Implementing Innovation in Real Estate Development:
Co-Living as an Innovative Product

by

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Bachelor of Architecture, 2004

Syracuse University

Submitted to the Program in Real Estate Development in Conjunction with the Center for Real Estate in Partial
Fulfillment of the Requirements for the Degree of Master of Science in Real Estate Development

at the

Massachusetts Institute of Technology

September, 2018

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Thesis Supervisor

Signature redacted

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Implementing Innovation in Real Estate Development:
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ABSTRACT

The real estate industry is very conservative and risk averse, yet innovation is critical to its long term viability. While innovation does occur in real estate development, it is often discouraged and not the standard approach. This thesis focuses on understanding the motivations and obstacles facing real estate developers who decide to pursue innovative products, processes and systems.

The study explores the challenges of developing co-living, a recent innovative real estate product in order to understand why this product is taking off across the country, and how it has been implemented in Boston and New York City. Insight into the innovation processes are derived from site visits and multiple interviews with professionals from different sectors of real estate: developers, consultants and regulatory authorities. The thesis concludes by describing five principles of innovative real estate development, relating to: Market Demand, Vision, Adoption, External Forces and X-Factors. While these principles are derived from experience in creating co-living projects, they are illustrative and important for the innovation process in all types of real estate products.

Thesis Supervisor: Dennis Frenchman
Title: Class of 1922 Professor of Urban Design and Planning
Acknowledgements

It has been a great year of immersive learning at MIT, from my professors as well as my classmates. I want to thank all of my classmates for the continuous feedback, support and great times together. I also want to thank the professors and staff at the Center for Real Estate for creating an inviting and stimulating place; the center will always feel like a second home.

Thank you to everyone I interviewed, who took time out of their busy schedules to candidly share their experiences and opinions for my thesis.

Thank you to Dennis Frenchman, my thesis advisor for the guidance to put together a cohesive thesis.

Lastly, thank you to all my family and friends who have supported me this past year, and more importantly over many previous years. This is not just a culmination of a one year graduate education, but a continued lifetime pursuit of learning that cannot be achieved alone.
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1 Implementation

Real estate is one of the oldest industries in the world, and because of established practices, as well as its long term physical aspects, it is one of the slowest industries to evolve and innovate. There are multiple reasons innovation is difficult to implement in real estate, therefore the goal of this thesis is to understand the process of implementing innovation in real estate products, by using co-living as an example of an innovative product. Innovation is hard to universally define, although at its core it means something new. For the purpose of this thesis, the meaning of real estate innovation is confined to a new real estate product that is one of the first of its kind in a specific market, and is successful. While there are also many other areas of innovation within real estate beyond product types, such as finance, construction methods, or technology; those areas are not discussed in this thesis given its focus on how to implement innovation.

Co-living is an innovative housing type that has gained recent popularity and it is equally as hard to define as innovation. However, as a concept, co-living is not a new idea, yet, there are few examples of large scale commercial real estate buildings built for this purpose in the United States. The most previous examples of co-living have involved smaller scale houses, apartments or single room occupancy buildings. Co-living by most definitions contains an aspect of shared space between unrelated people, but the innovative co-living real estate product has as much to do with the demographics of the residents as it does with the physical space of the building.

The trend over the last 100 years has been towards a greater percent of the population living alone for a larger portion of their life. However, the desire to live alone along with the economic realities and availability of single occupancy housing has not been aligned. This mismatch of supply of family housing and the demand of individuals to live alone has created issues with affordability, community, city planning and policy. The updated co-living product seeks to be an innovative solution to meet the demands of the market and provide more affordable housing for individuals in cities, by maximizing the efficiency of the residential units. In general, co-living can be summarized as a way to live with less personal space and more shared space, which results in an efficient use of resources and a stronger sense of community.

Naturally, implementation of a new real estate product in a slow to adapt industry presents many obstacles and challenges, which in turn requires very motivated real estate developers to create these buildings. The second part of this thesis, is to understand the motivations, obstacles and process of
implementing real estate innovation. This thesis involved research of the co-living product through text, professional articles, site visits, and a series of ten personal interviews with real estate developers, consultants and regulatory authorities. These in depth discussions about the nature of innovation in real estate followed the template shown in Appendix A. The questions focused on why this group of innovative real estate professionals worked on innovative products, and what got in their way. After analyzing each individual perspective, it was clear that there were similar thoughts among the group, which could be categorized into the following five principles; market demand, vision, adoption, external forces, and x-factors. All of these principles are key ingredients of the innovation process in the real estate industry.

This thesis creates a framework of how a particular innovative product is being implemented and how it has evolved in the real estate industry. While the anecdotes are specific to a few selected projects, the principles are guiding for all types of innovation in real estate.
2 Co-Living Product

Percentage of households with only one occupant

- Less than 15%
- 15-25%
- 25-35%
- 35-45%
- More than 45%

Massachusetts

- Population: 6,547,629
- Change from 2010: +3.1%

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Share of Pop</th>
<th>Change from 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whites</td>
<td>76%</td>
<td>-4%</td>
</tr>
<tr>
<td>Blacks</td>
<td>6%</td>
<td>+23%</td>
</tr>
<tr>
<td>Hispanics</td>
<td>10%</td>
<td>+46%</td>
</tr>
<tr>
<td>Asians</td>
<td>5%</td>
<td>+47%</td>
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<tr>
<td>Native Amer.</td>
<td>6%</td>
<td>-4%</td>
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<tr>
<td>Multiracial</td>
<td>2%</td>
<td>+11%</td>
</tr>
<tr>
<td>Other groups</td>
<td>1%</td>
<td>+39%</td>
</tr>
</tbody>
</table>

Figure 1: Boston Households with One Occupant

2.1 Demographic Trend [Living Alone]

The concept of people sharing living space is as old as human civilization, but it is a modern phenomenon of people preferring and being able to live alone. Although living in a community is innately important for humans to survive, to the point where exile used to be a form of punishment perceived worse than a death sentence, there is also a new desire for privacy and individual identity. As a result, the sense of community has declined in the 21st century for the reasons Robert Putnam describes in his book, Bowling Alone: declining family sizes, greater urban density, declining interest in religion, and the rise of digital technology have all acted to reduce physical personal connections.
U.S. Household Size 1950–2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Households (in 000s)</th>
<th>1-Person Households</th>
<th>4 or more Person Households</th>
<th>Average Number of Persons per Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>43,468</td>
<td>10.9%</td>
<td>37.8%</td>
<td>3.37</td>
</tr>
<tr>
<td>1960</td>
<td>52,610</td>
<td>13.1%</td>
<td>40.2%</td>
<td>3.35</td>
</tr>
<tr>
<td>1970</td>
<td>62,874</td>
<td>17.0%</td>
<td>36.9%</td>
<td>3.14</td>
</tr>
<tr>
<td>1980</td>
<td>80,776</td>
<td>22.7%</td>
<td>28.5%</td>
<td>2.76</td>
</tr>
<tr>
<td>1990</td>
<td>93,347</td>
<td>24.6%</td>
<td>25.9%</td>
<td>2.63</td>
</tr>
<tr>
<td>2000</td>
<td>104,705</td>
<td>25.5%</td>
<td>25.0%</td>
<td>2.62</td>
</tr>
<tr>
<td>2010</td>
<td>116,716</td>
<td>27.5%</td>
<td>23.0%</td>
<td>2.58</td>
</tr>
</tbody>
</table>

Figure 2: U.S. Household Size

Figure 3: Median Age at First Marriage 1890 to Present
Source: US Census Bureau
It is only within the last hundred years that a large percentage of the population has lived alone in single occupancy dwellings, with a steady increase from about 10% of the population living alone in 1950 to about 27% in 2010 (Figure 2). The many reasons for this cultural shift over time are debatable and the effects on society are inconclusive, but it is important to understand some of these reasons in order to create a successful co-living product.

The biggest cultural shift has been the delay of marriage, as the average age of marriage in the United States in 1940 was 24 for men while in 2015 it was 29 (Figure 3). This shift to a later marriage age creates a large population that is no longer part of a family household for most of their twenties. Previously, the most common life path was to go to college and then marry (cohabitate) almost immediately after graduation. Living arrangements have been slow to reflect this trend and rarely addressed in any major city in the country. In addition, this shift coincided with a large flight of the population to the suburbs during the 60’s and 70’s into detached family housing which allowed for more single people to live in the city in relatively affordable housing. The city has naturally become a place more suitable for individuals to live alone. In large metropolitan cities such as Boston and New York, it is more common for people to live by themselves, especially in the densest neighborhoods (Figure 1).

In addition, with the age of marriage increasing, so have the rates of divorce, to the point where the majority of adults (61%) are now single in the United States (Census Bureau). This has created a society where there is less of a stigma associated with being unmarried at a certain age. Instead, there is a new stigma associated with age regarding whether you have roommates. This new standard demonstrates it is acceptable to have a roommate as a spouse if you are married, but unacceptable if you share an apartment with a friend after a certain age. Likewise, it used to be common place for individual men to live in rooming houses in cities a hundred years ago. Society’s expectations has shifted towards encouraging, and respecting those who can live alone.

This move towards an individual society is thoughtfully discussed in Erik Klinenberg’s book Going Solo, where he notes that there have been four distinct social changes that have helped to create this individual society. First, the rising status of women who have more control over their work and reproductive lives allowing them to delay marriage. Second, the presence of new technology including social media which allows individuals to stay connected while living alone. Third, mass urbanization and density of cities which allows people who want to live alone to be a part of a community that accepts and facilitates that lifestyle more readily. Fourth, people are living longer and wanting to live alone to maintain their independence as they age. All four changes contribute to the increase in the desire to live alone, but they also represent a shift to modern values described by Klinenberg: “Living alone helps us
pursue sacred modern values – individual freedom, personal control, and self-realization... This means that living alone helps us discover who we are, as well as what gives us meaning and purpose” (17). The book notes a distinct shift from a society dependent on helping others to a society that places emphasis on individual discovery.

In addition, there have been generational changes and expectations about living environments. Most millennials, have experienced growing up in a suburban single family home with their own bedroom, and have expected a certain level of privacy. This has put a strain on many colleges to adjust their planning for new dormitories to reflect the growing demand for private bedrooms. These expectations of living alone and having privacy continue after college in the urban centers of the country. This trend of living alone is a permanent condition for society, but “for most people living alone is a cyclical condition, not a permanent one” (Klinenberg 18). This is important to note that most people will live alone at some point in their life, so the housing choices need to reflect that demand.
## Household Size in Greater Boston Counties (2009–2013)

<table>
<thead>
<tr>
<th></th>
<th># of Households</th>
<th>1-Person Households</th>
<th>2-Person Households</th>
<th>4 or more Person Households</th>
<th>Average Number of Persons per Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essex</td>
<td>306,605</td>
<td>28.0%</td>
<td>31.2%</td>
<td>24.2%</td>
<td>2.56</td>
</tr>
<tr>
<td>Middlesex</td>
<td>581,120</td>
<td>27.9%</td>
<td>32.2%</td>
<td>23.3%</td>
<td>2.52</td>
</tr>
<tr>
<td>Norfolk</td>
<td>257,914</td>
<td>27.9%</td>
<td>31.2%</td>
<td>24.8%</td>
<td>2.56</td>
</tr>
<tr>
<td>Plymouth</td>
<td>179,617</td>
<td>23.7%</td>
<td>32.5%</td>
<td>27.1%</td>
<td>2.70</td>
</tr>
<tr>
<td>Suffolk</td>
<td>288,240</td>
<td>37.0%</td>
<td>30.8%</td>
<td>17.2%</td>
<td>2.40</td>
</tr>
<tr>
<td>Greater Boston</td>
<td>1,613,496</td>
<td>29.1%</td>
<td>31.6%</td>
<td>23.0%</td>
<td>2.53</td>
</tr>
</tbody>
</table>

**Figure 4: Greater Boston Household Size**  

### 2.2 Existing Housing Product

In Boston, like many other large cities around the country, there is a housing affordability crisis led by strong demand to live in urban areas. A large part of this affordability issue is the mismatch of older family housing supply with the current needs of the population. The biggest growth in population in these growing cities is in the 20-34 year old millennials and the aging baby boomers, who want to live alone or in two person housing. In fact, Boston has the highest proportion of 20-34 year olds of any city in the country at 34%. This mismatch of supply and demand in Boston was thoroughly analyzed in the 2015 Greater Boston Housing Report Card by The Boston Foundation. In the report it is noted that within Suffolk County, which contains the city of Boston, there are 37% one person households and 67% one or two person households (Figure 4). However, a majority of the housing stock consists of traditional triple decker housing and larger apartments intended to serve the needs of families. This excess family housing is apparent in the number of family households (58,000) compared to the family housing stock (188,000) resulting in a considerable surplus of family units within Boston (133,000) (Our Houses Don’t Fit). In New York City, the situation is worse, with 1.8 million households consisting of one or two people, with only 1 million housing units that are studios or one bedrooms.

However, instead of having more affordable family housing with this surplus in Boston, single occupancy households are forced to live together as roommates in the family housing due to the lack of single occupancy housing. These roommate situations make-up two and three income households that
can afford higher rents, which creates the affordability issues for working families. This trend will continue to get worse without a substantial addition of single occupancy housing, as projected growth from 2010-2030 is for 138,000 (43% of total growth) additional single occupancy households.

Figure 5: Boston typical one bedroom split apartment
Source: Bostonunionrealty.com

In addition to driving up costs of family housing, the lack of single occupancy housing is also driving up costs of one bedroom units, partly because they can be split into a two bedroom unit. This phenomenon of taking a living room and turning it into a bedroom with temporary or permanent walls has been going on in dense urban areas like Boston and New York City for decades, leading to its own terminology in Boston as the “one bedroom split”. Figure 5 shows a typical older building one bedroom apartment that is easily converted in two bedrooms, often with a door frame already existing on the living room.
In newer buildings there is a complete industry devoted to “pressurized” walls that allow rooms to be divided in a temporary manner without damaging the exiting building walls or floors. Figure 6 demonstrates how a one bedroom apartment in New York City has been divided into three bedrooms with four roommates. The prevalence of these extreme roommate situations continue to increase due to many economic factors; including the lack of single occupancy housing and delayed marriage as discussed in the previous section. However, having roommates is not always the preferred long term living situation, and as noted in a recent Boston Globe article: “Roommate living used to be a stop-gap measure to get through the period from college to full economic independence. But now, adults are getting used to it as a way of life.” (Our Houses Don’t Fit) The compromise of having roommates can lead to more stressful living conditions, and a lack of long term stability with roommates constantly in transition.

An additional factor leading to the housing supply issues in Boston is the history of rent control, which existed for 30 years from 1964 -1994. This long period of rent control hampered new supply for such a long time that one real estate consultant, Pam McKinney believes that there is no danger in over building housing in the Boston area for decades. This is evidenced by the continually growing rents even
with thousands of new units being supplied every year for the past ten years. Further, the rising costs of residential real estate along with tax reform on capping the mortgage interest deduction has made ownership harder to achieve in expensive regions like Boston. With less home ownership, more rental demand could also have a negative impact on the affordability of housing for families.

Lastly, one of the main recommendations from the 2015 Greater Boston housing report card addresses the need to build more small single occupancy units of housing:

“With a large and growing undergraduate, graduate, and young adult working population in need of rental housing, we propose building 10,000 or more small apartments and “micro” units of housing in a new form we call millennial villages. With shared common living space, ground floor amenities, and proximity to public transit, these developments aimed at young millennials would alleviate much of the market pressure currently exerted on two-to-four unit structures and multi-unit buildings, freeing them up for working families at more affordable rents.”

This recommendation is consistent with the innovative co-living product that is described in the next section. Although, the housing demographics have been shifting for many years, the communities and the real estate developers have been reluctant to create new housing that is focused on what the market actually needs. Due to concerns about needing diversity of unit types within any one particular building, so the bigger market picture gets lost. However, co-living is a new product that has the potential to meet the needs of the market.
2.3 Co-Living as an Innovative Product

Co-living as a concept is not new, but the implementation of this concept as a real estate product with full service living is an innovative idea. Fundamentally, co-living is an improvement to the way many young people have been living in cities for decades, as roommates within small spaces. The difference is that these real estate co-living products make it easier and more accessible to live with other people. This concept follows the larger societal trend of the sharing economy as another way to increase efficiency of resources. Similar to car sharing, bike sharing, co-working or Airbnb, co-living is another version of removing ownership and paying only for the resources that you need, and removing the burden of ownership (Figure 7). This means that you have less personal space, such as living rooms, kitchens, bathrooms and instead share all those resources with others in order to reduce your overall expenses to live. In addition, co-living reinforces a sense of community due to the necessitation of sharing space, and with active social programming by the co-living operators.

The co-living product has evolved from two key issues: a solution to the affordability of housing and the removal of the pain points of living with other people. First, most people have roommates due to the high cost of housing in large cities everywhere in the world. Subsequently, in many cities including New York City, and Boston people find apartments and fit in more people than is legally allowed, as discussed in the previous section regarding the one bedroom splits. These apartments are referred to as...
part of the “underground” housing market because they are often illegal, partly due to the buildings not being designed for the higher occupant load, and partly because the bedrooms may not meet building code living standards. However, there is high enough demand to live in these areas that many people are willing to overlook these concerns for an affordable place to live. Second, finding a good roommate situation can be very time consuming and frustrating.

Co-living solves affordability by recreating the underground housing market legally and purpose built in new real estate development and building renovations. Co-living eliminates the need for individuals to have to put up their own subdividing walls while also providing better common living spaces and amenities. Figure 8 shows a typical 2 bedroom suite at Alta by Ollie that is in effect a one bedroom split. The goal of co-living is to provide a place to live that is of better quality, and more affordable than living alone in a comparable studio or one bedroom apartment.
### Figure 9: Alta by Ollie Value Comparison

Source: altalic.com

Co-living is a blend between apartment and hotel, with many services that reduce the friction of sharing space, while also creating a value proposition. Figure 9 is a value comparison of the services included at Alta by Ollie compared to a regular class A amenitized apartment building. Regarding the friction of roommates, the largest issue is cleaning, so all co-living operators included cleaning services on a regular basis. Most also provide weekly bed linen changes, shampoo, soap and toilet paper. Another common frustration with moving and living with others involves the responsibility of utility bills and set-up of TV and internet. All co-living models include most of the utilities within their monthly fees eliminating the need to set-up those services and collect money from roommates. The third main pain point is furniture, which often does not fit from one apartment to the next, or having a roommate move out with the couch. All co-living models include furniture, with some providing high quality adjustable furniture to maximize the usability of the limited space in the bedroom. Lastly, some co-living operators offer a variety of other services, such as laundry, dry cleaning, package delivery, dog walking or roommate matching, that all are intended to create more free time for the residents. With this free time, there are a variety of social programming that occurs in the common living spaces to encourage the residents to pursue their own personal interests, as well to get to know the community.

<table>
<thead>
<tr>
<th>ALTA* by Ollie</th>
<th>Traditional Studio</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,380 - $2,063</td>
<td>$2,300*</td>
</tr>
<tr>
<td>Gym with Pool</td>
<td>Included</td>
</tr>
<tr>
<td>Social Club &amp; Community Events</td>
<td>Included</td>
</tr>
<tr>
<td>Multifunctional Furniture</td>
<td>Included</td>
</tr>
<tr>
<td>Housekeeping</td>
<td>Included</td>
</tr>
<tr>
<td>Linen &amp; Towel Service</td>
<td>Included</td>
</tr>
<tr>
<td>Bath Amenities</td>
<td>Included</td>
</tr>
<tr>
<td>Premium TV (350 Channels)</td>
<td>Included</td>
</tr>
<tr>
<td>High-speed Wi-Fi (330 Mbps)</td>
<td>Included</td>
</tr>
<tr>
<td>Total Monthly Cost</td>
<td>$1,380 - $2,063</td>
</tr>
</tbody>
</table>

*As of March 2018
With all of these extra services, the critical component for profitability of the co-living real estate product is the efficiency of management or operational expenses. The profit margin comparison of the co-living high square foot rents to regular apartment buildings can be misleading. There is a much higher percentage of operational expenses per square foot due to the smaller unit size, the additional services provided, and in particular the expensive furnishings. Further, the target market is very transient likely leading to higher turnover and short term vacancy. Finally, there are limited operators with experience of this new product and poor management can easily lead to failure.

Co-living has become more visible over the last couple of years as new purpose built buildings have been opened, but the co-living concept has been in various stages of activity over the last five years. There have been a few start-up failures, with one of the more notable as the co-living operator Campus. Campus had control over 30 properties with 150 tenants in New York and San Francisco in the two years they were in operation. There model involved leasing buildings, renovating and renting the rooms individually. While this allowed them to take on the risk of managing the whole building, they did not negotiate a high enough margin for their management service, as they were never able to make the properties economically viable. Further, the inefficiencies of layouts with existing buildings, did not allow them to maximize the revenue of the space. As well, it was reported that there was a policy of allowing residents to interview and decide who could live in the buildings, leading to abnormal vacancies. Another co-living concept that started in Boston, called Krash, had a similar model that they called co-housing where they focused on getting creative tech start-up people to live and work together in a more standard six bedroom house. This was more of a mix of co-working and co-living that expanded quickly to six locations in New York, DC and Boston. They also ceased operations after a couple of years due to the inability to attract enough people to pay a premium over comparable house share rents for the services and management they were providing. These two small scale co-living examples were not able to create enough efficiencies of scale to offer a true value proposition.

In contrast, the new purpose built co-living buildings are of a much larger scale that can be more successful from an efficiency of square footage and management perspective. In general, there are two scales of co-living models. First, there are the smaller scaler buildings or houses that contain anywhere from 5 - 50 beds and are usually what most people relate to when they think of co-living. This version is similar to an off-campus college house where there are many bedrooms, shared bathrooms and a kitchen. While the previous two small examples failed, there are multiple successful versions of these non-institutional types of co-living, including Common and Starcity, which are profiled later in this chapter. However, these smaller co-living operators are not as much the focus of this thesis. Instead, the
focus is on innovation with the implementation of the larger scale institutional commercial real estate co-living operators, such as Ollie, The Collective and WeLive, which are also profiled later in this chapter. These larger scale co-living properties consist of 200-700 beds and are very similar to student dormitories, where there is different levels to sharing of bathrooms, kitchens, and common space.

These two differing scales of co-living are probably akin to people’s desires to live in cities versus suburbs. However, as no one living solution is right for everyone, co-living is not intended for everyone or as a permanent living situation. However, an intriguing interactive online survey by Ikea’s research lab, called One Shared House 2030 was created to gather information on what are the priorities for people who are going to live together in a communal setting in the future. The premise is that with population growth, and finite resources, the world will need to become more efficient and co-living is one way to maximize the efficiency of resources. The results noted in Figure 10, give some insight into how co-living could work best and many of the innovative co-living products are aligned with those results.

Figure 10: One Shared House Survey 2030 Results
2.4 Co-Living Companies

2.4.1 Ollie

Living with Ollie means complimentary...

<table>
<thead>
<tr>
<th>COST SAVINGS</th>
<th>CONVENIENCE</th>
<th>COMFORT</th>
<th>COMMUNITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ollie residents save on average over $500/month in added perks and complimentary services.</td>
<td>- Weekly Housekeeping - Linens &amp; Towel Service - Bath Amenities from Malin + Goetz - High-speed Wi-Fi &amp; TV Programming</td>
<td>- Fully Furnished Units - Extraordinary Amenity Spaces - Linens &amp; Towels Provided - Doormen Provided</td>
<td>- Ollie Social Membership - Regular In-building Events - Live-in Community Manager - Weekend Getaways</td>
</tr>
</tbody>
</table>

Figure 11: Ollie four C’s of Co-Living
Source: Ollie.co

Founded: 2011
Locations: New York City, Pittsburgh (Future: Boston, Jersey City, Los Angeles)

Ollie is a co-living management and operation company that works with real estate developers to get co-living buildings created across the country. Ollie does not own the land or the buildings but works with developers as a design and management consultant to guide the process with exclusive management contracts.

Ollie’s mantra is “All Inclusive Living”, created on the premise that all the services needed for housing are included in the rent. Figure 11 demonstrates their four C’s of co-living and the general value proposition of all inclusive co-living. Ollie is focused on large scale institutional commercial real estate projects that are Class A apartment buildings. Ollie Recently opened Alta (March 2018) in Long Island City, New York as the largest co-living building in the country with over 400 beds on 15 floors of a 43 story residential tower. Alta is their model for future co-living projects which contains 2 and 3 bedroom micro suites, along with 27,000 sf of common amenities, distributed on three floors of the building. Ollie utilizes high end adjustable furniture to create more efficiency out of the small personal space (Figures 12 and 13). In addition, Ollie is focused on creating a social network throughout their cities allowing members to participate in social events at different locations through their platform Ollie Social.
Figure 12: Alta by Ollie website and interior image  
Source: altalic.com

Figure 13: Alta by Ollie Interior Photo  
Source: Courtesy of Ollie

Additional References in Appendix F
2.4.2 The Collective

What is co-living?

Co-living is a way of living in cities that is focused on community and convenience. Live as part of a community, sharing wonderfully designed spaces and inspiring events, with the comfort of being able to retreat to your own fully furnished private apartment at the end of the day. Everything you need to make the most of city life is included in one convenient bill; rent, concierge, superfast internet, all utilities and taxes, room cleaning, exciting daily events and gym membership. So you can do the living, and leave the rest to us.

What's included:

- All inclusive bills
- Superfast broadband
- Bi-weekly cleaning
- 24/7 concierge
- Laundry facilities
- Communal spaces
- Gym
- Work spaces
- Flexible contracts
- Events programme

Figure 14: The Collective co-living description
Source: thecollective.com

Founded: 2010
Locations: London, (Future: Germany and U.S. - Boston, New York City, Chicago)

The Collective is a co-living real estate developer and operator based out of London that owns their land and buildings. The collective believes in having full control over the properties in order to modify and operate their ideal co-living model.

The Collective operates the largest co-living building in the world which contains over 550 beds, as well as co-working space for 400 in an 11 story tower called Old Oak (Figure 16). The design is distinguished by small bedrooms of approximately 150-200 square feet including an ensuite bathroom. There is a mix of studios and two bedrooms suites that are paired to share a kitchenette and referred to as a “twodio”. The collective does not believe in having adjustable furniture and the rooms are configured more typically like a micro hotel room (Figure 15). The same principles of all services included apply to the building, including cleaning, linen, utilities and social programming in addition to others (Figure 14). The building is configured with a communal kitchen and living area on every floor serving about 30-70 residents. Future buildings in the U.S. are likely to be configured differently to confirm to local building codes that do not allow such small units. As well, classification of residential versus hotel is a factor in the building design.
Figure 15: Old Oak Interior Photo
Source: Smith, Oliver. “Exclusive: Britain’s Co-Living King Has Raised $400m To Take On WeWork In America.” Forbes

Figure 16: Old Oak Exterior Photo
Source: Smith, Oliver. “Exclusive: Britain’s Co-Living King Has Raised $400m To Take On WeWork In America.” Forbes

Additional References in Appendix G
2.4.3 WeLive

A New Way of Living.

WeLive is a new way of living built upon community, flexibility, and a fundamental belief that we are only as good as the people we surround ourselves with. From mailrooms and laundry rooms that double as bars and event spaces to communal kitchens, roof decks, and hot tubs, WeLive challenges traditional apartment living through physical spaces that foster meaningful relationships. Life is better when we are part of something greater than ourselves. Whether short term or long term, WeLive has flexible options designed to meet your needs.

MOVE IN FOR MONTHS or STAY A FEW NIGHTS WeLive is your home as long as you need.

Figure 17: WeLive description of co-living
Source: welive.com

Founded: 2010
Locations: New York City, Arlington VA (Future: Seattle)

WeLive is a co-living operator, fully owned by WeWork, that currently operates on a tenant lease model where they rent their spaces from building owners and developers. However, WeLive is exploring ownership models and is constructing a 36 story tower in Seattle with a local developer in which WeLive will operate 23 floors and 384 units, in addition to WeWork co-working space on the lower floors.

WeLive’s first building is located on Wall St. in downtown New York City, and contains 200 units in a mix of studios, and one to four bedroom apartments. This location is situated above 7 floors of co-working space, which is a fundamental part of the WeLive model. WeLive also distinguishes itself from other operators with month to month membership agreements, and the ability for people to rent rooms by the night (Figure 17). WeLive is focused more on the community, services, and quality design (Figures 18 and 19) than on maximizing unit efficiency. The Wall St. location has common space on every floor.
Implementing Innovation in Real Estate Development: Co-Living as an Innovative Product
2.4.4 Common

Common is a co-living operator and management company with 20 homes in 5 cities, including over 400 members. Common’s co-living model is mostly focused on smaller urban houses that have 10-50 beds, although they recently took over management of a larger 70 unit apartment building in Brooklyn named Baltic, providing over 140 beds.

Common so far has been managing standard designed apartment buildings, and facilitating the ability to rent a bed with all of the co-living community services. Common’s first project, Pacific, was in Brooklyn in which they took over a failed brownstone condo conversion (Figures 21 and 22). The building has 4 “Suites” (or apartments) with a total of 19 Beds. Interestingly, with all New York City co-living locations, all the leases must be apartment based and not per bedroom in order to comply with local regulations.
Figure 21: Interior photo of common space at Pacific Common
Source: brownstoner.com

Figure 22: Exterior Photo of Pacific Common
Source: brownstoner.com

Additional References in Appendix H
Our mission is to make cities more accessible to everyone.

We accomplish this by creating comfortable, community homes that inspire people to live a more intentional life.

Figure 23: Starcity Mission
Source: starcity.com

Founded: 2016
Locations: San Francisco, Los Angeles

Starcity is a co-living real estate developer and operator that is vertically integrated with construction, design and management of their properties. Starcity typically renovates existing buildings, with a focus on non-residential buildings to convert into efficient co-living communities. They see the regulations to build ground up buildings in San Francisco as prohibitive due to time and costs.

Starcity has five properties with 10-30 beds, each with a strong focus on community values and the promotion of urban living as sustainable (Figure 23). One of their first renovations was a property in the mission district (Figures 24 and 25) which previously operated as a Single Room Occupancy (SRO) monthly hotel, and legally still is defined as that use. Starcity has 3-12 month leases initially, but allow month to month after the first term.
Figure 25: The Mission, House Kitchen Photo
Source: starcity.com

Figure 24: The Mission, Floor Plans
Source: starcity.com

Additional References in Appendix I
3 Innovation Process

The previous chapter discussed the background and creation of a new co-living product to address the cultural shift of living alone, seeking community, and issues associated with the existing housing stock. This chapter takes the next step in exploring the process of implementing co-living by proposing five principles of innovating in real estate development. Although the focus has been on co-living, I believe these concepts apply to implementing all types of innovation in real estate. These principles emerged through an analysis of ten interviews with professionals from different sectors of real estate: developers, consultants and regulatory authorities (See Appendix A for interview questions). Below is an introduction on each of the interviewees and why their expertise was important to this study on co-living and innovation.

Real Estate Developers:

Matt Edlen, Director of Acquisitions and Development, Gerding Edlen

Matt Edlen has over 10 years of experience developing real estate projects across the country, including some of the first micro units built in Boston at the building 315 on A. His company has been an innovator in sustainability and master planned communities across the country.

Theodore Tye, Managing Partner, National Development

Ted Tye is a founder of National Development and has over 30 years of experience developing real estate projects all over the country. He is actively engaged with Ollie on implementing Boston’s first co-living project, 7Ink, at the master planned development, Ink Block.
Benjamin Lavery, Associate Director, MIT Investment Management Company

Benjamin Lavery has over 25 years of experience in real estate, and construction management, as a partner at Boston Properties. He has developed innovative large scale commercial projects in Cambridge, including one the first LEED platinum buildings in the United States.

Frank Dubinsky, VP Development, Monadnock Development

Frank Dubinsky has led development at Monadnock for over 15 years, including developing the first all micro unit project in New York City; Carmel Place, currently operated by Ollie.

Matthew Baron, President, Simon Baron

Matthew Baron is a founder of Simon Baron and on the board of directors for Ollie, as an early investor in the company. He recently finished building the largest scale co-living building in the United States called Alta in Long Island City, New York, which is also managed by Ollie.

Real Estate Consultants:

Tamara Roy, Principal, Stantec Architecture

Tamara Roy is a principal and architect at Stantec Architecture with over 30 years of experience designing buildings across the country. She has been an advocate for compact living for over 10 years, including involvement on the compact living regulations for the city of Boston. Notably she designed Boston’s first micro hotel, Yotel in the seaport. She was previously the president of Boston Society of Architects.
**Pam McKinney**, Principal, Byrne McKinney & Associates

Pam McKinney is a principal at Byrne McKinney & Associates with over 30 years of experience in the Boston real estate market as a real estate development consultant. She was hired to create a market study for National Development to understand the demands for the co-living product at 7Ink for the Ink Block.

**Chris Bledsoe**, Co-Founder & CEO, Ollie

Chris Bledsoe is the founder of Ollie, a co-living real estate company that operates and manages co-living buildings across the United States.

**Michael Winston**, Business Development Director, The Collective

Michael Winston is the business development director for The Collective, a co-living company based out of London looking to expand across the United States. The collective currently operates the largest co-living building in the world in London.

**Regulatory:**

**Marcy Ostberg**, Director, Boston Housing Innovation Lab

Marcy Ostberg is the first director of the Boston Housing Innovation Lab, a platform to explore innovative housing solutions in Boston. She has a background in urban policy, and has created the city’s compact living regulations as one part of the solution for the housing affordability crisis in Boston.
3.1 Market Demand [The End User]

Perhaps the most obvious requirement for innovation, is a marketplace that wants innovation. While every market has pain points that need to be addressed, it is necessary to understand the end user and their needs in order to be successful at innovating. While this seems as simple as identifying the pain points, many times the solution is not exactly what the customer says they want. The end user can only react to what exists in the market, and not always be able to describe an innovative solution that they would purchase or rent. Most renters are looking for an affordable place to live, but they are also looking for status, a lifestyle, a place to belong, and a community; motivations that they may not readily admit to being important in their rental decision process.

It is this desire for human connection that many innovative developers strive to create in their projects, and especially in housing. Matt Edlen of Gerding Edlen discussed the importance of a “deep connection to the consumer we are trying to attract” and the goal to “really facilitate human connection” through dynamic and usable common spaces that were the right size and not at a scale that discouraged their use. The more the building met the needs of the end user, the more satisfaction and ultimately retention and potential income growth there was in the asset. The idea is that understanding the end user is a form of mitigating the downside risk by producing something that people want to use and value.

Listening to the end user was an important recurring theme in the interviews and it was noted by Ben Lavery of MITIMCo, that “ideas come from the end user and the design community, then it’s up to the developer to identify that as a priority”. This is noticeable, for example, in the recent shift to all glass office buildings over the last 20 years. Lavery observes that “certain developers listen and certain developers don’t”, and those developers that listen to the customer are able to retain higher rents and the best tenants in those glass office towers.

Another key aspect of the market demand is the affordability of the product available. This is a key driver in the success of smaller housing units, whether micro units, co-living or just more efficient layouts. Gerding Edlen’s philosophy revolved around creating a more affordable unit that was more efficient with the mantra “right sizing your lifestyle, right sizing the market”. This sizing and affordability was further enhanced by Edlen noting that “my entire focus is on creating an equitable situation, where your absolute dollar rents can be proportionally lower”. While Edlen was reducing standard apartment sizes at 10-20% smaller to make them more affordable, real estate developer Simon Baron and operating partner Ollie went further in their reduction of the unit size in creating co-living buildings.
Their innovation was creating buildings that mimicked the existing housing market, where people were turning living rooms into bedrooms to be able to pay their rent. Matthew Baron of Simon Baron explained that “you are innovating on something where the underlying fundamentals already exist and already make sense”. There is a “huge underground market... it is going to happen anyway, why not do it legally, purpose built, and instead of the tenants getting the arbitrage, we’ll get the arbitrage”. Chris Bledsoe of Ollie, noted the same personal experience of his brother subdividing his apartment in New York City and that “there was a 50% economic arbitrage that was just being left on the table simply because we weren’t reconfiguring the spaces the way that the market actually wanted them”. Matthew Baron went further to address affordability by saying “there is a really strong argument here that we are creating housing that’s a lot more affordable without any subsidy”. These developers noticed the rising concern of affordability of new construction and innovated to create a product that the end user was already experiencing.

While affordability, as defined by lower absolute rents, is a definite result of a smaller unit size and a large part of the existing market, it might not be what developers actually prefer. Yet, the market demand is capped by the number of people who can afford new construction rents that grow at the rate of construction costs (8%-10% annually), especially as wages only grew at a more modest rate (2% annually). The only way to account for this growing gap is to build smaller units, and this is the main factor in the need to innovate to find a solution that would allow developers to continue to build housing. This concept was deftly illustrated by Pam McKinney; “Most developers that I know who are contemplating micro products... not because somehow the market really wants this... they are going in this direction because costs to build have become so high and continually escalate that they have to find a product that they can rent at an extremely high rent [per squarefoot]”. In this situation, the developers are able to get more money per squarefoot, as renters typically focus on the absolute rent and not the per squarefoot cost. Renters can afford a certain amount per month based on their income and are willing to pay as much as they can to be in a great location. By minimizing the area per unit, the developer can still get close to the same absolute market rent of a comparable larger, older unit. McKinney further elaborated on the intersection of affordability and desirability of location as a key component of smaller living space:

“really it is affordability on the consumer side that is at the heart of the markets acceptance of smaller units, it is not that they think they are fabulous and cool, that’s what consumers say to convince themselves that they should be satisfied with less space, they justify sub optimal sizing
of units, by saying well we are getting community and cool convertible furniture, but honestly it is driven by financial considerations”

In essence, developers and tenants would prefer to build and live in more standard size apartments if they could afford to build or live in them, but the economics of building housing requires innovation.

Lastly, the market for multifamily housing is limited in its variety and options of real estate product type: Apartments, Condo, Hotel, and Senior. While there are slight variations within the product type of apartments between unit sizes, and building configuration; high-rise, low rise, garden style or three family (triple deckers), there really isn’t much choice in those living arrangements. As noted by Chris Bledsoe of Ollie, there hasn’t been much innovation in housing choice: “our single biggest consumer expenditure is housing... and it is the most basic on Maslow’s hierarchy of needs, it’s the fundamental thing, shelter...yet we have more choice in our cereal than we do in our housing”. Co-living really is a new product type, particularly when the units are built new with this purpose in mind, giving people another choice for their housing needs.

Figure 25: Ink Block project overview
Source: inkblockboston.com
It was this diversity of choice thinking that Ted Tye of National Development looked to diversify the product offerings at the Ink Block project with a co-living building instead of another apartment building to compliment the current traditional apartment, condo and hotel buildings already active at the master planned development. The Ink Block project rendered in figure 25 is completed with the exception of the future 71nk co-living building which will have 250 units totaling over 400 beds. The current site has three apartment buildings with a total of 315 units, two condo buildings with 150 units, a 200 room hotel, 50,000 sf Whole Foods along with retail and restaurants as shown. This community will offer residents the ability to move between buildings and lifestyles without having to leave the amenity rich neighborhood.

In summary, market demand can drive innovation if developers focus on the end user, not just delivering standard unit types. Currently, end users are demanding housing that offers a place for human connection, affordability, and more choice in lifestyle, which has led to the innovation of co-living.
3.2 Vision [Define the Innovation]

Innovation can be a long and risky process, and is best pursued with a clear vision of the product. As noted in the Market Demand section, the end user cannot always ask explicitly for, or visualize, the innovative product they actually want. When most people think about co-living, for example, they focus on the physical product as reduced size living space, and while that is a true attribute of the product, it is not the underlying vision or purpose of co-living. In reference to efficient innovative housing, Matt Edlen noted that it “had nothing to do with the unit itself and everything to do with the common space”. Similarly, Ted Tye described the vision at the Ink Block: “our focus on this next building is actually not on the micro, it’s on the coliving”. The vision for co-living is less about the unit and more about the experiences and the community that is produced when people spend more time outside their unit and in the public spaces of the building or the city itself.

For innovation to be successful, it is important for the vision to be understood completely before it can be communicated or sold as a product. As well, the product itself must be true to that vision, as Frank Dubinsky of Monadnock Development noted, “it is such a challenge to show somebody something new, you really have to believe in the vision and make it happen and maybe do a better job than you would do in another building”.

The main vision of co-living is about creating community inside and outside of the building, therefore, co-living is best suited for a dense urban environment with the many amenities of the city are outside the front door. On the other hand, it is not a practical solution for the real estate developer to build enough amenity and common space within the project to occupy all of the residents’ free time. Boston and NYC are dense, urban cities with many opportunities for recreation, culture, entertainment and socializing and this compatibility is noted by Pam McKinney: “the cohousing concept is a viable concept in Boston... you still have to be careful about where you put it, you can’t just put it anywhere, it has to be an attractive location to the populations you are trying to serve... [but] as a long term trend and solution it has a role”.

As well, the internal amenities are just as necessary to co-living as the exterior city amenities. Most co-living buildings have services that address the pain points of living with other people, such as cleaning, utility bills included (not having to coordinate paying bills), laundry drop off, dog walking services and building wide activity programming. The services provided are part of the vision to have an all-inclusive environment that allows the residents the ability to have more free time to pursue other endeavors. Likewise, there are less personal material things owned and stored individually, which
creates more efficiency with the shared resources. This is well stated by Tamara Roy, an architect who specializes in efficient housing design, in saying that “co-living at least has the potential to be a new model where people have less for themselves and share more and get a sense of community”. However the community aspect is not mandatory, and as noted by Matthew Baron, “people really wanted that sense of community... whether they use it or not, they wanted to have access to it, and the ability to use it... that value proposition of having everything there for them, at a high level”. Having all the conveniences of living in a dense environment was as important to the vision of co-living as reducing personal space for affordability.

The second part of defining an innovation vision is to be able to sell that vision as an innovative product that is differentiated in the market and not a commodity like every other apartment building. This ability to sell the vision is critical for an innovative product and sometimes can require some innovation in itself. In creating the Ink Block project, developer Ted Tye employed a film maker from Brooklyn early in the master plan phase to help sell the vision of the place they were creating in an otherwise vacant, gritty area of the south end neighborhood. It was through this use of media that Tye noted he was a “real believer in using technology to sell”. In a different project, Tye deployed a similar strategy for the rezoning of a project. He used a video to explain the vision of a desired master plan and the feel for the future large development which was presented to the planning and zoning board for zoning variances. This approach to presenting the vision was deemed much more successful at achieving the goal of additional height and adjusted setbacks rather than a formal drawing that only demonstrated the dimensions of the request.

Another innovative example of selling the vision, noted by Matt Edlen, was the use of a creative branding company that had never worked on a real estate project before, in turn bringing a new perspective that was able to differentiate the project in the market. This form of vision creation, while potentially risky without the proper management, was important to create a cohesive and guiding vision for future decisions. A comprehensive vision is very important for innovative projects due to the nature of its unproven product. Without a clear vision, the product can evolve in the wrong way and lose its purpose, as it is easy to lose the vision of the final product through the many obstacles that are encountered (discussed in the External Factors section). This is explained by Frank Dubinsky regarding an innovative vision: “can you have a vision, that gets you there from the beginning... if I am doing something new and different, I have to convince people of it, and not only have to convince them during the design phase... but I got to build what I say I am going to build, I can’t cut corners”. The final product must stay aligned with the innovative vision for all details for the best chance of success.
3.3 Adoption  [Capacity for Change]

Innovative products, by their definition, are new and for many reasons their adoption in the market can be slow. It is often more successful to innovate through incremental changes than to change everything at once. Particularly in a conservative industry like real estate where the investors are cautious of implementing new innovations without a proven track record; there are economic restrictions. For example, developers have been cautious to add too many electric vehicle charging stations to their parking garages as the vehicle market is slow to adopt electric vehicles. However, there is a common approach to have the infrastructure available in the building with the electrical capacity ready for when those capital expenditures are appropriate. This incremental approach is more common in real estate innovation.

Likewise, technology presents a unique challenge to the capital intensive real estate industry because of the rapid changes that can take place in buildings that require a substantial investment. Matthew Baron explained how in the process of developing and designing buildings that “the technology outpaces your planning a lot faster”, and he used the example of how storage space and staffing needs for multifamily products have shifted in less than four years to the need to accommodate increased package delivery, particularly from Amazon prime. Similarly, solar panels are an example of technology on buildings that constantly evolve in their efficiency and life cycle costs, making it difficult to plan for future innovation. In addition, there is a lot of information and knowledge of new technology being shared across the industry reducing competitive advantages. Although the speed at which real estate products shift to new technology can be daunting in this information age, it is important that innovative developers stay current on the new technologies, in order to be flexible to adjust during the design and construction process. Michael Winston from the Collective explained that it is part of the Collective’s core innovation principles to always adjust their operations to refine the co-living product. The process of innovation does not stop at the planning stage, it is constant throughout the lifecycle of development.

In addition to technology evolving quickly, there is a distinct learning curve to implementing new products, because of all the unknown future situations that will occur. For example in the Carmel place project, the micro unit rents were substantially reduced through innovative construction, efficient unit layouts, and subsidized land costs, but yet the lease up was not nearly as rapid as the brokers and owner had anticipated. It was believed the dominant factor of competitive rent would attract so much demand in order to lease up the 32 market rate units in one month.
However, not anticipated was the inability of the consumer to understand the new product through traditional methods of pre-leasing with renderings and floor plans. It quickly became apparent that the tenants wanted to be able to physically confirm the feel and quality of these micro units before agreeing to sign a lease. Frank Dubinsky explained that for innovative products, “you got to touch and feel it, if it is anything different than what you are used to seeing”. This learning curve existed not only for the developer who implemented the innovation, but also for the market that needed to get comfortable with the new product.

There is no substitute for testing the actual product, however, to test co-living as a product, it requires a long development cycle to get the product created. Ollie’s goal to get a working co-living prototype, the Alta property, took four years from conception through construction and operation. While this development cycle is long, it was critical to create a product that was truly differentiated from other models of co-living, and particularly the existing “underground” housing market. As noted by Chris Bledsoe of Ollie in regards to competing with an existing “underground” housing market: “to properly disrupt this space does require new construction... disruption is about driving price points down and driving the experience score up... deliver a better experience at lower price points”. This thinking reaffirmed the need to create an innovative product that will stand up to a discriminating market that is slow to adopt new products. However, once the product has been shown to work, and with continual adjustments, then the learning curve has been overcome and the product is no longer innovative but a part of the established real estate product categories.

However, no matter how incremental the changes and how well executed the product with a deliberate planning process, it is important that the product not be ahead of what the consumer is willing to accept. In many industries, including real estate and architecture, this is sometimes referred to as the bleeding edge. While most companies want to be forward thinking and have a “leading edge” for new technology, there is a real concern for overspending on products that do not produce enough benefits to justify their expense. There are many examples of sustainability products, including energy efficiency products, such as smart metering that could be cited as bleeding edge products. While having more information is great, it is only useful if it can actually reduce the energy costs. Generally, the amount of energy saved by using numerous smart meters is not enough to justify the original capital expense, especially as the technology changes every couple of years. Likewise, products aimed at energy efficiency, such as automatic thermostats are only as good if the occupants are willing to accept the changes to their environment. If the occupants are used to very specific temperature ranges of comfort in the heating and cooling periods of the year than it is hard to save energy without that behavioral shift...
and adoption from the end users. The behavioral and societal changes needed by the market can be one of the larger obstacles to the success of innovation in real estate.

For co-living there are many adoption concerns over how small a space is acceptable to the local market. Markets throughout the United States and the world have different cultural expectations when it comes to area size of housing. This was well described by Ben Lavery of MITIMCo: “I think the social adoption is huge... look at how people are used to living in NY versus living in Boston, or Tokyo, where they have been living that way for 40 years if not longer... that seems to be one of the largest impediments [to smaller units]”. It is common knowledge that what works in New York, might not work for Boston, Chicago or Houston or other different markets around the country. Determining what will work in a specific market can be very hard to calculate when it comes to innovation and introducing new products.

One way to understand the local market, especially with new innovative products is to partner with experts. In many situations, implementing innovation is about managing the risks, and using experts will reduce the learning curve mentioned previously. This was a point made by Ted Tye of National Development, a large company that is diverse in its product offerings:

“We do a lot of different products, but when we do something that maybe others know better than we do, we have tried to partner up. On all our hotels we partner with an operator, we have done thirty plus senior housing communities, we partner with an operator, we do all the creative side of design and permitting, and concept, but ultimately we get somebody to run it day to day, and we felt the same way on this first [co-living project], to bring in Ollie.”

A similar approach of using partners to manage the risks of innovation was explained by Frank Dubinsky regarding the affordable housing market in NYC; “a large reason why New York affordable housing tends to lead the way with new typologies and new ideas; passive house buildings, micro units, is because you have partners willing to fund it and also work things out with you and minimize risk”. His experience working with the city on Carmel Place and other projects with larger affordable housing components have been able to take more risk in innovation for a couple reasons. First, the long term ownership of these properties to benefit from potential upfront expenses for innovation, but more importantly because of the reduced market risk, since there is likely to always be a large demand for affordable housing in New York City.
3.4 External Forces [Obstacles]

There are many obstacles to implementing innovation in real estate, and some of the most significant impediments come from external pressures that are not within the developer’s control. It is necessary for the developer to understand why these pressures exist in order to work within the constraints or work towards alleviating them. Depending on their personal perspective, those interviewed varied between which was the single largest obstacle; regulations, communities or investors.

Throughout the interviews it was often mentioned that the largest impediment to innovate in the built environment are the regulatory constraints set by the government. While these restrictions exist for positive purpose, the public safety, health, and welfare, they are often slow to adjust to the current trends, demographics and future of cities. For example, Ollie recognized the current trend of the underground housing market in which there are potential violations of the building codes, as apartments have been modified without proper inspections to ensure safety. Because of the long slow bureaucratic process to update the codes to meet the market demand, there ends up being more “underground” violations, in effect possibly risking the public safety more than by updating the codes.

This issue is also very similar to the tiny home movement that has emerged across the United States, with people looking to live in less space in freestanding homes of less than 500 sf, partly for affordability. Sometimes, there are legitimate safety concerns with construction meeting the building codes, while other times it is a matter of the building code being overly restrictive in regards to loft ceiling heights, ladders or other minor issues that are normally acceptable in other building uses. However, most of the time the largest obstacle is the zoning restrictions; including minimum house sizes, and requirements for utility connections. Again, these outdated regulations often force the market to find other innovative ways to find affordable housing solutions, which can sometimes leads to worse public safety issues. (Tiny Houses)

The Boston Housing Innovation Lab was established to understand these types of issues between the market demand and the regulations that may inhibit innovation in housing. Marcy Ostberg, the director of the lab, noted:

“[the government] does create the rules in which developers work, so sometimes those rules increase prices or increase the cost of doing business, so when that is the case we can try to
remove those if it is not going to cause harm to the population, rules are there for a need, so we have to balance the line between safety and flexibility"

The innovation lab does not have the authority to actually change the laws, but they research to see how other places have innovated and then work to pilot new solutions that can help the policy makers decide appropriate revisions. There work is focused on research of other cities, since real estate is a hard industry to test ideas because of the large scale and amount of capital need to prototype. Ostberg noted their process as a “methodology of explore, experiment, and then evaluate and expand”. The Housing Innovation lab is a mechanism to bring together regulators and entrepreneurs to learn from each other to speed up innovation in real estate.

Others have agreed that regulations need to be adjusted to allow for innovation, as Tamara Roy noted: “If you want innovation, and you want people to be inventive, you have to relax some of the bounds holding them down”. While working to get the regulations revised may allow the most flexibility, it takes a long time and there is no guarantee that the rules will be adjusted enough for a particular solution. The alternative is to work within the existing framework and find ways to innovate. This was the approach of Ollie in creating their version of co-living, as Chris Bledsoe noted: “we didn’t try to rewrite the code, we tried to look at the code and study it and find the compliant way, as of right, to create density, and that led us to a shared micro suite”. While micro units may be against the rules of most jurisdictions with minimum unit sizes, when it comes to 2-4 bedroom units, the international building code which requires all habitable rooms to have a minimum of 70 sf is the only real constraint, which makes density possible with a shared micro suite. The Collective also tries to work within the existing building and zoning code, but looks at their co-living micro-unit product as blurring the line between residential and hotel, since they think every unit should have its own bathroom. The issue is zoning regulations are contradictory for hotels, student housing or residential apartments. The current building codes were written in an era of compartmentalization of uses, yet today’s environment is about flexibility and efficiency of resources with the sharing economy. The current regulations need to be updated to reflect the needs of the community and allow innovation in real estate.

In Boston, there are zoning regulations on minimum residential unit sizes, including a more recent revision in 2013 to allow smaller units, called metropolitan sized units (Appendix B). These unit sizes apply to downtown Boston as well as any site within a mile of public transportation within the city. However, even these reduced sizes (450 sf Studio, 625 sf 1-Bedroom, 850 sf 2-Bedroom) still do not meet the market demand for smaller housing units, and are larger than the average sizes in New York
City. In response, the Housing Innovation Lab has been working on creating regulations for “compact living”. These regulations are not trying to be exclusively for co-living, as that is not a fully defined concept. Ostberg explained that “it is hard to say exactly what a co-living model is... with anything new, if it is hard to define it in our code, [the regulators] don’t know what to do with it... do we try to fit it into a definition that already exists or do we create something new”. The goal of the new regulations is the latter, to create something new that can accommodate multiple innovative products for more efficient units.

**Compact Living Design Guidelines**

<table>
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<td>Minimizing personal space without reducing livability</td>
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Figure 26: Compact Living Regulations (See Appendix B)  
Source: www.boston.gov/housing/compact-living

The preliminary compact living regulations (Figure 26) are focused on quality of life issues beyond the building code requirements for public safety. This is due to the concern that some developers could build housing very small and as cheap as possible without regard for overall quality of life. These concerns are hard to validate, but where there is such an affordability crisis in Boston, as in many cities in the country, it is possible that the market would pay for something considered inappropriate. In addition, there are much smaller housing units in other cities around the world, so there is precedent for the existence of tiny apartments. The compact living regulations proposed are very specific in how to prescribe quality of life. There are three main components; unit design, shared
space, and transportation. The unit design component is concerned with the amount of natural light (window size), height of ceilings, and amounts of storage. The shared space section requires a certain amount of common area space such as living room, lounges or fitness based on the number of units in the building. Lastly, the transportation section is for managing transportation demand through maximum parking spaces allowed depending on distance to public transportation, as well as street parking permits (currently written as no street parking allowed for residents in a “compact” living building). These regulations will be brought to the community for review and feedback, and will likely evolve before implementation.

The community is another major obstacle to innovation, often fearful of change regardless of whether or not it will help their interests. This is mainly due to a perception barrier that growth will always cause harm to the existing neighborhood. While growth and density will have impacts, it is not always negative, although it does depend on the individual’s perspective. For example, most communities think that more family housing will solve their affordability crisis, as it is the families that cannot afford the current family size apartments. Unfortunately, this is often a misguided use of supply and demand, as there is more demand from people who prefer to live alone, but instead are taking the family size housing with roommates and driving up the rent with their higher combined household incomes. Instead, the supply that would actually reduce the cost of the family units is often additional smaller individual housing that they oppose.

Some community leaders do understand the need for growth and density in order to keep their communities affordable. They understand the need to balance more housing while maintaining the character of the neighborhood. Tamara Roy discussed her work with the Everett mayor as someone who understood the benefits of bringing in more individuals, usually those with disposable income and who need less city services, as a positive for the community. The city hired Roy and Stantec to help create guidelines for compact living and reduced parking to help convince the city council of the benefits while minimizing the risks. Roy noted there can be an urban planning benefit with smaller units: “you can look at micro housing two ways... we get more units in the same volume or the same amount of units in less volume... the same amount of rent in a smaller building that fits in better with the neighborhood”. This ability to create more housing in the same size building could solve some of the community “conflict between existing character and density”. As well, many communities have come to learn that co-living is not just about creating density, but that it is also about creating community with shared spaces, a feature that is perceived as more beneficial to the community.
While the community can seem to always be against trying new things for fear of the unknown, it is also possible for the community to contribute to innovative solutions. Working with the community on innovation can reduce the negative impacts and possibly find solutions that benefit everyone. Likewise, the community response can be different than anticipated and be beneficial to improving the concept proposed. For example, in the master planning of the Ink Block, the developer, National Development, thought the community would want to see the project mimic the size and scale of the existing south end neighborhood. Instead, through community discussions, it was discovered that the community wanted a more modern and different approach, leading to the “collection of interesting buildings” that exists now.

In the case of the all micro unit building, Carmel Place in New York City, the community and the regulators played an atypical role (Figure 27). For this project the land was owned by the city, giving the regulators more control to experiment on unit size and benefits to the community. The project was specifically created as a test case for the city to see if micro units could be a solution to building more housing, and it became the most responded to RFP in the history of New York City. It was an innovative project that everyone wanted to be a part of to find solutions and get recognition of having done an

Figure 27: Carmel Place Interior Photo
Source: www.dezeen.com/2016/02/01/carmell-place-micro-apartment-tower-new-york-city-narchitects-photos/
innovative type of project. Frank Dubinsky of Monadnock Development discussed their winning solution and the subsequent discussions with the community. He noted that the community actually wanted more affordable units than the typical 20%, and since the city owned the land, they were able to negotiate a fair price for land that would allow for the 40% affordable units. This was an innovative process with alignment of the city, the community and the developer. Regarding this project, Dubinsky noted that the project “had an outsize impact... it’s an innovative thing, and since then other people have done a couple of buildings with micro units, people are talking about it more, we are talking about doing other ones”. The city is also now working on another RFP for an additional micro-unit building, likely on a larger scale per Dubinsky’s feedback to the city.

The third major obstacle to implementing innovation in real estate are the financial investors. Real estate capital, both debt and equity, are generally very conservative and want a proven track record or comparable product before investing. Obviously, this presents substantial challenges when the product is innovative and has not been done before in that market. Unlike other industries, real estate is specific to a local market which makes innovation more difficult to bring from another location and know that it will be successful in the new market.

One of the ways investors get comfortable with new innovative products is to look to the regulators and community to confirm that the product can be built and if it is desired in that location. If the product requires code variances, then a large early investment for lawyers and designers to submit for code review is required, but this is at risk of not being approved, or even possibly overturned on appeal later during design or construction of the building. This extra risk inherent in innovative products requires alignment of interests by investors and developers who are willing to take on those higher risks.

Finding investors with a similar tolerance for risk and higher return required can be difficult in a city like Boston or New York where there is a lot of real estate investors from generational wealth. These high net worth families are more conservative and interested in wealth preservation, rather than wealth generation. Most of the time it requires outside investors to finance projects that are perceived as risky by the local real estate community. These investors are usually from places outside the United States, which can have inherently riskier markets than the stability of New York or Boston, and therefore do not perceive these risky innovative products as having extraordinary risk.

In addition, this perception of risk on innovative products is often based on fear and not necessarily from quality analysis of the products. For example, Ollie met with over 400 developers around the country, mostly in New York City, and found that most were not willing to take on the risk of
being the first to develop or try to attract outside investment in their innovative co-living product. However, after Ollie was successful in getting the first developer to agree, the previous perception of “this hasn’t been done before” was satisfied, even though the first project had not been completed. Chris Bledsoe of Ollie, noted that the issue most of the developers were most concerned was their perception that they could not get equity partners to agree to build an innovative product. The developers felt it would take them an extra 6-12 months to source the right capital and was not worth their time, especially in a hot real estate market. Furthermore, Bledsoe noted that “it is a supply constrained market, it is ‘if you build it they will come’ because there is such pent up demand... [but] it is the ‘if you build it’ part that is the big challenge”. The developers wanted to innovate, but did not know if they could overcome all the obstacles.

From a lender’s perspective, the debt side of capital, they are even more risk averse because their upside is capped at the rate of the financing. Matthew Baron explained that “it is a different conversation, selling and getting third party capital to buy into [innovation], and there are different levels, you have debt providers that really don’t get paid to take any incremental risk, so there really is no incentive for them... they have a capped return, a lender mentality”. For the lenders, they could manage their risk, but only by underwriting the project at the current market rents (per squarefoot) and not the higher rents that the developer would get with smaller units that cost more to build. This limited the amount of financing on these early innovative projects, shifting to the need for more equity partners who expect higher returns. This in turn makes the need for an innovative project to be much more profitable than a traditional project in order to get enough equity investment.

However, in time, investors do realize that innovative products can be successful, yet they still require a lot of due diligence to fully understand the downside risks. Ted Tye noted regarding their investors: “their concern was with the fallback plan... as much as it was with the success plan... having a parachute was important”. Innovative products require more work to understand downside scenarios and the options to correct those possible failures. Investors usually have long horizons on their investments, and with any innovative product, the unknown is how long the product will be viable. It is possible that the adoption of small units does not last the life of the building. Although, Matthew Baron clarified, that their investors were not as worried about the building not being successful, as much as they were worried about the exit strategy. Their concern was that there would be limited buyers for the building in the future, so the option to convert to a more traditional apartment building would guarantee an exit strategy. The issue was about the future valuation of a product that may not have a large segment of real estate products available to compare. Ollie addresses this concern at the Alta.
project, which is a mix of co-living and typical units, by having well designed units that are easily
converted from four bedroom micro suites into standard two bedroom apartments. Likewise, the
building is also designed to allow for conversion of traditional units to micro suites if the demand and
return is great enough to justify that capital expenditure.

Another approach to managing the investor concerns and risks is to have less investors on any
given project. Frank Dubinsky of Monadnock, takes the approach of doing smaller scale projects when
they are more innovative, noting: “the more complicated your building, the higher end your building,
the larger your market risk, the more partners you need, the less control you have, and the more you
are affected by [capital] market forces”. Their approach is to maintain more control over the decisions
that are critical to creating a successful innovative product. Along with less partners, they also agree that
the partners they do have must have similar goals, motivations and alignment of risk tolerance. Michael
Winston of The Collective, also agrees that for them to push innovation, they need to fully control the
asset. Unlike the Ollie consultant type model, they believe that having a fully integrated development
and operations business is important for them to be able to constantly innovate their product.

Lastly, the timing of the market conditions can have impacts on investor decisions with regard to
innovate products. In a slow real estate market, investors are more conservative and less willing to take
risks on innovative products. However, near the middle and end of the cycle when there is more supply,
it may be necessary to innovate in order to differentiate and survive through the downturn. The
advantage of an innovative product is being the last to have lower rents in a bad economy due to the
inherent value proposition, as well it is likely to be the first to raise rents with strong demand if the
product has been successfully innovative.
3.5 X-Factors [Differentiators]

The last component of the innovation process is the difference between failure and long term success. Even innovative products that meet the needs of the market can fail without some distinguishing factor that differentiates them in the marketplace. All innovation will have a degree of first mover advantage, but that can erode easily in real estate when trying to be successful for 10-20 years in a building, as opposed to a consumer product that is able to innovate every couple of years. Some of the important x-factors that allow innovation to survive in a long term industry like real estate are reputation, brand value, design and scale.

The reputation and history of previous development is one of the biggest advantages a developer can have when it comes to innovation. As noted previously, the real estate industry is very conservative, so it only rewards those developers who have shown the ability to manage their projects well in the past. This means that a developer without a track record of innovation will have a hard time executing and convincing their partners, so it may need to lean more heavily on the previous principles of innovation. This point was illustrated by Frank Dubinsky of Monadnock Development regarding their longer history of doing innovative projects: “Some developers see these innovations as risky, but I see it as a high barrier to entry thing and I can manage the risk... some other people may see it as risky, but I don’t because I have confidence in my team... we do interesting things because other people aren’t willing to and can’t do them”. In the case of Monadnock Development, their philosophy of managing and mitigating the innovation risk is achieved through their company history as a contractor first, and developer second. Monadnock’s in-house and in depth knowledge of construction and use of their own contractor on every project removes much of the construction risk that other developers have to manage, which allows them to take on additional risk of managing innovative projects.

The second aspect of reputation is brand value, which is critical to the success of co-living. Co-living is an operational focused real estate asset, like hotels, where the brand of the co-living project is an important indicator of quality, value, and the type of people who live there. In the future, co-living will likely become a signal for personal identity as more of them are built across the country. As most of the co-living projects are targeted at attracting millennials, the identity of the brand is critical to the adoption of this new product. Millennials have been shown to value experiences over ownership of material products, although, in the few products they do own, they tend to place greater importance on them as signals of who they are as an individual. This has been a trend of the millennial generation moving away from larger organizations such as religion or political parties, and associating with
experiences or products that have the same values. (Redmond) Co-living is positioned to be a brand, such as Ollie, Collective or Welive that will help millennials signal to other people how they choose to live their life.

Beyond the values the company embodies, brand also becomes a differentiator because it allows the co-living operator to have an advantage in improving their operations subsequently on each project. Michael Winston of The Collective, noted that they are now working on version three for co-living implementation in the Unites States. Having the ability to refine their operations and co-living model from the first two large scale buildings in London helps them to retain their first mover advantage and reinforce the strength of their brand. Their first mover advantage will continue to stay active as long as they can stay ahead of the competition with constant improvement and innovation. The WeWork model is a great example of the advantage brand value can have over other competitors. They offer a co-working product that has a clear vision and value proposition, with consistent value, and ease of accessibility all over the world. While co-living is a slightly different operation than co-working, in terms of transiency, the same principles can apply to create a brand that people will trust.

Another major differentiator that is consistent across all co-living projects is the value of design. A well designed building can be a differentiator not only in aesthetics, but also in function, and lifestyle. Co-living is fundamentally based around the premise that a building can be designed more efficiently with less wasted space in order to reduce rent, but also to make the building function better for the occupants. Sometimes there can be an added cost to achieve that goal; such as built in furniture, larger glass windows, taller ceilings or better mechanical split systems as were installed at Carmel Place. However, the added cost is done to create more value and higher returns. Frank Dubinsky confirmed that to convince people to live in a small space it was necessary to “design a good building aesthetically... if you are going to squeeze people horizontally at 10 feet wide, then we need to put higher ceilings in this building”. Dubinsky also elaborated that the micro unit building at Carmel place was limited in its future adaptability, which necessitated designing a project that would stand out for its design and functionality. He reflected, that “if you do a mediocre rental building... somebody else can buy it and turn into condos or renovate it, market it differently. If you are building a micro unit building that is modular, I can’t combine units... I’m limited in what I can turn it into”. All of the co-living developers agreed that high quality, distinctive design is critical for creating effective small living spaces.

However, it was also noted by Ben Lavery that “[design] doesn’t necessarily come at a premium... if you design it right, there is a lot of stuff you can do that is not a premium, it is about understanding
what the market wants”. This applies to smart layout design and having the right proximity to common spaces. This was noted by Michael Winston of the Collective, that they have learned a lot about adjusting the programmatic adjacencies of the common spaces throughout the building through feedback from the users. Additionally, the Collective is using door sensors on all common spaces to understand how often the rooms are used in order to continually innovate the co-living model. These smart design features are innovative and do not relate to a higher cost to build.

Similarly, Ollie has a strong design focus, and it was mentioned by one of their founders, Chris Bledsoe, that the first employee they hired was a designer, not an accountant or manager. They understood the value of using design as a differentiator and for risk mitigation. Design was used to create layouts that could be converted to a more traditional layout at the Alta project, with minimal capital, in case there were issues with the co-living model in the future. It was this optionality created by good design that was one of the main features to bring in additional investment.

The last differentiator that surfaced multiple times is about the scale of development. Innovative real estate products need to be executed at a large scale in order to be successful for efficiency and economic perspectives, as well as for execution in creating a place with critical mass.
Matt Edlen, of Gerding Edlen, noted that one of the first innovative projects their company completed was a revitalization of a downtown Portland industrial area, known as the Brewery Blocks (Figures 28 and 29). The key to that innovation was creating a sense of place over multiple city blocks that would change the area enough for people to feel safe and create a desirable urban neighborhood with retail and restaurants. They did not believe that renovating only one building would be enough of a catalyst for the neighborhood. An almost identical story was told by Ted Tye of National Development regarding the Ink Block, an urban industrial area in Boston that had recently lost its industrial identity. Tye noted that in order “to create a place, you just can’t build one building, you actually have to build four buildings, [really important comment] and you actually have to build the streetscape, and when you build the streetscape, you need to think about who you want to put on the ground floor to make it feel safe and light, have lights on 18 hours a day”. He felt strongly that the other more recent developments around the Ink Block would not have happened as quickly without the agglomeration that was implemented. Likewise, co-living requires a large building to justify the large amenity spaces, the efficiency of operations, and the ability to have a sense of community that can stand alone.
4 Innovation in Real Estate

The five principles discussed in the last chapter demonstrated that the process of implementing innovation in real estate development is complex. In addition, successful implementation of innovation requires more than just a collaborative team of real estate professionals, it requires a positive culture of innovation. Real estate development is a multi-disciplinary endeavor that requires a lot of people and expertise to create a building, so it is critical that everyone’s goals are aligned. Without alignment to pursue innovation, the result can be compromised, as these complex projects cannot be accomplished alone. In discussing the challenges of implementation, Frank Dubinsky stated that “innovation can only exist if you get other people on board, you got to convince them that this is a good idea, and it makes sense”. While it takes a lot of effort for everyone to agree on the end product, it is important that everyone is open to innovative thinking. The necessity of having this culture of innovation has been studied by a leading entrepreneurship researcher, Andrew Corbett, who said that “Innovation has to be a company-wide endeavor, supported from top to bottom by systems, structures, and a company culture that nurtures transformative ideas and products” (Corbett). Innovation in real estate is not typically groundbreaking like finding a cure for cancer, but it does take consistent effort to make the incremental changes necessary to create something new.

While being open to innovation is an important part for the real estate team, it is also necessary to recognize where innovation is possible. Recently, David Burkus, a recognized thought leader on innovation said that “It’s not an idea problem; it’s a recognition problem” (Burkus). The issue he observed was that organizations who tried to innovate often reverted to what they already knew and rejected the innovative ideas. This was illustrated by a famous example of Kodak inventing the first digital camera in 1975, but not pursuing the idea further and letting Sony create the market. One solution he suggested to recognize innovation, is to have a horizontal decision making process within companies to allow others than the top executives to recognize good ideas. Often the innovation in real estate come from the people who are trying to create a better environment, not trying to profit alone. For example, Tamara Roy, who was interviewed on her role for implementing compact living regulations, was not motivated by future architecture project billing fees, but rather trying to improve cities, and give more people access to the benefits of urban living. Successful innovators are motivated by solving problems and not necessarily by returns and future growth.
The recognition problem is also a recurring problem in real estate, an industry that is conservative due to the nature of the long life of assets. Co-living has been present across the country for many decades, but it is only in the last five years that is has been recognized as innovation within the real estate industry. In order for real estate to continue to add value it needs to innovate and adapt to a constantly changing future. Likewise, it could be argued that innovation is less risky due to the reduction of obsolescence, with the value of the asset being more relevant for a longer period of time. Co-living is an example of this innovative adaptability, with units that can be converted to what the market prefers in the future, and with flexible operations and management.

A key finding of the thesis is that many aspects of innovation in real estate follow the greater trends of society. The biggest trend observed is the prevalence of the sharing economy and the general focus towards a service model for real estate. Co-living is only one example of how the expectations of experiences and services have become the leading indicator of value in real estate; as all product types, including office and retail, have become more experience and hospitality focused. It seems that future value in real estate will lie more and more in operations and management and not as much in the physical building, except in that the physical building must be designed to facilitate this experience oriented, on demand lifestyle. This is indicated through many of the recent real estate technology focused applications, including one called Doorbell which aims to make existing apartment communities more engaged with their community and building. A recent article described the application as “a ‘turnkey community management tool’ that empowers landlords to boost NOI while offering their residents a fun and differentiated apartment experience” (Faraudo). In addition the founder of doorbell, Ben Pleat, astutely said, “Amenities don’t make for a good living space, experiences do” (Faraudo). This application is not focused on new class A apartment buildings but on existing buildings in order to add value. The desire to have more amenities, time saving services and a lifestyle of convenience is not just for the wealthy, but is something all people aspire to have in their life. However, the danger in offering more management and services to attract tenants is the added cost, and getting the tenants to pay for those additional operation expenses. Co-living is an example where those services create a value proposition and overall lower absolute costs to renters, but the failed examples also showed that the efficiency of management is critical to successful real estate in the future.

Innovation in real estate development is necessary to add value. Without innovation as a distinction of real estate assets, buildings become commodities that have a fair value within the efficient marketplace. Despite the common real estate belief that every location is completely unique,
commercial real estate buildings are easily quantified by a cap rate based on statistical information. It is only the innovative buildings that are unique and above the curve when it comes to value. While it is difficult to measure the success of innovation in real estate, it is easy to observe that most projects that have performed above expectations have been innovative.
Works Cited


Historical Census of Housing Tables -Living Alone.


Works Cited (Cont.)

Interviews:

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A. Interview Questions

- What is your company’s approach to innovation?
- As a developer, do you try to implement innovative concepts rather than the more common/standard approach in the market? What are the motivations? What are some of these innovative methods or products?
- Do you try to differentiate your real estate developments in the market? If yes, how do you differentiate?
- What are the obstacles and challenges with creating Co-Living buildings (Consider all aspects; planning approvals, community concerns, building code, construction, investors, and financing)
- Are all your units shared or do you have micro units as well?
- How did you determine the right number of units for the project(s)?
- Do you think innovative products are more risky? If yes, how do you justify that risk?
- How do you protect against downside risk in implementation of innovative products?
- How do you convince the other stakeholders that the innovation is worthwhile?
- How do you measure if the innovation was worthwhile and repeatable?
- Have you ever started a project with an innovative idea that was removed at some point during the development process? What was the innovation?
- Have any of your innovations failed to the extent you would not repeat?
- What do you see as the direction of future innovation in real estate development?
- Who else do you think is leading innovation in real estate?
June 3, 2013

Robert Shortsleeve
Chairman
Zoning Board of Appeals
1010 Massachusetts Avenue, 4th Floor
Boston, MA 02118

Re: Minimum Square Footage Requirements for Downtown and Transit Oriented Developments

Dear Chairman Shortsleeve and Members of the Board:

In an effort to further clarify the Boston Redevelopment Authority’s ("BRA’s") standards on minimum square footage requirements, I would like to take this opportunity to expand upon a letter written to Michael Kineavy in March 2006 on this matter. In the letter, the BRA’s policy on “metropolitan-sized” units located in the Downtown was outlined as follows:

- Metro-studio units – 450 square foot minimum
- Metro 1 units – 625 square foot minimum
- Metro 2 units – 850 square foot minimum

At this time, the BRA recognizes the current demand for smaller unit sizes within projects located not only in the Downtown, but also as part of transit oriented developments elsewhere in the City of Boston (“City”). The BRA classifies transit oriented development as projects located within a one (1) mile radius of public transportation. As such, the minimum square footage requirements described above also apply to transit oriented development across the City.

If you have any questions, please feel free to contact me at 617-918-4471.

Sincerely,

Kairos Shen
Chief Planner

Source: Boston Planning and Development Agency
C. Compact Living Regulations

These are a few of the slides from the first presentation of the preliminary guidelines made to the public on July 26, 2018.

Compact Living Design Guidelines

I. UNIT INTERIOR

Minimizing personal space without reducing livability

Function: demonstrate sufficient space to accommodate functions including sleeping, lounging, dining, bathing, and cooking (if special furniture required it should be included)

Storage: provide ample storage space to accommodate. If needed, supplement unit storage space with common area storage space

Daylight: maximize access to daylight and natural ventilation by providing minimum ceiling height of 8' 10" feet and windows sizes at least 6' tall and covering at least 15% of Habitable Room Area.

Source: Boston Housing Innovation Lab
www.boston.gov/housing/compact-living
II. SHARED SPACES GUIDELINES

Fostering resident community through thoughtful, shared interior and exterior amenities

Smaller unit interiors will be supplemented by resident amenity space, evaluated in the context of the unit size and area amenities.

<table>
<thead>
<tr>
<th>Building Size</th>
<th>Required Shared Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-14 units</td>
<td>Some shared space desirable; evaluated case by case basis</td>
</tr>
<tr>
<td>15-29 units</td>
<td>40 Square Feet per Unit Minimum</td>
</tr>
<tr>
<td>30 or More Units</td>
<td>+ 20 Square Feet per each additional Unit over 29</td>
</tr>
</tbody>
</table>

Sample calculation for a 43-unit development:

29 units x 40 ft$^2$ + 14 units x 20 ft$^2$ = 1440 ft$^2$ of shared amenity space

II. SHARED SPACES GUIDELINES

Fostering resident community through thoughtful, shared interior and exterior amenities

Function: Shared spaces should facilitate social interaction and contribute to a sense of community. Examples include lounge, fitness room, common kitchen and dining room, workspace, as well as outdoor seating and recreation areas.

Location: located along common path of travel and with good access to natural light.

Management: include plan for operating and maintaining, and encourage creative programming.

Source: Boston Housing Innovation Lab

www.boston.gov/housing/compact-living
III. TRANSPORTATION GUIDELINES

Reducing impacts on community and costs for residents

In the Go Boston 2030 and Imagine Boston 2030 plans, we set ambitious goals to grow the number of Boston residents walking, biking, using public transit, and carpooling to work. These guidelines will help reduce overall cost of living for residents, while also minimizing potential congestion that could result from increased density.

1. Reduced Parking Ratio

Parking reductions seek to avoid costly overparking recognizing there is less demand for parking near transit and with residents of compact living.

2. Include Transportation Demand Management Measures

Enacting TDM measures will improve mobility and access for residents, reduce congestion and air pollution, and increase safety by promoting walking, bicycling, public transit, and other sustainable modes of transportation.

III. TRANSPORTATION GUIDELINES: PARKING

Reducing impacts on community and costs for residents

Parking maximums are tied to a development’s walking-distance from a transit station, defined as an MBTA Subway stop.

<table>
<thead>
<tr>
<th>Distance from Transit Stop</th>
<th>Maximum Parking Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within 0.25 miles</td>
<td>0.25</td>
</tr>
<tr>
<td>Between 0.25 and 0.5 miles</td>
<td>0.5</td>
</tr>
<tr>
<td>Beyond 0.5 miles</td>
<td>0.75</td>
</tr>
</tbody>
</table>

To minimize the impact on on-street parking, residents of compact developments will not be allowed to obtain neighborhood residential permit parking stickers. Developers must notify prospective residents prior to the signing of a lease or purchase of a unit.

Source: Boston Housing Innovation Lab
www.boston.gov/housing/compact-living
D. Demographics

Households with Only One Occupant

**Massachusetts**

- **2010 Population:** 6,547,629
- **Change from 2000:** +3.1%

**Race/Ethnicity**

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Share of Pop</th>
<th>Change from 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whites</td>
<td>67%</td>
<td>-1%</td>
</tr>
<tr>
<td>Blacks</td>
<td>14%</td>
<td>-2%</td>
</tr>
<tr>
<td>Hispanics</td>
<td>10%</td>
<td>+6%</td>
</tr>
<tr>
<td>Asians</td>
<td>5%</td>
<td>+2%</td>
</tr>
<tr>
<td>Native Amer.</td>
<td>0%</td>
<td>-4%</td>
</tr>
<tr>
<td>Multiracial</td>
<td>2%</td>
<td>+11%</td>
</tr>
<tr>
<td>Other groups</td>
<td>1%</td>
<td>+9%</td>
</tr>
</tbody>
</table>

**New York**

- **2010 Population:** 19,378,102
- **Change from 2000:** +2.1%

**Race/Ethnicity**

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Share of Pop</th>
<th>Change from 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whites</td>
<td>58%</td>
<td>-4%</td>
</tr>
<tr>
<td>Blacks</td>
<td>14%</td>
<td>-1%</td>
</tr>
<tr>
<td>Hispanics</td>
<td>18%</td>
<td>+19%</td>
</tr>
<tr>
<td>Asians</td>
<td>7%</td>
<td>+36%</td>
</tr>
<tr>
<td>Native Amer.</td>
<td>0%</td>
<td>-11%</td>
</tr>
<tr>
<td>Multiracial</td>
<td>2%</td>
<td>+11%</td>
</tr>
<tr>
<td>Other groups</td>
<td>0%</td>
<td>+8%</td>
</tr>
</tbody>
</table>

Households with Persons Living Alone, United States 2010

Source: U.S. Census Bureau, 2010
E. One Shared House 2030 Survey

Survey Description

welcome to the year 2030.
there are 1.2 billion more people on the planet.
70% of us are living in cities now.
in order to house 1.2 billion more people,
all of us are sharing more household goods and services than ever before.
we refer to this sharing as co-living.
and many more of us are living this way now.

but it’s not a new thing.
communal living has always been a solution to common problems.
like rapid urbanisation, loneliness, and high living costs.
but what does co-living look like in the year 2030?
who is it for?
how has it changed our society?
what are we sharing?

with many more of us now co-living,
there is no one configuration.
discover what type of co-living would be uniquely suited for you.
reserve your spot for ONE SHARED HOUSE 2030.

Source: “How Will We Live in the Year 2030?” ONE SHARED HOUSE 2030,
Survey Results

people who are of all ages, and are in any life situation, from all countries, on average:

- would prefer couples, single women and single men in their community
- are happier with access to multiple homes they could easily move between
- prefer to live in the city
- think people with a design background would be the best at designing a co-living community
- don't think it matters if the people who design their community have experienced co-living themselves
- prefer members to share equal ownership of the house
- would pay extra for a service layer to manage all house related items
- only want the common areas to come furnished and furnish their own space themselves
- want house-members from different walks of life

Coliving for the Cost Conscious

Say goodbye to hidden living expenses. ALTA by Ollie redefines affordable luxury in New York City, with an individual's monthly rent starting in the $1,300s and a savings of more than $500/month in additional perks and services.

<table>
<thead>
<tr>
<th>ALTA by Ollie</th>
<th>Traditional Studio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gym with Pool &amp; Social Club &amp; Community Events</td>
<td>Included</td>
</tr>
<tr>
<td>Multifunctional Furniture</td>
<td>Included</td>
</tr>
<tr>
<td>Housekeeping</td>
<td>Included</td>
</tr>
<tr>
<td>Linen &amp; Towel Service</td>
<td>Included</td>
</tr>
<tr>
<td>Bath Amenities</td>
<td>Included</td>
</tr>
<tr>
<td>Premium TV</td>
<td>Included</td>
</tr>
<tr>
<td>WiFi</td>
<td>Included</td>
</tr>
<tr>
<td><strong>Total Monthly Cost</strong></td>
<td>$1,260 - $2,200</td>
</tr>
</tbody>
</table>

Creature Comforts at Our Core

Arriving home at Ollie means entering a world of creature comforts, including:
- Full access to 27,000 sf of amenity spaces including fitness center, indoor pool, coworking spaces, rooftop terraces, and more
- Fully furnished private bedrooms with high-end, modern transformable furniture systems
- Dishware (towels, tray, tea kettle, glassware, mugs, pan set, cookware, plates, bowls, etc.)
- Bed linens and towels
- A welcome gift bag complete with a custom braided quilt from West Elm, 2 pillows, a canvas storage bin from P1w, and a signature Ollie scent kit from *Aromo

Community with a Conscience

Inclusiveness. Wellness. Sustainability. Discovery. These are the values we live by. At ALTA by Ollie, residents have a standing invitation to a full calendar of events, allowing you to get to know your neighbors and your city.
- Complimentary Ollie Social membership, providing weeknight gatherings and weekend getaways in and around New York City
- Regular in-building community events organized by our live-in community manager, from Sunday brunch to sunset yoga

Convenience with Our Compliments

Ollie offers hotel-style luxury living with a wide array of complimentary services:
- Weekly housekeeping
- Weekly linen and towel service
- Regular replenishment of both amenities from celebrated apothecary brand Malin + Goetz
- High-speed Wifi (330 Mbps)
- Premium TV programming (350 channels)

Looking for a Roommate?

Find one on alta.bedvetter.com

ALTA by Ollie uses roommate matching service Bedvetter to take the guesswork out of finding roommates. Select what's important to you in your living situation and find your compatible match. Once connected, you can search our listings and apply together.

Drama-free. Regret-free. Household harmony is just a click away.

Source: Personal site visit to Alta
Alta 2 Bedroom Suite

UNIT 807

2 Bedroom Microsuite

Included Services
- High-speed wifi and premium television programming
- Weekly housekeeping
- Weekly fresh linen and towel service
- Weekly replenishment of both amenities
- All access pass to Ollie social club

Furnishings
- High-end transforming sofa/wall queen-sized bed
- Credenza with built-in storage (B)
- Adjustable coffee table (A)
- Solar shades
- 4K Ultra HD LED Smart TV
- Multipurpose desk with chair

Source: Altalic.com

Alta 3 Bedroom Suite

UNIT 801

3 Bedroom Microsuite

Included Services
- High-speed wifi and premium television programming
- Weekly housekeeping
- Weekly fresh linen and towel service
- Weekly replenishment of both amenities
- All access pass to Ollie social club

Furnishings
- High-end transforming sofa/wall queen-sized bed
- Credenza with built-in storage (A, B)
- Wooden stool
- Wooden wall hooks
- Floor-length mirror
- Full-sized bed
- Adjustable coffee table (A)
- Solar shades
- 4K Ultra HD LED Smart TV
- Multipurpose desk with chair (C)

Source: Altalic.com

Implementing Innovation in Real Estate Development: Co-Living as an Innovative Product
Carmel Place by Monadnock Development, Operated by Ollie

Modular Construction Photos

Source: www.dezeen.com/2016/02/01/carmell-place-micro-apartment-tower-new-york-city-narchitects-photos/
Carmel Place Building Floor Plan

Source: www.dezeen.com/2016/02/01/carmell-place-micro-apartment-tower-new-york-city-narchitects-photos/

7ink by Ollie

Source: Ollie.co
G. The Collective

Collective Values

Our Values

Fearless
We are pioneers who think big, embrace uncertainty and will relentlessly hustle to make the impossible happen.

Balance
We find balance and happiness in work and play so you can give your heart and soul to both. Ultimately, we're all here to be happy.

Grow
We never settle for the status quo; always listening, understanding and evolving so that we can deliver with belief and excellence.

Respect
We believe respect is given and earned through being authentic, humble, trustworthy and great at what you do.

Community
We are obsessive about human connection whether it is building lasting relationships or engaging and giving back to our communities.

Stratford Location under construction

Source: thecollective.com
H. Common

Interior Unit Photo at Baltic

Exterior Photo at Baltic

Source: common.com
Floor Plans for Pacific Common

I. Starcity

Starcity Values

We support one another by being nonjudgmental, staying curious and lending a helping hand. We honor local culture by supporting artists, chefs and vendors in the neighborhood. We expect Starcity to give us a safe space to pursue our dreams.

We seek unbounded perspectives. We ask ourselves and Starcity to invite in members that are open-minded, come from different backgrounds, and have varying interests and perspectives. The result is a more interesting life.

Every person has good in them. We understand that each of us has quirks and, sometimes, difficult days. So we listen and empathize. And we ask Starcity to see the best in people and treat everyone on an even playing field. The civility of the community is paramount. Kindness and a supportive environment makes us smile.

Trust and honesty are the foundations of lasting relationships. We build trust within through clear communication. And we expect Starcity to be open about its policies and procedures, and hyper-responsible with our privacy.

Let's have a good time!

Source: starcity.com