontage Lot Requirements

F59

		Primary St.	Side St.
	BUILD-TO	*Div. 3C.1.*	
	Applicable stories (min)	5	5
A	Build-to depth (max)	10'	15'
B	Build-to width (min)	90%	70%
C	Pedestrian amenity allowance (max)	30%	20%
	PARKING	*Div. 3C.2.*	
D	Frontage setback (min)	15'	5'
	LANDSCAPING	*Div. 3C.3.*	
	Planting area (min)	30%	30%
	Frontage yard fence & wall type allowed:	A2	A2

(G1) Facade Requirements

F60

		Primary St.	Side St.
	TRANSPARENCY	*Div. 3C.4.*	
A	Ground story (min)	50%	40%
B	Upper stories (min)	30%	30%
C	Active wall spacing (max)	30'	30'
	ENTRANCES	*Div. 3C.5.*	
D	Street-facing entrance	Required	Required
E	Entrance spacing (max)	75'	100'
	Required entry feature	No	No
	GROUND STORY	*Div. 3C.6.*	
F	Ground story height (min)		
	Residential (min)	10'	10'
	Nonresidential (min)	16'	16'
G	Ground floor elevation (min/max)		
	Residential (min)	-2'/5'	-2'/5'
	Nonresidential (min)	-2'/5'	-2'/5'

(District 5) Development Standards

SEC. 4B.5.2. **STANDARDS** *F61*

	Primary St.	Side St.
PEDESTRIAN ACCESS	Sec. 4C.1	
Pedestrian access package	Package 1	
Pedestrian passageway spacing (max)	350'	
AUTOMOBILE ACCESS	Sec. 4C.2	
Automobile access package	Package 1	
Drive-through	Not Allowed	
AUTOMOBILE PARKING	Sec. 4C.4	
Required parking stalls	Package A	
Exempt change of use, commercial tenant size (max)	n/a	
Parking structure design		
Parking Garage		
Ground Story	Wrapped	Wrapped
Upper Stories	Adaptable	Adaptable
Integrated Parking		
Ground Story	Wrapped	Wrapped
Upper Stories	Wrapped	Adaptable
SIGNS	Sec. 4C.11	
Sign package	2	
PROJECT REVIEW	Sec. 4C.14	
Project review threshold	2	

(CX3) Commercial-Mixed 3 Uses Allowed

- Household Living
- General Offices/Social Services
- Schools
- Recreational Open Space
- Restaurants
- Lodging
- Medical
- General Retail

(FA) Floor Area Density District

Maximum density of household living units is limited by floor area

TOPOGRAPHY

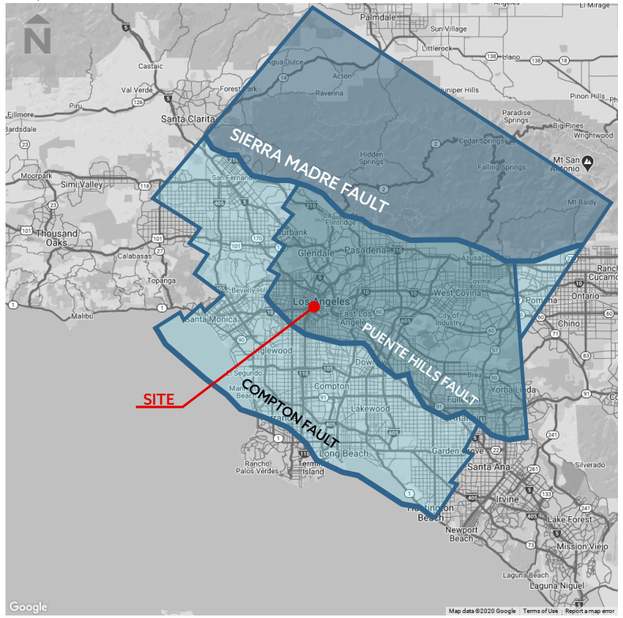
F62 | Site Topography

The downtown area of Los Angeles slowly inclines towards the Northeast as it nears the Elysian Valley. The Los Angeles River cuts through the city and provides flat areas near the subdivisons created for it. These factors do not have a significant impact on the project's site.

Site topography is relatively flat at approximately 251 feet in elevation. There is a slight slope towards the Southwest nearing the neighboring hospital. The design will not be highly impacted by the topography because of the urban environment it is in. There are slight slopes on the main arterial roadways as well, but this change in elevation will not have an impact on a future building on the site.

SEISMIC HAZARDS

F63 | Site Seismic Hazards



This map shows the locations of the three major faults in the Los Angeles area. The Puente Hills fault encompasses most of the city of Los Angeles, including the site.

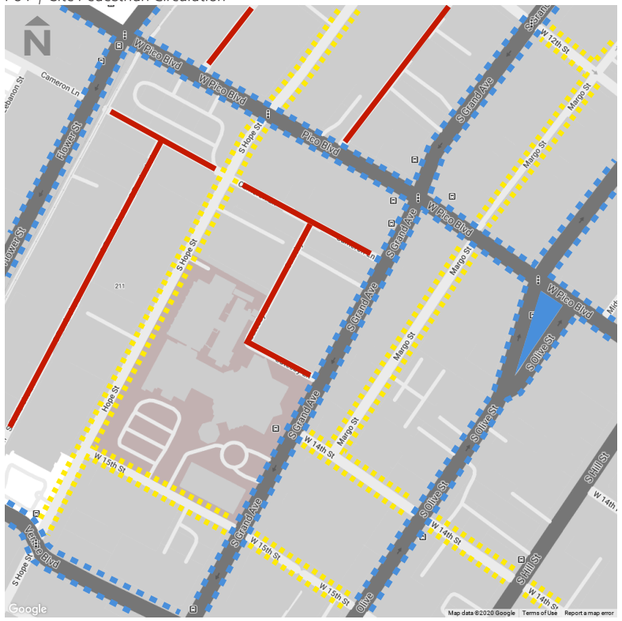
Slip Rate (mm/year)
0.7

Rupture Top = 5.0
Rupture Bottom = 13.0
Dip Angle = 25 degrees
Max Magnitude = 7.1

With Los Angeles' history of earthquakes, it is important to define the potential seismic hazards the site has. The site is within the Fault Zone of the Puente Hills Fault, making it at-risk of being affected during an earthquake. LA GIS maps define the slip geometry of the site "Reverse", meaning the hanging wall of the fault moves overtop the footwall of another fault. The slip type of the site is considered "moderately/poorly constrained". Structural systems that can withstand seismic hazards must be incorporated into the thesis design.

PEDESTRIAN CIRCULATION

F64 | Site Pedestrian Circulation

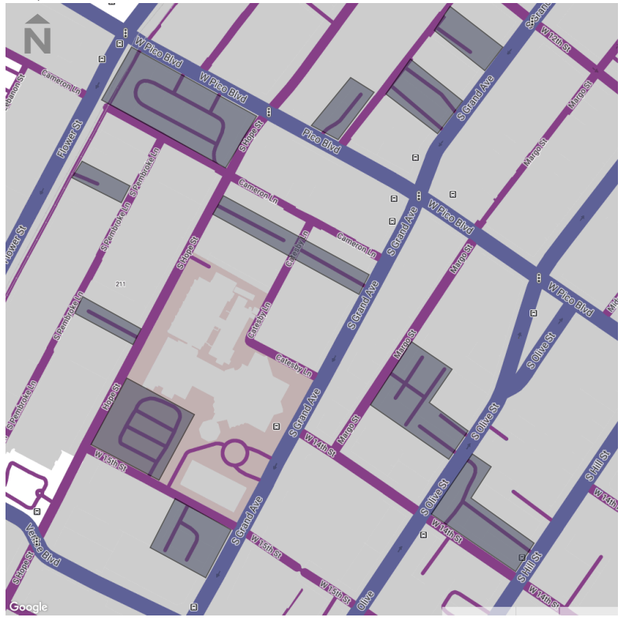


The map details the major, secondary, and off limits pedestrian paths near the site. The blue lines indicate sidewalks bordering major roads, while the yellow lines border secondary local roads. The blue paths likely see a greater amount of foot traffic compared to the local streets. The red lines indicate alleyways not intended for pedestrian access.

Pedestrian circulation around the site primarily consists of sidewalks on either side of the road. This would be the primary point of pedestrian traffic to the site. One key item to improve is pedestrian circulation directly bordering and through the site. A public space could improve this neighborhood and its pedestrian circulation by creating a thoroughfare across the city block and a destination. The area is severely lacking public space that pedestrians can use.

VEHICULAR CIRCULATION

F65 | Site Vehicular Circulation

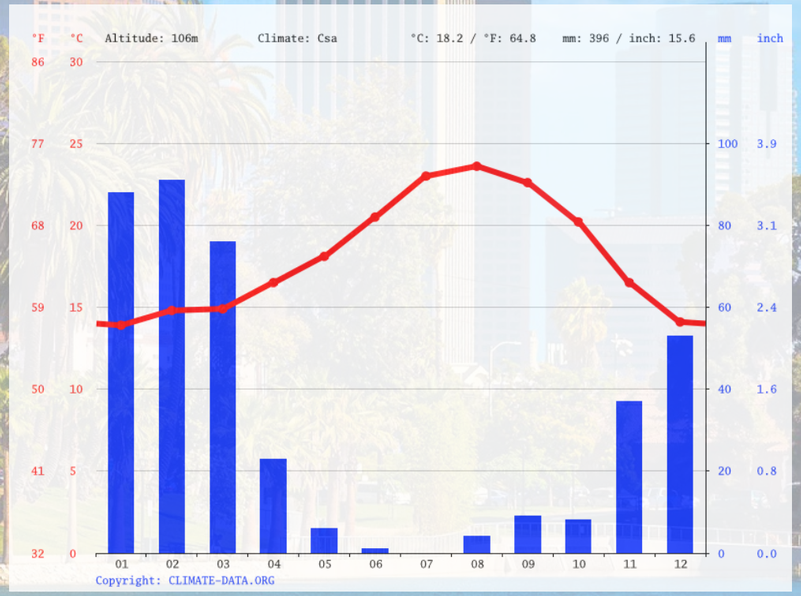


Blue roads in the graphic indicate major arterial roads around the site, while purple streets indicate small alleyways and side streets. Parking lots are located in multiple areas surrounding the site, shown in dark blue. This map shows us opportunities for development around the site including the alleyways that surround it.

The vehicular circulation surrounding the site contains major roadways, along with a few side streets. Grand Ave, the major road that the site is on, is a one-way road heading southwest. Pico Boulevard is a nearby road that uses two-way traffic with popular destinations in either direction. The smaller roads and alleyways around the site create opportunities for intimate spaces. They currently don't receive much traffic, and could be utilized at night as pedestrian space.

CLIMATE DATA

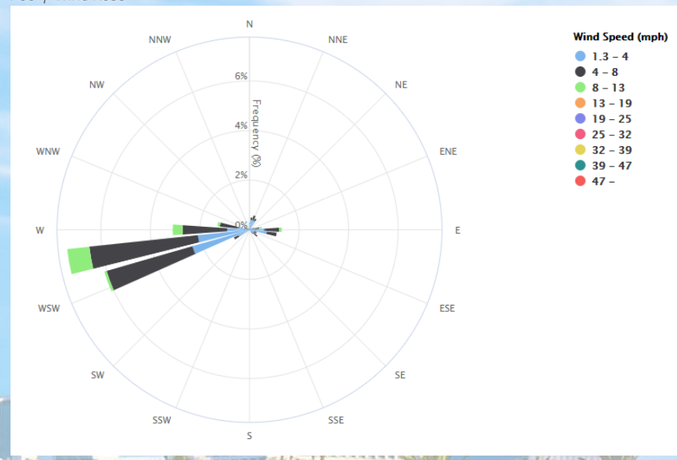
Los Angeles' temperate and warm climate is highly desirable by many, as it is sunny 284 days out of the year. The combined chart below shows us that the tempreature rarely drops below 59 degrees (F), and only rises to about 75 degrees (F) on average. Precipitation is greatest in the winter months, producing a little over three inches at most. This type of climate suggests the use of outdoor spaces and the opportunity to keep indoor temperatures consistent without much energy use.



F67 | Temperature and Precipitation

CLIMATE DATA

F68 | Wind Rose



Wind Rose

The wind rose diagram shows the majority of yearly winds come from the west coast at 1-13 MPH on average.

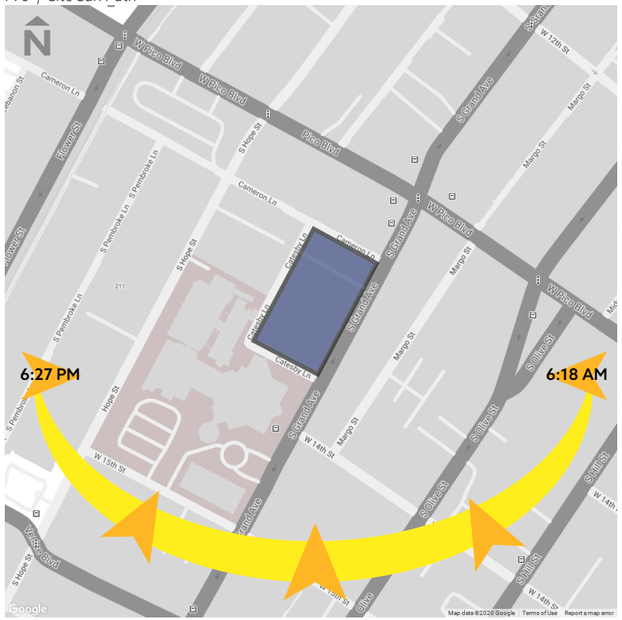
Humidity

Los Angeles humidity is relatively consistent throughout the year, ranging from 50-70% on average.

F69 | Humidity Graph

SUN PATH

F70 | Site Sun Path



In terms of solar heating, spaces on the southwest side of the site may be prone to overheating. The two long sides of the site are in favorable positions as they receive sun and daylight, but will not be exposed long enough where overheating could be a pressing issue. These factors will play an important role during the design process with Los Angeles' warm, sunny climate.

The site sits perpendicular to the East-West sun path that is present. Sunrises will be seen by the East facade of the site, while the South and West sides of the site will be able to see the sunset. The North side of the site has no view of either, making it a prime candidate for services or common spaces in the thesis design. A public space would likely be located on the south corner of the site as it would have access to the entire sun path.

SITE SHADOWS

F71 | Site Shadows

Shadows cast on the site largely come from the Dignity Health hospital to the southwest of the site. This ultimately could aid the building with overheating issues from this side of the site.

VEGETATION

Australian Willow
F72 | Geijera parviflora

Black Locust
F73 | Robinia pseudoacacia

Brisbane Box
F74 | Tristania conferta

Canary Island Pine
F75 | Pinus canariensis

Chinese Flame
F76 | Koelruteria bipinnata

Canary Island Date Palm
F77 | Phoenix canariensis

F78 | Site view of downtown LA

SITE CHARACTER NARRATIVE

The site character can be described best when looking at this particular image of it. The palm trees and large residential buildings surround the site as if they are just waiting for it to be developed into a successful project. The location, neighborhood, and zoning designation of the site all point to the potential for an important building that will have major impacts on the South Park district of Los Angeles.

SITE VISIT PICTURES

F79 | Street side of existing building

F80 | Back alley side of existing building

F81 | View of lot between buildings

SITE VISIT PICTURES

F82 | Front of small existing building

F83 | Dignity Health Hospital neighbor

F84 | Northeast view of sidewalk in front of site

PERFORMANCE CRITERIA

SPACE ALLOCATION

Performance Measure:

The average square footage for each required space in the project will be based on the overall site size and averages based on research of these spaces. These estimations will be programmed pre-design and will serve as a guide throughout the design process.

Performance Measure Source:

The source of these measurements will be from computer models and scale drawings to compare the square footage planned versus the final design.

Performance Analysis:

Analysis of the space allocation will include verification of all planned spaces located within the project. It will be important to find if there were any new required spaces that were not planned for, or if a space was removed from the program. A comparison between the size of the final project's spaces, and the pre-design space allocation will be conducted.

Performance Judgment:

Judgment of the space allocation will be based on if the programmed spaces met their requirements, and analysis of the ending result. Spatial scale based on furnishings, unit layouts, and public space will be considered as well. The Behavioral Performance analysis will be intertwined with this criterion because it will run simulations of circulation, allowing for a conclusion on if the provided square footages are efficient.

ENERGY CONSUMPTION

Performance Measure:

Overall building energy consumption will be measured in kWh/square foot and compared with average or low-energy consuming buildings. This measurement will have a connection with cost to determine the building's operational costs.

Performance Measure Source:

The average consumption rates will be found using internet resources, while the projected consumption of the new design will be found using an energy simulation software. BIM models of the new design will allow the simulation to analyze the entire building.

Performance Analysis:

Insight in Revit will analyze the building's energy use, heating and cooling loads, and environmental optimization.

Performance Judgment:

Judgment of this criteria will be based on a comparison of energy consumption averages of similar building types and will be translated to an operation cost that will be useful in the project pro-forma.

BEHAVIORAL PERFORMANCE

Performance Measure:

The final design should provide a space for community gatherings and public accessibility. The measurement of pedestrian traffic, vehicular transit, and public transit will be essential in determining the success of the quality of the design.

Performance Measure Source:

The measurements will be taken from the interior spaces of the building and its flow into the outside areas. Surrounding roads and sidewalks will also allow for an analysis of vehicular behavior.

Performance Analysis:

Path of Travel in Revit, Mass Motion, or AnyLogic will give varying results like pedestrian wayfinding, egress paths, and even mood measurements. The data from these types of programs can be used to analyze the new design spaces.

Performance Judgment:

The data from the simulations will show the overall efficiency of the space in terms of how people use it. Comparisons to other projects will allow the new design to be measured against other successful, or unsuccessful projects.

COST

Performance Measure:

A pro-forma analysis will be conducted prior to design to create projections of the financial implications of the project. The pro-forma will be created using research of the cost of construction, land acquisition, financing programs, and taxes.

Performance Measure Source:

The performance of the final design's cost will be based on the total square footage of the building, materials used, and the projected time of construction to provide an accurate cost for the entire building. Operational costs will also be calculated based on research of required staff, maintenance, and energy consumption.

Performance Analysis:

Analysis of the cost of the project will be based on the pro-forma used prior to designing, and the accuracy will be analyzed. Overall, the goal of the analysis is to receive a return on investment from either a projected sale of the building, or a monthly rent situation. A return for potential investors will also need to be met.

Performance Judgment:

Judgment of this criteria will come down to the return on investment that the building produces, and a judgment of accuracy based on the pro-forma. Other projections like operational and construction costs will be compared to averages on similar projects to understand if the project is similar.

EXECUTIVE SUMMARY

Using performance criteria like space allocation, energy consumption, behavioral performance, and cost will allow us to determine the project's success. Using the Architect as Developer project delivery method places a high emphasis on the project's costs, so this criterion will be imperative to achieve.

An analysis on space allocation will decide if the spaces presented in the end will suit the needs of the building. A comparison to similar buildings gives us an idea of what a real, successful layout includes in terms of square footages and spaces required. Analyzing the spaces removed or added from the program during the design process also allows for the opportunity to tweak the pre-design process so that the proper spaces are accounted for from the start.

The energy consumption of the project will use kWh/square foot to measure the energy used in each space, and the entire building. Averages of similar building's consumption will be compared with the results to judge the success of the new design. A computer simulation will provide accurate projections of the project's consumption and can be used for these comparisons. Energy consumption values will be used for a calculation of the project operating costs.

Behavioral performance will help determine the efficiency of the building's space and let us find the potential egress barriers, circulation bottlenecks, and dead zones. Maximizing the efficiency will help the building's cost to ensure every dollar spent is providing value. Computer simulations will allow us to analyze the project and compare it to similar successful projects.

Cost is the most important criteria in this thesis project due to the requirement of the Architect Developer to make a profit at the end of the project. A pro forma will be used to project all the finances of the project and used for comparison at the end of the design process. All these criteria are intertwined with the project's cost in the end. The space allocation will have an impact on the overall construction cost and the building's ability to function efficiently. The energy consumption of the building will impact the operational costs. Behavioral performance impacts the public's perception of the building as a destination or an attractive option to live in. This criterion impacts the building's vacancy rate, which in turn affects the return on investment.

The performance criteria for this project will determine its success in function, environmental impact, efficiency, and financial worth.

SPACE ALLOCATION

F85 | Space Allocation Chart

Space	Small		Medium		Large	
	SqFt	%	SqFt	%	SqFt	%
Studio Apartment	200	2.6%	300	2.6%	400	2.6%
1 Bed Apartment	400	5.1%	600	5.2%	800	5.3%
2 Bed Apartment	600	7.7%	900	7.9%	1,200	7.9%
3 Bed Apartment	800	10.3%	1,200	10.5%	1,600	10.6%
Building Manager Office	100	1.3%	200	1.7%	300	2.0%
Case Manager Offices	100	1.3%	200	1.7%	300	2.0%
Computer Room	300	3.9%	400	3.5%	500	3.3%
Study Room	300	3.9%	400	3.5%	500	3.3%
Lounge	600	7.7%	800	7.0%	1,000	6.6%
Community Laundry	100	1.3%	200	1.7%	300	2.0%
Mailbox Area	200	2.6%	400	3.5%	600	4.0%
Trash/Recycling Room	150	1.9%	200	1.7%	250	1.7%
Courtyard	1,000	12.9%	1,400	12.2%	1,800	11.9%
Retail Space	2,000	25.7%	3,000	26.2%	4,000	26.4%
Storage	500	6.4%	700	6.1%	900	6.0%
Janitors Closet	25	0.3%	50	0.4%	75	0.5%
Entry Area	400	5.1%	500	4.4%	600	4.0%
Total	**7,775**	**100.0%**	**11,450**	**100.0%**	**15,125**	**100.0%**

LOS ANGELES AFFORDABLE HOUSING COMPARISONS

F86

Star Apartments | Michael Maltzan Architecture
Los Angeles, California
Size: 95,000 SF
Stories: 6
Units: 102 apartments
Type: Formerly homeless individuals
Features: LEED for Homes Platinum

F87

FORMOSA1140 | LOHA
West Hollywood, California
Size: 28,000 SF
Stories: 4
Units: 11 units
Type: Affordable housing
Features: 4,600 SF public park

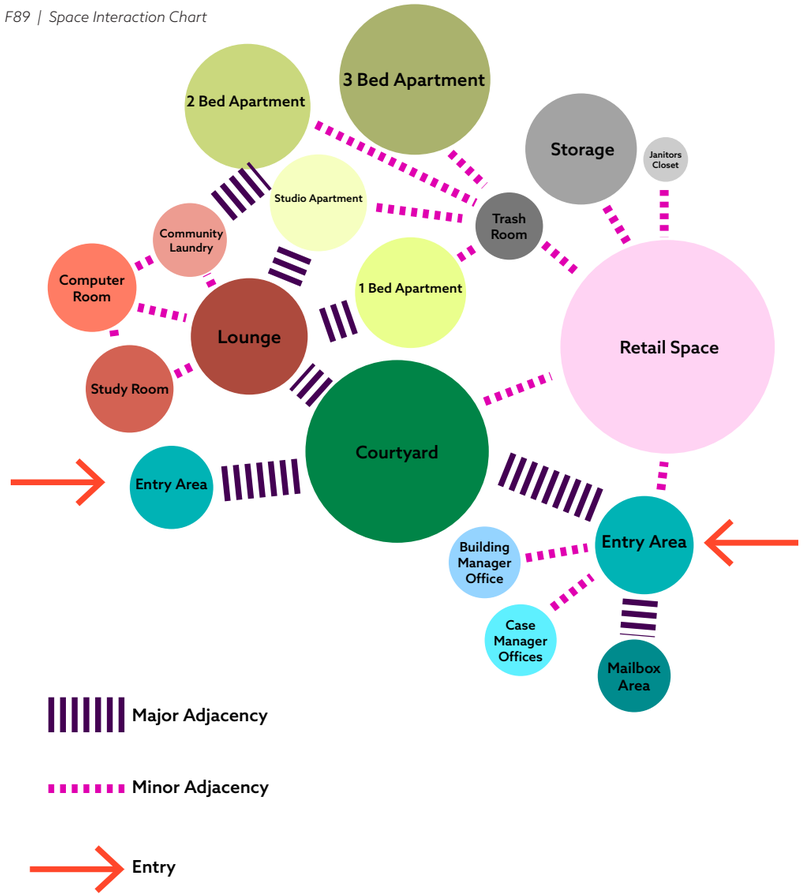
F88

430 Pico Place | Brooks + Scarpa
Santa Monica, California
Size: 24,569 SF
Stories: 3
Units: 32 units
Type: Two and Three bedroom family units
Features: LEED Platinum

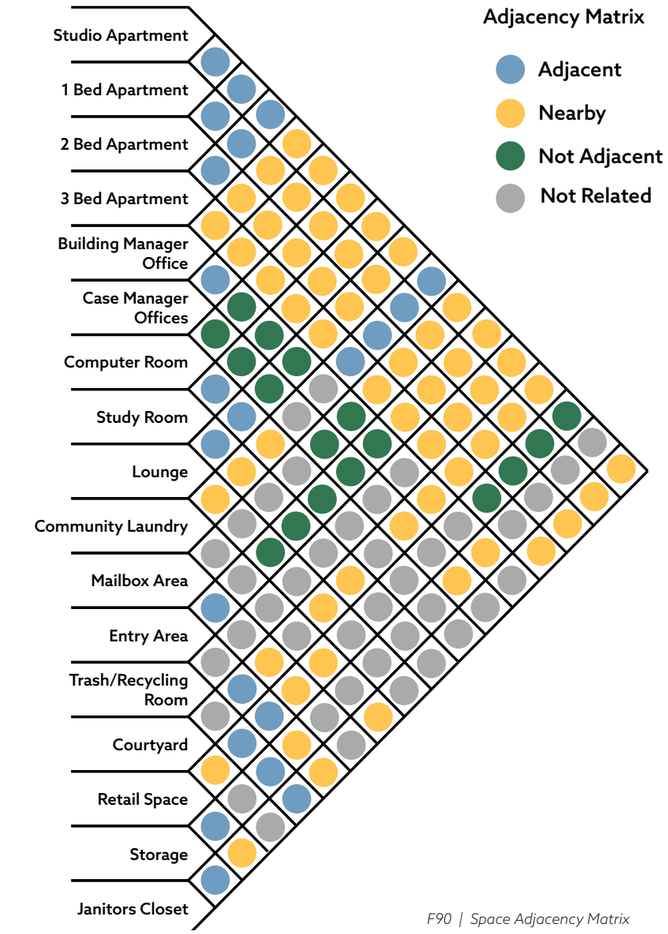
SPACE INTERACTION

SPACE INTERACTION NET

F89 | Space Interaction Chart



SPACE ADJACENCY MATRIX

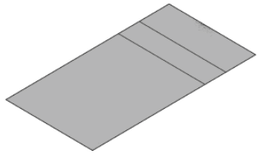


F90 | Space Adjacency Matrix

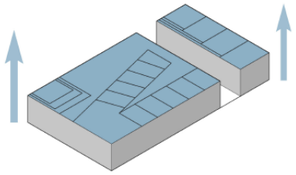
DESIGN

EXTREME SCHEMES

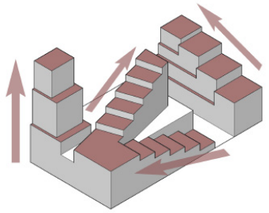
SCHEME 1 - TIERS



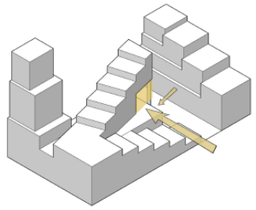
PUBLIC ALLEYWAY



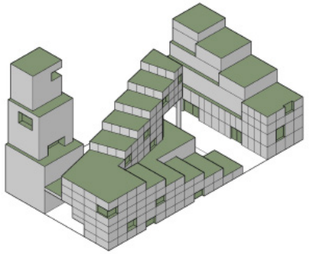
EXTRUDE BUILDING FOOTPRINT



TIERED FORMS

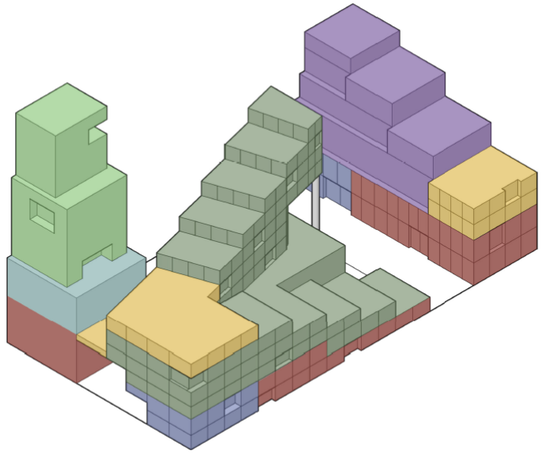


CUT OUT BASE TO EASE CONNECTION TO GROUND

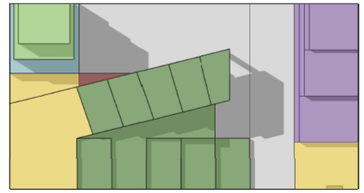


GREEN SPACE CUTOUTS

F91 | Extreme Scheme 1



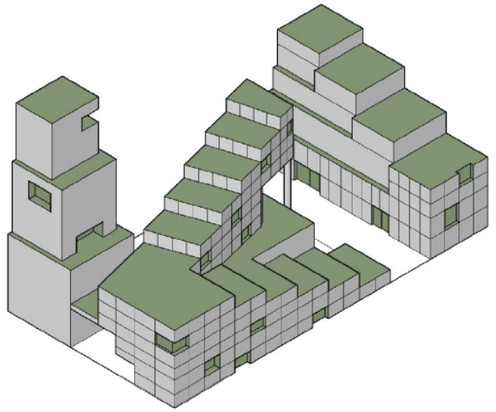
- *Live/Work Units*
- *Residential Amenity*
- *Retail/Restaurant*
- *Resident Lobby*
- *Terrace Units*
- *On-Site Offices*
- *Mid-Rise Units*



F92 | Extreme Scheme 1 Program

- \+ *Green Spaces*
- \+ *Public Space*
- \+ *Daylight Exposure*
- \+ *Mixed Unit Types*

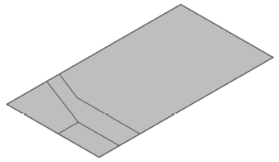
- − *Monetary Cost?*
- − *Views near hospital*



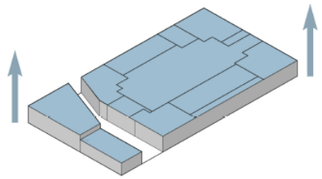
F93 | Extreme Scheme 1 Pros and Cons

EXTREME SCHEMES

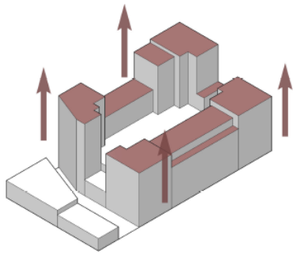
SCHEME 2 - TOWERS



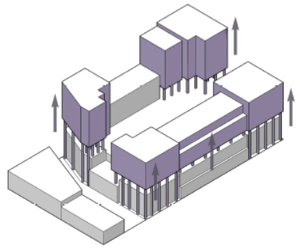
PUBLIC ALLEYWAY



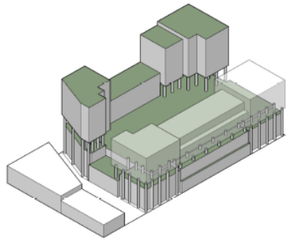
EXTRUDE BUILDING FOOTPRINT



RAISE EXTERIOR FORM TO CREATE INTERIOR COURTYARD

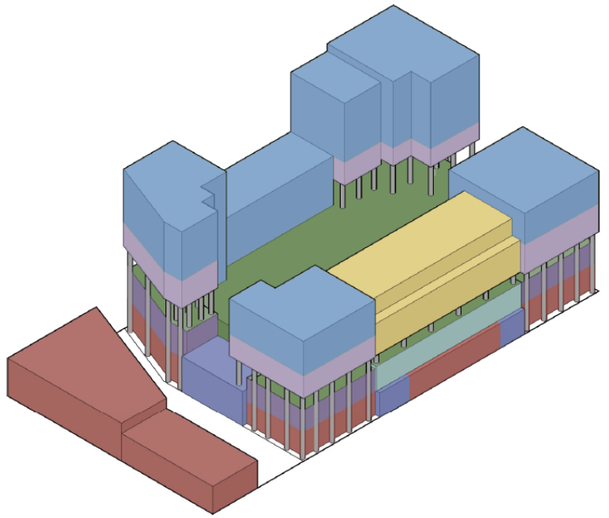


LIFT RESIDENTIAL TOWERS TO CREATE OPENINGS AND EASE CONNECTION TO GROUND LEVEL



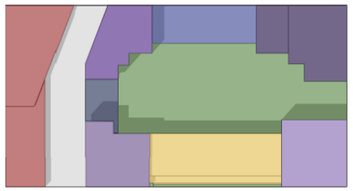
INTERIOR COURTYARD FOR RESIDENT CONNECTIONS

F94 | Extreme Scheme 2



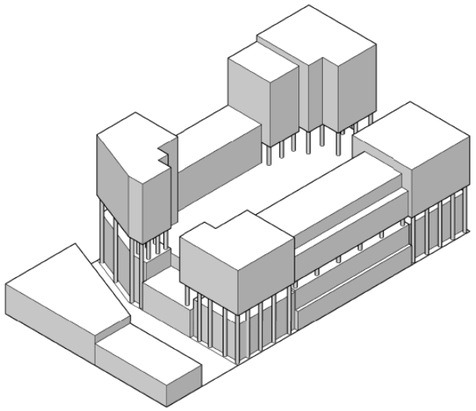
- Apartment Units
- Residential Amenity
- Live/Work Residences
- Live/Work Offices
- On-Site Offices
- Resident Lobbies
- Retail/Restaurant
- Community Green Space

F95 | Extreme Scheme 2 Program



+ Green Spaces
+ Community Building
+ Maximize Site Space

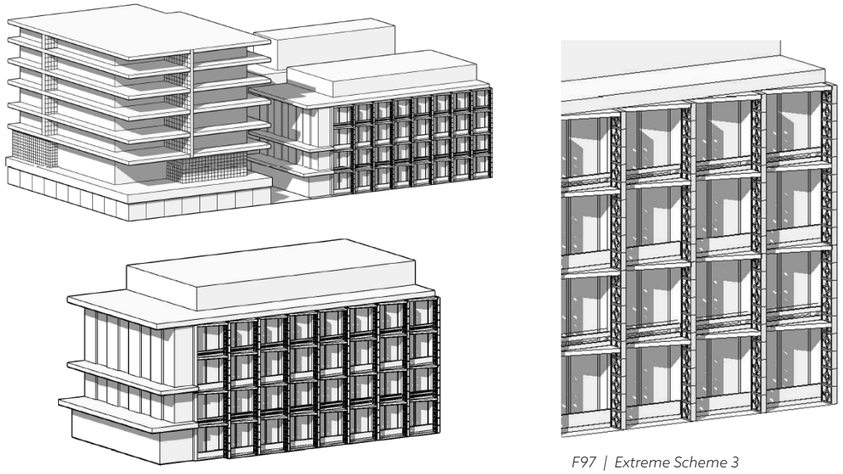
− Monetary Cost?
− Public Space



F96 | Extreme Scheme 2 Pros and Cons

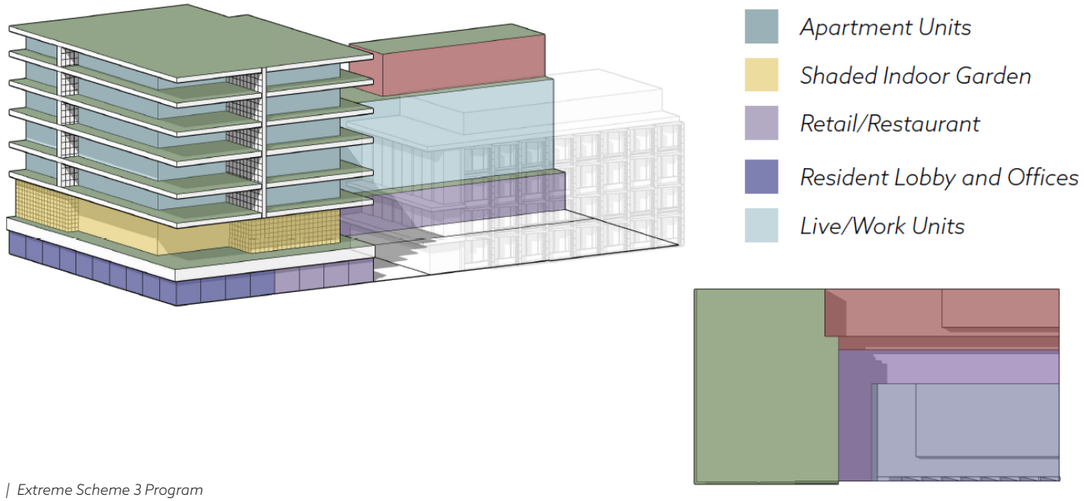
EXTREME SCHEMES

SCHEME 3 - MID CENTURY



F97 | Extreme Scheme 3

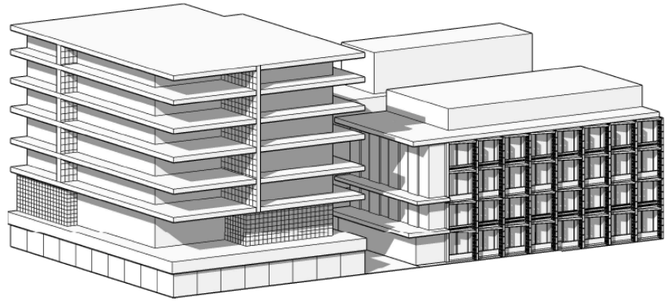
F98 | Extreme Scheme 3 Inspiration



F99 | Extreme Scheme 3 Program

+ Monetary Cost
+ Unit Density
+ Public "Alleyway"
+ Sun Shading

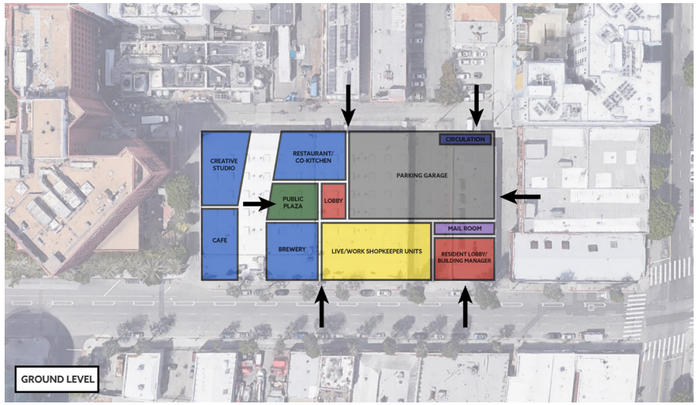
− Green Outdoor Spaces
− Views near hospital



F100 | Extreme Scheme 3 Pros and Cons

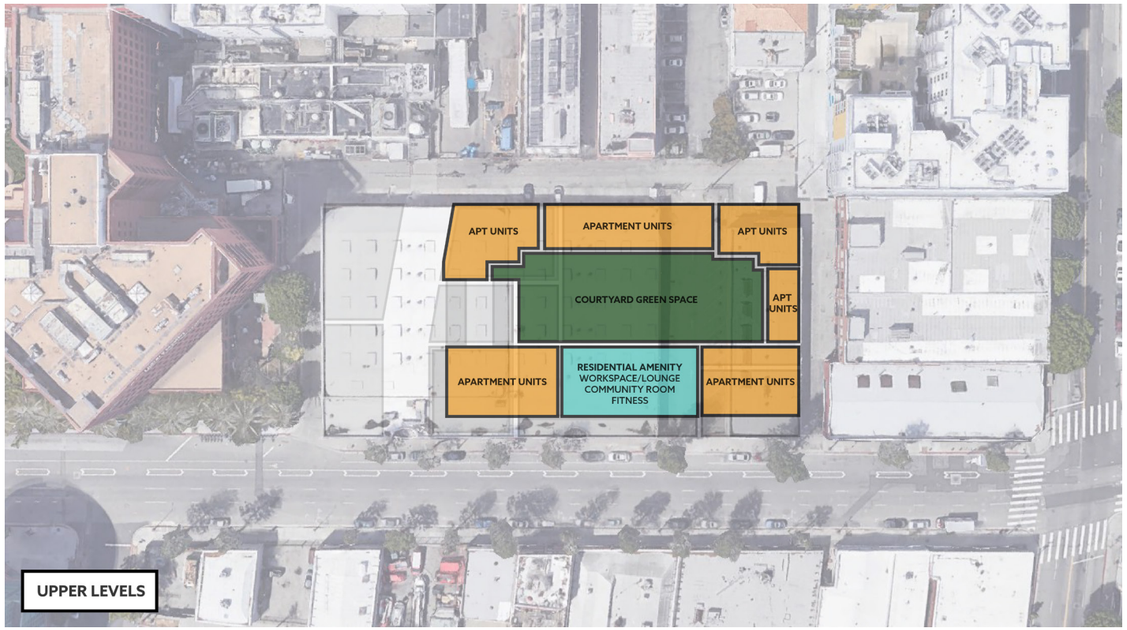
CONCEPT DEVELOPMENT

BLOCKING DIAGRAMS



F101 | Conceptual Ground Level

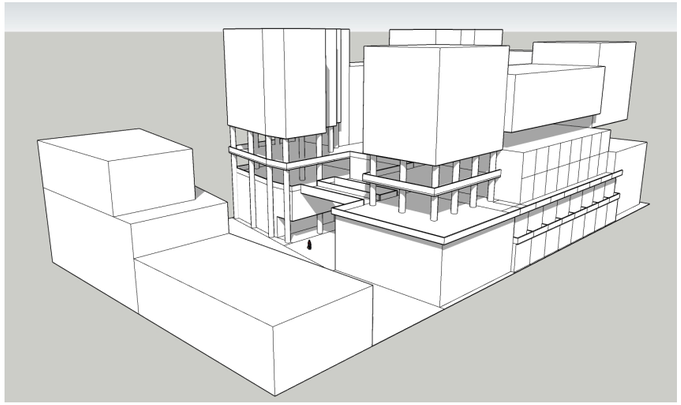
F102 | Conceptual 2nd Level



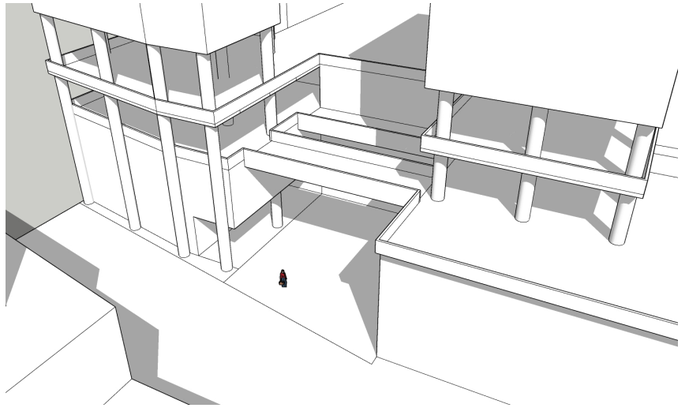
F103 | Conceptual Upper Levels

CONCEPT DEVELOPMENT

FORM



F104 | Concept Form

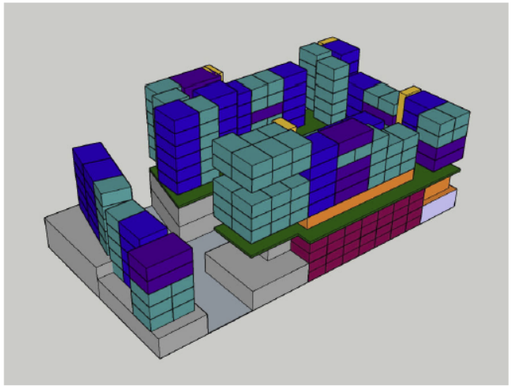


F105 | Concept Form Plaza

FORM OPTIONS

F106 | Concept Form Options

OPTION A

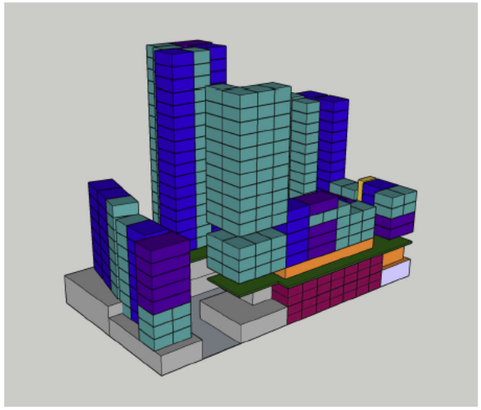


9 Stories at highest

- 114 Studios
- 61 1-Bedroom
- 14 2-Bedroom
- 14 Live-Work

203 Total Units

OPTION B

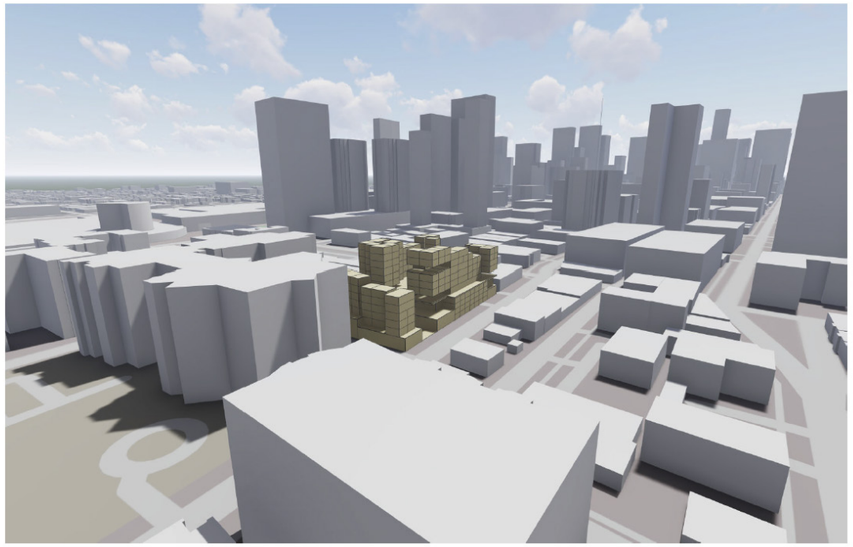


20 Stories at highest

- 219 Studios
- 106 1-Bedroom
- 28 2-Bedroom
- 14 Live-Work

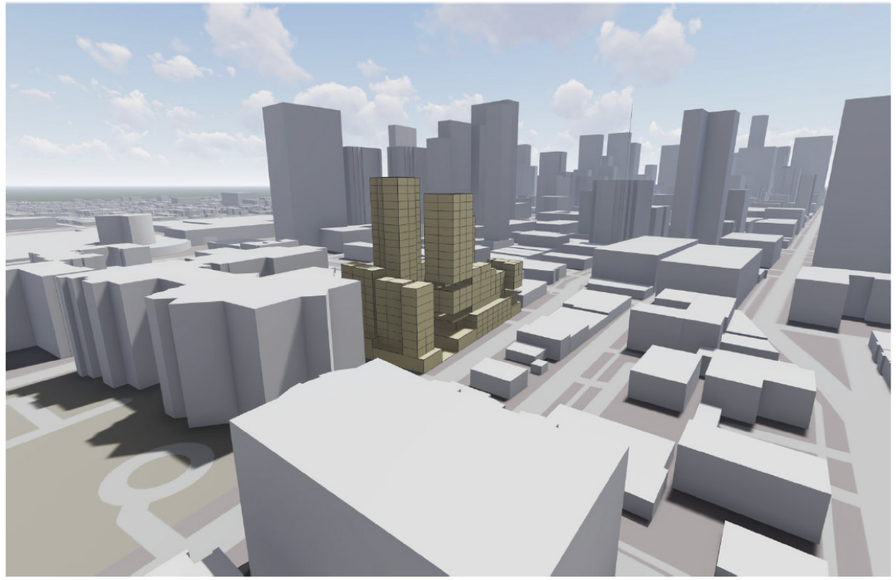
367 Total Units

OPTION A WITHIN CITYSCAPE



F107 | Concept Form Option A Cityscape

OPTION B WITHIN CITYSCAPE



F108 | Concept Form Option B Cityscape

CONCEPT DEVELOPMENT

PRO-FORMA

Project Summary & Parameters

Land Summary			**Finance Assumptions**			**Market Value Conversion**		
Lot Size	60943		Land Cost		$7,635,177.00	Capitalization Rate		4.50%
F.A.R.	9.45		Land Cost / SF		$125	Typical Debt Financing		
Max Bldg SF	575911.35	Plus 35% w/ TOD	Land Cost / Unit		$63,101	Loan To Cost (LTC)		75.00%
Density (SF Per Unit)	500		Land Loan	75%	$5,726,382.75	Loan To Value (LTV)		65.00%
Max Units (Lot / Density)	121					Permanent Loan Rate		4.00%
			Timeframes			Amortization Period	Years	30
Bldg Summary			Development (Entitlements)	Months	9	Payments Per Year		12
Unit Count	372		Design & Architecture	Months	6	Loan Maturity (at end of year)	Years	10
Average Size	733.3333333		Construction	Months	18	Debt Coverage Ratio Desired		1.25
			Total Development Period		33	Prepayment Penalty		5.00%
Rentable SF						Calculated Mortgage Constant		5.73%
Residential	224580		**Loan Rates**					
Commercial	2200		Land Loan Rate		6.00%	**Multi-Year Income**		
Parking	0		Land Loan Origination Fee		1.00%	Expected Holding Period	Years	10
Other	0		Construction Loan Rate		6.00%	Terminal cap rate	Basis Points Over Today	25
			Construction Loan Origination Fee		1.00%	Resale Expense Rate		4.00%
			Construction Loan Amount		75.00%	Income Growth Rate		3.00%
						Expense Growth Rate		2.00%
			Equity Financing			Vacancy Collection Loss (VCL)		5.00%
			Investor Preferred Return		8.00%			
			Developer Split		40.00%	**Performance (Year 1)**		
						Year 1 NOI		$5,533,935
			Income Tax Related			Cap Rate		4.50%
			Depreciable Life	Years	25	Market Value		$122,976,334
			Investor's Marginal Tax Rate		35.00%			
			Capital Gains Tax Rate		20.00%	**Perm Loan**		
						Loan Based on Max Loan To Value		$86,621,557
						Loan Based on Max Loan To Cost		$52,518,659
						Loan Based on Max Debt Coverage		$77,276,326
						Debt Service		$4,427,148

F109 | Pro-Forma Project Summary

Income & Expenses

Annual Income

Unit Type	Unit Size (SF)	Open Space (SF)	Quantity	Total SF	Rent / Month / Unit	$ / SF	PGRI*
Market Rate Studio	500	0	88	44000	$1,800	$3.60	$1,900,800
Market Rate 1 BR	700	0	43	30100	$2,000	$2.86	$1,032,000
Market Rate 2 BR	1000	0	12	12000	$2,350	$2.35	$338,400
Market Rate Live/Work	1000	0	5	5000	$2,500	$2.50	$150,000
Market Rate Office Space	2200	0	1	2200	$6,050	$2.75	$72,600
Market Rate Brewery Retail Space	4900	0	1	4900	$13,475	$2.75	$161,700
Market Rate Creative Retail Space	4950	0	1	4950	$13,613	$2.75	$163,350
Market Rate Cafe Retail Space	4050	0	1	4050	$11,138	$2.75	$133,650
Market Rate Kitchen Retail Space	7380	0	1	7380	$20,295	$2.75	$243,540
Affordable (Low) Studio	500	0	66	33000	$1,462	$2.92	$1,157,904
Affordable (Low) 1 BR	700	0	31	21700	$1,567	$2.24	$582,924
Affordable (Low) 2 BR	1000	0	8	8000	$1,680	$1.68	$180,480
Affordable (Low) L/W	1000	0	4	4000	$1,880	$1.88	$90,240
Affordable (Very Low) Studio	500	0	39	19500	$913	$1.83	$427,284
Affordable (Very Low) 1 BR	700	0	19	13300	$979	$1.40	$223,212
Affordable (Very Low) 2 BR	1000	0	5	5000	$1,175	$1.18	$70,500
Affordable (Very Low) L/W	1000	0	3	3000	$1,175	$1.18	$42,300
Affordable (Ext. Low) Studio	500	0	26	13000	$365	$0.73	$113,880
Affordable (Ext. Low) 1 BR	700	0	13	9100	$391	$0.56	$60,996
Affordable (Ext. Low) 2 BR	1000	0	3	3000	$470	$0.47	$16,920
Affordable (Ext. Low) L/W	1000	0	2	2000	$470	$0.47	$11,280
Public Amenity		13623					
Residential Amenity		32000					
Average / Totals**	**733.3333333**	**45623**	**372**	**249180**	**$85,947**	**$2.94**	**$7,173,960**

Annual Operating Expenses		**Monthly**	**Annual**	
Administrative				
Advertising & Marketing	1%	$5,976	$71,740	Marketing
Mgmt Fee***	2.80%	$16,739	$200,871	Management Fees
Salaries & Personnel	7.10%	$42,446	$509,351	Salaries & Personnel
Legal	5.80%	$34,674	$416,090	Contract Services
Administrative	1.60%	$9,565	$114,783	Administrative
Office Supplies		$0	$0	
Credit Checks		$0	$0	
Leasing Fees		$0	$0	
Other		$0	$0	
Total Administrative			$1,312,835	
Maintenance				
Decorating		$0	$0	
Repairs	2.90%	$17,337	$208,045	Repair & Maintenance
Landscaping		$0	$0	
Supplies		$0	$0	
Service Contracts		$0	$0	
Other		$0	$0	
Total Maintenance			$208,045	
Operating Costs				
Utilities	6%	$35,870	$430,438	Utilities
Electric		$0	$0	
Water/Sewer		$0	$0	
Trash		$0	$0	
Handy Man		$0	$0	
Exterminating		$0	$0	
Telephone		$0	$0	
Total Operating Costs			$430,438	
Taxes & Insurance				
Real Estate Taxes	1.25%	$7,953	$95,440	
Insurance	2%	$11,957	$143,479	Insurance
Misc Licenses & Fees	5%	$29,892	$358,698	
Total Taxes & Insurance			$597,617	
Total Annual Operating Expenses			**$2,548,934**	
Net Operating Income (NOI)			**$4,625,026**	
Operating Expenses Ratio			**36%**	

* Projected Gross Revenue Income
** Average is only calculated for residential
*** Calculated against PGRI

F110 | Pro-Forma Income & Expenses

Development Cost Estimates

Hard Costs	SF	$/SF	Total
Residential Construction Costs (SF)	249180	$160	$39,868,800
Commercial Construction Costs (SF)	23480	$110	$2,582,800
Open Space Costs (SF)	45623	$35	$1,596,805
Parking Costs	0	$24,000	$0
Subtotal		**$177**	**$44,048,405**
General Contractor Fee		12%	$5,285,809
General Conditions		3%	$1,321,452
Construction Contingency		5%	$2,202,420
Design Contingency		2%	$880,968
Subtotal		**$39**	**$9,690,649**
Total Hard Costs	272660	**$197**	**$53,739,054**

Soft Costs	Qty	Cost	Total
Bldg Permits & Fees			
Parcel Map Recording			$0
Building Permit			$12,000
Demolition Permit			$750
B-Permit			$2,500
Grading Permit			$850
Electrical Service			$0
Water Service			$0
Gas Service			$0
S-Permit			$0
A-Permit			$0
Total Permits & Fees			**$16,100**
Consultants			
Architecture - (% of Hard Cost - Fees & Contingency)	5.00%	$44,048,405	$2,202,420
Shoring			$5,000
Civil Engineer			$20,000
Landscape Architect			$7,500
Surveyor			$4,000
Soils Engineer			$3,200
Environmental Engineer			$1,000
MEP Engineer			$6,500
Methane			$4,500
Structural Engineer			$30,000
Fire			$2,500
Waterproofing Consultant			$4,500
Total Consultants			**$2,291,120**
Other Costs			
Sales & Marketing - (% of Hard Cost - Fees & Contingency)	1.00%	$44,048,405	$440,484
COC Insurance - (% of Hard Cost - Fees & Contingency)	1.00%	$44,048,405	$440,484
Development Fees - Monthly Fee Based on Development Period	9	$5,000.00	$45,000
Construction Period Taxes - Based on Total Development Period	33	$7,953	$262,459
Legal (% of Hard Costs)	0.01	$44,048,405	$440,484
School Fees (SF) - Residential Only	249180	$3.95	$984,261
Total Other			**$2,613,172**
Subtotal			**$4,920,393**
Contingency of Soft Costs		5.00%	$246,020
Total Soft Costs			**$5,166,412**

Total Hard & Soft Costs	**249180**	**$236**	**$58,905,466**
Finance Costs			
Construction Loan Interest		6.00%	$2,642,904
Construction Loan Origination Fee		1.00%	$440,484
Total Finance Costs			**$3,083,388**
Total Development Costs (Without Land)			**$61,988,855**
Land Cost			$7,635,177.00
Land Loan Interest based on Loan Amount	6.00%	$5,726,382.75	$343,582.97
Land Loan Origination Fee	1.00%	$5,726,382.75	$57,263.83
Total Land Cost			**$8,036,023.79**
Total Development Costs (With Land)	**272660**	**$257**	**$70,024,879**

F111 | Pro-Forma Development Cost

Multi Year Analysis

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Potential gross rental income (PGRI)		$7,173,960	$7,389,179	$7,610,854	$7,839,180	$8,074,355	$8,316,586	$8,566,083	$8,823,066	$9,087,758	$9,360,391
Potential gross miscellaneous income		0	0	0	0	0	0	0	0	0	0
Potential Gross Income		$7,173,960	$7,389,179	$7,610,854	$7,839,180	$8,074,355	$8,316,586	$8,566,083	$8,823,066	$9,087,758	$9,360,391
Vacancy and Collection Loss		-$358,698	-$369,459	-$380,543	-$391,959	-$403,718	-$415,829	-$428,304	-$441,153	-$454,388	-$468,020
Effective Gross Income		$6,815,262	$7,019,720	$7,230,311	$7,447,221	$7,670,637	$7,900,757	$8,137,779	$8,381,913	$8,633,370	$8,892,371
Expenses											
Administrative		$1,312,835	$1,339,091	$1,365,873	$1,393,191	$1,421,054	$1,449,476	$1,478,465	$1,508,034	$1,538,195	$1,568,959
Maintenance		$208,045	$212,206	$216,450	$220,779	$225,194	$229,698	$234,292	$238,978	$243,758	$248,633
Operating Costs		$430,438	$439,046	$447,827	$456,784	$465,920	$475,238	$484,743	$494,438	$504,326	$514,413
Taxes & Insurance		$597,617	$609,569	$621,761	$634,196	$646,880	$659,817	$673,014	$686,474	$700,203	$714,208
Sum of all Expenses		-$2,548,934	-$2,599,913	-$2,651,911	-$2,704,949	-$2,759,048	-$2,814,229	-$2,870,514	-$2,927,924	-$2,986,482	-$3,046,212
Net Operating Income		$4,266,328	$4,419,807	$4,578,400	$4,742,272	$4,911,589	$5,086,527	$5,267,266	$5,453,989	$5,646,888	$5,846,159
Debt Service		-$3,413,062	-$3,413,062	-$3,413,062	-$3,413,062	-$3,413,062	-$3,413,062	-$3,413,062	-$3,413,062	-$3,413,062	-$3,413,062
Sales Price		0	0	0	0	0	0	0	0	0	$127,090,413
Sales Expenses		0	0	0	0	0	0	0	0	0	$5,083,617
Loan Balance		0	0	0	0	0	0	0	0	0	-$46,935,825
Loan Prepayment Penalty		0	0	0	0	0	0	0	0	0	-$2,346,791
Before Tax Cash Flow (BTCF)	-$17,884,161	$853,266	$1,006,745	$1,165,338	$1,329,209	$1,498,527	$1,673,465	$1,854,203	$2,040,926	$2,233,825	$85,324,510
Investor Preferred Return	8%	$853,266	$1,006,745	$1,165,338	$1,329,209	$1,430,733	$1,430,733	$1,430,733	$1,430,733	$1,430,733	$1,430,733
Developer Split	40%	$0	$0	$0	$0	$27,118	$97,093	$169,388	$244,077	$321,237	$33,557,511
Investor Split	60%	$0	$0	$0	$0	$40,676	$145,639	$254,082	$366,116	$481,855	$50,336,266
Investor Total Return (1)	-$17,884,161	$853,266	$1,006,745	$1,165,338	$1,329,209	$1,471,409	$1,576,372	$1,684,815	$1,796,849	$1,912,588	$51,766,999
Cash On Cash Return		**4.77%**	**5.63%**	**6.52%**	**7.43%**	**8.23%**	**8.81%**	**9.42%**	**10.05%**	**10.69%**	**289.46%**

F112 | Pro-Forma Multi-Year Analysis

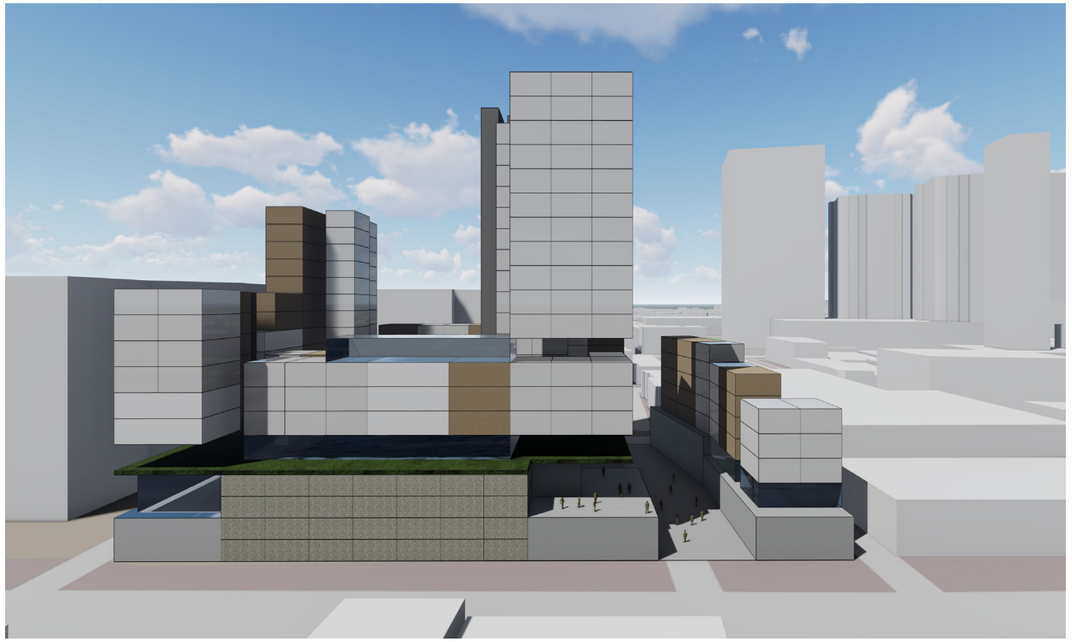
CONCEPT DEVELOPMENT

FORM FLIP

F113 | Concept Form Flip A

Flipping the form allowed the building to face the one-way traffic flow of Grand Ave, opening the public space to the street in a friendlier manner.

F114 | Concept Form Flip B



DESIGN DEVELOPMENT

MID-TERM DESIGN PROGRESS

- *367 Total Residential Units*
  - *219 Studio*
  - *106 1-Bed*
  - *28 2-Bed*
  - *14 Live/Work Lofts*

- *60% of Units are designated for Affordable Housing*
  - *50% for Low Income (80% of local median income)*
  - *30% for Very Low Income (50% of local median income)*
  - *20% for Extremely Low Income (30% of local median income)*

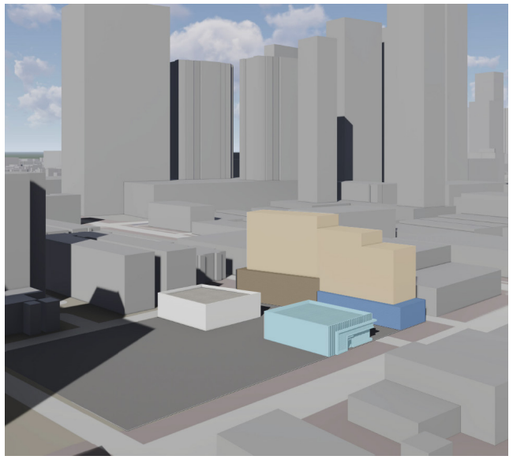
- *Commercial Spaces include:*
  - *Co-Brewery: single taps available for small business brewers*
  - *Shared Kitchen and Restaurant: Commercial Kitchen and Dining*
  - *Co-working Creative Space: art equipment, offices, flex space, etc.*
  - *Café: Local coffee shop to serve South Park and the public paseo*
  - *Offices: Building managers, social case workers and job training facilities*

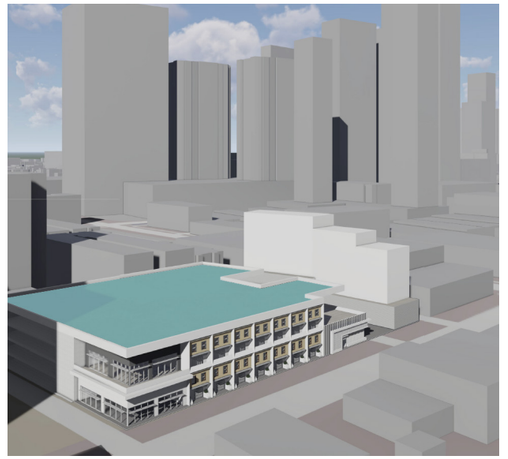
- *Net-Zero Site Energy*
  - *The building will produce at least as much renewable energy as it uses in a year, when accounted for at the site.*

- *Planned Net-Zero Strategies*
  - *Solar Photovoltaic Arrays*
  - *Solar Domestic Hot Water System*
  - *Additional Insulation*
  - *Green Space and Roofs*
  - *Water Reclamation System*
  - *Sun Shading*
  - *Maximum Daylight*
  - *Triple Pane Windows*
  - *Cross-Ventilated Units*
  - *Outdoor Circulation Spaces - hallways and stairs*
  - *Minimizing construction waste - precast concrete*

F115 | Mid-Term Form A

F116 | Mid-Term Form B





F117 | Mid-Term Form Blocking and Stacking

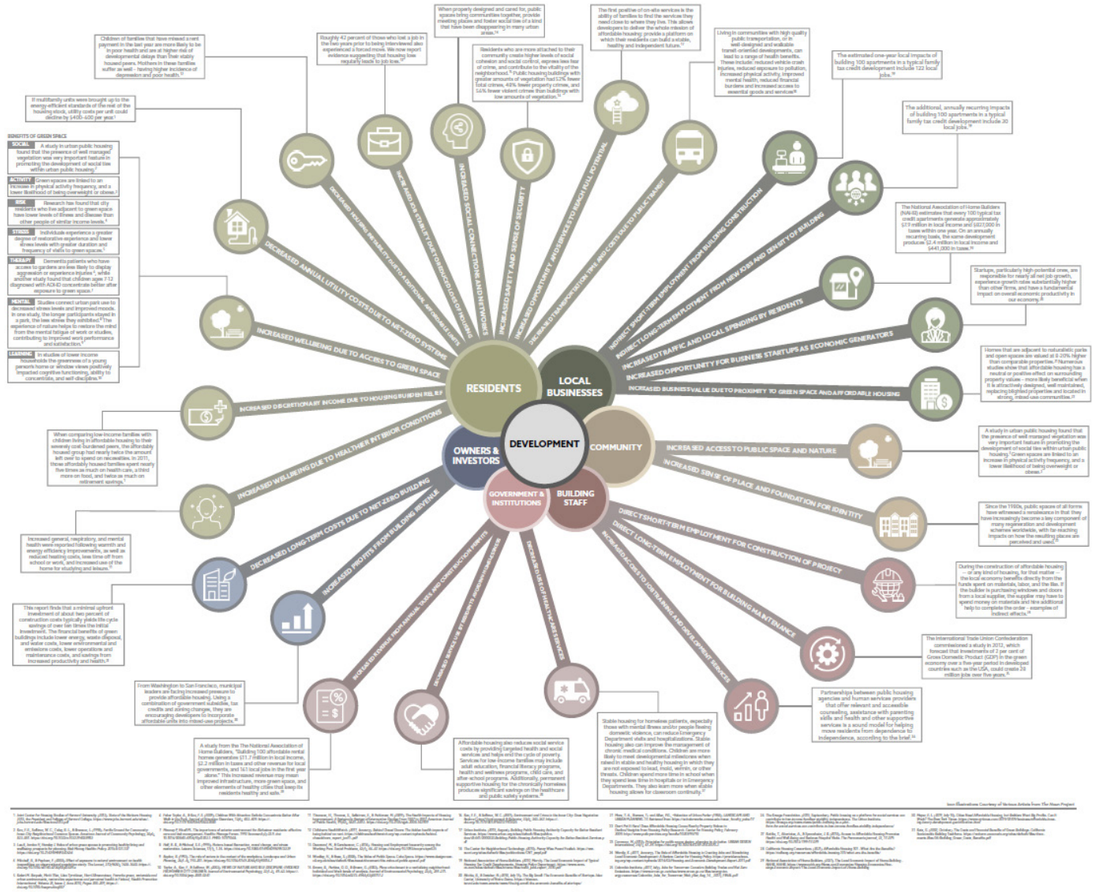
DESIGN DEVELOPMENT

MID-TERM DESIGN PROGRESS

F118 | Mid-Term Renderings

SROI STAKEHOLDER DIAGRAM

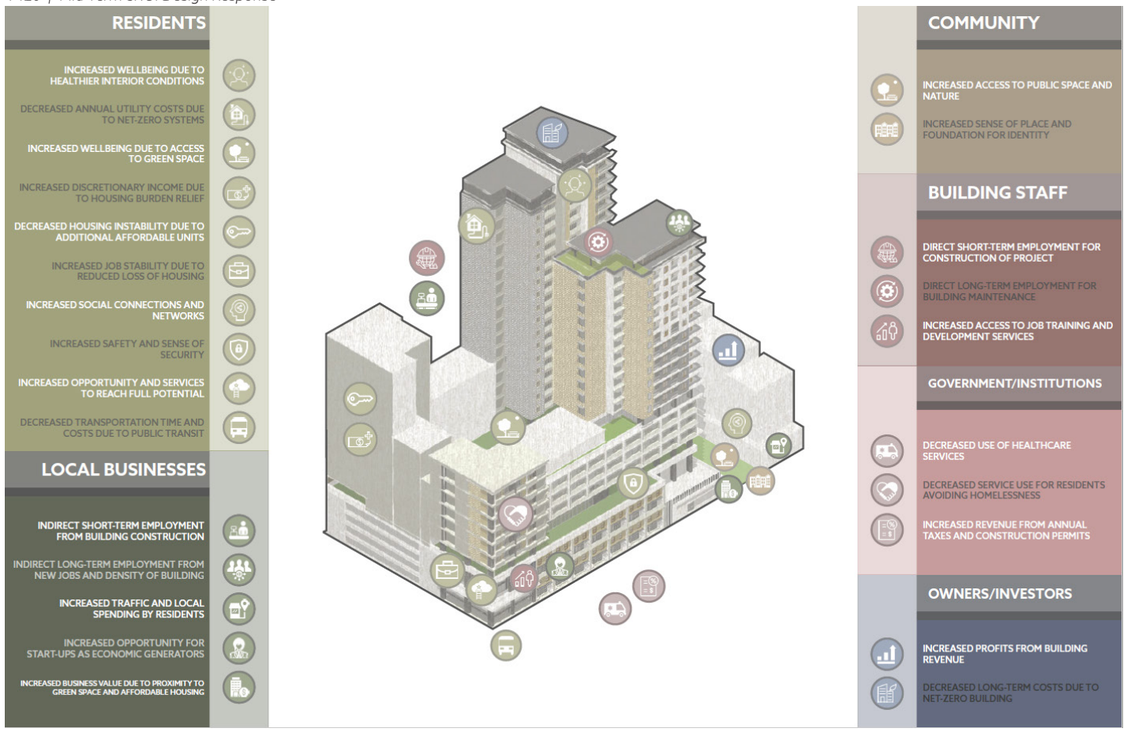
F119 | Mid-Term SROI Diagram



DESIGN DEVELOPMENT

DESIGN RESPONSE DIAGRAM

F120 | Mid-Term SROI Design Response



UPDATED PRO-FORMA

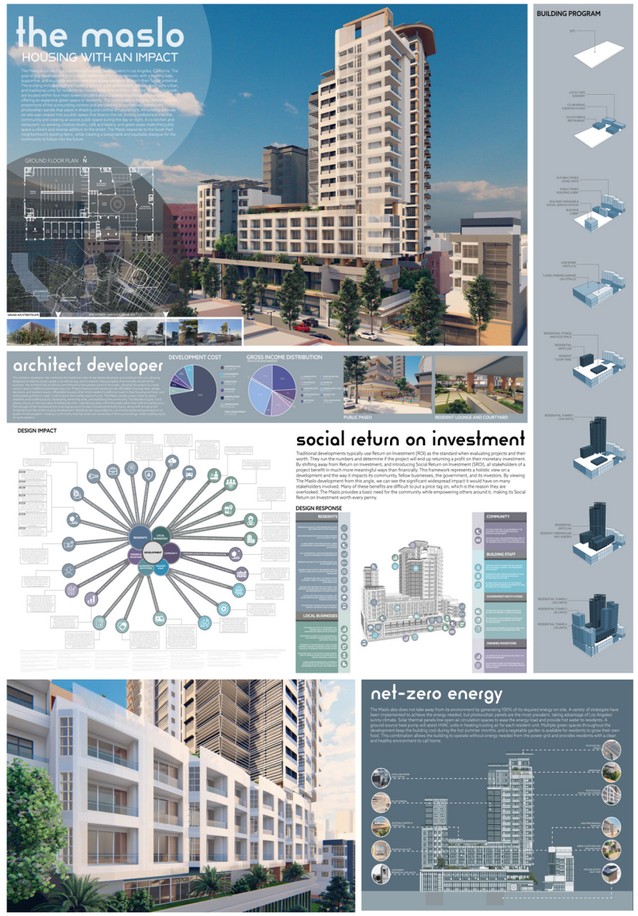
	Year 1	Year 9
Potential Gross Rental Income (PGRI)	$7,173,960	$9,087,758
Vacancy and Collection Loss (5%)	-$358,698	-$454,388
Effective Gross Income	$6,815,262	$8,633,370
Total Expenses (Admin, Operating, Etc.)	-$2,548,934	-$2,986,482
Net Operating Income (NOI)	$4,266,328	$5,646,888
Debt Service (Loans)	-$3,413,062	-$3,413,062
Before Tax Cash Flow (BTCF)	$853,266	$2,233,825

Investor Preferred Return (8%)	$853,266	$1,430,733
Architect-Developer Split (40%)	$0	$321,237
Investor Split (60%)	$0	$481,855
Total Investor Return	$853,266	$1,912,588
Cash on Cash Return	**4.77%**	**10.69%**

F121 | Mid-Term Pro-Forma

FINAL DESIGN SOLUTION

PRESENTATION BOARD

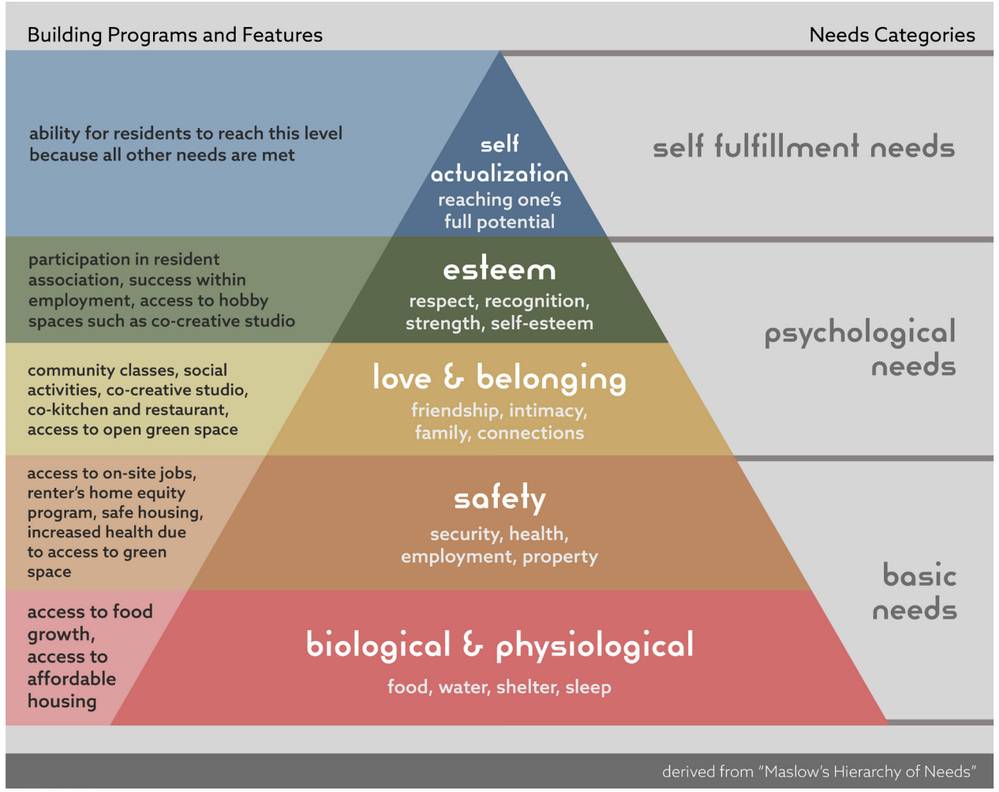


F122 | Presentation Board

THE MASLO

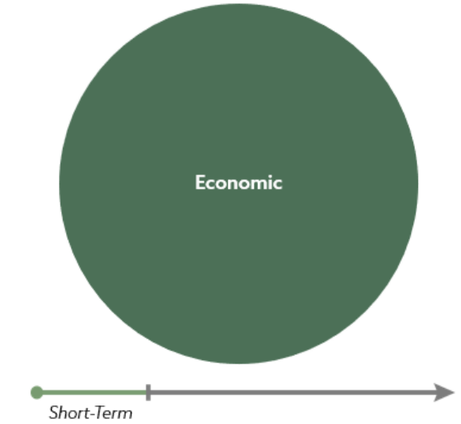
The Maslo is a mixed-use commercial housing development in Los Angeles, California. The goal of this development is to provide residents and the community with a healthy, safe, supportive, and equitable environment that allows everyone to reach their fullest potential. The building includes multiple housing options such as live/work, terrace-level, ultra-urban, and traditional units for residents to choose from to match their lifestyle. These unit types are located within four main towers situated around a central landscaped courtyard, offering an expansive green space to residents. The towers vary in heights, referencing the proportions of the surrounding context and are covered by expressive, translucent, photovoltaic panels that assist in shading and control of natural light. An existing alleyway on-site was created into a public paseo that bisects the lot, inviting pedestrians into the community and creating an active public space during the day or night. A co-kitchen and restaurant, co-working creative studio, café and bakery, and green areas make this public space a vibrant and diverse addition to the street. The Maslo responds to the South Park neighborhood's existing fabric, while creating a sustainable and equitable dialogue for the community to follow into the future.

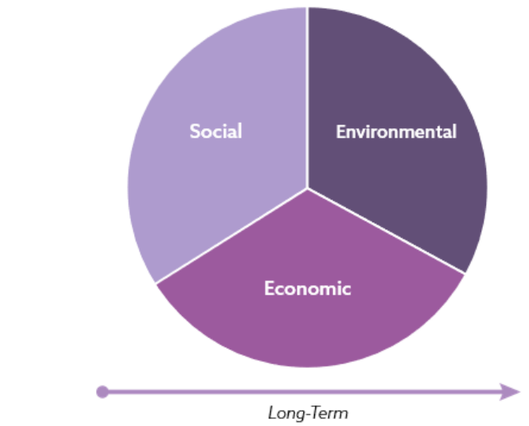
THE MASLO'S FULFILLMENT OF NEEDS



F123 | The Maslo's Fulfillment of Needs

ROI VS SROI

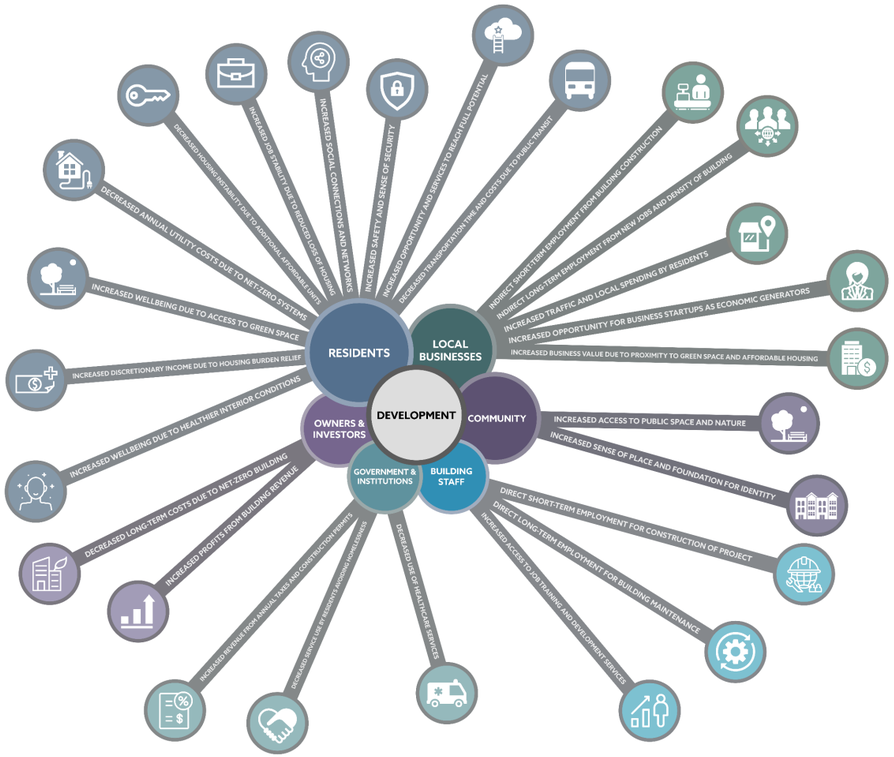




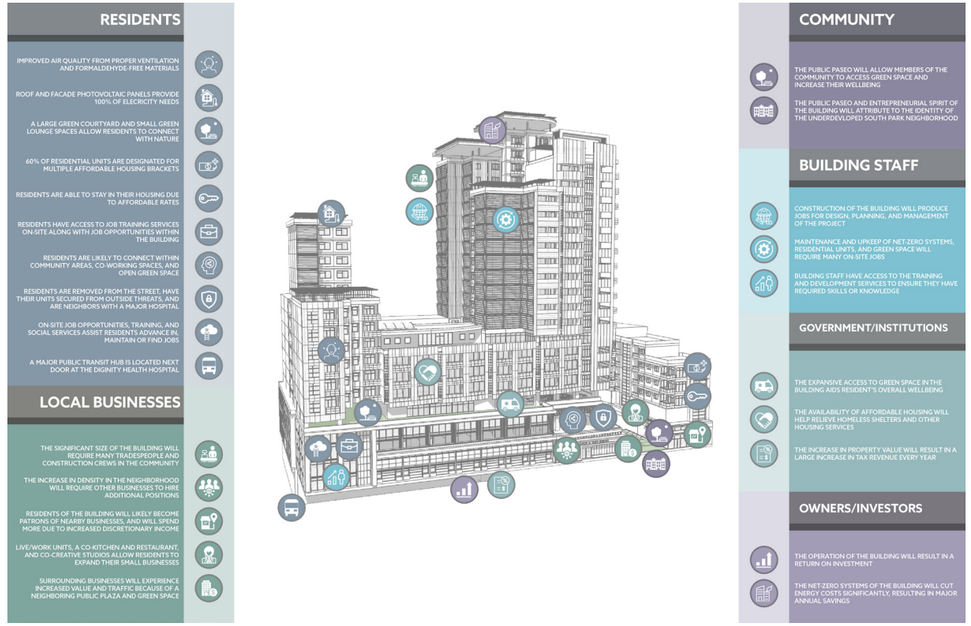
F124 | ROI vs SROI

FINAL SROI DIAGRAM

F125 | Final SROI Diagram



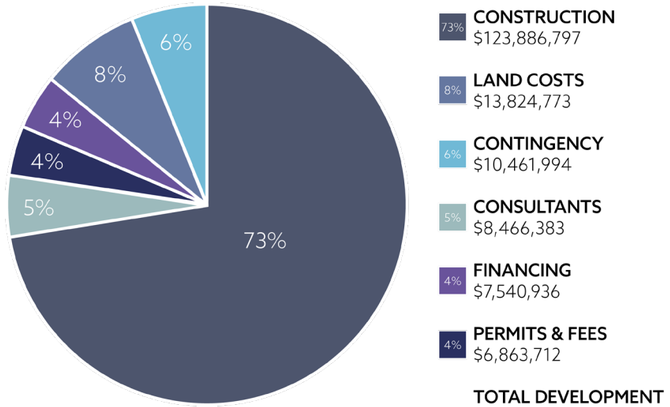
Traditional developments typically use Return on Investment (ROI) as the standard when evaluating projects and their worth. They run the numbers and determine if the project will end up returning a profit on their monetary investment. By shifting away from Return on Investment, and introducing Social Return on Investment (SROI), all stakeholders of a project benefit in much more meaningful ways than financially. This framework represents a holistic view on a development and the way it impacts its community, fellow businesses, the government, and its investors. By viewing The Maslo development from this angle, we can see the significant widespread impact it would have on many stakeholders involved. Many of these benefits are difficult to put a price tag on, which is the reason they are overlooked. The Maslo provides a basic need for the community while empowering others around it, making its Social Return on Investment worth every penny.



F126 | Final SROI Design Response

ARCHITECT-DEVELOPER - COST OF DEVELOPMENT

F127 | Final Cost of Development



CONSTRUCTION
$123,886,797

LAND COSTS
$13,824,773

CONTINGENCY
$10,461,994

CONSULTANTS
$8,466,383

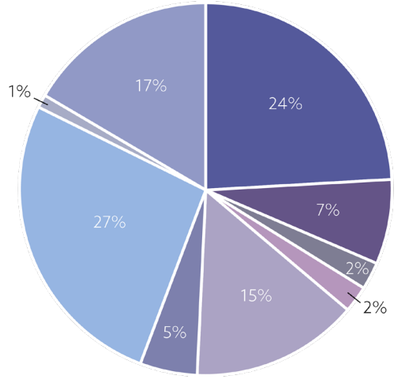
FINANCING
$7,540,936

PERMITS & FEES
$6,863,712

TOTAL DEVELOPMENT
$171,044,595

GROSS INCOME DISTRIBUTION - YEAR 25

F128 | Gross Income Distribution



RESIDENT EQUITY FUND
$3,875,743

VACANCY LOSS
$729,159

DEBT SERVICE
$3,530,237

OPERATING COSTS
$346,166

INVESTORS RETURN
$2,418,524

MAINTENANCE
$334,627

ADMINISTRATIVE
$2,111,612

OWNER FEE
$165,305

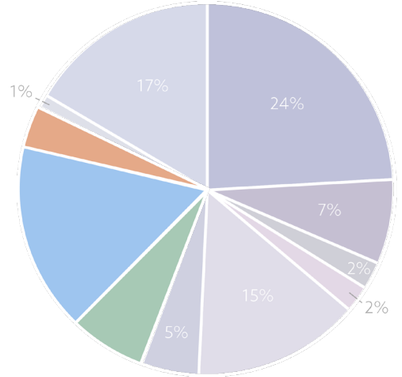
TAXES & INSURANCE
$1,071,809

TOTAL GROSS INCOME
$14,583,184

The architect-developer role combines the traditional roles of real estate developer and architect into one, allowing designers to balance project goals in an ethical way, and to explore unique projects that normally would not be pursued. The architect has an ethical commitment to the greater good of the public, allowing the project to create value in ways a traditional developer may not. Project finances were balanced with affordable housing rates, design decisions, and resident equity. Affordable housing often limits resident's ability to invest in their housing and lives, and while assisting those in need, it still is tied to the market-value of units. The Maslo creates a new model to assist residents with building equity, developing ownership skills, and stabilizing the community. The Resident Equity Fund places a focus on the use-value of residential units, maintaining value within the walls rather than with its market price. Percentages of rent are placed into a savings account for each household to build equity, along with annual profit dividends from the entire housing development. Residents are responsible for community duties and participation to qualify for the program, creating a community that has pride and ownership of their surroundings, while building equity for each resident.

RESIDENT EQUITY FUND

F129 | Resident Equity Fund Breakdown



RESIDENT SAVINGS
77%

IMPROVEMENTS
15%

RESIDENT DIVIDENDS
8%

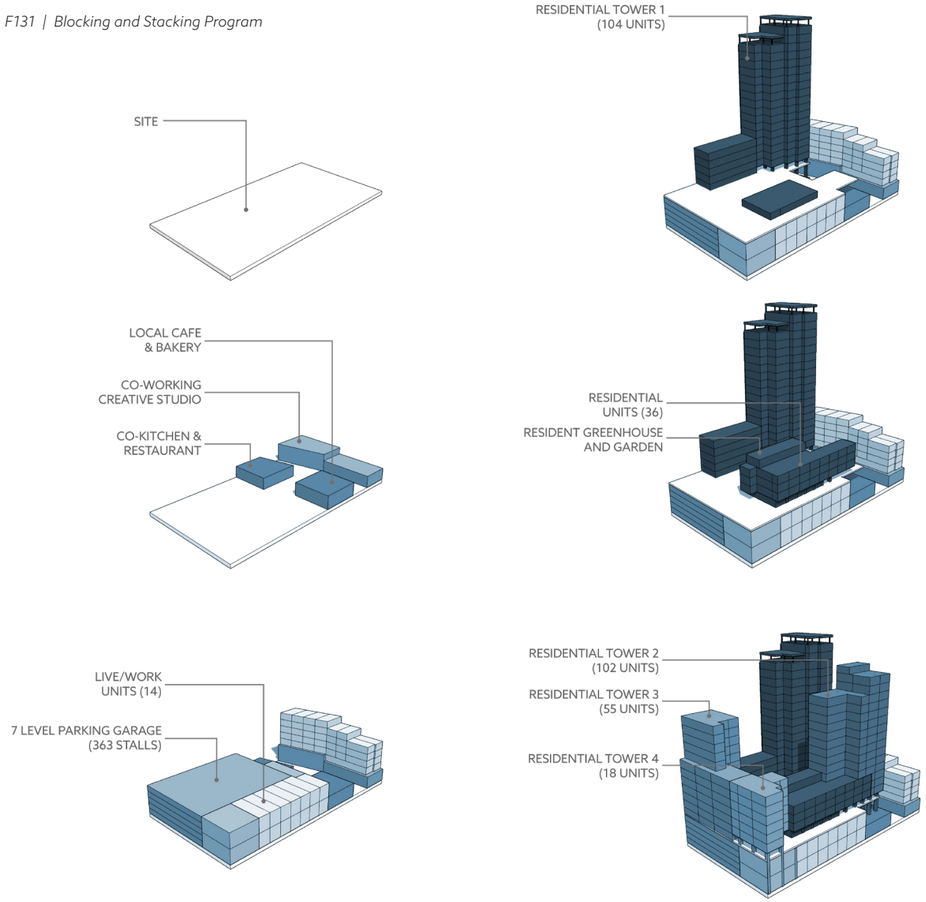
THE MASLO - OVERVIEW

- *383 Total Residential Units*
  - *166 Studio*
  - *130 1-Bed*
  - *73 2-Bed*
  - *14 Live/Work Lofts*
- *60% of Units are designated for Accessible Housing*
  - *50% for Low Income (80% of local median income)*
  - *30% for Very Low Income (50% of local median income)*
  - *20% for Extremely Low Income (30% of local median income)*
- *Commercial Spaces include:*
  - *Shared Kitchen and Restaurant*
  - *Co-Working Creative Space*
  - *Café and Bakery*
  - *Offices*
  - *"Shopkeeper" Live/Work Units*

F130 | The Maslo Overview

BLOCKING AND STACKING PROGRAM

F131 | Blocking and Stacking Program

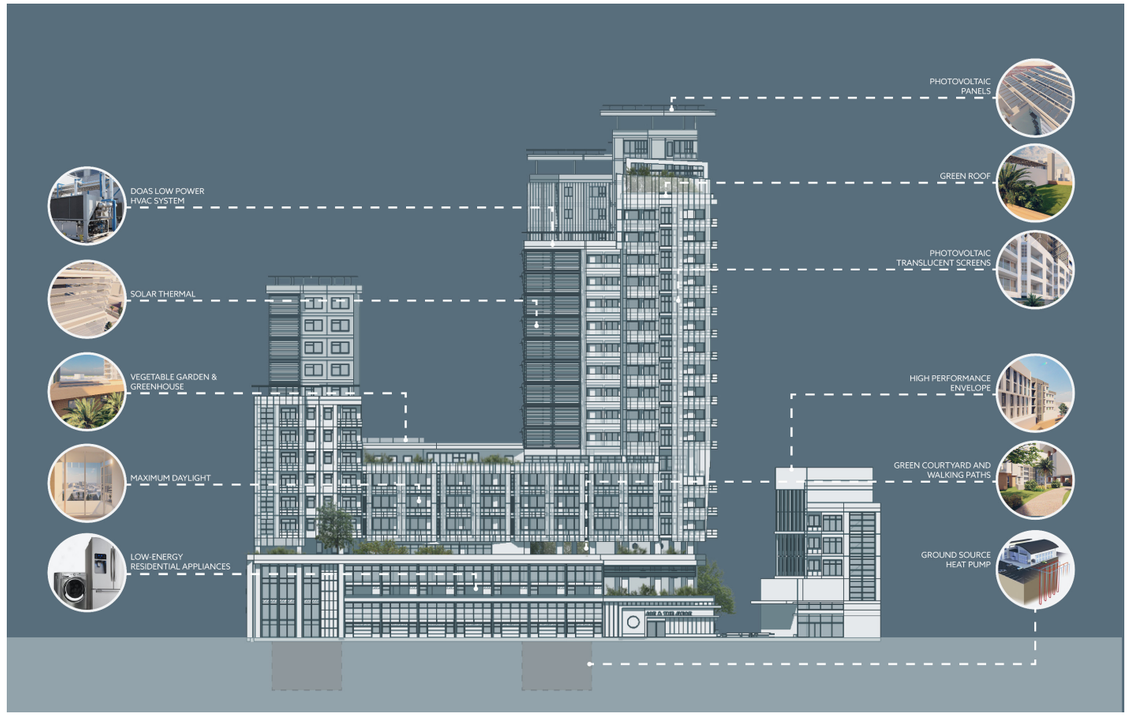


THE MASLO - GROUND FLOOR PLAN

F132 | Ground Floor Plan

F133 | Full Building Rendering

THE MASLO - NET-ZERO SYSTEMS



F134 | Net-Zero Systems

The Maslo also does not take away from its environment by generating 100% of its required energy on-site. A variety of strategies have been implemented to achieve the energy needed, but photovoltaic panels are the most prevalent, taking advantage of Los Angeles' sunny climate. Solar thermal panels line open-air circulation spaces to ease the energy load and provide hot water to residents. A ground-source heat pump will assist HVAC units in heating/cooling air for each resident unit. Multiple green spaces throughout the development keep the building cool during the hot summer months, and a vegetable garden is available for residents to grow their own food. This combination allows the building to operate without energy needed from the power grid and provides residents with a clean and healthy environment to call home.

F135 | Street Facade Rendering

F136 | Public Paseo Rendering

F137 | Courtyard and Lounge Rendering

F138 | Night Rendering 1

THANK YOU

F139 | Night Rendering 2

APPENDIX

REFERENCE LIST

AIA. (2007). Integrated Project Delivery: A Guide. https://info.aia.org/SiteObjects/files/IPD_Guide_2007.pdf

Álvarez-Díaz, R. (2020, February 18). Developers & Architects: Developing an Affordable Housing Partnership. Álvarez-Díaz & Villalón. https://www.alvarezdiazvillalon.com/developers-architects-developing-partnerships-affordable-housing/

Archipreneur. (2019, November 11). Injecting Creativity: Bringing Architectural Imagination to Life. https://archipreneur.com/injecting-creativity-office-of-jonathan-tate/

Archipreneur. (2018, October 8). The Modern Architect-Developer: Benefits of Owning the Entire Process. https://archipreneur.com/architect-developer-owning-the-entire-process/

Archipreneur. (2019, March 3). Archipreneur Interview: Kevin Cavenaugh, Designer & Developer. https://archipreneur.com/archipreneur-interview-kevin-cavenaugh-designer-developer/

Architect Magazine. (2004, November 2). rising star: jonathan segal, faia. https://www.architectmagazine.com/awards/residential-architect-design-awards/rising-star-jonathan-segal-faia_o

Architect's Newspaper. (2011, December 13). Who Cares About Architecture? The Architect's Newspaper. https://www.archpaper.com/2011/12/who-cares-about-architecture/

Artsy, A. (2018, August 1). The high cost of building affordable housing. KCRW. https://www.kcrw.com/culture/shows/design-and-architecture/the-high-cost-of-building-affordable-housing

Bartolacci, J. (2019, February 6). 10 Innovative Affordable Housing Designs For Sustainable Living. Architizer. https://architizer.com/blog/inspiration/collections/affordable-housing/

Beyda, E. (2020, August 26). Affordable Housing Goes Modular in L.A. Built | The Bluebeam Blog. https://blog.bluebeam.com/affordable-housing-modular-homes-la/

Brown, P. H. (2018). How Real Estate Developers Think: Design, Profits, and Community (The City in the Twenty-First Century) (Illustrated ed.). University of Pennsylvania Press.

REFERENCE LIST

Budds, D. (2018, November 12). MRED+D faculty discuss the rise of the architect-developer. UC Berkeley Environmental Design. https://ced.berkeley.edu/events-media/news/mredd-faculty-discuss-the-rise-of-the-architect-developer

Capital Impact Partners. (2012). Project Delivery Options: Pros and Cons. Local Initiatives Support Corporation. https://www.lisc.org/media/filer_public/ea/36/ea36eeda-4969-401a-a6b7-8f47dc801644/er1_project_delivery_options_-_pros_and_cons.pdf

Census Reporter. (2020). Los Angeles Census. https://censusreporter.org/profiles/16000US0644000los-angeles-ca/

Cerezo, D. (2018, June 2). Architect As Developer Series: 01 - Danny Cerezo. Medium. https://medium.com/@csdesignLA/architect-as-developer-series-01-4799ed128353

Construction Industry Institute. (1999). Delivery System Study. Penn State. https://dbia.org/wp-content/uploads/2018/05/Research-Cii-Penn-State-Study.pdf

Egan, S. J. (1998). Rethinking Construction. Construction Task Force. https://constructingexcellence.org.uk/wp-content/uploads/2014/10/rethinking_construction_report.pdf

Eldred, G. W. (2012). Investing in Real Estate (7th ed.). Wiley.

Elkies, L. (2017, October 3). How much they make. The Real Deal New York. https://therealdeal.com/issues_articles/how-much-they-make/

Enterprise & MASS. (2018, January). Good design in affordable housing. Enterprise Community. https://www.enterprisecommunity.org/download?fid=9057&nid=6445

Gil, L., & Peiser, R. (2016, March 29). The Architect as Developer. DesignIntelligence. https://www.di.net/articles/the-architect-as-developer/

GKK Works. (2013, June). Comparison of Project Delivery Methods. https://network.aia.org/HigherLogic/System/DownloadDocumentFileashx?DocumentFileKey=f2d69710-6d8b-4c83-82b2-f755dc513f65

Greene, D. A. (2009, March 17). The Jonathan. Dwell. https://www.dwell.com/article/the-jonathan-0d677165

REFERENCE LIST

Grozdanic, L. (2017, September 14). Architects As Developers: The Pros & Cons. ArchDaily. https://www.archdaily.com/797976/architects-as-developers-the-pros-and-cons

Guerilla Development. (2019). PROJECTS. http://guerrilladev.co/projects#/jolenes-first-cousin/

Hickman, M. (2020, June 23). Holst Architecture completes color-drenched co-housing for low-income Portlanders. The Architect's Newspaper. https://www.archpaper.com/2020/06/holst-architecture-completes-argyle-gardens/

Hoyt, H., & Schuetz, J. (2020, June 18). Thoughtful Design Can Create High-Quality Affordable Multifamily Housing | Joint Center for Housing Studies. Joint Center for Housing Studies of Harvard University. https://www.jchs.harvard.edu/blog/affordable-housing-doesnt-have-to-look-cheap-inside-or-out

Kenney, A. (2018, September 28). Denver's banning slot homes. 6 illustrations show what could come next. Denverite. https://denverite.com/2018/05/07/denver-slot-home-replacements/

Konchar, M., & Sanvido, V. (1998). Comparison of U.S. Project Delivery Systems. American Society of Civil Engineers. https://ascelibrary.org/doi/pdf/10.1061/%28ASCE%290733-9364%281998%29124%3A6%28435%29

Kulkarni, A., Rybkowski, Z. K., & Smith, J. (2012). Cost comparison of collaborative and IPD-like project delivery methods versus non-collaborative project delivery methods. OAKTrust, Full Text. https://oaktrust.library.tamu.edu/handle/1969.1/152155

Language Network. (2019, June 18). The History of California's Population Diversity. https://www.languagenetworkusa.com/blog/the-history-of-californias-population-diversity

Los Angeles City Planning. (2020). Zoning Introduction. https://planning.lacity.org/zoning/overview

Livesey, G. (2011, July 1). The Architect as Developer. Canadian Architect. https://www.canadianarchitect.com/the-architect-as-developer/

REFERENCE LIST

McCurley, T., & Powell, S. (2014, June 23). Power of IPD: Is integrated project delivery truly a transformative.

Building Design + Construction. https://www.bdcnetwork.com/power-ipd-integrated-project-delivery-truly-transformative-delivery-model

McKnight, J. (2019, June 6). OJT completes sculptural affordable housing in New Orleans. Dezeen. https://www.dezeen.com/2019/05/28/saint-thomas-at-ninth-condo-development-ojt-new-orleans-housing/

Meares, H. (2018, April 20). Los Angeles history 101. Curbed LA. https://la.curbed.com/2018/4/20/17016988/los-angeles-history-timeline-facts-earthquakes

Millhouse, J. A. (2005, September). Assessing the Effect of Architectural Design on Real Estate Values: A Qualitative Approach. Massachusetts Institute of Technology. https://dspace.mit.edu/bitstream/handle/1721.1/33195/66140875-MIT.pdf?sequence=2&isAllowed=y

Morley, J. B. (2017, November 6). Young Architect Guide: Every Type of Affordable Housing, Explained. Architizer. https://architizer.com/blog/practice/details/affordable-housing-101/

Mostafavi, M. (2017). Portman's America: & Other Speculations. Lars Müller.

Peiser, R. B. (2019). Professional Real Estate Development: The ULI Guide to the Business (Third Edition, Third edition). Urban Land Institute.

Petty, J. (2018). Architect & Developer: A Guide to Self-Initiating Projects (1st ed.). CreateSpace Independent Publishing Platform.

Plitt, A. (2015, September 23). Sleek Wood-Accented Condo Coming to Industrial Gowanus. Curbed NY. https://ny.curbed.com/2015/9/23/9918534/sleek-wood-accented-condo-coming-to-industrial-gowanus

Portman, J. C., & Barnett, J. (1976). The Architect as Developer (1st U.S.-1st Printing ed.). McGraw-Hill.

Red Club. (2014, November 18). The Architect as Developer, Panel Discussion 11/5 Harvard GSD [Video]. YouTube. https://www.youtube.com/watch?v=va8ZskHhXm4&feature=emb_title

REFERENCE LIST

Stevens, Ben. (2017, January 12). Episode 15: The Master Builder [Video]. YouTube. https://www.youtube.com/watch?v=r7UT--CAS1g&feature=emb_title

Shaver, L. (2016, January 22). Architects as developers. Multifamily Executive. https://www.multifamilyexecutive.com/design-development/architects-as-developers_o

Urban Omnibus. (2018, March 8). What Can Architects Do? https://urbanomnibus.net/2018/03/what-can-architects-do/

Watts, J. (2020, April 24). As Coronavirus Magnifies America's Housing Crisis, FDR's New Deal Could Offer a Roadmap Forward. Time. https://time.com/5826392/coronavirus-housing-history/

REFERENCE LIST

PREVIOUS STUDIO EXPERIENCE

2ND YEAR

2017 FALL | *MILTON YERGENS*

Projects — Tea House | Moorhead, Minnesota
Boat House | Minneapolis, Minnesota

2018 SPRING | *CINDY URNESS*

Projects — Single Family Dwelling | Marfa, Texas
Birdhouse | Fargo, North Dakota
Multi-Family Apartment | Fargo, North Dakota

3RD YEAR

2018 FALL | *PAUL GLEYE*

Projects — Fargo Visitors Center | Fargo, North Dakota
Student Mixed-Use Building | Fargo, North Dakota

2019 SPRING | *REGIN SCHWAEN*

Projects — Movable Steel Workshop | Fargo, North Dakota
Native American Art Museum | Moorhead, Minnesota

4TH YEAR

2019 FALL | *DAVE CRUTCHFIELD*

Project — Miami High Rise | Miami, Florida

2020 SPRING | *PAUL GLEYE*

Project — Brussels Urban Renewal Study Abroad | Brussels, Belgium

5TH YEAR

2020 FALL | *LANCE JOSAL*

Project — Fenway Park Redesign | Boston, Massachussetts

2021 SPRING | *JENNIFER BRANDEL*

Project — Architect Developer Thesis Design | Los Angeles, California

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