

## ABSTRACT

Title of Thesis: THE PROMISE OF SMALL CITIES: CONNECTING URBAN RESIDENTS WITH THE ENVIRONMENT AND THEIR COMMUNITY IN PORTLAND, MAINE.

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As modern American society has progressed, the need to live less expansively, more conscientiously, and more sustainably has become increasingly clear. Meanwhile, reliance on technology has driven urban residents to become further distanced from the environment, and further dissociated from their communities and local cultural traditions. Over the last 50 years, those interested in maintaining and fostering connections to the outdoors and a specific community have largely sought fulfillment in the suburban landscape. While, in recent decades, it has been recognized that the suburban residential model cannot be sustained, urban housing remains deficient. In order to acknowledge both the value of urban living and the potential for learning from the appeal of suburbia, it is incumbent upon designers to explore housing and amenities that better address the needs of the 21<sup>st</sup> century multi-family resident. This thesis aims to restore situational awareness of climate, community, and cultural traditions, by marrying opportunities for building community with higher density residences that have a strong emphasis on outdoor spaces.

THE PROMISE OF SMALL CITIES:  
CONNECTING URBAN RESIDENTS WITH THE ENVIRONMENT  
AND THEIR COMMUNITY IN PORTLAND, MAINE

by

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Master of Architecture, 2012

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# 1 | INTRODUCTION

## URBAN LIVING: INQUIRY AND CHALLENGE

In the United States, suburban sprawl is pandemic. The unchecked growth of the suburban fabric has led to the demise of the city as it was once known, and signaled the ultimate fracturing of the nation as a whole. Ethnic populations are more segregated, socio-economic groups are further divided, and transportation routes are under-sized and under-funded.<sup>1</sup> Given continued population growth, the current paradigm of American human settlement cannot (and should not) be sustained.

Statistically, the population of the United States currently stands at approximately 300 million. Of that, 50% (or 150 million) live in the suburbs.<sup>2</sup> Of the remainder, 17% (or roughly 50 million) live in rural areas, and 33% (or roughly 100 million) live in inner cities.<sup>3</sup> As population densities have shifted to the suburban perimeters of their parent cities, land consumption has outpaced population growth by a rate of nearly 50%.<sup>4</sup> This loss of arable land and healthy forest highlights yet another flaw in the suburban model.

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<sup>1</sup> Duany, Andres, Elizabeth Plater-Zyberk and Jeff Speck. *Surburban Nation: The Rise of Sprawl and the Decline of the American Dream*. New York: North Point Press, 2000.

<sup>2</sup> "US Population now 300 Million and Growing." CNN US, October 17, 2006. <[http://articles.cnn.com/2006-10-17/us/300.million.over\\_1\\_total-population-households-census-bureau?\\_s=PM:US](http://articles.cnn.com/2006-10-17/us/300.million.over_1_total-population-households-census-bureau?_s=PM:US)>

<sup>3</sup> "Rural Population and Migration." USDA Economic Research Service. Updated September 30, 2009. <<http://www.ers.usda.gov/Briefing/Population/>>

<sup>4</sup> Squires, Gregory D. "Urban Sprawl and the Uneven Development of Metropolitan America." In *Urban Sprawl: Causes, Consequences & Policy Responses* edited by Gregory D. Squires. Washington, DC: The Urban Institute Press, 2002.



As is well known within the architecture community, the construct of suburbia is primarily a consequence of the post-World War II National Housing Act (1945) and President Eisenhower's Federal Highway Act (1956).<sup>5</sup> These policies, coupled with a growing impression (and in some cases, reality) that urban environments were unsafe, unhealthy, and underserved, prompted the mass-evacuation of residential quarters long-established in cities big and small.<sup>6</sup> Today, faced with the resonating realities of this mass-desertion and consequential inefficient land uses and social segregation, architects must fully reverse the 50-year trend, and make a reasonable argument for once-again inhabiting the cities.

Indeed, the argument has already begun. Initiated by the 1970's energy crisis, and furthered by acknowledgement through the 1980's and 1990's that the suburban approach was severely flawed, architects, planners, sociologists, and developers began to unify their efforts in studying potential methods of restoring urban culture. From a development standpoint, notions such as new urbanism, smart growth, and transportation-oriented development have sought to achieve higher densities, tighter communities, and localized amenities. In terms of economics, theories also abound, such as the investment in urban arts districts and a "creative economy."

This thesis, then, strives to arrive at feasible answers to the following questions: How might city planners and designers retain or re-establish a city's "character"? How do these professionals combat the imagined idyllic settings of

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<sup>5</sup> Duany, Andres, Elizabeth Plater-Zyberk and Jeff Speck. *Surburban Nation: The Rise of Sprawl and the Decline of the American Dream*. New York: North Point Press, 2000.

<sup>6</sup> Bartlett, Randall. *The Crisis of America's Cities*. Armonk, New York: M.E. Sharpe, Inc., 1998.

the allegedly bucolic suburban landscape, and espouse the merits of the dense, accessible, amenity-rich urban setting? How do architects create community in an environment often perceived to be isolating, frenetic, and dangerous? How do architects create spaces that are not only palatable to the suburban dweller, but demonstrate the added value of living in urban settings, while retaining characteristics believed to be obtainable in suburbia alone?

In an effort to address these questions, this thesis intends to justify the establishment a new district in Portland, Maine. The new district is derived from existing conditions that are currently loosely connected but ill defined. It is introduced on the premise of the potential of the creative economy and the establishment of specified neighborhoods within an urban fabric. The designation of a district galvanizes an area, lending it identifiable character that otherwise is lost on incoherent freestanding developments.

This district is to be anchored by a new structure or small collection of structures that celebrate the vibrancy of the city's historic character while exploring new ideas for urban dwellings. To distinguish the newly designated sector within the city, a new building typology is introduced. The design for the structure, or structures, is derived from an investigation into local building typologies, contextual materials, spatial relationships, lifestyles, and industry precedents. Through material choice and spatial clarity, the resulting architectural intervention itself thus defines and establishes the character of the new district.

The structure's primary program is residential. The investigation into residential spaces in the urban context is paramount to the findings of this thesis,

as only these spaces can fully support the effort of drawing families and suburbanites back into the urban fabric. Two critical considerations for these units include strong connections to the outdoors, and provisions for access to external project, garden, or creative spaces, possibly shared by the greater Portland Community. For without carefully conceived dwelling units, valiant efforts to reframe urban living and revitalize urban quarters may well be futile.

## 2 | THEORIES ON URBAN ENDURANCE

### THEORY \_\_\_\_\_THE CREATIVE ECONOMY

Confronted with the prodigious task of rejuvenating derelict urban cores, design professionals have postulated innumerable mechanisms for effecting change, and have applied their ideas with mixed success. One theory that has emerged over the last two decades is the notion that investment into cultural institutions can lend credibility and character to a place, rendering it more desirable and thus kick-starting its local economy. In 2004, with his book *The Rise of the Creative Class*, Richard Florida gave this theory a name: the creative economy.<sup>7</sup>

After its evident success in cities both large and small, planning departments began getting behind the idea of the creative economy, and started applying tax money, incentives, and energy toward bolstering their creative and cultural entities. In Portland's Economic Development plan released in August of 2011, "Enriching the Creative Economy," heads one of the three primary chapters. Under the "Guiding Principles + Vision" subsection of this chapter, the plan calls for city officials to, "value innovation, entrepreneurship, creativity, arts, culture, and entertainment to improve the economy and enhance Portland's uniqueness and diversity."<sup>8</sup> That the concept has made it into the very basis for

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<sup>7</sup> Florida, Richard. *The Rise of the Creative Class: and How It's Transforming Work, Leisure, Community, and Everyday Life*. New York, NY: Basic Books, 2004.

<sup>8</sup> *Economic Development Vision + Plan, Portland Maine*. Portland, Maine Economic Development Division. <<http://www.portlandmaine.gov/>>

city planning efforts suggests not only its widespread appeal, but also its practical efficacy.

Indeed, it would appear that investment into the arts and cultural institutions has been a tremendous success in Portland. In her article, “Gentrifying Down the Urban Hierarchy,” Loretta Lees found that investment in the creative economy had contributed significantly to Portland’s urban renaissance. She noted that Portland’s Arts District’s saw that, “between 1997 and 2002, employment in the arts entertainment and recreation industries in Portland increased by 89 percent within the Portland metropolitan service area, compared with just 16 percent nationally over the same period. Thus the arts and creative industries have provided one of the mainstays for growth in downtown Portland since the last recession.”<sup>9</sup> Such numbers suggest Richard Florida’s theory may in fact be substantive.

Florida may well have been the first to coin a clear term describing the idea, but as Loretta Lees’ analysis demonstrates, many others have proffered similar theories on the growing potential of socially and culturally driven economies. In *City of Quarters*, editors David Bell and Mark Jayne note that today’s urban revitalization is, “a post-industrial economy based on the interrelated production of such economic and cultural symbols and the spaces in which they are created and consumed. As such, ‘sociability, urban lifestyles and social identities are not only the result, but also the raw materials of the growth of

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<sup>9</sup> Lees, Loretta. “Gentrifying down the Urban Hierarchy: ‘The Cascade Effect’ in Portland, Maine.” In *Small Cities: Urban Experience Beyond the Metropolis*, edited by David Bell and Mark Jayne, 91-104. New York: Routledge, 2006.

the symbolic economy.”<sup>10</sup> These “spaces in which [economic and cultural symbols] are created and consumed,” are critical to establish. Though sometimes limited to a given building space, they are quite often more expansive – comprising a given quarter of a cityscape: i.e., a district.

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<sup>10</sup> Bell, David and Mark Jayne. “Conceptualizing the City of Quarters.” In *City of Quarters: Urban Villages in the Contemporary City*, edited by Bell and Jayne. Burlington, Vermont: Ashgate Publishing Company, 2004, 7.

## THEORY \_\_\_\_\_ URBAN DISTRICTS



Figure 1. Map of New York City's Neighborhoods.  
(Source: [www.nycfourtourist.com](http://www.nycfourtourist.com))

Those quarters that have shown greatest success in economic growth and urban revitalization are those that have been, either officially or not, *named districts*. The more famous districts to demonstrate the economic and cultural potential of specified urban zones include, “New York’s SoHo, the Pearl District of Portland, Oregon, London’s Shoreditch...Liverpool’s Old Haymarket or Toronto’s King-Spadina district.”<sup>11</sup> These are districts that, defined by the character of their historic

manifestations, were repurposed to become invigorated urban neighborhoods.

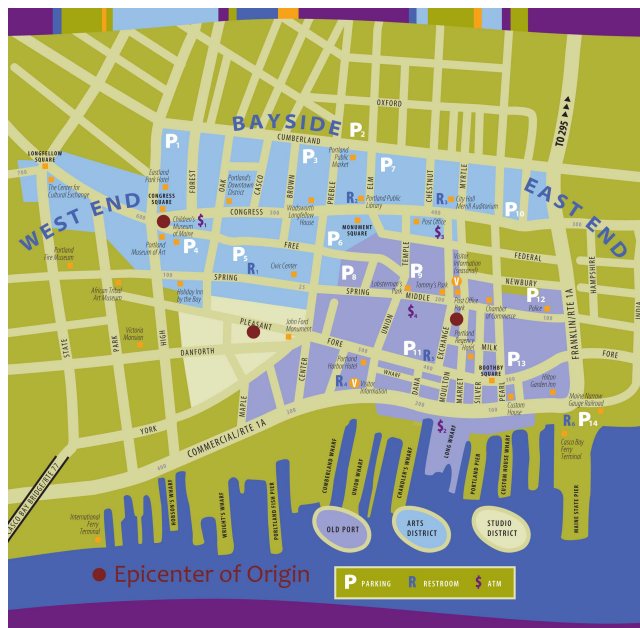
In addition to SoHo, several of New York’s distinct and vibrant districts owe Jane Jacobs a debt of gratitude, as she fought the urban renewal project that “would have wiped out what we know today as SoHo, Little Italy, Chinatown, and much of Greenwich Village.” It is unthinkable to imagine New York without any one of these entirely unique neighborhoods. It is also difficult to imagine what the economic and social fabric of New York might look like without them. After all, “in recent decades SoHo has been the birthplace of many new businesses, providing great creativity and residential opportunities for artists and

<sup>11</sup> Gratz, Roberta Brandes. “Authentic Urbanism and the Jane Jacobs Legacy.” In *Urban Villages and the Making of Community*, edited by Peter Neal 17-29 (19). New York: Spon Press, 2003.

artisans, single and married, young and old, immigrant and native.”<sup>12</sup> New York is indeed a relevant and worthy case study for the analysis of creative urban neighborhoods.

Given the demonstrative potential for economic and social vitality in distinct urban districts, this thesis proposes that the establishment of a new district within downtown Portland further strengthen its urban core. Indeed, the potential for positive growth through “districting,” has already been shown in Portland. Two primary districts, and a third and lesser district, make up the current economic center of the city’s downtown.

The first of these three to establish itself was that of Portland’s popular “Old Port.” Out of individual entrepreneurship and sweat equity, The Old Port’s



**Figure 2. Existing named districts of downtown Portland. Note epicenters of origin.**<sup>15</sup> (source: [www.portlandmaine.gov](http://www.portlandmaine.gov))

revitalization began in the early 1970’s. Approximately ten years after this portion of the city began its rebirth, activity around Congress Street (the primary commercial artery in early 20<sup>th</sup> century) began to focus around art museums and galleries. In 1996, the city of Portland

elected to get involved, by formally creating the Portland

<sup>12</sup> Gratz, Roberta Brandes. “Authentic Urbanism and the Jane Jacobs Legacy.” In *Urban Villages and the Making of Community*, edited by Peter Neal 17-29 (24). New York: Spon Press, 2003.



Arts District. Portland's city officials thereby publicly affirmed the value of tying cultural institutions to urban regeneration.<sup>13</sup>

The move galvanized this sector of the city, instigating a ripple effect of investment in the arts and economic growth along a corridor otherwise strained by the economic conditions of the day:

*Thus the arts and creative industries have provided one of the mainstays for growth in downtown Portland since the last recession. Under the auspices of the Arts District, investment in downtown Portland began to spread up the slope from the Old Port and along Congress Street during the mid-1990s<sup>14</sup>*

Development and growth within and between nodes is thus stimulated because of the desirability to locate within a specific area.

Despite these sectors of growth and success, many portions of the adjacent areas remain vacant or poorly utilized. A great deal of urban land is available for infill and restoration, thanks, perhaps, to the lack of definition and connection within these areas. Herein lies the potential for the establishment of a new district – one that correlates to both existing condition and the historical identity of the city. Given the growth seen between the Arts District and the Old Port, it logically follows that establishing new nodes might prompt further economic, creative, and residential growth.

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<sup>13</sup> Lees, Loretta. "Gentrifying down the Urban Hierarchy: 'The Cascade Effect' in Portland, Maine." In *Small Cities: Urban Experience Beyond the Metropolis*, edited by David Bell and Mark Jayne, 91-104. New York: Routledge, 2006.

<sup>14</sup> Lees, Loretta. "Gentrifying down the Urban Hierarchy: 'The Cascade Effect' in Portland, Maine." In *Small Cities: Urban Experience Beyond the Metropolis*, edited by David Bell and Mark Jayne, 91-104. New York: Routledge, 2006.

## THEORY \_\_\_\_A MARITIME DISTRICT

### The Backstory

The city of Portland incorporated in 1786, after splitting from the expansive original English settlement of Falmouth.<sup>15</sup> The protected but easily navigable harbor well served New England's burgeoning timber, ice, and agricultural trade with Canada, England, and the East Coast. As railways and highways ultimately overtook waterways for the transport of goods and passengers, Portland's working harbor gave over to activity based around its lobster fisheries and industrial freight shipping.

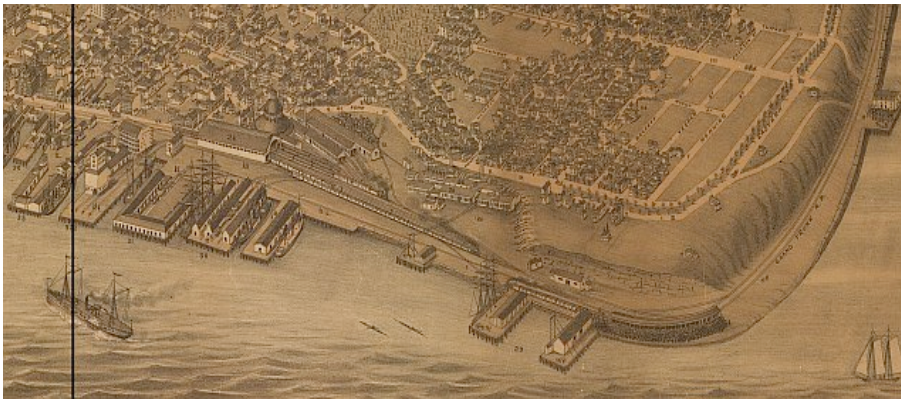


Figure 3. Aerial view of Southeast Edge of Portland Peninsula, circa 1876.<sup>16</sup>  
(Source: [www.sullboat.com](http://www.sullboat.com))

Meanwhile, in the 20<sup>th</sup> century, Portland became the supplies and access hub for the leisure class that sought summer getaways on Casco Bay's islands. It also emerged as a popular home-base for recreational sailors and fisherman.

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<sup>15</sup> Conforti, Joseph A. "Introduction: Placing Portland." In *Creating Portland, History and Place in Northern New England*, edited by Joseph A. Conforti, xi-xxxi. Lebanon, New Hampshire: University of New Hampshire Press, 2005.

<sup>16</sup> Grand Trunk Railway Historical Images Webpage. Updated October 18, 2008.  
[http://www.sullboat.com/GT\\_images.htm](http://www.sullboat.com/GT_images.htm).

In recent years, the tourist-based economy has expanded to include massive cruise ships – 65 of which visited Portland in the Summer of 2011.<sup>17</sup>

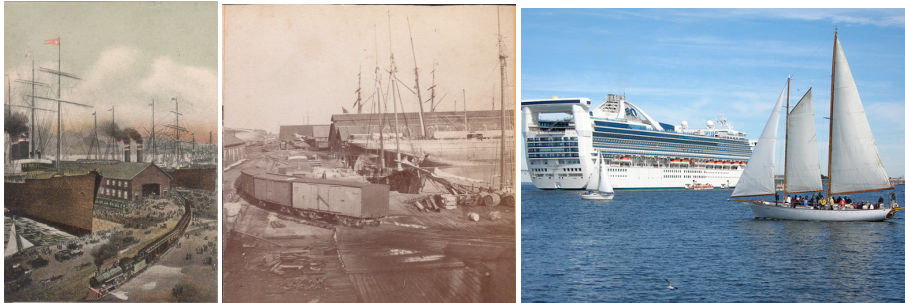


Figure 4. [Left & Center] Portland's waterfront during its heyday of shipping during the 1870s [Right]: The waterfront today (right). (Sources: [www.sullboat.com](http://www.sullboat.com) for L&C, [www.portlandschooner.com](http://www.portlandschooner.com) for R)

From the early days of shipping goods to the contemporary era of fishing, leisure, and tourism, the vast majority of ship traffic has focused around the southeast shoreline of downtown Portland, where the Maine State Pier and Ocean Gateway Pier now stand. Respectively, these piers serve the Casco Bay Lines passenger and car ferry services, and the cruise liners and Nova Scotia Ferry traffic – the majority of large passenger vessel traffic for the city.

Additionally, only slightly to the east of Ocean Gateway, remain the original Portland Company warehouses. What once housed a massive complex that included a foundry, machine shop, and warehouses centered around the manufacture of steel ships, locomotives, and parts for the Panama canal, is now the epicenter of Portland's non-profit marine and maritime education organizations that cater to sail training, kayaking, and small boat repairs and

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<sup>17</sup> Trotter, Bill. "Maine's 2011 Cruise Ship Season Winds Down," *Bangor Daily News*, October 28, 2011, accessed November 14, 2011, <http://bangordailynews.com/2011/10/28/business/maine%E2%80%99s-2011-cruise-ship-season-winds-down>.

moorage.<sup>19</sup> Only slightly inland from these edge amenities sit several blocks of vacant lots, warehouses, empty historic buildings, and a smattering of small businesses and food establishments.



Figure 5: Map showing area of interest for new district. (Map source: [www.bing.com](http://www.bing.com))

In the current era of globalization, cities and regions are working to identify what sets them apart from other places in the world, and capitalizing on it. Given the extent of Portland's maritime history, it is logical to conclude that maritime culture typifies, at least in part, Portland's identity. It is surprising then, to note that few aspects of the city strongly reflect this connection to its maritime identity. The Old Port, in name, makes vague reference to the city's past, but in reality is

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<sup>19</sup> The Portland Company Website. Accessed November 17, 2011. <http://www.portlandcompany.com/>

a collection of bars, restaurants and shops that embrace the historic buildings, but otherwise defers reference to the waterfront to passive sight lines or ornamental appliqué. In the introduction to his book, Joseph Conforti agrees that the Old Port is left wanting: “Yet, for all of its seeming authenticity, the Old Port is a burnished place. It is a landscape of consumption – a spiffed up postindustrial place very different from the peninsula’s historic prominence as a regional distribution, processing, and manufacturing center.”<sup>20</sup> The Old Port is extremely valuable as an economic engine for the city, but as a collection of former warehouses and foundries inwardly focused on the street fronts, it does not make a specific connection to Portland’s working waterfront. The art and studio districts, though relevant and vibrant, are a further departure from the city’s water based economic and social heritage.

A bona fide maritime district, then, would serve the city well. The ill-defined largely vacant sector that fronts on the southeast shore of the city is an apropos and ready setting. What is critical, however, is developing a means of establishing and defining this district without allowing it to be contrived or commercialized.

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<sup>20</sup> Conforti, Joseph A. “Introduction: Placing Portland.” In *Creating Portland, History and Place in Northern New England*, edited by Joseph A. Conforti, xi-xxxi. Lebanon, New Hampshire: University of New Hampshire Press, 2005.



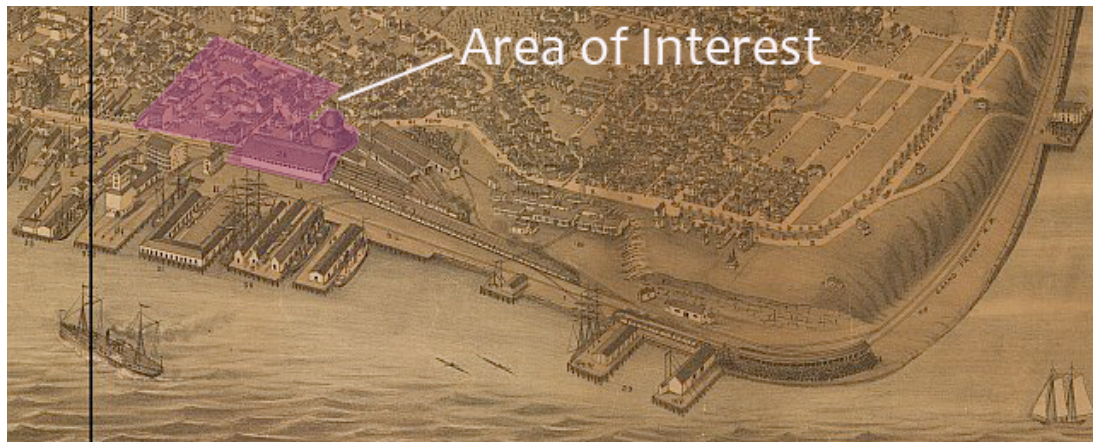


Figure 6. Designated area for new maritime district, as referenced to Portland's Eastern Waterfront circa 1876 . (Sources: [www.sullboat.com](http://www.sullboat.com))

## The Argument

The identification of a sector that reinforces the city's uniqueness and cultural heritage well supports prevailing notions regarding urban revitalization.

As noted by Bell and Jayne,

*[E]ach city strives to identify/promote itself with reference to unique activities, places, events or people associated with its city/region/country. In order to compete, the ability of cities to innovate and attract the widest variety of symbolic and economic activities, new spectacular experiences, events and spaces of consumption, is paramount.<sup>21</sup>*

Having identified where a district belongs, and what its overarching character will be, the next challenge is to simultaneously govern its inception while allowing its growth to be dynamic and organic.

These connections to character must be organic, and derived from logical circumstances of every individual space and use. Simply declaring that a city “needs” a given district does not suffice. It must have remnants that already

<sup>21</sup>Bell, David and Mark Jayne. “Conceptualizing the City of Quarters.” In *City of Quarters: Urban Villages in the Contemporary City*, edited by Bell and Jayne. Burlington, Vermont: Ashgate Publishing Company, 2004.

exist, and these remnants must be supported by the psychology of its residents. As discussed, this is indeed the case in the area of the city where the project is sited. Although the connection to place and its history exists, the danger is in overstepping the bounds of reference into the realm of mockery:

*Some cultural quarter initiatives attend to the multidimensional, place-specific, yet trans-local focus of the creative industries sector to establish dynamic, sustainable, business-focused environments that offer development opportunities for the sector in ways that enhance the comparative advantage of the entire city. Others range from the shallow to the absurd, the products of overlay avaricious civic boosterism initiatives, arbitrarily delineated, under-integrated, fabricated, and thus unconvincing.*<sup>22</sup>

Places like Williamsburg, Virginia, and South Street Seaport in New York, have fallen short because they lack the contemporary realism that lends credibility to a given identity. Their feigned realities forever lock them in a stage-set of copacetic nostalgia, preventing contemporary residents from co-opting the old styles and interests and redefining them into something of their own. The district in question has the authenticity to be believable – it has the industry, traditions, and tourist destinations that already loosely define it. Character building needs to be carefully administered, though, such that the goal isn't lost on the packaging.

This thesis proposes that a significant structure, or collection of structures, comprised of residential and appropriate amenities, can – through careful material selection and spatial planning – subtly and clearly serve as the anchor of

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<sup>22</sup> Fleming, Tom. "Supporting the Cultural Quarter? The Role of the Creative Intermediary." In *City of Quarters: Urban Villages in the Contemporary City*, edited by David Bell and Mark Jayne. Burlington, Vermont: Ashgate Publishing Company, 2004.

this new urban neighborhood. Coupled with the other maritime amenities in the immediate vicinity, it may begin to galvanize the portion of the city that has otherwise stood untended. As with other districts within the city (the art's district's warehouse lofts, the old port's converted foundry spaces), the proposal would be comprised of living spaces commensurate with the nature of the environment they purport to celebrate.



### 3 | UNDERSTANDING HOME

Having made the argument for its location and its character, it is critical that the discussion does not stop here. Quite often, efforts to revitalize urban sectors focus strongly and successfully at the urban scale, leaving the housing scale to suffer under stock floor plans or the constraints of housing codes and tax break initiatives. In order to cogently make the argument that promotes urban living and draws suburban dwellers away from their picket-fenced pens, architects *absolutely must* make good urban housing.

#### DECONSTRUCTING

One place to begin with making good housing might be exactly that which New Urbanism and Smart Growth rails against: Suburbia. A great majority of Americas prefer suburban living. It might be worthwhile to find out why. After all, knowing the answer could lead to new solutions for urban housing.

In order to better understand what it is that suburbanites desire in their sprawling landscapes, and how these conditions might be replicated in the city, an analytical deconstruction of suburbia is required. Identification of specific features indicates the potential in the reconfiguration of similar concepts within the multi-family housing context. This process also allows for a finer-grained analysis of the real benefits and drawbacks to suburban living. Instead of generalizing the whole of the suburban experience, and maligning it

categorically, designers can empower themselves to embrace portions of this lifestyle for the betterment of other ways of life.

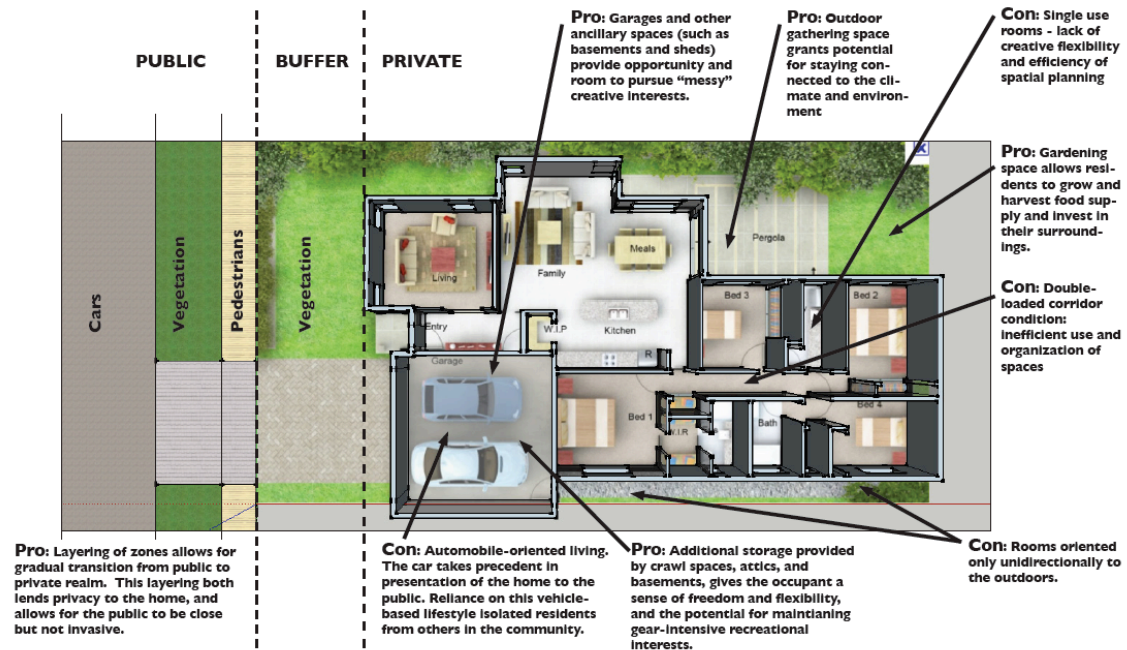
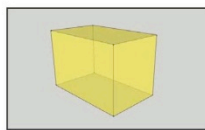
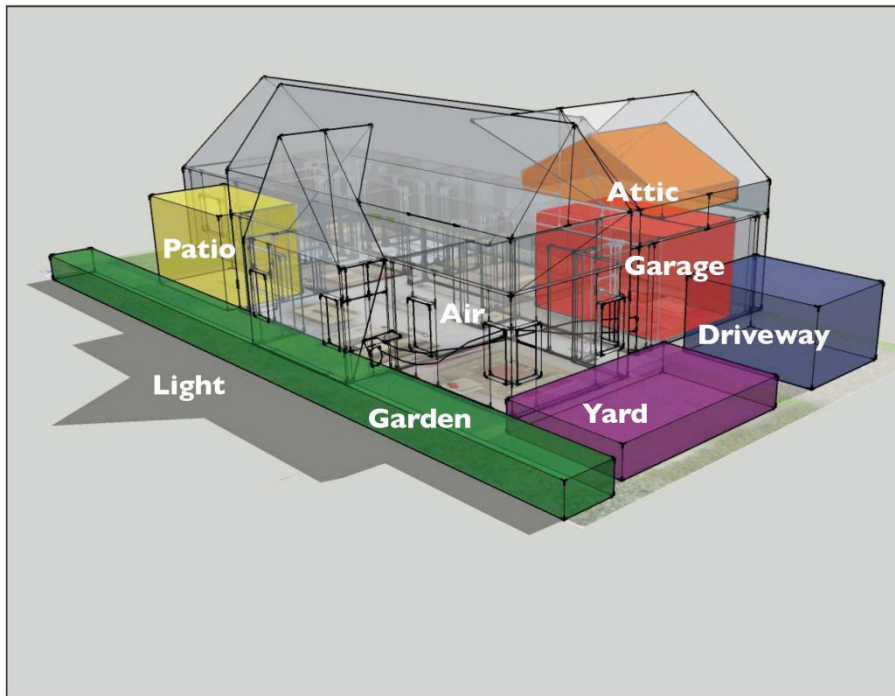


Figure 7: Pros and Cons of the Suburban paradigm. (Source: Author)

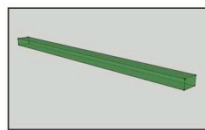
In recognizing that, despite its flaws, the suburban home carries specific value to the individual homeowner, it is possible to move beyond strict criticism and into the realm of understanding and adaptation. Breaking the single-family home into its component parts can help facilitate the adaptive process of re-imagining these features in an urban setting. Sizes, capacity, and even specific use (as with garages) may change, but the essence of the service that component provides can be retained. Figure 8 (following page) illustrates a diagrammatic deconstruction of the traditional American suburban home. Those components deemed unique to the suburban experience are singled out, such

that they may be considered and applied to the urban scale, when designing for higher density residences in the urban context.



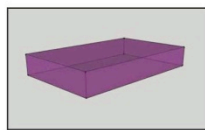
#### **Patio**

- Outdoor Room
- Connection to Environment



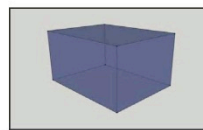
#### **Garden**

- Cultivation
- Self Sufficiency



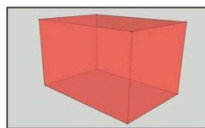
#### **Yard**

- Playing
- Gathering
- Lounging



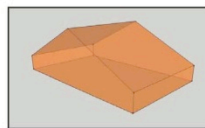
#### **Driveway**

- Convenience
- Ample Space



#### **Garage**

- Work Space
- "Messy" Storage



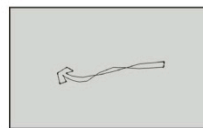
#### **Attic**

- Storage
- Flex Space



#### **Light**

- Time of Day
- Reduction of Energy Use



#### **Air**

- Ventilation
- HVAC Loads Reduced
- Connection to Environment

Figure 8: Diagrammatic breakdown of suburban amenities, to be replicated in urban context.  
(Source: Author)

## RECONNECTING

In order to address the desire for private outdoor access common to suburbia, this thesis also investigates the potential in opening up the typical, technologically dependent urban housing unit, allowing for both highly developed and sizable private outdoor rooms and effective common spaces. Suburban dwellers might be compelled to move into the city, if they feel some of the lifestyle choices they seek in free-standing homes are available in the more amenity-rich urban setting. Likewise, infusing urban spaces with outdoor access will reconnect the long time urban dweller with the diurnal climate cycles and air and light quality often lost in the double-loaded corridor, single-sided glazing model typical of contemporary urban housing. Bernard Rudofsky aptly highlighted this problem when he remarked,

*There is a good deal of irony in the fact that to stave off physical and mental deterioration the urban dweller periodically escapes his splendidly appointed lair to seek bliss in what he thinks are primitive surroundings: a cabin, a tent, or if he is less hidebound, a fishing village or hill town abroad. Despite his mania for mechanical comfort, his chances for finding relaxation hinge on its very absence.*<sup>23</sup>

Reconnecting urban dwellers with the outdoors would strike a psychological balance long lost to air-conditioning and insular lifestyles.

Additionally, exploration into spaces that grant room for communal creative and practical home projects is important to making the argument for urban living complete. Constrained by a lack of “messy” space, urban dwellers may be seduced by the common basement or suburban garage in order to meet their needs. By integrating these primary investigations of space and lifestyle

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<sup>23</sup> Rudofsky, Bernard. *Architecture Without Architects, An Introduction to Non-Pedigreed Architecture*. Garden City, New York: Doubleday, 1964.

with the character of Portland's history and culture, this thesis thus strives to make a compelling argument in favor of urban living.

## EXPANDING

Rather than rely heavily on the notion of replicating suburban attributes in only the housing, and expecting it to succeed in notion alone, it is necessary to also size the concept up to the urban scale. Indeed, there is an opportunity to apply these suburban amenities to the greater neighborhood. A small garden plot might become an urban farm, with open access for the community, such that those living in more traditional housing might also be able to grow food, or those occupying the new typology might be able to augment their growing capacity. The small work/craft space, when scaled up, can become a local center for craft and life skills, again open to the community at large. And the outdoor patio of the suburban home, when scaled up, becomes the pocket park, the courtyard, the public rooftop garden deck, available for gathering, leisure, and outdoor enjoyment. This process of expansion and contraction simultaneously supports the urban interest in fostering community while preserving the privacy of the insular suburban realm.

Adapting the perceived amenities of suburbia to the urban realm demonstrates the value of urban living without the detraction in quality of life often associated with city dwelling. When taken out of suburbia, these amenities manifest in a more convenient, more connected, more sustainable, and more accessible setting. It is difficult to refute the benefit of this adaptive process, as

the urban setting can be shifted from the stale, overly-compacted, stultifying high-rise paradigm to one that recognizes the desires of the suburbanite as a valid yearning for outdoor access, privacy, creativity, and personal freedom.

## 4 | SITE

As noted, the area of interest for this investigation is close to the waterfront, near downtown, and rife with vacant property. It is ripe for revitalization, and open for reinterpretation. The area also has immense potential in providing a lively junction between the urban economic core of downtown Portland, and the residential fringes at the east end of the peninsula. Images on the following pages illustrate the current site conditions, and highlight the number of vacant lots.



Figure 9: [L] Portland Peninsula, highlighted box indicates area of interest for study [R] Figure-Ground of Portland's building footprints. (sources: maps.google.com [L], and Author [R])

While the figure ground of the peninsula illustrates the areas of greater density within the city fabric, the enlarged view of the area of interest indicates the vacancies in the vicinity of the site. In recent years, these lots have begun to



fill in, with the addition of a new Residence Inn (2009) to the northeast of the building site, a new 7 story parking garage (2008) directly across the street from the building site, and the new Ocean Gateway Terminal (2008), on the waterfront to the south of the building site.

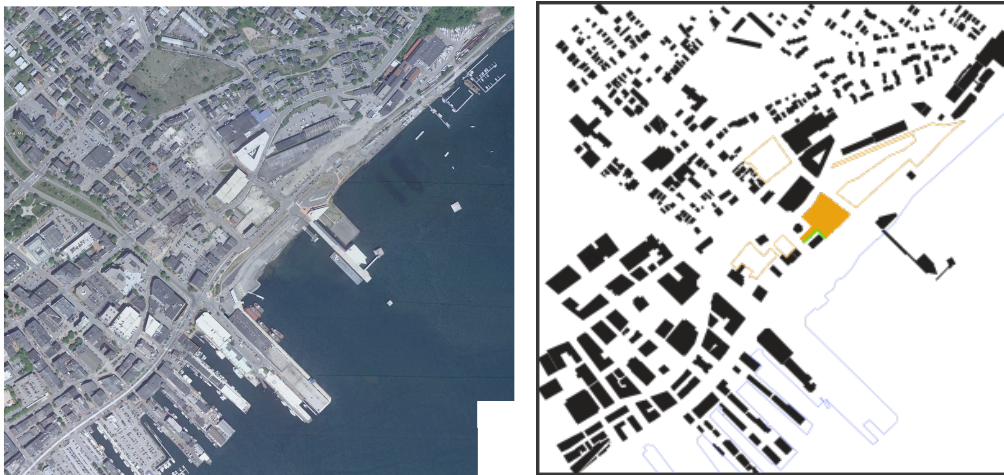


Figure 10: [L] Enlarged view of district, note abundance of vacant lots. [R] Figure ground of district.

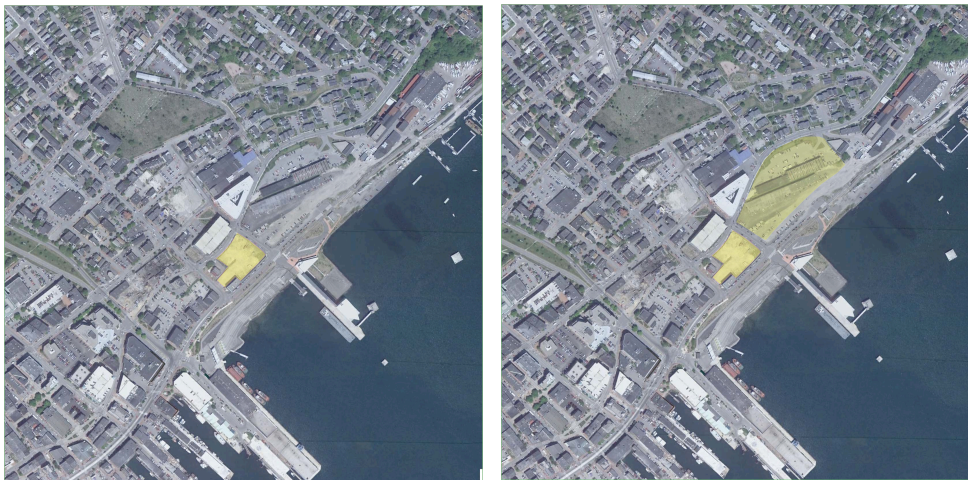


Figure 11: Aerial image of district. [L] Building site indicated in yellow. [R] Wetland site indicated in yellow, adjacent to building site. (source: author, with underlay from [www.google.com](http://www.google.com))



## Site \_\_\_\_ Conditions

Despite the industrial past of the site and the scattered vacancies, its surroundings are in fact thriving and active. The Eastern Promenade Trail begins immediately in front of the site and follows the waterfront around the eastern edge of the peninsula, and into the Back Cove. Significant vehicular routes border the site to the north and west, with the primary arterial to the city located only 1 block to the west. The primary pathways, when diagrammed, indicate northeast-southwest axes transecting the longitudinal orientation of the site.

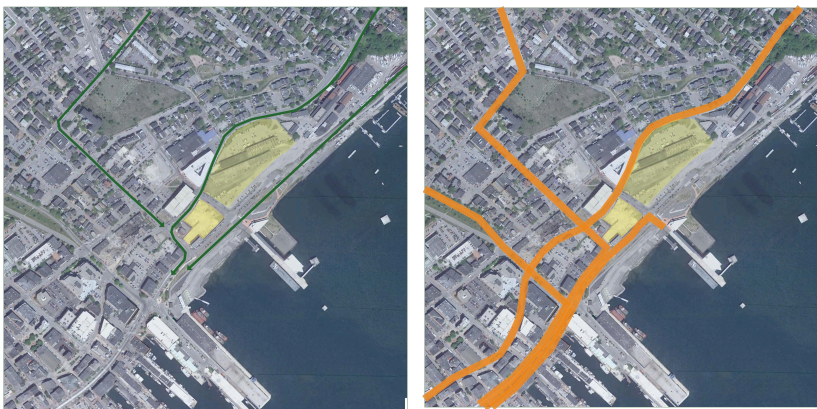


Figure 12: Primary pathways around site [L] pedestrian [R] vehicular  
(Source: author, with underlay from [www.google.com](http://www.google.com))



Figure 13: Diagram of primary axes transecting the proposed sites.  
(Source: author, with underlay from [www.google.com](http://www.google.com))

As a remnant of the Grand Trunk Railroad terminus, the angles of repose of the existing warehouse buildings (on the proposed wetland site), run contrary to the orientation desirable for waterfront access. The diagrams below indicate the existing conditions of access, and the suggested desire lines of orientation for improving these remnant geometries. Opening access to the waterfront from the grid of the city, while orienting new construction to maximize views of Casco Bay, could promote far superior conditions for both the site and city's fabric.



Figure 14: Obstructed pathways to the waterfront. Dashed line follows historic water's edge, which is Fore Street today. (Source: author, with underlay from [www.google.com](http://www.google.com))



Figure 15: Desire lines indicating latent potential of the site. [L] Views [M] Desired orientation [R] Desired access through site. (Source: author, with underlay from [www.google.com](http://www.google.com))

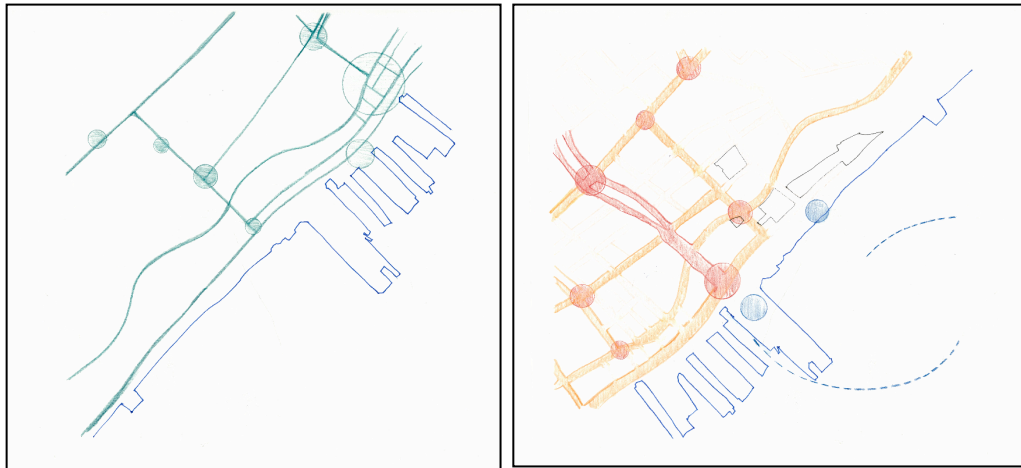


Figure 16: Primary circulation pathways, with nodes showing density and transition. [L] Pedestrian, [R] Vehicular and Ferry (source: Author)

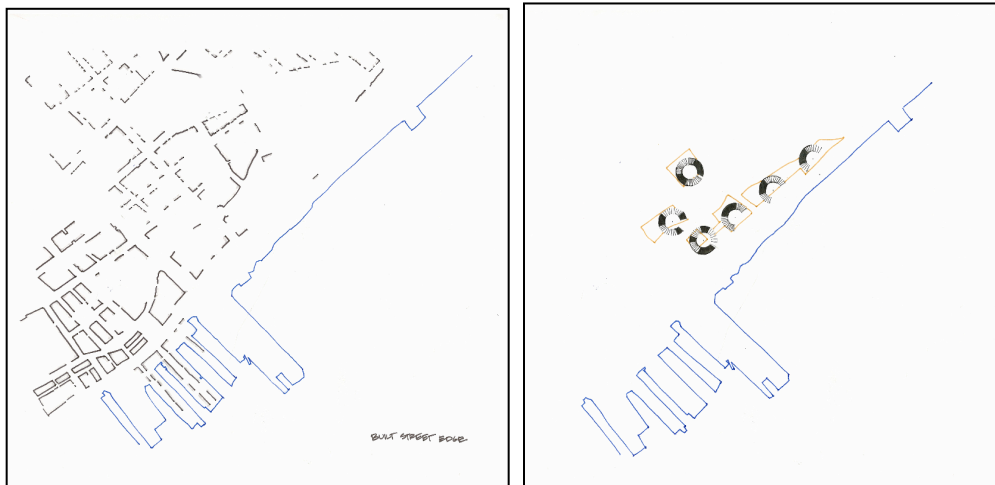


Figure 17: [L] Diagram of built street edges. [R] Diagram of hierarchy of views in potential sites (black = worst, void = best). (source: Author)

As evidenced by the existing level of activity and these diagram analyses, the area has immense potential. Though the area may lack density, its potential for growth can be realized by embracing the views, access, and proximity to primary urban nodes. Employing smart urban renewal practices in order to fully acknowledge these existing conditions will be important as the district continues to develop.



## USES

While the intent of this thesis is to promote a new district that is an entity unto itself, it will also serve as a hinge around which the commercial and residential districts bend. An examination of the uses that radiate out from the site demonstrates its potential as a centralizing and filtering node. To the east and northeast, for example, property quickly shifts into mid-density multi-family housing. On the contrary, southwest of the site sits the heart of downtown Portland, and the vibrant commercial core that is the Old Port. The northern and northwesterly fringes of the new district are a mix of small-scale retail, churches, and small cafes. This mixed-use character also extends along the axis of India Street, through the heart of the proposed district.



Figure 18: Site as node between commercial and residential zones.(source: maps.google.com)

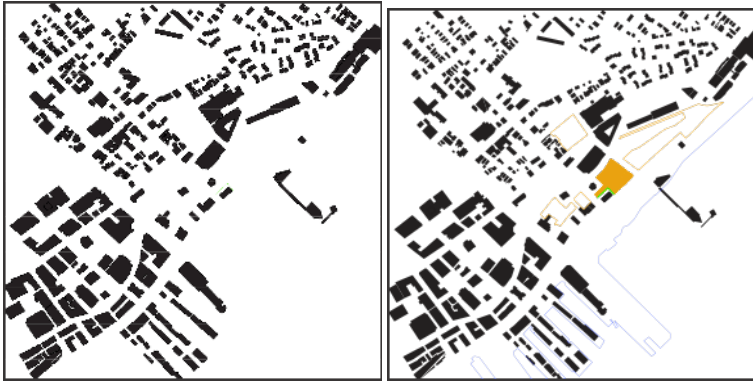


Figure 19: [L] Figure ground of Site area. [R] Figure ground with potential sites indicated. (source: Author)

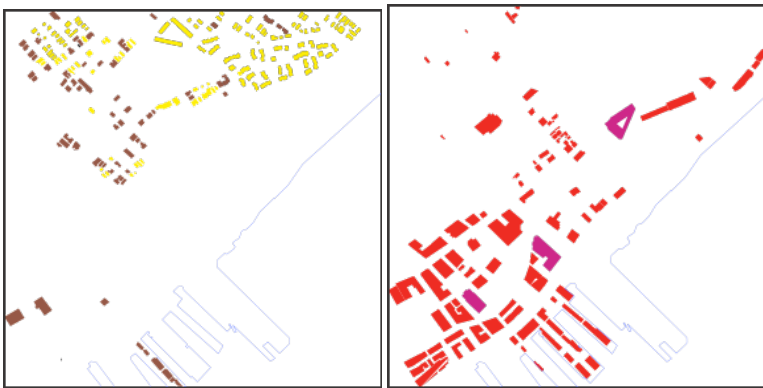


Figure 20: [L] Land-use map indicating residential uses. [R] Figure ground indicating commercial uses. (source: Author)

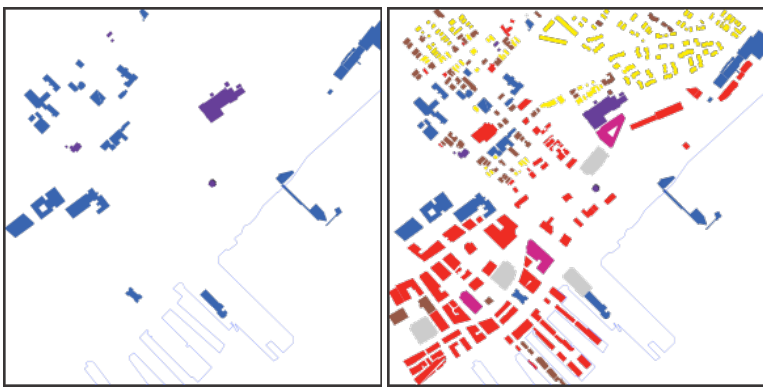


Figure 21: [L] Land-use map indicating institutional uses. [R] Figure ground combining all uses. (source: Author)

## AMENITIES



Figure 22: Diagram of green spaces on Portland's Peninsula. (Source: Author)

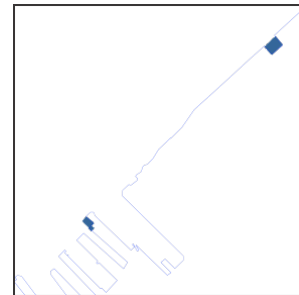
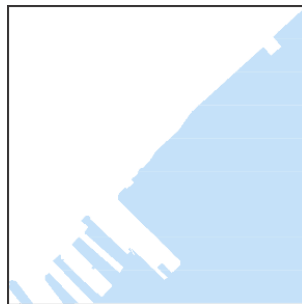
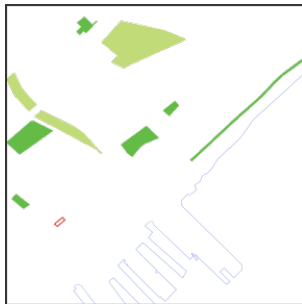


Figure 23: [L] Figure ground of green spaces surrounding site. [M] Relationship of site to waterfront. [R] Public access to water, indicated in dark blue. (Source: Author)

Bordering both the edge of the commercial district and the waterfront, the district is rich with amenities. As noted, passing along the southeast edge, a leg of the Portland Trails system connects the Old Port to the generous hillside park on Portland's East End. Access to the water is somewhat limited, with only 2 points of public entry. Given the proximity to specific zones of use, and to the amenities of waterfront and trails, the site is, truly, ideal for the enhancement of Portland's urban fabric.

## SITE \_\_\_\_ CLIMATE

It is no secret that winter in Maine can be extreme. The orientation of the site and its proximity to the water, however, stand the new district in good position to contend with Maine's inclement weather. With topography rising to the north and east, the site is buffered from chilling northerlies in the winter, and the ferocity of the occasional nor'easter. Meanwhile, in the summer, the site is very well oriented for taking advantage of the mild southwesterly breezes characteristic of July and August weather.



Figure 24: Diagram indicating prevailing seasonal wind patterns at the site. (Source: Author)

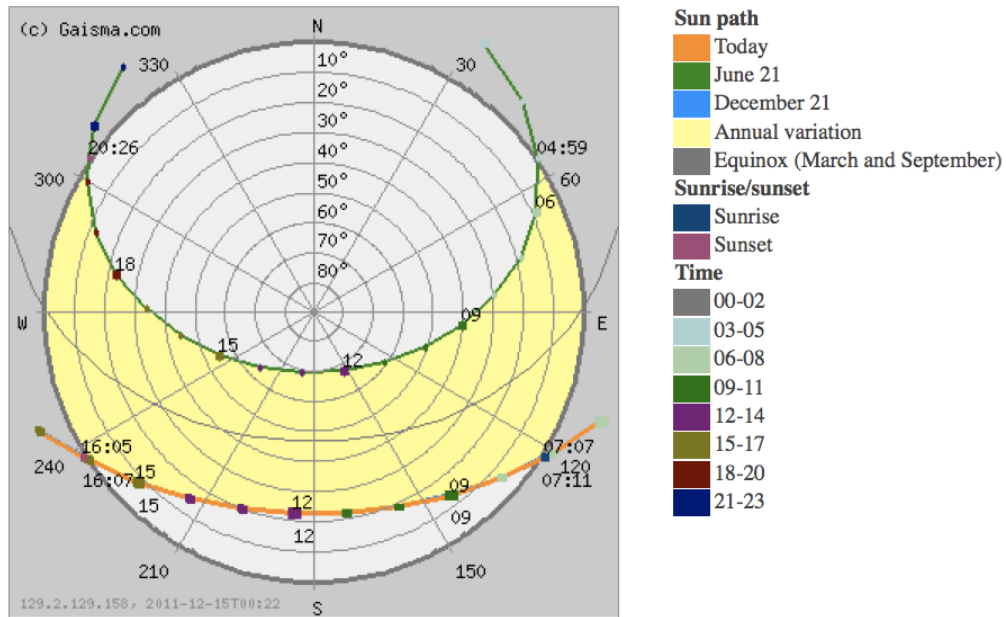


Figure 25: Sun Path Diagram for Portland, Maine. (Source: [www.gaisma.com](http://www.gaisma.com))

Consideration of the region's solar exposure is important to the massing and conditioning strategies for the proposed structure. Although temperatures can be chilling in the winter, it is possible to employ passive house conditioning techniques, even at the larger multi-family scale. Glazing, insulation, and thermal mass will be important to the success of building performance.



## SITE ANALYSIS | CONTEXT

Context \_\_\_\_ Historic

Much of the relevant history of Portland has already been discussed. What remains is a brief look at some of the historical housing typologies of the region. Early homes of rural Maine were simple, 2 or 3 room structures, centered around a common hearth, that served to provide heat for comfort and cooking. This typology came to be known as a “cape” house.

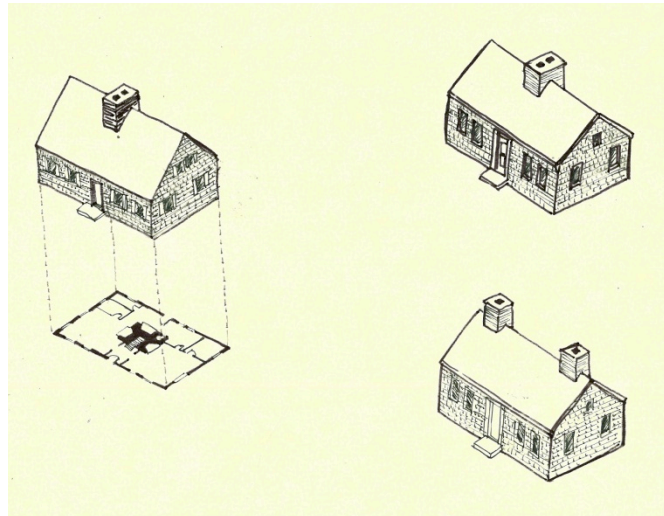


Figure 26: Traditional cape house. (Source: author)

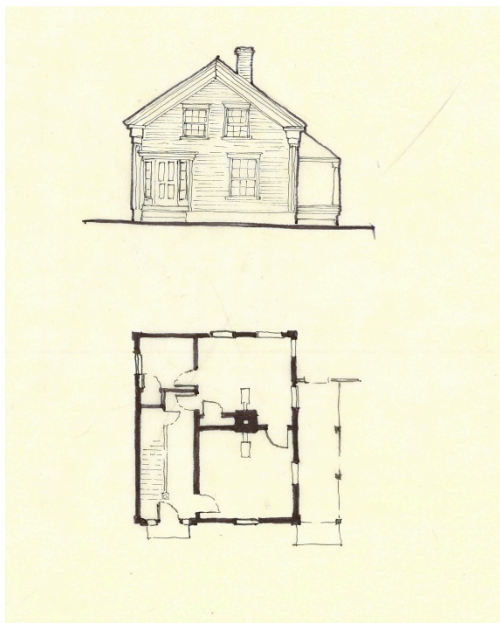


Figure 27: Side entry house, designed to allow for additions. (Source: author)

As homes expanded, their circulation and uses followed suit. The side-entry front house of the traditional Maine farmhouse is indicative of a value system that allowed for architectural addenda, as families and wealth grew. The departure from the strictness of the symmetry and the formalism of the centered chimney allowed for greater variability of forms and footprints.

As traditional Maine homes transitioned from rural to urban, they rapidly became stylized. Revivalism was significant, and homes with distinctly different signatures became standard to the fabric of Maine's cities and towns, including Portland. The early forms of housing are relevant to understanding the spatial requirements of living in Maine's climate, and the mechanisms that were adopted along the way.

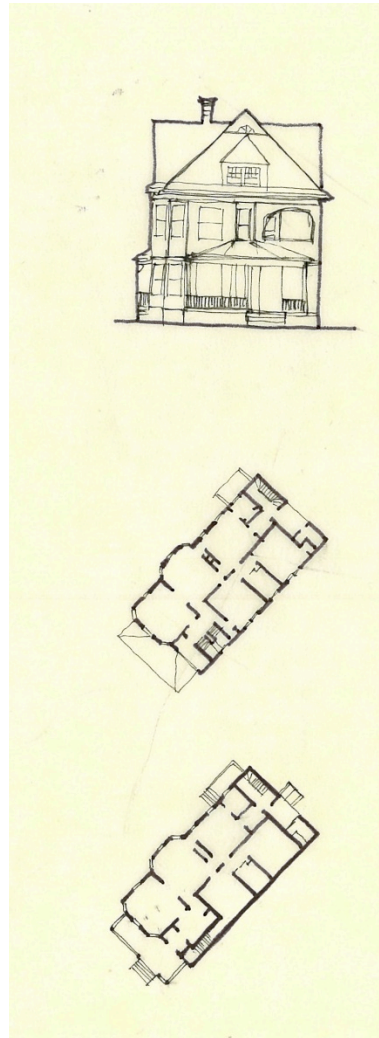


Figure 28: Revival home typical of more urban context.  
(Source: author)

## Context \_\_\_\_\_ Lifestyle

As this project intends to reconfigure the urban fabric while remaining referential to the city's past, it is important that the design process maintain a strong connection to the people and characteristics of Portland. Subtleties of daily life are important, and attention is paid to such details in the spatial and tectonic constructs of the project. Textures, habits, interests, and historical practices must effectively intertwine, if the fabric of the new district is to take shape.

### Life[styles]



### Textures

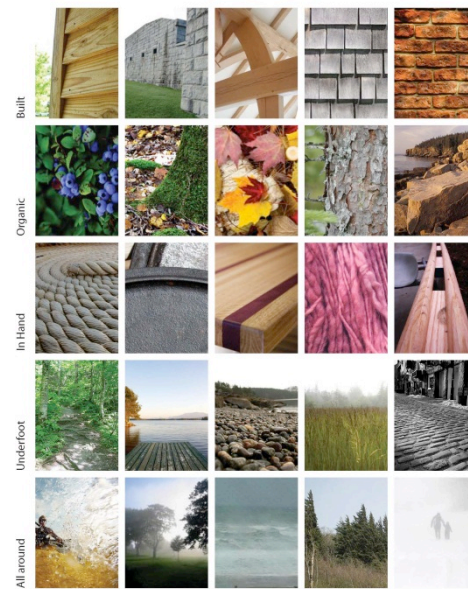


Figure 29: Imagery that reflects both the lifestyles and tactile qualities of Portland.

While the people of the region will provide an important precedent for the project, there are many design projects already built that entertain many of the notions proffered by this thesis investigation. It is important to consider them, too.

#### **4 | PRECEDENTS: URBAN INTERVENTIONS, CONCEPTUAL SOLUTIONS**

Recognizing relevant architectural precedents is a critical piece of the design process. In this thesis, precedents were acknowledged for both their aesthetic merits and their strategic approaches to achieving specific ends. Namely, the means of establishing connections to the outdoors, and providing for ample access to light and air without relinquishing privacy. The precedents on the following pages demonstrate the various types of novel and innovative mechanisms for outdoor connectivity, passive thermal modulation, spatial arrangements, and materiality that were of import to the development of this thesis.

## Precedent 1 \_\_\_\_\_ Urban Infill



Figure 30: Images of Metal Shutter Houses project by Shigeru Ban.  
(source: [www.shigerubanarchitects.com](http://www.shigerubanarchitects.com))

Project: Metal Shutter Houses  
Architect: Shigeru Ban  
Size: 8 units + retail, total area: 35,000 SF  
Location: New York City  
Use: Mixed Use: Housing and Retail

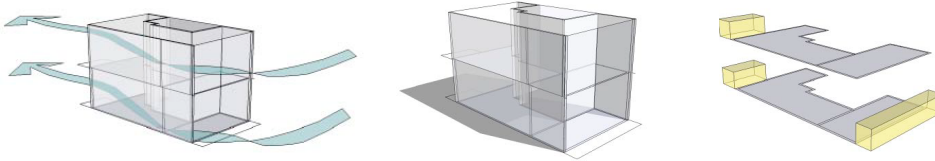


Figure 31: Diagrams of Unit Conditions [L] Air [M] Light [R] Patio

The Metal Shutter Houses project by Shigeru Ban is very much aligned with the thinking in this thesis. The entirely operable facades and the consequential openness and ventilation of the spaces are representative of the conceptual porosity sought in the design for the project. Allowing for a flexible indoor/outdoor condition lends itself to promoting stronger connectivity to the environment and climate. The requirement that the entire wall must be removed in order for occupants to enjoy ventilation, however, might be a drawback to this design. This aspect might prevent the homeowner from engaging the environment at all, as climatic conditions might have to be in an ideal range.



## Precedent 2 \_\_\_\_\_Passive Thermal Systems

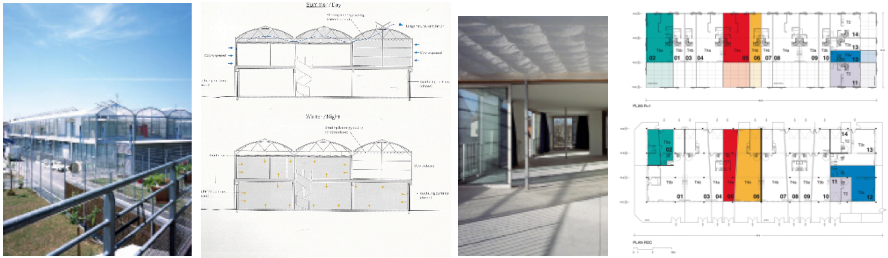


Figure 32: Images from Houses in Mulhouse project. (source: [www.wohnmodelle.at](http://www.wohnmodelle.at))

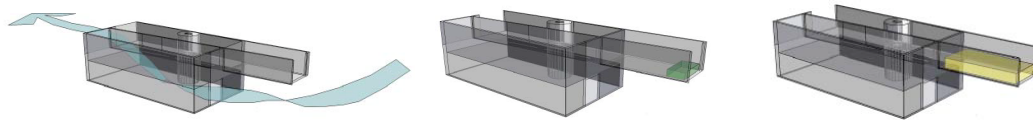


Figure 33: Diagrams of Unit Conditions [L]Air [M]Garden [R] Patio

Project: Houses in Mulhouse  
Architect: Lacaton & Vassal  
Size: 14 units, avg. each: 1600 sq. ft.  
Location: Mulhouse, France  
Use: Low-cost Housing

Downsizing from the scale of the first precedent, and breaking again from the paradigm of urban living, is the “Houses in Mulhouse” project in France.

Interested in producing larger units at a price equivalent to their smaller low-cost equivalents, architecture firm Lacaton & Vassal used basic concrete frame construction for the base floor, and topped the platform with a light, greenhouse frame structure. Employing this structural strategy inspired the architects to incorporate agricultural systems of passive heating and cooling for interior spaces. This precedent is relevant to the thesis as it represents innovation in materials, transfer of technology from one typology to another, and the use of passive conditioning techniques. It also incorporates healthy volumes of open space for each unit.

### Precedent 3 \_\_\_\_\_ Center Courtyard

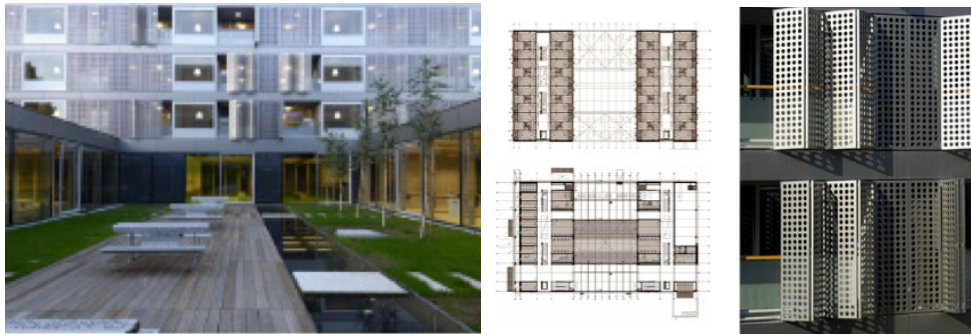


Figure 34: Images of Student Housing Poljane project. (source: [www.mimeo.eu](http://www.mimeo.eu))

Project: Student Housing Poljane  
Architect: Bevk Perovic Arhitekti  
Size: 56 units, total area: 140,000 sq. ft.  
Location: Ljubljana, Slovenia  
Use: Student Housing

Although conceptually similar to the Shutter Houses, this project is of interest because of its outdoor common areas, when coupled with the shuttered/open condition. The porosity imbued in these structures lends itself to lack of privacy. The idea of centering an urban, shared community space within what ultimately becomes a public display of living is intriguing. Is it successful? Is it wise? What are other ways in which the privacy of the units might be maintained, while they may also remain open to the elements, and yet the community spaces may remain intact and active? This thesis proposal intends to develop outdoor living spaces at both the private and public scales, so it is important to find answers to these questions.

#### Precedent 4 \_\_\_\_\_ Object in Landscape

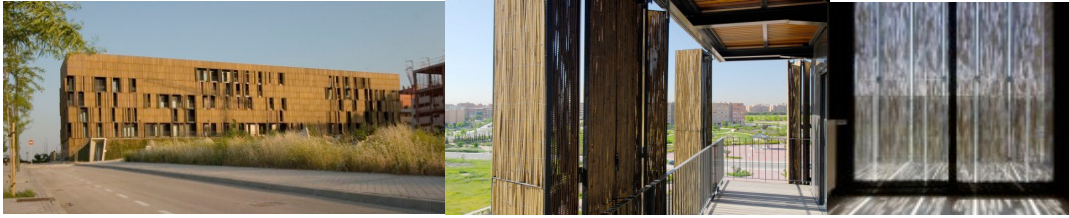


Figure 35: [L] Elevation from street front, [M] Balconies with skins retracted, [R] Translucency of skin

Project: Carabanchel Housing  
Architect: Foreign Office Architects (FOA)  
Size: 4,500 sqm  
Location: Madrid, Spain  
Use: Multi-family Housing

At its heart, the Carabanchel Housing is a standard bar-building typology.

Turning outward, however, it deviates from its mundane ancestry by wearing a fully operable and protective organic skin. That, coupled with the paired through-unit layout for the residential units, sets the project apart from a typical multi-family housing block. Lessons to be learned from this project include the ability to transform the mundane to the dynamic through thoughtful application of functional screens, and the advantages that can be gained when exploring the through-unit typology.



## Precedent 5 \_\_\_\_\_Industrial Language



Figure 36: [L] Clipper Mill Building at entry. [M] Assembly Building after fire. [R] Assembly Building after refit. (source: Cho Benn Holback Architects)

Project: Clipper Mill  
Architect: Cho Benn Holback  
Location: Baltimore, MD  
Use: Mixed-Use Housing, Artisans, Restaurant, and Retail

While this thesis does not intend to investigate adaptive reuse of a historic structure, it instead explores adaptive reuse at the urban scale.

Programmatically, the establishment of a maritime district acknowledges the historical context of the site and the city, while engaging it in a manner that is new and forward-looking. This is, indeed, the very basis of adaptive reuse. The Clipper Mill project by Cho Benn Holback provides some insight into strategies of embodying both past and future in the context of a formerly industrial site.

Clipper Mill's variety of housing types is important to this use of precedent as well, as a similar approach is to be made with this thesis investigation. Where programmatic elements are placed within the site and with respect to each other is important. The elements themselves are relevant too, as Clipper Mill is essentially a microcosm of the bigger picture envisioned by this project. The welding and glass blowing studio, as well as Woodberry Kitchen, a "farm to table restaurant," begin to get at the aspirations of community for this thesis.

## Precedent 6 \_\_\_\_\_ Indoor/Outdoor Rooms



Figure 37: [L] Chicken Point Cabin, Northern Idaho; by Olsen Kundig Architects (source: Benjamin Benschneider [www.olsenkundigarchitects.com](http://www.olsenkundigarchitects.com))  
[R] Garden House, Seaforth NSW, Australia; by Peter Stutchbury (source: [www.peterstutchbury.com.au](http://www.peterstutchbury.com.au))

Projects: Chicken Point Cabin & Garden House  
Architects: Olsen Kundig Architects & Peter Stutchbury  
Locations: Idaho & Australia  
Use: Single Family Homes

At the scale of the single family home, acknowledgement of the outdoors can go beyond a mere door to the patio. Innovative solutions in these two precedents demonstrate the potential for full engagement of the outdoors. Whether through the transparency and ephemerality of a partition, or through the complete relocation of a typical indoor space, the blurring of boundaries between interior and exterior space can be distinctively and decisively made.

## 5 | PROGRAM

### Program \_\_\_\_\_Residences

The vast majority of the housing stock available in urban environs today is overwrought, undersized, and unceremoniously set to either side of an eternally long corridor. Units meant to support daily life of the building occupants are often boxed in on three sides, with access to light toward only one cardinal direction. If urban housing is to improve, it absolutely must shift away from the standard double-loaded corridor scheme, and embrace innovative circulation and light capturing strategies.

This thesis seeks to investigate, in earnest, the potential for designing multi-family units that have access to light from no fewer than three directions. Additionally, developing outdoor spaces in a manner that encourages occupation of the outdoors and allows for greater flexibility between the indoor/outdoor threshold is paramount to the ideas of this project. These spaces are not unique to the individual units alone. They will be considered, designed, and developed in the community realm as well. Rooftop gardens, intimate courtyards, pocket parks, and integrated trails are elements of value for this process.

As noted in the introduction, there is great potential in taking the amenities of the suburban home, reconfiguring them into the urban environment, and then sizing them up to the urban scale. The not for profit realm is apropos of the possibilities in this upsizing, with real possibility in the realms of crop growing and craft. Within the site district, it may well be worth investigating conversion of vacant land into plots for community gardening, or, better yet, the potential for green roof gardens capable of intensive crop growth.

Additionally, what would be considered a garage or basement in a suburban home can expand, and assume the character of either group educational space, or collective space for individual projects. This structure could serve to both demonstrate the value of working in traditional or trade disciplines, such as carpentry, electrical, or plumbing, and the merits of providing space to achieve these pursuits while in the public realm. Working alongside others of greater or lesser knowledge will encourage growth of all individuals involved, through teaching and learning.

## Program \_\_\_\_ For Profit

While fostering community by addressing the personal needs of the district's residents is valid, it is not stand-alone. Community also exists in commerce and consumption, despite the tendency in many to deny (or fear) the potential value of these. This project hopes to incorporate various appropriate commercial entities, which make well tie into the non-profit establishments nearby. Cafes and restaurants might buy and use produce grown in the community gardens, or furniture built by locals in the neighborhood. Additional commercial establishments might include business entities based around the maritime industry (such as lobstermen's co-op, riggers, sail makers, and marine supply purveyors). The potential for both non-profit and for-profit is significant in this district, as its location renders it accessible to businesses, residents, and the working waterfront.

## Program Summary

PORTLAND GATEWAY Square Footages and Units	Totals	Residential	Retail	Office	Residential Units			Total
					1 BR	2 BR	3 BR	
Ground Level	26,382		23,527	2,855				
Level 2	26,144	15,681	7,153	3,310	7	14	6	27
Level 3	22,398	15,681	3,387	3,330				
Level 4	24,286	20,899	3,387		10	18	6	27
Level 5	24,286	20,899	3,387					
Level 6	24,286	20,899	3,387		9	18	7	26
Level 7	24,286	20,899	3,387					
<b>TOTAL SF OVERALL</b>	<b>168,681</b>	<b>114,958</b>	<b>44,228</b>	<b>9,495</b>	<b>26</b>	<b>50</b>	<b>20</b>	<b>96</b>
<b>TOTAL NET LEASABLE SF</b>	<b>154,511</b>	<b>108,846</b>	<b>37,594</b>	<b>8,071</b>				

Figure 38: Program breakdown by use, and total square footage. (Source: author)

## PART II: DESIGN APPROACH

### OVERVIEW

As indicated by the research for this thesis, it is clear that in order to address the desires of the suburban-minded American, one must consider both the micro and macro scales. By exploring opportunities for connectivity to light and air, and reproducing specific conditions inside and outside the realm of the home, it can be possible to make a truly compelling argument for living and thriving in the urban realm.



Figure 39: Aerial view of proposal, showing building and wetlands interventions. (Source: author)

## 1 | DESIGN CONCEPTS

*"[T]hese houses, being the direct expression of changing values, images, perceptions, and ways of life, as well as of certain constancies, become a very fruitful topic for study."*

*- Amos Rapoport*

### Concept \_\_\_\_\_ Adapting Suburbia

In the process of deconstructing elements of the suburban home, and re-applying its components to the urban context, awareness of scale is critical to effective adaptation. Each component may either expand or contract as it morphs across the urban threshold, and different forms may be taken depending on whether the end use is shared or private. In the following diagrams, each component is transformed to assume a new spatial relationship with its attending built environment. The diagrams indicate what space is available to a single individual, demonstrating the added overall value of transitioning from the privatized world of the single family home to the community-driven spaces proposed.



## The Patio

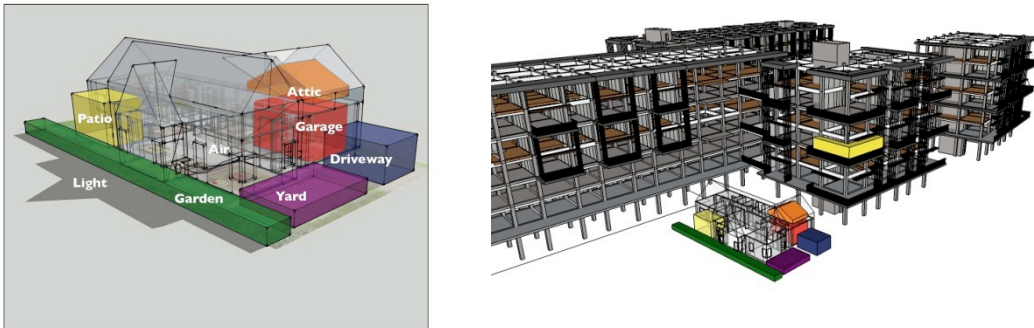


Figure 40: [L] Diagrammatic breakdown of suburban amenities. [R] Patio applied to urban realm. (Source: author)

The patio is the quintessential embodiment of the American dream, as it represents the epicenter of all that has been deemed authentically American: barbeques, leisure time, a vantage point from which to admire one's prosperity. Symbolic though it is, it need not be confined to the back stoops of bungalows and split-levels, but may perch on the face of the multi-family structure. It is important to note that this would seemingly be no different than a standard balcony or perch allotted to many mid and high-rise structures. The important distinction in this transformation is that the area be sufficient for furniture, activity, and gathering.



## The Garden

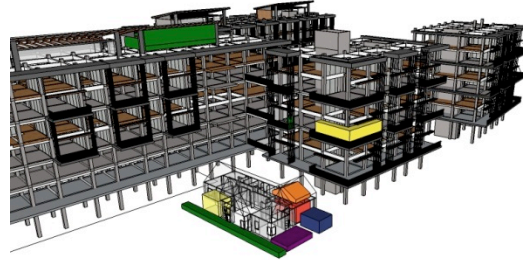
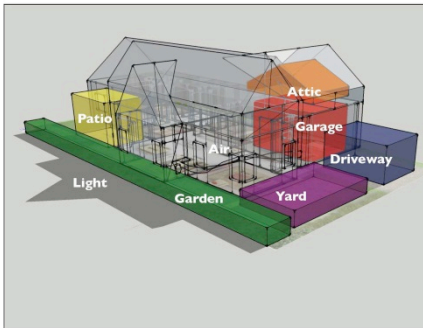


Figure 41: [L] Diagrammatic breakdown of suburban amenities. [R] Garden applied to urban realm. (Source: author)

One amenity long associated with the merits of suburban living is the garden. Space to grow plants for pleasure or consumption has historically been very limited in the urban context, though recent movements in urban farming have begun to reverse these trends. In this project, space has been allocated both at the unit scale and the community scale. Units are equipped with wiring framework for vines and climbing plants, while the roofs of the primary buildings are landscaped and house greenhouse structures. The greenhouses not only allot significant space for each resident to grow food, but they also extend the otherwise limited growing season to nearly year round. These characteristics demonstrate the added value and cost effectiveness in transforming an amenity from the scale of the individual to the domain of the community.

## The Driveway

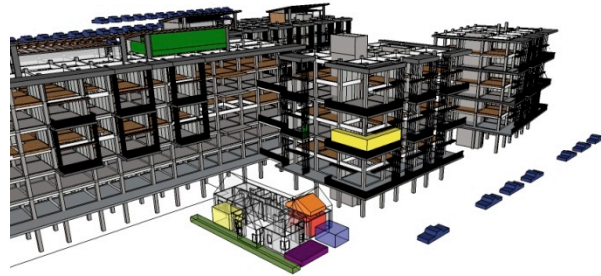
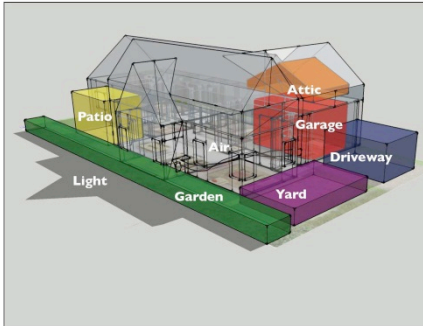


Figure 42: [L] Diagrammatic breakdown of suburban amenities. [R] Driveway applied to urban realm. (Source: author)

In suburbia, the driveway symbolizes personal freedom and convenience. Situated at the foreground of the residents' daily lives, the driveway exemplifies the reliance on personal transportation that has recently become increasingly vilified. The inefficient use of fossil fuels and the contribution to congested roadways have both begun to call into question the lasting value of America's car culture. Nonetheless, a driveway is convenience for those who remain reliant on their vehicles. In a typical multi-family setting, it is difficult to replicate this level of convenience. In this project, however, the convenience of parking in the covered garage directly across the street from the building highlights again the merits of grouping uses. Though the climate can be extreme in Maine, relatively few homes are equipped with covered parking. Structured parking that provides protection from snow and elements thus puts these urban residents at an advantage.

## The Garage

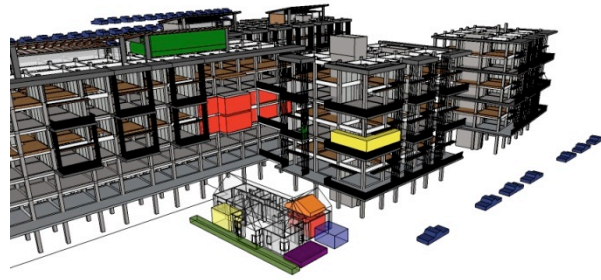
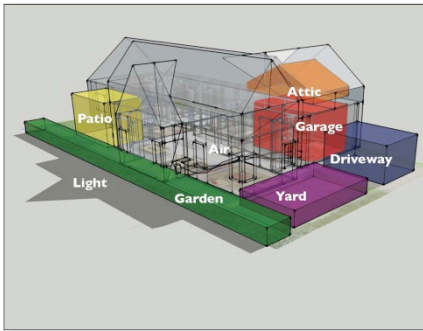


Figure 43: [L] Diagrammatic breakdown of suburban amenities. [R] Garage applied to urban realm. (Source: author)

While garage and driveway may generally be perceived as serving the same function, they are separated for the purposes of this study. Rather than serving as a vehicular corral, garage is bestowed with serving the function of ancillary workspace. It is the space within the suburban home where messes can be made, projects can be worked on and stored, and creativity can be pursued without fear of damaging anything precious. It is a realm virtually unknown in urban living. And it is one that is truly critical to the successful adaptation of suburban components in the urban context. This thesis posits that programming specific space for craft, building, and repairing can significantly strengthen the argument for city living. Additionally, by consolidating machinery and centralizing the workspace, individuals can share both the cost of materials and maintenance and the value of cultural traditions.

## The Attic

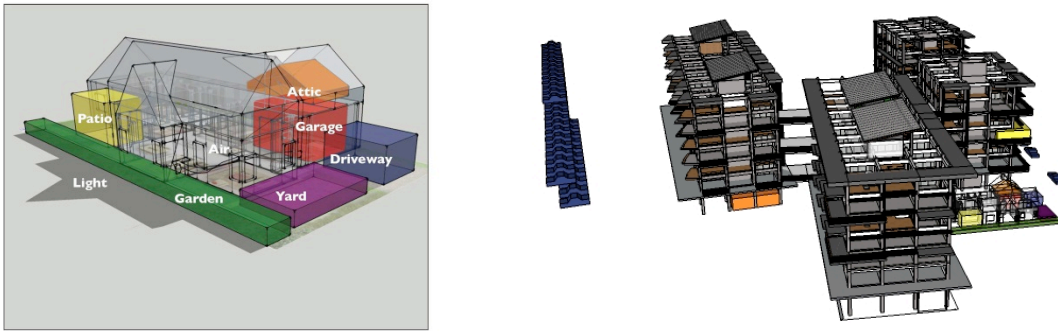


Figure 44: [L] Diagrammatic breakdown of suburban amenities. [R] Attic applied to urban realm.  
(Source: author)

Like the garage, an attic – or its function – is rarely found in urban housing. Storage is typically limited to coat or garment closets, and larger items associated with sports and outdoor activities frequently must occupy open space in apartment units. The project, therefore, specifically allocates space on the ground floor equipped with storage lockers, kayak racks, bike racks, and general space to accommodate the residents oversized pieces of equipment. Again, an advantage over the suburban model can be seen in that this space is allocated at the ground level, with easy access to a vehicle loading and unloading zone.

## The Yard

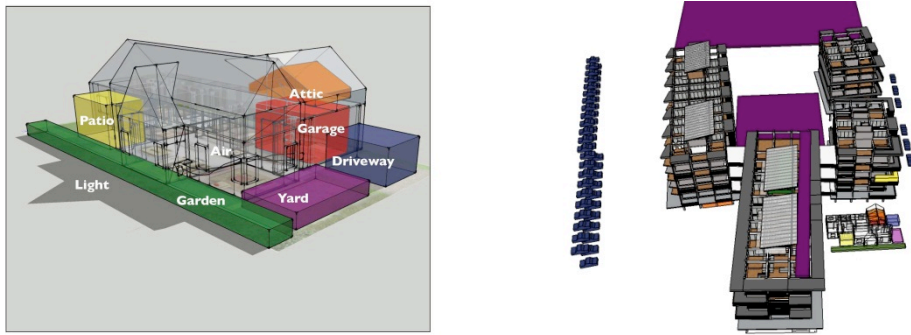


Figure 45: [L] Diagrammatic breakdown of suburban amenities. [R] Attic applied to urban realm.  
(Source: author)

Also not typically associated with higher density housing is the notion, or amenity, of “yard”. In suburbia, the yard is a static feature. It may be mowed, planted, or shaded, but it is largely more a border than a space. Some single family dwellers may occupy the yard, others may never. The important aspect to consider when translating this component of suburbia is how the space is intended to be used. In the transformation, the size of the yard expands significantly, as it must accommodate comparatively more people. But it also occupies three distinct domains. In the one, on the buildings’ rooftops, it provides for quiet, removed, meditative space that is intended for the residents alone. On the second, the yard is the courtyard, a public space, landscaped and manicured, meant for gathering and play. And finally, the third is the expansive wetland system that is both leisurely landscape and rural terrain. In the divisibility of functions, “yard,” then becomes much greater than its grassy static counterpart in the suburbs.

## Concept \_\_\_\_\_ Crafting Identity

As noted, allocating space specifically equipped and intended for creative pursuits reinforces the adaptation of suburban amenities to the urban environment. Additionally, from the standpoint of making this effort palatable to the developers and profiteers of the built environment, a new niche market might be realized in structuring the work space as a membership entity. The business entity might be similar to a sports gym, whereby residents from the greater community can gain access to space and equipment that they otherwise might not have.

The merits of this added amenity are clear, but the benefits do not end with access alone.

Establishing a realm where individuals can pursue personal interests also supports, simultaneously, individuality

and community. By crafting, creating or mending, individuals are granted freedom to express their own identity, while working within a setting that can foster community and cross-pollination of knowledge and tastes. This expression and exchange effectively brands the community as both interactive and individualized, lending real character to the immediate context while reinforcing the “arts” identity of the city at large.



Figure 46: Boatbuilding and other woodcraft: possibilities of an allocated workspace.  
(Source: author)



## Concept \_\_\_\_\_Fostering Self-Reliance

As the world's population continues to grow, its arable land has progressively diminished. Urban agriculture is on the rise not only for its merits to the community and value in reclaiming vacant property, but also for its sheer production value. Locally sourced produce significantly reduces carbon emissions and transportation costs. The proposed greenhouses in this project provide space for residents to grow and supply their own food, breaking the overwrought supply chain. Providing the opportunity for residents to be self-reliant achieves not only a more sustainable lifestyle, but also an improvement over the single growing season of the suburbs.



Figure 47: Greenhouses and Green roofs. (Source: author)

## 2 | SENSIBLE SOLUTIONS

*"Man's sense of space is closely related to his sense of self, which is in an intimate transaction with his environment. Man can be viewed as having visual, kinesthetic, tactile, and thermal aspects of his self which may be either inhibited or encouraged to develop by his environment"*  
- Edward T. Hall



Figure 48: Courtyard, simultaneously formalized and rugged. (Source: author)



## Sensible Solutions \_\_\_\_\_ Passive Systems

In order to clearly establish a strong connection to the outdoors for the residences, it was important that it be possible to open up great expanses of wall. This opening up of the units allows them to become, effectively, outdoor rooms, as with the aforementioned precedents. Given this degree of connectivity and given the Maine climate, it was also important to consider prevailing weather patterns and the latent potential and preciousness of solar heating. Looking to Passivhaus principles, the project is oriented to take advantage of glazing strategies – minimizing openings to the north and maximizing glazing to the south.

The proposed structural system employs a rigid concrete frame with panelized concrete infill, in order to maximize thermal massing and sound attenuation between units. The panelized concrete infill is also an easier system to construct, renders less dead load, and allows for prefabrication off-site of some of the building materials.

A system of louvers and shading devices prevents over-insolation, while also granting privacy. Throughout the course of a given day, interior conditions may be modulated through the manipulation of operable glazing and shading. Throughout the seasons, thoughtful orientation and strategic overhangs provide for the appropriate level of shade or sun.



Figure 6: Operable wall closed, louvers down. (Source: author)



Figure 50: Operable wall closed, man door open, louvers up. (Source: author)



Figure 51: Operable wall up, Louvers down. (Source: author)



Figure 52: Operable wall up, Louvers up (Source: author)





**Figure 53: Midday sun on December 21**



**Figure 7: Midday sun on March 21**



**Figure 55: Midday sun on June 21**



Figure 56: North and South Elevations indicating glazing strategies. (Source: author)



Section Perspective

Distribution of Units\_ Double Height Spaces and Cross Ventilation

No Scale

Figure 57: Section perspective showing vertical unit distribution and layouts. (Source: author)

## Sensible Solutions \_\_\_\_\_ Urban Nature

At the larger scale, the translation of suburban amenities can easily be lost on good intentions gone astray. Highly manicured parks have a place in a city fabric, but natural areas that are adept at establishing and supporting an indigenous ecosystem are far superior to the standard city park. This is because the urban meadow or wetland, planted with indigenous species and structured to replicate existing (or historic) real ecosystems, will in fact contribute to the overall health of the city itself. That, and it will provide for a far more convincingly natural environment with which the urban residents may interact.

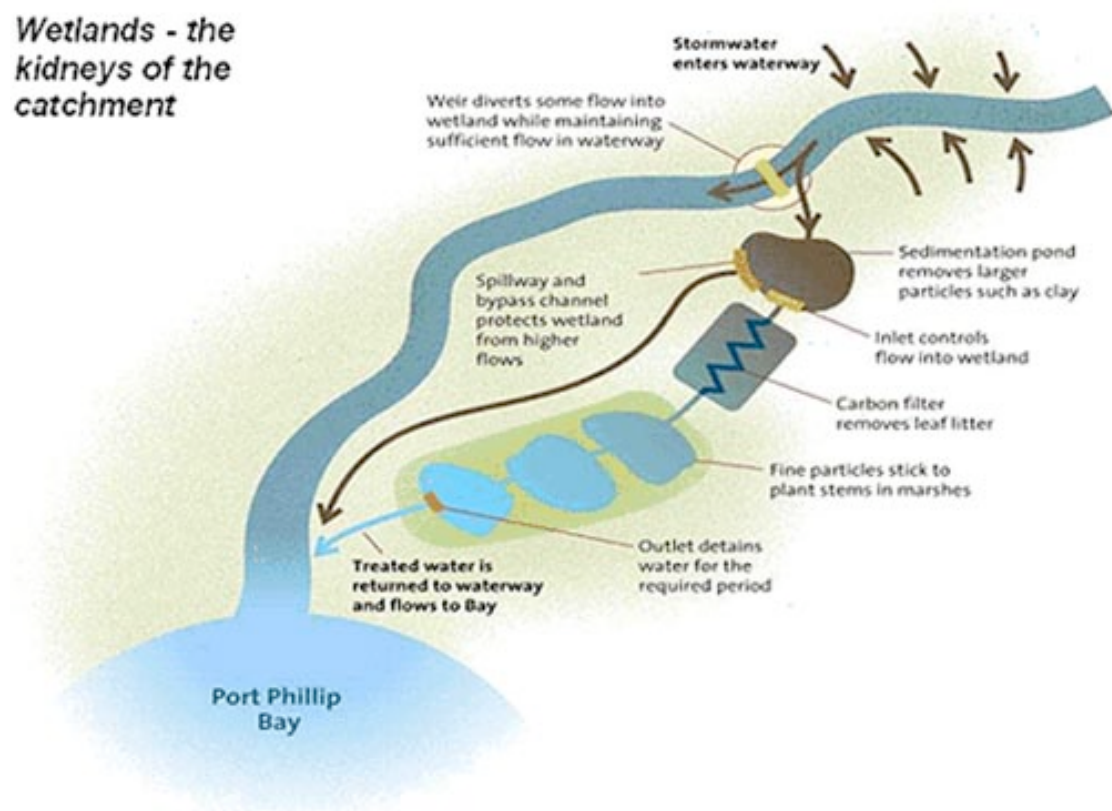


Figure 8: How constructed wetlands work. (Source: <http://education.melbournewater.com>)

By inserting the natural realm into the built environment, the nagging desire to escape from an “oppressive” urban setting is significantly reduced. Further, the need to drive great distances in order to simply walk a mile of trails is removed.

This would be true for wetlands or meadows alike, but wetlands, where appropriate, also provide the significant added value of water filtration. In a city such as Portland, Maine, where all stormwater runoff routes directly to the harbor, mechanisms for mitigating pollution are critical. A constructed wetland system can, therefore, not only provide a bucolic natural setting for residents and tourists to enjoy, it can also filter and cleanse all runoff that collects to the site. This site is an exceptional candidate for a constructed wetland system, as it sits at the catchment point for a significant portion of runoff originating in the East End of the Portland peninsula, and it occupies a portion of the coastline that was waterfront prior to being filled in.





Figure 59: Site plan indicating constructed wetlands, and species selection for landscape of urban wetland and meadow. (Source: author)

## Sensible Solutions \_\_\_\_\_ Local Sourcing

While the greenhouses serve the residents in providing space to source their own food, the greater community is granted an opportunity to support local agriculture through the public market. The proposed market becomes open-air in warm weather, but amenable to colder conditions for year round operation. It is



intended to maintain regular business hours, allowing for local residents to meet their daily grocery needs without relying on vehicular transport to make trips to larger shopping centers.



Figure 60: [Above] Market stand. (Source: [publicmarkethouse.com/shops.khortonfoods.htm](http://publicmarkethouse.com/shops.khortonfoods.htm))

[Below] The proposed public market. (Source: author)



### 3 | LIFESTYLES

*"We have to come to terms with nature if we are to survive. We have to understand nature and feel at home with it if we are to be true inhabitants of the earth."*

*- J.B. Jackson*



**Figure 61: Conceptual imagery of wetland habitat, looking back toward housing and downtown.**

## Lifestyles \_\_\_\_ Public Access

Through the transformative and iterative processes, it is possible to recognize the real merit in translating the amenities of suburbia and applying them to the urban context. Not decrying, but embracing those aspects of suburban living that hold sway over the American ideology indeed makes a stronger case for city living. The characteristics that translate in particular are: place to play, place to craft, place to relax, place to grow, and room for privacy.

Due attention to individual units is imperative, but the public realm also cannot be overlooked. By investing in the strategies discussed, such as urban wetlands, trails, and waterfront access, it is possible to create an environment that provides escape for the urban dweller – without their ever having to leave the city limits.

And with escape comes access, as the natural realm created serves as a transitional point for residents. They may move from their home to work to play seamlessly, while crossing distinctive thresholds to ultimately transform completely into the natural realm. Launching a kayak at the city pier, renting a bicycle at the local shop and embarking on a pedal through the city's trails network, or simply setting out a blanket in the milkweed on a sunny day can be every bit the urban experience that buying a coffee or delivering a memo is. All of these realms can cohabitate in the urban realm. We no longer need to flee to suburbia to find respite from the perceived grey tones and chaos of city life.



Figure 9 Perspective of proposed pier structure, existing Ocean Gateway Terminal, and existing Eastern Promenade Trail, as integrated with proposed wetland edge.



Figure 63: Conceptual image of pier structure and wetlands, demonstrating accessibility and attainability of immersion in a natural setting.

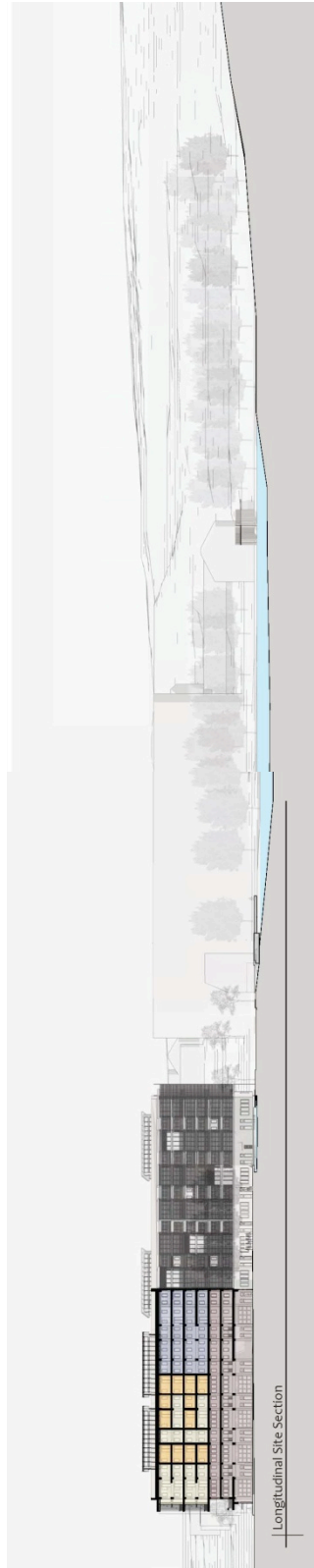


Figure 64: Longitudinal section indicating connection between courtyard and wetlands.

(Source: author)

## Lifestyles \_\_\_\_ Private Realm

One characteristic of suburban living that is frequently cited as superior to that of urban living is privacy. When scaling up from the clearly very private single family home to higher-density multi-family housing, it is inevitable that some measure of privacy will be lost. There are, nonetheless, mechanisms to lessen the severity of this loss.

As with the Carabanchel housing by FOA, careful use of screening devices can allow for a significant amount of privacy where otherwise there would be little. Further, the level of privacy can be managed by the manipulation of the screen or screens.

Also, the importance of providing outdoor rooms for the units is again revealed, as the sense of private ownership can be clearly demonstrated and understood. If the only outdoor space that a tenant might occupy were a public space alone, the sense of forced participation would violate the need and desire for periodic isolation.

Between ample personal outdoor space and the mechanisms for retreat behind screening devices, this project demonstrates that it is in fact possible to retain privacy and sense of ownership in a higher density setting. The images on the following pages indicate the potential character of these private spaces, and examine the studies and designs for the spatial planning of the spaces in aggregation.



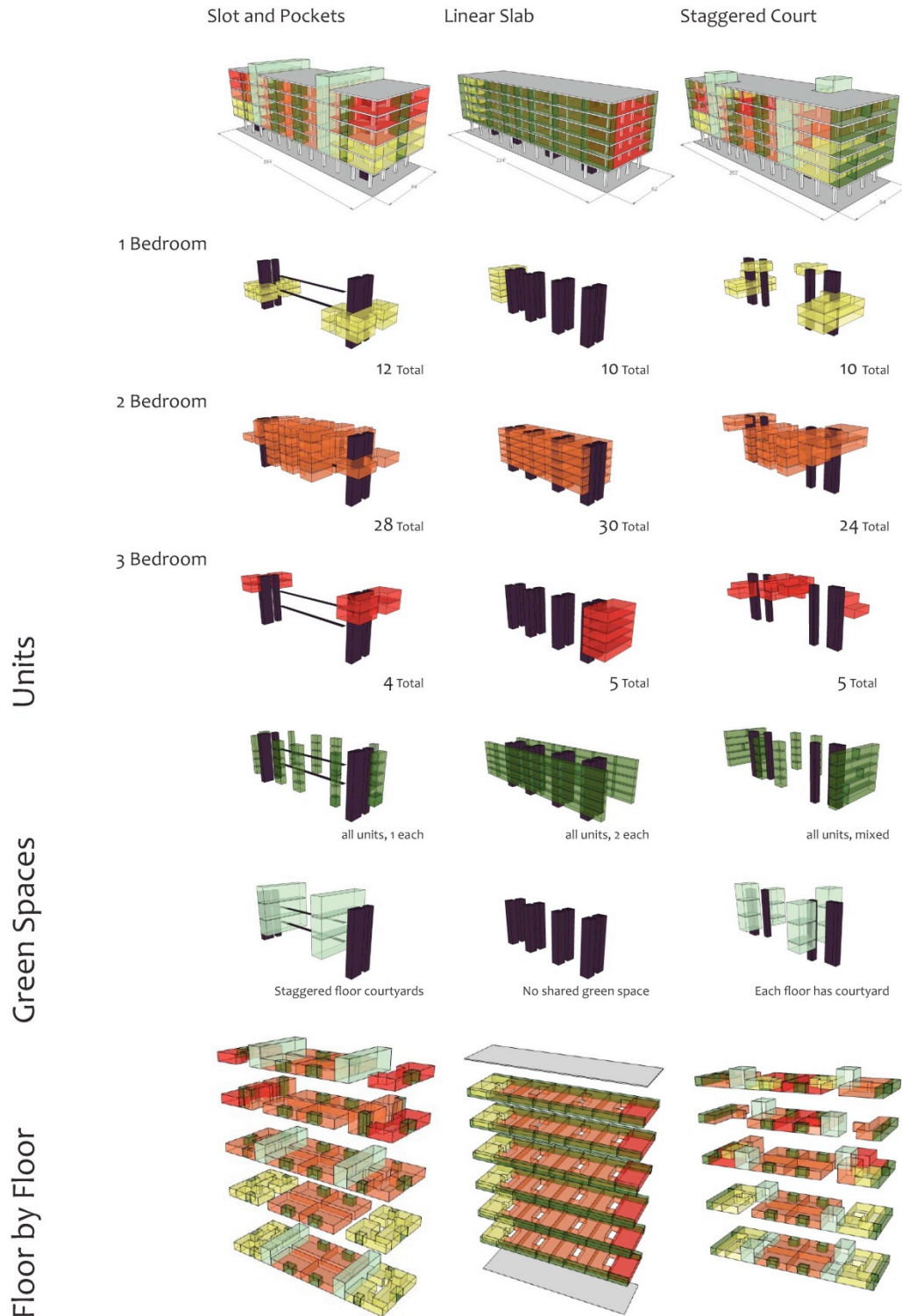


Figure 65: Perspective from outdoor room, overlooking courtyard. (Source: author)



Figure 66: Interior of unit, characterization of privacy while operable wall is fully open. (Source: author)





**Figure 67: Studies of variations on the common bar building. Understanding massing and spatial strategies within the confines of a known volume.**



Figure 68: Ground floor plan; Market, Retail, Lobby, and Storage spaces (source: author)



Figure 69: Even Level Plans; entries for units. (Source: author)



Figure 70: Odd Level Plans: Bedroom, bathroom, and double-height spaces for units (Source: author)

## CONCLUSION

If the American paradigm for housing is to successfully shift from suburb to city, it is imperative that the importance of the individual, the significance of the duality between privacy and community, and the essentiality of maintaining connections to the outdoors be fully understood and embraced. It cannot be expected that fifty years of psychological conditioning can be cast off merely with a blind nod to the theories that the suburban model is flawed. It would appear, in fact, that the vast majority continues to believe that suburbia is not flawed – that it remains the dream. By demonstrating that amenities will not be lost, but benefits will in fact be gained, it is possible to clarify and emphasize the value of urban living, and compel suburbanites to transition back from their half-century of wayward thinking, and find comfort again in a realm that once was home to the overwhelming majority: the city.

Indeed, translating the appeal of the suburbs into the convenience of the city demonstrates the latent potential of urban living without detracting from one's quality of life. All of the perceived amenities of the suburbs may be manifest in a more convenient, more connected, more sustainable, and more accessible setting. It is difficult to refute the added value, when the setting is shifted from the stale, overly-compacted stultifying paradigm to one that recognizes the desires of suburbanites as a valid yearning for outdoor access, privacy, creativity, and personal freedom.

In cities that are smaller, where the constraints of a daily commute do not sufficiently argue against sprawl, architects and planners cannot rely on the demand for optimal proximity alone. They must supply real appeal in functionality and form. To do so, it is important that lifestyle choices and interests not be renounced, but embraced. Suburbia still has a good deal to say, and it's not all bad.

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