I, Chance Carr, hereby submit this original work as part of the requirements for the degree of Master of Architecture in Architecture (Master of).

It is entitled:
Social and Economic Conditions of Temporary Urban Living

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Social and Economic Conditions of Temporary Urban Living

A thesis submitted to the Graduate School of the University of Cincinnati in partial fulfillment of the requirements for the degree of

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Abstract

A shortage of temporary urban dwelling that addresses affordability, comfort, mobility, and convenience plagues our transient society that demands a more nomadic lifestyle. These social and economic conditions affect a broad spectrum of people, from blue collar workers, i.e. frackers and pipeline workers, to students facing a constant transition between school and work, as is such in a cooperative education program. These issues have been addressed in projects like Le Corbusier’s Unité d'Habitation and Kisho Kurakawa’s Nakagin Capsule Tower, as well as more visionary and conceptual proposals like Archigram’s “Plug-In City” by Peter Cook. However, these precedents lack a holistic sensitivity to the issues that hinder temporary urban living. This thesis offers in-depth research and a design proposal towards finding a resolution to the social and economic conditions of temporary urban living.

The four major issues discussed in this thesis are affordability, comfort, mobility, and convenience. The design proposal is for an urban campground that investigates both the individual unit and the overall superstructure that is sensitive to the aforementioned issues. This proposal investigates affordability by looking at innovative material and construction technologies like prefabrication and flat pack configurations. Comfort is addressed by providing the basic elements necessary to live without resorting to extreme minimalistic, machine-esque approaches like the autonomous proposals of the Modern Movement. Accessibility is examined by linking to an established client that provides a means to market a new method for urban living. Adaptability is approached by creating a modular, yet customizable, design that is flexible to various different site conditions.

This thesis includes drawings, renderings, physical and digital models as well as a research paper that critically reviews the current state of temporary urban living and how my approach beckons a new methodology that addresses key social and economic conditions of temporary urban living. It will serve as a visionary means to revitalize the movements of the 1960s that sought to address issues of living within the city (i.e. Japanese Metabolist and Archigram's Plug-in City) by utilizing an application of practical design to approach the issues of temporary urban living.
Preface

My influence and interest in temporary urban living stems from a personal experience that started the moment I received my acceptance letter to the graduate program at the University of Cincinnati. I immediately started assessing my financial situation. Since the school was not in Texas, my home state, I knew I’d be paying a significant amount for out-of-state tuition until I acquired proper Ohio residency. Though I had been working for the past year and a half making money to pay for school, I knew that I needed to save any way I could. Cincinnati’s coop program also brought up another obstacle, how would I find a place to live and give it up three months later without losing money by breaking a lease or having to 'eat' the remaining months?

I visited Cincinnati only once before starting school, so I was not familiar with the neighborhoods other than taking an occasional glance at surrounding areas while touring the campus. While I was contemplating how I was going to live during my time at school, my parents were going through an interesting living situation of their own. They are both retired educators, and, like most retired people, they invested in a RV, or mobile home, with aspirations of traveling. Their original intention was to use it for destination travel purposes only, but my father soon chose to go back to work. His work was roughly two hours away from his home in East Texas and he felt the most economical way to approach living was to use the RV as a permanent home away from home. The approximately 300 square foot home suited all his needs. He had a bed to sleep, a kitchen to cook, a bathroom and shower, and a living room to relax. During his research he found that there were parks for RVs in almost every town.

My father chose to retire again shortly before I moved up to Cincinnati. Since the RV was sitting at home not being used (and him still having to make the monthly payment) he offered it to me to serve as my living quarters while at school. I kept his offer to use the RV while at school in the back of my mind until I realized that it was the most economical solution. I could use the RV while at school for three months, then take it home or move it to where my first coop was. I knew this solution wouldn't be long term. I felt that eventually I would want to settle into an apartment, perhaps when the school-to-coop process slowed down a little, i.e. in one location for more than three months. I found a park in North Bend, Ohio, roughly a 25 minute drive from campus. After talking with the landlord of the park, he mentioned that there were several UC students who had done a similar thing. I proceeded with this
adventurous living situation for my first quarter of school and enjoyed it so much that I took the RV to my first coop and brought it back for my second quarter of school. Not having to worry about an ongoing lease (most parks allow you to stay a little as one day or pay month-to-month) or having to stress about packing and moving all of my belongings over and over again was a significant relief. All I had to do was take my home with me.

When I came back to Cincinnati for my second quarter of school I had a lengthy discussion with the landlord of the park and he mentioned that over 40% of his tenants were pipeline workers or students that knew they would be relocating shortly so they felt that this form of temporary living was the most cost-efficient and suitable approach. While living in the RV was a great experience, it did have some drawbacks, one of the most significant was the commute, others were more simple things to resolve, i.e. insulation, plumbing problems, electrical issues, and stabilization issues. But these were sacrifices that had to be made to accommodate a nomadic lifestyle.
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Chapter 1: Research

Therein lies an innate problem with the lack of temporary urban dwelling that is affordable, comfortable, mobile, and convenient in order to aid the rapidly transient society of today. This problem affects a broad spectrum of people, from blue collar workers, i.e. pipeline workers and frackers, to students facing the transition from school to work and then back to school, as such in a cooperative education program. As the country, and the world as a whole, struggles through economic crisis, people are more frequently seeking work and living wherever it can be found. These nomadic people need a method of living that is conducive to their needs. A place that doesn’t cost an arm and a leg, one that can function no matter the site conditions, a place that has minimal impact on the environment, and one that encompasses the rootedness and connectedness required of a dwelling.

A new hotel every week, it is already happening, more and more people are taking up jobs that require constant travel. Our cities are isolated from one another yet globalization demands a connection that is beyond the means of virtual communication. Is it possible to envisage our cities as hosts for the autonomous hotel structures that capitalism demands? Where is the culture? Where is the uniqueness each city brings? What separates one city from another, other than geographic location and weather? Where are our homes? But we cannot stop at cities. What do we make of the rural ghost towns erected and abandoned by temporary tenants, like those working on pipelines that sought the next hot spot for their trade? A new form of temporary living is required. Not only will our cities lose their identity and our rural areas scar with remnants of previous tenants, but it will also have an effect on the worker. Without effective forms of temporary living, people will be forced to spend beyond their means, whether it is to accommodate a commute, allow for the cost of moving from one dwelling to another, a high demand for temporary dwelling, being forced to break a lease, or settling for expensive hotels.

Temporary living traces its origins as far back as the nomadic tribes of pre-civilization. Whether it was to locate migrant food sources, adapt to changing climates, trade goods, find protection, or simply to search for the unknown, these tribes sought durable, lightweight, flexible, and transportable living conditions.¹ As civilizations progressed, life became much more sedentary. In the twentieth century, industrialization, war, and the Modern Movement all led to the evolution of temporary urban living.

The resultant of war brought about a spike in interest toward temporary and mobile design. Post World War I, Buckminster Fuller proposed his Dynamic Maximum Tension (Dymaxion) structures like the Dymaxion House, Dymaxion Bathroom, or DDU (Dymaxion Deployment Unit) which served as cheap and portable dwelling for military and industrial workers. The advancements in prefabrication also led to a reconsideration of the house, for example Le Corbusier's Domino House that served as a skeleton to be covered by the occupant. Le Corbusier also envisioned plug-in, mobile architecture in his Unité d'Habitation which was constructed between 1947 and 1952 in Marseille, France (post-World War II). The sixties led to two significant architectural movements that both envisaged a new paradigm for architecture and mobility within cities. Archigram played provocateur with graphics describing an 'Instant City' or a 'Plug-In City,' both saw the necessity for temporary and mobile architecture whether it be through portable structures or a mega-structuralist approach that encompassed many detachable pods. Perhaps the most significant movement in temporary urban architecture was that of the Japanese Metabolist. Post atomic bomb devastation, a group of Japanese architects set out to reconsider living standards according to the capsule. They considered new ways to look at dense urban spaces by building on land, on the sea, or even in the air. Unfortunately, contemporary approaches seem to be content with the mobile home in the form of a recreational vehicle or 'double-wide' trailer. However, there are a few architects that are pushing the boundaries of temporary, mobile living. Recent designs by architects LOT/EK and MVRDV look at the shipping container and how it can be transformed into a portable and livable space. Also the work of Andy Thomson and Daniel Hall who looked at the mobile home as a way to disconnect from foundation and live independent of the grid. This was done while maintaining a connection to technology as well as having little impact on the environment, which in-turn could modify a person's behavior of how to live minimally. A more in-depth look into the discourse of temporary urban living is necessary to understand the positive and negative aspects of how the field has changed over time.

"A Home is Not a House" – Reyner Banham

Reyner Banham, a British architectural historian and critic, wrote "A Home is Not a House," which was published in the Art in America magazine in April of 1965. In this article, Banham attacks the American home as merely a form of concealing mechanical equipment. He believes the rapidly increasing systems of pipes, ducts, and equipment the house will soon be overrun, and architecture will be unnecessary to

2 Ibid. p, 19.
house these products because the equipment will serve this purpose itself. Banham pulls two key virtues from American society, which he took directly from Adolf Loos's short stent in America during the 1890s. These virtues are informality and cleanliness. He latches to this notion of cleanliness and claims, "if dirty old nature could be kept under the proper degree of control...the United States would be happy to dispense with architecture and buildings altogether."  

Banham goes on to mention that many Americans have already shed this "deadweight of domestic architecture" by living in mobile homes which deliver better performance than anchored structures, cost three times less, and weigh one tenth of ground-anchored homes. He proposes that if someone could remove this mobile home from its dependency of ground utilities, i.e. electrical supply, water lines, and fuel for heating, then this method of living would be wildly adapted throughout America. Banham goes on to say that if this 'standard-of-living' package, a phrase he accredits to Buckminster Fuller, were realized, then a domestic revolution in architecture would be inevitable. He continues to propose tent-like, or inflatable structures, as well as some technologies that have already been implemented into mobile homes of today, like the ability to use a car battery to serve as the main source of electricity for the home. He concludes that Americans fail to fully accept this form of temporary, mobile living because they are either too insecure or cannot rid themselves of the traditional architecture of Europe.

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5 Ibid.
6 Ibid.
7 Ibid. p, 112.
8 Ibid. p, 114.
9 Ibid. p, 118.
Banham brings up an important fact in the function and necessity of the home. However, I feel technologies have prolonged this notion that equipment will take over the home. But, that being said, technology is finding itself more omnipresent in houses (in particular mobile homes) of today. Banham's portable structures would serve as affordable means, but would lack in providing the necessary comfort of a dwelling. A tent-like inflatable structure only has a small amount of insulation and would not serve well in cold environments. However, I feel that Banham is looking at temporary living from a more conceptual perspective with his 'standard-of-living' package and inflatable structure enclosing the space. His free expression of convenience is liberating in the sense that with this 'standard-of-living' package people can come and go as they please, moving from place to place with ease. From Banham, we can pull characteristics of mobility and convenience as key factors in the importance of temporary urban living; however issues of comfort (as we see in mobile homes of today) are not addressed.

Architect 2000 and Beyond – Charles Jencks

In 1969 architectural theorist Charles Jencks wrote Architecture 2000 and beyond, which predicted the state of architecture thirty years in the future (in a remarkably accurate fashion). Jencks attempts to cover the vast range of the architectural field and, in doing so, touches on a few key concepts of the future of temporary living. He predicts a strong shift from the consumer's desire for product ownership to product rental. He discusses the increased demand in rental and mobility claiming that over one fifth of the new homes in the USA are movable.\textsuperscript{10} He references Reyner Banham and Francois Dallegret's Un-house of 1965 (referred to in Banham's "A Home is not a House" writing) stating they take this notion of rental and mobility to an extreme by proposing a dispensable and inflatable dome that houses the 'standard-of-living' package. Jencks proposes that in the future this would allow permanent structures to be done away with, and nature to be untouched, while opening up a whole new world of mobility since man would not be constrained to past settlements.\textsuperscript{11} Jencks also predicts that as cities move from production-oriented to service-oriented, the 'service-intellectuals' will replace the 'organization men' and thus the city must transform, or morph, into a more adaptable type to conform to these intellectuals. He provides Kenzo Tange's design for the Tokyo Bay Area as an example. Tange, a Japanese Metabolist, attempts to provide an open system that can accommodate different rates of metabolic change.\textsuperscript{12} In other words, he hopes to provide a central spine that can be added to, or

\textsuperscript{11} Ibid.
\textsuperscript{12} Ibid. p, 72-73.
subtracted from, as necessary to accommodate the ever-changing needs of the city. Jencks also provides a prediction for plug-in systems, referencing Archigram and Peter Cook’s Plug-In City, that provides service specific architecture; one that dramatizes consumer choice. This is brought on, according to Jencks, by the advanced industrial civilization and finding significance in the machine, which, in turn will lead to the dramatization of that technology.¹³

Charles Jencks predicts a future of temporary living, but, while slightly accurate, it is not as apparent as he would have assumed in 1969. Permanent structures are not seeing their demise any time soon, but, as the Japanese Metabolist predicted, structures are becoming smarter and more adaptable to the changing needs of society. This is visible in the increasing demand for mixed-use buildings; ones that can serve multiple functions. The perception of mobile homes back in 1969 might have been more pleasant than that of today, i.e. the subject matter was discussed in a much more liberating fashion than it is today. These homes and parks today are seen as wastelands not worthy of revitalization, but rather demolition and new construction. They have cornered their niche of architects and consumers but

¹³ Ibid. p, 97.
somehow lack the ability to appeal to the masses. Where Jencks is accurate is in his prediction of a service-oriented city replacing a production-oriented city. Major cities of the United States are filled with mostly businessmen serving the needs of their clients via consulting, thus a different demand than that of a production-oriented city. This service-oriented city drives a demand for meetings, congregations, and think-tanks, all which require the mobility of businessmen to travel from place to place to provide their expertise. The city is lagging behind to support infrastructure that houses these workers, but a significant shift, via gentrification of the cities, has helped. Jencks is correct in the notion of improved technology leading to a dramatization applied to that technology. That is, technology has provided us with the means to supply the city with mobile living, but the practice has not been adapted to an acceptable approach that suffices the specific issues addressed in this thesis. Some attempts of adapting this technology to temporary urban living have been tried, but regrettably met their demise, as is the case of the Nakagin Capsule Tower by Kisho Kurokawa.

“Capsule Declaration” – Kisho Kurokawa

In 1969 Kisho Kurokawa, one of the key figures in the Japanese Metabolism movement, wrote an article titled "Capsule Declaration" that was first published in Space Design magazine. Like Jencks, Kurokawa makes many predictions for the future of architecture, but Kurokawa was adamant that capsule living would be an inevitable mode of dwelling in the future. He calls the capsule "cyborg architecture," meaning that architecture will increasingly take on the characteristics of equipment (much like Banham's observation) and this device that houses humans will be half man and half machine. Kurokawa makes a few key arguments in his "Capsule Declaration" that beckon for a shift towards more people utilizing temporary living. He claims that people will eventually lose their desire for land and a big house and long for a means of free movement. He mentions the rising popularity of the mobile home in the United States and how it is no longer used just for seasonal workers but also shifting to the white-collar working class. He describes the ease and convenience of mobile home parks and how they provide all the public facilities that a town or city can. He alludes to the fluidity of labor workers and the mobility required for people to move from job to job. Kurokawa constantly speaks of the capsule promoting a diversified society. He acknowledges that the future of society is diversity, and that the capsule allows for the independence and individuality that invokes this diversity. He also recognizes the capsule is the ultimate prefabricated building, however, he feels that it will not produce mass

\[15\] Ibid. p, 77.
production via standardization but will ensure variety due to customization and interchangeability of parts within each capsule.\textsuperscript{16} He concludes by breaking down architecture into an aggregate of functions, or capsules, and when those capsules encounter each other in a conglomerate they create an architectural structure.\textsuperscript{17}

Kurokawa, like Jencks, provides the most substantial arguments for an adaptation to temporary urban living. His argument for capsule architecture, however science fiction it may seem, is precisely the manifesto temporary urban living needs. He does not approach the capsule from a form perspective, i.e. it has to be this large to constitute a capsule and most follow these strict rules. He acknowledges that the capsule is ubiquitous in society, and its adaptation to dwelling simply has not been realized. The capsule is arbitrarily designed, but encompasses the affordability, comfort, mobility, and convenience required of a temporary urban living project. He tries to argue that the capsule can be adapted to family use, via a connection of capsules, but this is perhaps the only place where Kurokawa's capsule dream falls short. Addressing temporary urban living for a single person is a much simpler task than to approach it from the point of view of a family, i.e. two or more people. Capsules are generally seen as single rooms; with a family, this brings issues of privacy that must be addressed for the idea to appeal to the masses of today. Mobile homes of today combat this by providing partitions and doors to enclose rooms like bathrooms, but space allocation becomes an issue with multiple residents. While a one hundred square foot capsule might be sufficient for a single person, that same amount for two people breaches personal space to the point of encroachment. At this point sacrifices to temporary urban living must be made. However, Kurokawa does approach the idea of multiple capsules combined to make a whole, which beckons a necessary investigation for this thesis project.

\textit{“The New Age of New Nomadism” – Jennifer Siegal}

A more contemporary look into architectural discourse on temporary living is seen in the "The New Age of New Nomadism" written by Jennifer Siegal, founder and principal of Office of Mobile Design. The article is published within \textit{Mobile: The Art of Portable Architecture}, of which Siegal is the editor. In this article Siegal acknowledges that technology has provided us with the means to create architecture that "rolls, flows, inflates, breathes, expands, multiplies, and contracts."\textsuperscript{18} Through this architecture we have a means to react to specific environments and social conditions. Siegal investigates mobile architecture

\textsuperscript{16} Ibid. p, 83.  
\textsuperscript{17} Ibid. p, 85.  
as an intersection of portability and sustainability, which is a popular topic in construction today. She acknowledges that the current state of trailer parks is more permanent than intended, lacks aesthetic appeal, and suffers from a lack of context to the site. Siegal draws ties with Archigram and Reyner Banham stating that their Plug-In, Instant, and Walking Cities, as well as "up-to-the-minute" environments, were all thematically a form of nomadism.\(^\text{19}\) She concludes that portable and mobile architecture is a response to fluidity, i.e. "the mobility of demographics and information"\(^\text{20}\) and that mobile dwelling offers "an alternative and possibly a solution for the inhabitants of the new "generic" landscape"\(^\text{21}\) (which is a play on Rem Koolhaas's notion of The Generic City, a city that is founded by people on the move).

Unfortunately the contemporary discourse on temporary urban living falls short of bold declarations, provocative images, and visionary architects, but more onto complacency with the current perception of mobile living. Siegal admits that we have the technology, but I argue that we have not put it to good use. Why do we continue to build prefabricated homes of luxury and mobile parks for the retired traveler rather than addressing issues of cost and the need for temporary living in the city? Buildings like Kisho Kurakawa's Nakagin Capsule Tower are not popping up in cities around the world, but rather prefabricated luxury homes isolated from society in a suburban utopia. I'm not arguing capsule architecture is the solution to the issue, but more so that we need to focus our attention on the issues at hand and how temporary urban architecture can address these problems (a temporary urban architecture that is affordable, one that is comfortable, one that moves with easy, and one that services convenience). Issues of sustainability, something that is of importance to Siegal, find themselves embedded in mobile homes but, while sustainability is not something to be overlooked, it does not appeal to the masses and thus will not help invoke a revival and reconsideration for temporary urban living.

\(^\text{19}\) Ibid. p, 23-24.  
\(^\text{20}\) Ibid. p, 26.  
\(^\text{21}\) Ibid. p, 27.
Chapter 2: Client

The alignment between the temporary urban living prototype and the client that wants to see it built:

In 1962, as the Seattle’s World Fair was boasting what life would be like in the 21st century, Dave Drum from Billings, Montana observed the masses traveling, by mobile home, out west to see what life would be like in 50 years. Drum, being a businessman, saw his opportunity and set up a camping site just off the interstate. This site featured hot showers, clean restrooms, and a convenience store all at a staggering low rate of $1.75 per night. Drum proceeded to question his customers about life on the road and what they wanted in a vacation spot. Drum listened intently and then made it a reality by forming the Kampgrounds of America (KOA) association which boasts parks all over the USA and parts of Canada.

A temporary urban living complex in the heart of New York City is precisely the next step the KOA institution needs to take towards creating a well-rounded example of mobile living. The KOA already offers over 485 different campgrounds around the USA and Canada. The KOA has created an infrastructure of campgrounds that are positive examples of temporary living. People know and trust the product they receive when booking a stay at a KOA park. They know what to amenities to expect and a ballpark figure of the cost of the stay will be when looking into a KOA campground. The KOA bases their campgrounds around specific attractions that travelers want to see. As the KOA evolves they seek more locations close to big cities to accommodate the tourist destination or the convenience of those that want to work in the city but live away from the hustle and bustle. However, the KOA aligns itself more with the destination traveler than the migrant worker, but, with the rapidly increasing demand for mobility in the workforce, the KOA sees an opportunity to latch on to a new market.

The KOA is leaping out of its comfort zone (campgrounds with vast amounts of land) and plunging into the concrete jungle that is New York City. The KOA hopes to provide a campground in the heart of New York City that addresses issues of comfort, mobility, affordability, and convenience. The typical campground layout that the KOA has used for its 485 plus parks will not work in the urban context of

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New York City. Therefore a new model must be developed that maintains the values and amenities of a typical KOA park while conforming to the urban context through the means of a vertical campground.

The history, nature, aims, and aspirations of a temporary urban living prototype in today’s society:
Temporary, mobile living traces its origins as far back as the nomadic tribes of pre-civilization. Whether it was to locate migrant food sources, adapt to changing climates, trade goods, find protection, or simply to search for the unknown, these tribes sought durable, lightweight, flexible, and transportable living conditions. As civilizations progressed life became much more sedentary. The twentieth century, industrialization, war, and the Modern Movement all led to the evolution of temporary dwelling. The resultant of war brought about a spike in the interest of mobile design. Post-World War One, Buckminster Fuller proposed his Dynamic Maximum Tension structures (Dymaxion) like the Dymaxion House, Bathroom, or DDU (Dymaxion Deployment Unit) which served as cheap and portable dwelling for military and industrial workers.

The advancements in prefabrication also led to a reconsideration of the house, for example Le Corbusier's Domino House that served as a skeleton to be covered by the occupant. Le Corbusier also envisioned plug-in, mobile architecture in his Unitéd'Habitation which was constructed between 1947 and 1952 in Marseille, France (post-World War Two). The sixties led to two significant architectural movements that both envisaged a new paradigm for cities and architecture. Archigram played provocateur with graphics describing an 'Instant City' or a 'Plug-In City,' both saw the necessity for temporary and mobile architecture whether it be through portable structures or a mega-structuralist approach that encompassed many detachable pods. Perhaps the most significant movement in temporary urban architecture was that of the Japanese Metabolist. Post atomic bomb devastation, a group of Japanese architects set out to reconsider living standards according to the capsule. They considered new ways to look at dense urban spaces by building on land, on the sea, or even in the air. Contemporary approaches seem to be content with the mobile home in the form of a recreational vehicle or 'double-wide' trailer. However, there are a few architects that are pushing the boundaries of temporary urban living. Recent designs by architects LOT/EK and MVRDV look at the shipping container and how it can be transformed into a portable and livable space. Also the work of Andy Thomson and Daniel Hall who looked at the mobile home as a way to disconnect from foundation and live independent of the grid. This was done while maintaining a connection to technology as well as having little impact on the environment, which in-turn could modify a person’s behavior of how to live

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24 Ibid. p, 19.
minimally. Temporary living is constantly evolving and is now looking towards ways to break into the urban fabric of the city.

**The Client’s Mission Statement:**
The KOA provides mobile home campground sites around the country for destination travelers and migrant workers in an attempt to create a community for those living a nomadic lifestyle. The KOA separates itself from other campground organizations because it offers specific amenities, affordable prices, and many locations around the country. All of which serve as vehicles that drive the KOA brand to the top of the campground industry.

**The keys to success for an urban campground in the heart of New York City:**
For a temporary urban living complex in the heart of New York City to be successful there must be a significant demand from destination travelers and migrant workers to bring their mobile homes to the city. This urban campground will cater to the young professionals, college students, and the destination traveler. Yes, New York City is one of the hottest destination spots in the world, but many people, in particular the ones that travel in mobile homes, do not want to get caught up in the hustle and bustle of the city. If the temporary urban living complex is convenient then the demand for this architecture will be significant. KOA benefits from creating an urban campground prototype within the heart of New York City because they will have the opportunity to instill their brand on the city, and by doing so, prove that the organization can expand to other cities around the country. The residents of the campground will benefit from the comfortable, affordable, and convenient living situation within New York City. Many of the residents would typically be forced to pay a significant amount for a place conveniently located in the city, not to mention how small, dreary, or unpleasant that place may be. Through the creation of this piece of architecture, it brings an opportunity to provide a new form of temporary urban living in the city, one that has been tested in many different ways, but has yet to find a positive way to flourish.

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Chapter 3: Site/Context

New York City is constantly moving towards a more temporary and mobile lifestyle. Evidence through new built forms like capsule hotels and container architecture beckon a recreation of acceptable temporary living within the city. But these building types often fail to successfully address the major concerns of affordability, comfort, mobility, and convenience. When it comes to designing a prototype facility site conditions can prove to be a vital driver for the overall design.

**Physical features and experiential conditions of the site:**
The site for this prototype facility will be located in New York, New York in particular, the West Chelsea district of Manhattan. New York City is one of the densest cities in the world; it has travelers and workers from all over the world packed into a very small footprint. Due to the extremely high cost of living in New York City, most people cannot afford to live there, and those that do can only stay for a short amount of time. The temporary urban living prototype provides an opportunity for residents to experience life in New York without sacrificing the lifestyle they have grown accustomed to in more luxurious areas.

The site in West Chelsea is located roughly at the intersection between 11th and 23rd street across from the Chelsea Waterside Park. The site is sandwiched between a Uhaul moving company building on the north side and residential buildings to the south. It is in close proximity to the Chelsea piers (to the West) and the newly renovated highline (to the East). The site has views to the Chelsea Waterside Park, the Hudson River, and New Jersey (across the water). The site stands its ground in the heart of New York City in a vibrant urban district. However, since it is located on the outer rim of Manhattan, it has a more open feeling than a site located in the middle of the island. This helps serve as a transitional space for the people that seek a destination in New York City, but come from more rural or suburban areas.

**Climatic and natural conditions of the site:**
New York City is a relatively cold climate during the winter and more moderate to mild during the summer. The urban campground has an innate openness to it, much like an above ground parking garage thus the issues of insulation and warmth during the cold winter are left to the individual units, which are designed specifically with this in mind.
The sky coverage is, on average, over 50% throughout the entire year. This will help mediate some of the heat island effect brought on by all of the concrete and lights within the city and surrounding cities. However, the cloud coverage will not be desirable during the winter months. The site does have a West facing façade that can be taken advantage of for direct sun and warm during the colder months.

New York City, on average, does not have strong winds to deal with. The speeds range roughly between five and twenty miles per hour, which is relatively low when compared to the windier cities around the country. That being said, wind gust and wind tunnels are always a concern when dealing with a site in the city. Fortunately the site is located on the outer rim of Manhattan which does two things; increases the overall average wind speed but also minimize wind tunnels due to the openness of the site.

Humidity in New York City is expected to be a concern due to the close proximity to water from all surround sides. However, humidity on average stays on or below the comfort zone during the majority of the year. There are a few moments where it goes above the comfort zone (during the summer months) but this is to be expected as the temperatures rise. However, with the site’s close proximity to water, the higher levels of humidity can be expected.

There is roughly one fourth of the year when sun shading is required. There is much more time during the year when ample sun is necessary to stay warm. The benefit of having an open site (one located on the perimeter of the island) in New York City is that sun exposure will be more frequent. That being said, since the buildings are relatively low-rise the mobile living complex rises above these structures which allows for a significant amount of sunlight to penetrate the site year-round.

Since New York City is located in the northeast it will inevitably get cold during the winter months, heating will be necessary for almost 50% of the year to stay comfortable. However, other design strategies like internal heat gain, natural ventilation cooling, and sun shading of windows will help keep the units comfortable for the majority of the year.
Figure 3: Site in Context
Figure 4: bing.com/maps
Chapter 4: Precedents

Yurt – archetypal precedent, dwelling of ancient nomads
A yurt is a portable, bent dwelling structure traditionally used by nomads in the steppes of Central Asia. The structure comprises a crown or compression wheel usually steam bent, supported by roof ribs which are bent down at the end where they meet the lattice wall (again steam bent). The top of the wall is prevented from spreading by means of a tension band which opposes the force of the roof ribs. The structure is usually covered by layers of fabric and sheep's wool felt for insulation and weatherproofing. The yurt is a temporary structure that is intended to compress small enough to fit on the back of a camel or yak and is easily constructed in less than two hours.

Figure 5: Mongolian Yurt, http://en.wikipedia.org/wiki/Yurt

The yurt has been used for hundreds of years, yet architects today have failed to effectively reproduce this timeless, flat-packed, mobile home with advanced technology. There is no machinery required to fabricating this home, yet it maintains a sophisticated interior and a solid foundation. The yurt seamlessly blends into its context, mountainous areas of Central Asia, and, when removed, does not leave a trace of its existence on the land. In short, the yurt does everything that can be asked of a true mobile home: simplistic materials, flat-pack mobility, efficient set up time, a solid structure, protection from the elements, and, when gone, no scar on the land of where it once stood.

Nakagin Capsule Tower – Japanese Metabolism realized, capsule living, plug in architecture

The Nakagin Capsule Tower in Shimbashi, Tokyo, Japan, complete in 1972 by Kisho Kurokawa, serves as the first built example of capsule architecture in the world. His intention was for the capsules to serve as a studio or hotel space for businessmen traveling from the suburbs. The site was chosen because of the proximity to the robust business district in Tokyo, serving as an urban home away from home. Each of the 144 capsules was fabricated off-site with utility connections, interior finishes, televisions, etc. and brought to the site and attached to one of the two structural elements at a rate of five to eight capsules per day. All the necessary amenities to live are packed into a space of approximately 100 square feet.

The elements that serve as structure for the capsules are shafts that encompass the vertical transportation as well as necessary plenum space equipment. The prefabrication plant was located 450 kilometers away from the building site which posed a transportation problem. The site also had little to no stockyard space so, during construction, only the capsules that could be installed that day were sent to the site. Unfortunately, in 2007 the building was voted to be demolished due to residents citing squalid and cramped living conditions, as well as a concern of asbestos. Kurokawa's rebuttal was to replace the dated capsules with newer versions because that would revitalize the original building intent. He saw the core shafts as timeless pieces of architecture that did not need to be replaced. Regardless of his protest, building management saw the capsule tower as an inefficient use of valuable land in the heart of Tokyo, and thus are proceeding with the demolition.

Figure 6: http://www.businessinsider.com/kisho-kurokawas-nakagin-capsule-tower-2013-10?op=1#!ChyxP

The Nakagin Capsule Tower, in theory, works as a solution to urban dwelling that is affordable, comfortable, mobile, and convenient. While the comfort aspect is debatable, to live mobile one must sacrifice certain luxuries of space, but that is a preconceived notion understood before the fact. Kurokawa addresses convenience by placing the Capsule Tower in the heart of Tokyo, as it is intended for the businessmen that must have easy access to the city. However, the building does fail to address some issues, which, inevitably leads to its demise. Kurokawa's intention was for the capsules to be freely plugged in and removed from the shaft structure. But, once the capsules were put in place they remained there indefinitely. True temporary urban living must allow the user to come and go freely through the flexible transportation of their living unit. The Nakagin Capsule Tower needed another similar structure in a separate location to add incentive for users to relocate their pods from one supporting structure to another. As it stands, the Nakagin Capsule Tower serves as a symbol for
Japanese Metabolism and a realization of Kurokawa's *Capsule Declaration*, but fails to address all key components of temporary urban living. However, Kurokawa would argue that the capsules were never intended to be the sole living space for the commuter, merely a home away from home.29

**miniHome – sustainable and self-powering mobile home, ability to go off the grid**

The miniHome was designed and completed in 2006 by Toronto graduate architects Andy Thomson and Daniel Hall and serves as a fully furnished, 350 square foot, house on wheels. Their vision was to create a mobile home that could be completely detached from the grid, i.e. devoid of plugs for electricity or water, and serve all the needs of a typical home.30 Thomson even uses the example of a drilling site to the north that is disconnected from society to emphasize the remoteness allowed with the miniHome. To remove the miniHome from the grid, the prototype is fitted with solar panels, wind turbines, and an onboard propane system so that it can be set up almost anywhere and still provide the necessities, i.e. air, water, fuel. Thomson’s hope was to create a building that provided minimal burden on the ecosystem by using sustainable practices, for example, zero formaldehyde products. This miniHome prototype hit the market at $120,000 and could be customized to increase the price by as much as $25,000.31

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31 Ibid.
The miniHome provides a look into how the perception of temporary living has changed from the movements in the 1960s. The issue of sustainability is a popular movement to cling to, and Andy Thomson and Daniel Hall epitomize that with their eco-friendly design. Unfortunately, sustainability, in its current state, is very expensive to implement and fictitiously achieved via attached components, i.e. wind turbines and solar panels. Thus Thomson and Hall claim an affordable solution, but at $120,000 base price (in 2006) that does not seem the case. Temporary urban living must appeal to the masses, or it will merely fall into a category of luxury. A less strict sustainable approach to the miniHome may have provided a much more affordable product. However, the miniHome does successfully appeal to the user's comfort, but, at such a steep price, that is expected. While the miniHome is technically mobile, as shown in Figure 2, at roughly 3,800 pounds it is much too heavy to haul with a family vehicle. The miniHome can be seen as convenient due to its ability to be set up almost anywhere, like Thomson’s example of a drilling site in the far north. But, while it tackles the issues of a migrant worker in rural areas, it cannot be as easily implemented into an urban environment. It lacks the ability to serve as a capsule to a mega-structure, and, by itself in the city, would be an extremely inefficient use of valuable space (even at 350 square feet).

**Life Edited Apartment – efficient use of space, 8 rooms in 420 square feet**

The Life Edited Apartment is a 420 square foot studio apartment in the heart of New York City’s SoHo district. It was designed by entrepreneur and treehugger.com founder Graham Hill. The Life Edited Apartment is considered a constantly evolving space that breaks down each room to its bare necessities. When you walk in, you encounter what looks to be a small studio apartment. Within that cube are 8

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32 Ibid.
functional spaces. The living room and office transform into the bedroom by simply pulling down a bookshelf. There is a telescopic dining table that expands to serve as many as ten people. If you shift a wall you open up a whole new space that is the second bedroom equipped with bunk-beds and a closet. The space also holds a well-equipped bathroom and kitchen for all the residents’ basic needs.\textsuperscript{33} It is the simplicity of design and minimalistic approach that make the apartment successful in achieving its goal of a truly transformational space.

\begin{figure}[h]
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\caption{www.lifeedited.com}
\end{figure}

Chapter 5: Outcomes

In order to create this new form of temporary urban living, certain issues pulled from the literary and precedents review must be taken into consideration and applied to this thesis. Society, economy, and technology are undergoing a constant change. One affects the other and vice-versa. A new form of temporary urban living needs to address the subcategories of society, economy and technology as it pertains to a dwelling which includes comfort, mobility, affordability, convenience, mass production, prefabrication, construction, and sustainability. By addressing these issues, a new form of temporary urban living is achieved. One that appeals to the masses and provides the extra push needed to change the sedentary living habits, which prove inefficient for today's transient society, into a new nomadic form of living that is more conducive to society's needs.

All of the aforementioned concerns pertaining to society, economy and technology can be seen as topics to master. The most important of which, as it pertains to this thesis, are the issues of affordability, comfort, mobility, and convenience. As mentioned before, different forms of temporary urban living have been built, but none address the issues of affordability, comfort, mobility, and convenience to the extreme that it alters the societal view of temporary urban living. How does one design for students and the working class, but make it appealing and comfortable while at the same time sticking to a strict budget?

The facility designed for the thesis project is a temporary urban residential tower, or urban campground, in the heart of an urban space. This tower consists of a skeletal structure, much like a parking lot that supports the mobile dwellings, which are free to detach and reattach to the skeletal structure. The program for the skeletal structure consists of conference rooms, green spaces, and various other services that supplement the experience of the mobile dwellers. The specific design goals for the urban campground are intended to implement a new form of living that addresses comfort, mobility, affordability, convenience while utilizing methods of mass production, prefabrication, sound construction, and sustainability to achieve a design proposal that changes the way social and economic conditions of temporary urban living are viewed.
Bibliography


http://www.nytimes.com/2009/07/07/arts/design/07capsule.html?_r=0