I, Jonathan J Wood, hereby submit this original work as part of the requirements for the degree of:

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Toward Responsible Development: The Future of the Neighborhood Business District

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Toward Responsible Development:
The Future of the Neighborhood Business District

A thesis submitted to the
Graduate School
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Master of Architecture

in the School of Architecture and Interior Design
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By
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Market driven urban infill developments, on paper, either succeed or fail based on profits and losses. Developments that seem profitable on paper are not always successful when the project is complete. The spreadsheets and pro formas used by developers calculate a multitude of figures associated with land acquisition, construction costs, financing, and future income generated by the development. These spreadsheets, however, fail to recognize the value associated with the architecture of great buildings and great spaces.

These issues are exemplified in the recent redevelopment of urban Cincinnati. Successful developments have generated lasting value for the city and for the developer. Unsuccessful developments have, at best, created short-term profit for the developer and at worst, destroyed the urban fabric and become a visual and economic detriment to the city. It is clear that there is no specific set of design guidelines to encourage value-based responsible development in urban and suburban Cincinnati. It is also clear that this irresponsible, single-use, auto-oriented development threatens the pedestrian nature of neighborhood business districts in the suburbs of Cincinnati.

This thesis will utilize critical research of some modern urbanism including ideas surrounding the Functional City and some reactions to the modern ideas including the Congress for the New Urbanism to gain an understanding of the current state of development in Cincinnati. This study will test the viability of the cannons adopted by The Congress for The New Urbanism as a possible solution for infill development. Through the research and analysis, this study will define a set of neighborhood specific guidelines for the new infill development of future urban artifacts in Cincinnati. Specifically, this study will focus on the Cincinnati neighborhood of Mt. Washington and utilizing the design guidelines as a tool for developing value based responsible development.

This study will culminate with a design project for an urban artifact for Mt. Washington. The design project will utilize the aforementioned design guidelines and will be presented in the form of physical models, drawings and digital renderings. The design project will be accompanied by a written and illustrated document. This document includes the critical research and the design guidelines and is available to local community councils and developers as a resource for responsible development.
I dedicate this work to my late mother Ann who encouraged me to dream and fostered my creative spirit. I would not be who I am today without her love, guidance, and encouragement.

Ann Carolyn Stace Wood Schlesinger PhD
July 23, 1940 – May 12, 2010
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Throughout history urban areas developed as their populations increased. Industrialization and modern technology increased the pace of this development and consequently changed the form of urban areas. The factories needed workers, and the workers needed housing. As the factories produced goods, they also produced pollution. Population density in urban and suburban areas fluctuates as people decentralize and move to the periphery and eventually recentralize and move closer to the urban center. In Cincinnati, the form of urban development is drastically different from the form of suburban development. As for population movement, Cincinnati, as of this writing, is seeing an increase in population in the urban center, and a slow down in suburban growth. The increase in popularity of the urban center is a sign that the population could be at a beginning stage of recentralization. As the population moves closer to the city, old suburbs like Mt. Washington will face the challenges of integrating new development into their neighborhood business districts. The single-use, auto-oriented “big box” development practices that are prevalent in the newer outer ring suburbs are a direct threat to the pedestrian nature and functionality of neighborhood business districts like the one in Mt. Washington.

This thesis investigates auto-oriented suburban development practices and their roots in modernism. Also investigated in this thesis are the principles behind the New Urbanism and the developments and their perceived stigma of nostalgic traditionalism.

- Can the principles of the New Urbanism be applied to non-traditional architectural forms?
- Can the architectural innovation associated with the modern movement be applied to traditional urban planning methods?

In order to develop our built environment in a responsible and sustainable manner, architects and planners cannot divorce themselves from the past, nor try to recreate it. Learning form history is invaluable, and acting with that knowledge is the profound way to step into the future.

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1 Bruegmann, Robert. Sprawl: A Compact History. Pg. 25-40
Modernism and Urbanization: Master Plans and The Functional City

Modernism is a movement that affected many disciplines including, art, literature, and the sciences. This portion of the thesis will look at the movement’s effect on architecture and urban planning. Specifically, this thesis will use the architecture and urban design principles exhibited by Le Corbusier and Mies Van De Rohe to explain some of the modern urban design methodology. Many of these principles can be traced back to The Athens Charter written by the Congrès International d’Architecture Moderne (CIAM) or International Congress of Modern Architecture.

At the turn of the 20th century, industrialization and mass production were having a significant effect on the people of Europe and the United States and the cities they lived in. Cities that were once seen as centers of culture, art, and business, were now also seen as centers for industry, pollution, and overcrowding. In an attempt to solve these physical and social problems of the city, some modern architect and urban planners took it upon themselves to tackle the problems with new designs for buildings and cities. The modern design ideology viewed historical design methodology as the cause of the modern problems. In the spirit of the times, planners and architects like Le Corbusier and Mies Van Der Roh came up with unprecedented modern and futuristic designs that solved the problems.

In 1928 the Congrès International d’Architecture Moderne (CIAM) or International Congress of Modern Architecture was founded to discuss and present architectural solutions to some of the social problems of the day. The fourth congress of 1933 met on a ship and sailed from Marseilles France to Athens Greece. While on this cruise, the group of architects and planners, including Le Corbusier, discussed what they called the “Functional City.” Prior to the journey form Marseilles to Athens, several groups were created to analyze and later present detailed urban studies of numerous cities both in Europe and the US. Strict guidelines were set up both for the analysis and presentation of the data. In order to better compare and contrast the individual cities, each group focused their analysis on what the CIAM considered the four functions of a city. These functions are: Housing, Work, Recreation, and Transportation.  

Somer, Kees. The Functional City: CIAM and the Legacy of Van Eesteren. Pg. 86.
This portion of the thesis will examine a few specific urban problems that Mies Van Der Roh and Le Corbusier struggled with, and the design solutions that they presented. The two problems that will be discussed are urban density (both population density and building density) and the automobile. The modernists viewed densely built up cities and the increasing availability and use of the automobile, as major problems for cities. The popularity of the automobile caused traffic congestion and the automobile also increased the amount of pollution in the urban area. Some modernists like Mies Van Der Roh and Le Corbusier recognized that the automobile was the mode of transportation of the future and designed solutions geared toward these vehicles. Le Corbusier, for example, used superhighways and boulevards to allow vehicular traffic to move more freely. To alleviate the congestion caused by cars turning on to side streets, the modern planners preferred to eliminate these side streets in favor of only major arterial roads. The elimination of the side street created much larger urban blocks also known as “super blocks.”

Le Corbusier, at times, was also a proponent for the de-centralization of urban centers. In Radiant City, he asserts “… to halt the exodus from the country, and insure that the country as a whole is restored to more harmonious proportions by a flow of population back to the land, we must develop the countryside…”3 Although he was fascinated with the concept of suburban development and de-urbanization, he might feel differently about the state of suburban development that has occurred in the countryside of many American cities since the publication of his book in 1933. Much has been written about the auto-oriented suburban housing development in the U.S. since the 1940’s, but few of these subdivisions fit Le Corbusier’s vision. He describes development in the countryside as “… one of the noblest tasks facing our age. It will require foresight, imagination, love, a reaffirmation of human purpose and dignity, and moderation.” Although often quoted out of context, Le Corbusier did write the following passage:

The cities will be part of the country; I shall live 30 miles from my office in one

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3 Le Corbusier. The Radiant City. 1967 Pg. 69
Modernism and Urbanization: Master Plans and The Functional City

Traffic on the 405. Is this what Le Corbusier was talking about?
Image Credit: http://www.flickr.com/photos/atwatervillage/842866223/sizes/l/

Critics often use this passage to describe Le Corbusier’s ideal vision of the future, but although he was a proponent of de-urbanization, this passage is actually describing Russian communist propaganda. The Russians regime describes the city as “the murderous stone-cannon of the city, the stifling, the crushing of the city dweller is a purely capitalistic manifestation. Therefore the city must be smashed into ten thousand pieces and scattered across the countryside…” To create work for the people, the Russians would build roads and manufacture automobiles and build houses. This passage is an example of Le Corbusier’s sarcasm, and absurdity that is found in much of his writing. The similarity of the description in the above passage to the typical suburban / ex-urban business commuter here in the U.S. is frightening and makes one think about the financial and environmental impact of long commutes.

At the same time as they were addressing the automobile problem, some modernists approached the building density problem by designing vertically and utilizing the extra space left behind for parks, or green space. These methods were practiced widely in cities in the early part of the 20th century in an attempt to “revitalize” downtown neighborhoods. The revitalizations, also referred to as “urban renewal,” usually targeted underperforming, minority neighborhoods and attempted to “clean” them up. The idea of “cleaning up” cities through architecture and urban design is not something that the modernists invented. It is a tool that has been utilized since the mid 1800’s beginning with Haussmann’s plan for Paris. What was unique to the urban renewal practiced by the modernists was their idealistic belief that the unprecedented, radical designs, forged through a rejection of the past, would have a positive effect on the social / behavior of the residents. William

4 Le Corbusier. The Radiant City. Pg. 74
5 IBID
Curtis writes about the simultaneous social engagement, rejection of history, and idealistic vision of the future that is inherent in 'modern architecture.'

The very conception of a 'modern architecture' implied a frank engagement with the new social and technological realities brought about by industrialization. It also implied the rejection of superficial limitations of past forms, and a more 'direct' or 'honest' portrayal of the contemporary world, if not a vague anticipation of a better future.6

Some of the urban renewal projects were used to build low income housing for the poor, and other projects were used for a more institutional nature such as schools and hospitals. Mies Van Der Roh and the board of the Illinois Institute of Technology, for instance, in the case of their campus in Chicago, used urban renewal to destroy the south side neighborhood where their campus now stands. In Mies’ design for IIT, side streets were eliminated, blocks were consolidated, and the buildings were removed from the street creating a composition of objects in a field. Daniel Bluestone, in his essay “Chicago's Mecca Flat Blues,” describes the IIT campus design concept while referring to a photomontage created by Mies:

The visual representation effectively placed a photo of an architectural model of the proposed campus on top of an aerial photograph of the South Side. Order and harmony confronted the hodgepodge of high and low, wide and narrow, wood and brick, commercial and residential buildings. Since the campus plan aimed to demolish the adjacent neighborhood, it adopted a dominant lo-rise, low-density form that sprawled across a landscaped site made up of cleared land and vacated alley and street rights-of-way of the earlier urban grid. In place of the older buildings pressed to the lot line, the new campus would move building away from street fronts and surround them with grass.7

6 Curtis, William J.R. Modern Architecture Since 1900. Pg. 24
7 Page, Max; Mason, Randal. Giving Preservation a history pg. 239
Modernism and Urbanization: Master Plans and The Functional City

Le Corbusier, in his master Plan Voisin, proposed destroying a large portion of the city and replacing it with housing towers composed in fields of grass. This design also included infrastructure “improvements” to eliminate side streets, widen the major boulevards, and segregate traffic systems to allow for increased traffic flow. Corbusier was attempting to open up the urban space and allow for more sunlight and also to allow the natural landscape to invade the urban core. In principal these ideas seem positive, but as Robert Tranicik explains in his book Finding Lost Space:

Often abused and misunderstood, Le Corbusier’s landscape of the modern city has resulted in buildings as isolated objects floating freely on useless plazas and unattractive parking lots. At the edge of the city, too, massive housing projects have been built with the same ideals of liberation through open space, and the results have been as inhuman and alienating.8

Examples of “abused and misunderstood” modernism are prevalent in developments across the U.S. As stated above, Modern urban design principles were not limited to cities. Many of the abuses occurred and are still occurring in the suburbs of American cities. Countless strip malls and suburban office buildings do little to address the context of the site, and use modernism as an excuse to plant their nondescript buildings in the middle of parking lots. By being in the middle of the lot, the building minimizes the potential distance that customers have to walk from their cars to the destination.

Some of these same modern design idea have been “abused and misunderstood” in Mt. Washington. Looking at the heart of the NBD, the Kroger site is a prime example of a bastardization of both traditional, and modern urban design principles. The Kroger building addresses the street with a massive solid brick wall, holding the building line of the street, but not allowing pedestrians to penetrate. Traditionally holding the building line of the street was good, but usually the buildings had storefronts that allowed for pedestrian interaction. The Kroger building holds the street, but

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8 Tranicik, Robert. Finding Lost Space Pg. 27
fails because it doesn’t allow interaction from the pedestrian. Kroger grocery stores usually are built on empty lots, or as part of a larger mall surrounded by parking lots. In the case of the Mt. Washington Kroger, the building attempts to address the street, as was written about previously, and attempts to disguise the parking lot with vague landscape gestures. This building does not float freely on the site, and paves over any attempt at letting the natural landscape into the site.
New Urbanism: One Reaction to Modern Urban Planning

In one of many reactions to modern architecture and urban design principles, some architects and planners look to the past for inspiration. These designers study historically vibrant urban centers and attempt to distill principals for design that can be utilized in current applications. This same group of architects and urban designers have also thoroughly critiqued modern urban designs, and catalogued the failures so they will not be repeated. Some of these designers have aligned themselves with groups such as The Congress for the New Urbanism (CNU), and with planning principles such as Form Based Code (FBC).

Much like some of the modernists, these New Urbanists are judged on designs, which architects and planners have abused or misunderstood the guiding principles. An example is that New Urbanism is equated with neo-traditional or classical style architecture. Nowhere in the CNU charter does it state that the architectural style must be neo-traditional or classical. In fact, the twentieth principal in the CNU charter specifically states, “Individual architectural projects should be seamlessly linked to their surroundings. This issue transcends style.”9

Traditional Neighborhood Developments on greenfield sites are often used to critique the principals of The New Urbanism. Many of these developments are nothing more than a typical subdivision where the houses sit closer to the street and are designed in a neo traditional style. These developments do not adhere to the CNU principles. Principle four states, “Development patterns should not blur or eradicate the edges of the metropolis. Infill development within existing urban areas conserves environmental resources, economic investment, and social fabric, while reclaiming marginal and abandoned areas. Metropolitan areas should develop strategies to encourage such infill development over peripheral expansion.”10

Other critiques of The New Urbanism are geared toward what critics believe to be the CNU’s lack of understanding of automotive transportation. These critics believe that the new urbanists have forgotten about the automobile in their pedestrian heavy designs. The CNU, in

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9 CNU Charter. 2001. Pg. 2
10 IBID
principle 22, states, “In the contemporary metropolis, development must adequately accommodate automobiles. It should do so in ways that respect the pedestrian and the form of public space.”¹¹ In other words, similar to modernist principles, the CNU accepts the automobile, but contrary to the modernists; the CNU relegates the auto to a secondary, or even tertiary role in the function of urban space. The CNU believes that designs should incorporate the automobile, but not at the expense of the pedestrian experience in the public realm.

If modernists used the automobile to generate design concepts, then the “New Urbanists” use the pedestrian as a concept generator. Every aspect of design is generated from the pedestrian’s viewpoint. From streets and sidewalks, to architectural form and details, the pedestrian is always considered first. Modern designs for super highways and elevated roads were geared toward moving the automobile from one point to another in the most efficient way possible. When these highways and elevated roads were constructed, they caused the destruction of neighborhoods, and offered no comfortable means for pedestrian interaction. This single-minded designing solved one problem and created many others. Le Corbusier in 1929 said, “It is the street of the pedestrian of a thousand years ago, it is a relic of the centuries; it is a nonfunctioning, an obsolete organ. The street wears us out. It is all together disgusting. Why, then, does it still exist?”¹² He recognized the inherent problem of pedestrian and vehicular interaction, but rather than design a street that integrates the pedestrian and the automobile in a safe manner he, similar to separating the functions of the city, decided that separating the automobile from the pedestrian was the best idea. This type of thinking took the design of the public realm (streets) out of the hands of architects and into the hands of traffic engineers. Engineers see the street one dimensionally and focus their energy on traffic flow and safety. This type of single-minded thinking is far from comprehensive and has generated many of the blasé and “disgusting” street experiences. Designers who take a more comprehensive approach and design for both the automobile and the pedestrian limit the possibility of creating problems, and

¹¹ IBID
¹² von Moos, Stanislaus. Le Corbusier: Elements of a Synthesis. Pg. 192
New Urbanism: 
One Reaction to Modern Urban Planning

increase the likelihood of designing a more usable and pleasant street. Although the CNU charter
does not list specific guidelines for comprehensive street design, principle 19 states, “The primary
purpose of all urban architecture and landscape design is the physical definition of streets and public
spaces as places of shared use.” This principle demonstrates the CNUs comprehensive approach
to architecture and urban design. Contrary to what Corbusier thought, architecture actually forms
the street, and architects have a responsibility to the public realm around their buildings.

One of Le Corbusier’s renderings of the Plan Voisin from his book Radiant City. This illustration
highlights the separation of pedestrian from automobile. Although the pedestrians circulate in the
“park,” is it still a park when there is an elevated highway running down the middle?
Image Credit: Le Corbusier. Radiant City Pg. xxx

This is an image (far left) looking down a street that leads
to the Piazza Della Signoria in Florence Italy. This scene has
a dynamic and vibrant street life, and the automobiles and
people function together.
Image Credit: Piazza della Signoria Florence, Italy. Google Earth 2009

This image (left) is in Barcelona Spain and illustrates the
integration of the pedestrian and automobile into a dynamic
street where each can function in a safe and enjoyable
manner.
After World War II, as soldiers returned home from Europe and the Pacific, demand for housing increased and fueled a boom in suburban real estate development. Along with the new suburban development, the popularity and accessibility of automobiles increased exponentially, becoming a staple of most suburban families. During this same time period, municipalities across the country began adopting zoning and other codes in an attempt to create a set of standards to separate uses and regulate development. The separation of uses were based on some of the ideas of The Functional City. These codes regulated everything from setbacks from the street in a residential neighborhood to the number of parking spaces needed for every new development. Also being regulated with these codes were roads, sewer systems, fresh water, and power lines. When multiple codes are applicable to a project, the most restrictive code carries the most weight, and often dictates the design solution.¹⁴

The introduction of the automobile and subsequent parking regulations created new

¹⁴ Form Based Codes Institute < http://www.formbasedcodes.org/resource.html > Bill Spikowski Presentation in Raleigh NC
building typologies and changed the urban form of American cities. The new single use, auto-oriented set of typologies made the pedestrian of secondary, or tertiary importance to that of the automobile and the parking lot. On the residential scale, the garage, once detached, quickly moved closer to the house and eventually became the prominent feature on the front elevations of many of the suburban developments. The prominence of the garage is evident in the newer developments of Mt. Washington, but not in the pre-1940’s developments.

As early as the 1960’s morphological studies of urban areas were taking place and much of the research focused on the effect of the automobile and the formation of new urban and suburban typologies like the parking lot and the residential garage. Learning From Las Vegas (Venturi, Scott Brown, Izenour) uses Las Vegas as a case study in urban form and studies the effect that the automobile has on the built form. In the following passages, the authors describe the automobile’s effect on the urban form of the Las Vegas Strip and the changes in building scale to accommodate the speed of the auto.

“The commercial persuasion of roadside eclecticism provokes bold impact in the vast and complex setting of a new landscape of big spaces, high speeds, and complex programs.”

“On the commercial strip the supermarket windows contain no merchandise. There may be signs announcing the day’s bargains, but they are to be read by pedestrians approaching from the parking lot. The building itself is set back from the highway and half, as is most of the urban environment, by parked cars. The vast parking lot is in front, not at the rear, since it is a symbol as well as a convenience.”

This Las Vegas example can be found in Mt. Washington today. On the southeast corner of

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16 Venturi P. 9
The Problems with Zoning and the Introduction of Form Based Code

The intersection of Beechmont Avenue and Corbly Road is a Kroger grocery store and associated parking lot. The building, although it is built to the sidewalk, faces the street with an opaque, fortress-like brick wall. This development, although code compliant, has ruined the existing urban condition of that corner. Where transparent and porous storefronts once stood, now there is an imposing brick wall which pedestrians are unable to engage. The buildings that line the west side of the street offer the pedestrian access to the storefronts that encourage activity on the street and offer visual interest. These buildings on the west side also have their parking in the rear of the lot, easily accessible from the secondary street, and not imposing to the pedestrian. If a FBC is applied to Mt. Washington, new development on the Kroger site would be denser, mixed use, and pedestrian oriented, just as the community has asked for future development. A FBC does not specify the use of the building and gives the developer the freedom and flexibility to develop what the market needs. If office space is in demand, the upper floors could be office space, if there were demand for housing, the upper floors could be condos and apartments. In this hypothetical example the form of the public realm would take precedence over the convenience of the automobile.

On the commercial, or more urban scale, where store fronts and pedestrian sidewalks once were, new developments, in order to accommodate parking and the automobile, pushed the storefronts back from the street and created parking lots. To access the new parking lots, the automobile invades the sidewalk and interrupts the pedestrian zone. In Mt. Washington, the Kroger site is only one example of many auto oriented, sidewalk invading developments. Older developments that pre-date the zoning laws have storefronts that are built up to the sidewalk and have modified the rear of their properties to accommodate automobile parking. Mt. Washington has a modestly designed pedestrian pass through to allow customers to access the storefronts from the off street parking in the rear.

The zoning that helped to create the auto-oriented developments changed the form of our urban cores and of our residential neighborhoods. These codes created new challenges for
The Problems with Zoning and the Introduction of Form Based Codes

Developers and when developers assess a potential piece of property, based on economics, they want to get the most out of their initial investment. Most developers prefer denser projects (more units per unit of land), and with the advent of parking regulations, now developers need to provide each customer/resident/homeowner a place to park. Eventually the developer reaches a limit, based on parking area, for which they can build. Smaller urban sites become less sought-after, not because of their location, but because it is fiscally unfeasible to develop a profitable project due to the parking requirements. The larger, more suburban or rural sites (where land is less expensive) become more attractive to the developers because it is financially more practical to provide the required parking spaces per customer. Cincinnati and Mt. Washington are no exception. Development has moved away from Cincinnati’s more urban areas, like Mt. Washington, to more rural areas like Montgomery, Mason, and West Chester. Anderson Township, Mt. Washington’s eastern neighbor, does not have a neighborhood business district, but rather the Anderson Town Center, a conglomeration of retail centered in a field of parking spaces.

The following scenario is a simplified example meant to exploit some of the auto-oriented regulations a developer might encounter in an urban re-development project. This example does not address the friction created by the regulating municipal officials.

Imagine that a developer wants to build a mixed-use building (storefront with residential above) in an urban area and he can only make the project profitable by creating ten residential units and two storefronts. The populated urban location is an ideal site, but the land is expensive. All of the numbers work for building the retail storefronts and the ten units, but to abide by the local zoning the developer needs to provide one parking space per resident and one parking space for every 150 square feet of retail. Now the developer has three options. One option is the developer could add 30% to the cost of his building and add structured parking. The extra 30% reduces the profit and could make the project a liability. The second option is to buy the building next door, evict the residents, demolish the building, and turn it into surface parking. This option also makes
no sense from a financial aspect or from the side of community relations. The price of acquiring
and destroying the neighboring building is too costly to make the project work. The third option
is to leave the urban center and find a new less expensive site where the numbers can work. Now
the empty city lot sits there as an unproductive member of the urban fabric.

It would be irresponsible for any municipality to simply abolish zoning and other regulatory
codes in hopes that private developers will regulate themselves and create value based development
projects that are in keeping with the long-term goals and visions of the community. What these
municipalities need is a streamlined, agile code that reduces friction and promotes positive, long-
term value based development in line with the formal goals of the community. One approach to
such regulations is “SmartCode,” or more generally referred to as Form Based Code or FBC.

Form Based Codes developed from studying the history of urbanization around the world,
and more specifically, the urbanization of the United States. Andres Duany is one of the early
pioneers of FBC and is the coauthor of SmartCode. Similar to how a geologist studies a specific
land area, Duany uses a transect to classify the built environment. A transect is defined as, “a straight
line or narrow section through an object or natural feature or across the earth’s surface, along
which observations are made or measurements taken.”¹⁷ For Duany, the transect begins in the rural
countryside and ends in a dense urban city center. Each of the 6 classifications (T1–T6) represents
an increase in density, T1 being rural and T6 being urban. The differences between this classification
system and the current system are that Form Based Code focuses on urban form and the public
realm, whereas the current system focuses primarily on segregating land use. This does not mean
that a heavy industrial company can set up shop in a residential neighborhood or Central business
district. Form Based Code requires a substantial amount of planning prior to implementation. The
trade off, once the FBC is in place, is that there is less bureaucracy in the way of development, and
the municipality knows the form of the development will work in concert with the long-term plans
the city and community stakeholders lay out.

¹⁷ New Oxford American Dictionary
The Problems with Zoning and the Introduction of Form Based Codes

FBCs promote a pedestrian-oriented and a pedestrian-scale environment and can dramatically affect auto-oriented zoning. Mt. Washington has a mix of Community Commercial Mixed, and Community Commercial Auto oriented zoning. One aspect that is missing from Mt. Washington zoning is the Community Neighborhood Pedestrian zone that is common in most neighborhood business districts in Cincinnati. This pedestrian zoning designation is closely aligned to the principles of FBC, but fall short on two main issues. The zoning fosters a pedestrian-friendly environment by requiring building to be built to the sidewalk and regulating access to off-street parking to be on secondary roads. Where the current zoning falls short is its minimums. The zoning allows building up to 50', but it requires only a minimum of a one-story 15' structure. In a FBC, the minimum height for an area like this would be at least two stories. The change to a FBC in the pedestrian oriented zones could be an easy transition and a possible solution that might encourage responsible development in the future. “FBCs work well in established communities because they effectively define and codify a neighborhood’s existing ‘DNA.’ Vernacular building types can be easily replicated, promoting infill that is compatible with surrounding structures.”

The community charrette process would allow stakeholders to craft a vision for their neighborhood and the FBC would insure that the built vision would be realized in future development. “FBCs encourage public participation because they allow citizens to see what will happen where-leading to a higher comfort level about greater density, for instance.”

In the case of Mt. Washington, the community crafted its own comprehensive plan for the future of the community. After critiquing the plan, it is clear that the community desires a more pedestrian-focused environment, and less segregation of use. In their proposed land use plan the community has combined the Community Commercial Mixed zone and Community Commercial Auto zone to form a mixed-use commercial zone.

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Cincinnati Municipal Zoning Code Chapter 1409-09
http://www.formbasedcodes.org/advantages.html
Ibid
public space in the heart of their neighborhood. Many Cincinnati neighborhoods have unique and identifying public squares surrounded by retail, office, and housing. Mt. Washington is one of the oldest neighborhoods in the Cincinnati area (first settlement was built in 1790) and was developed privately by subdividing farmland. The commercial district was organized around the main street (now Beechmont Ave.) rather than around a public square like other Cincinnati neighborhoods including Mariemont, Hyde Park and Oakley. The existing Kroger grocery store and parking lot are situated in a prime location for a public square.

Is a form-based code the proper tool to ensure the creation of a public space like this, or can this idea be implemented under the current zoning? The fact is that this square could be created under the current zoning, as long as the parking requirements were met. All of the uses, such as retail, office and residential, are accommodated in this zone, and building heights up to 85 feet are accepted. The truth is that the current zoning doesn’t encourage development that is in line with the community’s vision, and therefore developers have no incentive to build something that the community actually wants. A form based code might work better for the community and help to ensure that their vision became a reality.

Form based codes, built on community vision, promote unique developments and buildings that represent the sense of place for the community. The idea of sense of place, describes the environmental qualities of a space (city, building, or room) in relation to the unique identity of the greater area. Buildings, according to Aldo Rossi, are “urban artifacts” carrying with them the stories and history of the city. Because each building is inherently tied directly to its time and place in history, the architecture of the building is responsible, in some part, for the quality of that memory for future generations. For example, what value does the Mt. Washington Kroger offer to the collective memory of the city? In fifty years from now, will that building still exist? Nothing about the architecture speaks of value, or sense of place and time. How will the architecture speak to people in the future? Now, what about the buildings across the street that have been there 21 Smalley, Stephen B. A History of Mt. Washington. 1967 pg. 1
The Problems with Zoning and the Introduction of Form Based Codes

since the early 1900’s, why do they still exist and the Kroger across the street has already been torn down and rebuilt? The value created by the architecture has relayed the buildings history and helped the building to keep its place as an urban artifact.

There is an underlying theme present in the application of form-based codes that is lacking in the application of current zoning. Form based codes impress the three-dimensional representation of the vision of the city. Current zoning codes lack dimension and don’t call for value in development. Form Based Codes ask developers to help create the vision of the city. Form Based Codes appeal to a higher level of consciousness, and ask developers to join up with the community and help create their vision.

The vision for the city, or community, or neighborhood is key to the FBC concept. Each community has the opportunity to codify their unique sense of place, or locus. “The locus is a component of an individual artifact which, like permanence, is determined not just by space but also by time, by topography, and form, and, most importantly, by its having been the site of a succession of both ancient and more recent events.” FBCs have the opportunity encourage the creation of urban artifacts and also have the opportunity to outlaw the development of projects like Mt. Washington’s Kroger. The Kroger does nothing to relate to Mt. Washington, and does nothing to represent, or even acknowledge the history of the site. This building could be located anywhere in Cincinnati (or any other town for that matter), rotated, scaled, or stretched and have the same effect as it does in Mt. Washington. So in essence, the Kroger is devoid of site, and devoid any idea of locus.

FBCs also speak to Rossi’s ideas of permanence. Rossi explains “…housing is a permanence in the city while individual houses are not…” There will always be housing in Mt. Washington, and there will always be retail, but the individual locations of these permanencies are not what is important, only that there is a place for them. FBCs, contrary to traditional zoning, acknowledge
The Problems with Zoning and the Introduction of Form Based Code

the need, but does not regulate the location. In a FBC, the needs of the market dictate where housing and retail will occur, and the code dictates the form of the public realm. Through a FBC, a 4-story building could offer retail on the first floor and flexible loft space on the upper three stories. This loft space could be converted to office space, apartments, condos, live / work spaces, or storage. The FBC is flexible enough to allow for changes in market demand while insuring the form of the buildings that shape the public space.

This one story building, under construction at the time and now complete, is an example of the minimum requirements of the current zoning in Mt. Washington. Please don’t misunderstand, this building is an improvement from most of the other building around it, but it is a text book example of the minimums allowed by the current zoning. The building is the minimum height, and satisfies the minimum transparency requirements. At the end of the day though better than some of the other recently built buildings, this development is still, a single-use and a little less auto-oriented building. At least is holds the street and encourages pedestrian traffic, but it still isn’t what the community asked for in their comprehensive plan.
Form Based Codes: A Critical Review

The Florida beachfront resort development of Seaside is the earliest built example of New Urbanism and Form Based Code. In the late 1970's Andres Duany and his wife, Elizabeth Plater-Zyberk were approached by a private developer and asked to design a resort community in the Florida Panhandle. The husband and wife team, rather than designing each and every house and building, utilized a form-based code to set the specific design guidelines and let other architects design the individual houses and buildings. By setting the general form of the development, individual architects can design each home or building and add their unique interpretations culminating in a diversity of design that would not be possible from a single architect.

Financially, the resort town of Seaside has been a huge success for the developers, as well as for Walton County, the Florida county where the resort town is located. Real estate in Seaside is well sought after and the prices reflect the high demand, even in a down real estate market, property values have remained high and houses and condos rent out at a premium, even in the off season.

Architecturally speaking, Seaside is harshly critiqued by some and praised by others.
Whether one feels positively or negatively about the design of the resort, Seaside has homes and buildings designed by some well-recognized architects from around the world. Some of these architects include, Aldo Rossi, Leon Krier, Stephen Holl, and Machado and Silvetti. Critics use Seaside as an example of the limited effectiveness of form-based codes and New Urbanism in general. These critics use the fact that Seaside is an expensive beachfront resort town to highlight how disconnected New Urbanism is from “real-urbanism” that is found in thriving metropolises across the world. David Harvey, professor of geography at Johns Hopkins University, explains his opinion on the matter.

The logic of capital accumulation and class privilege, though hegemonic, can never control every nuance of urbanization (let alone the discursive and imaginary space with which thinking about the city is always associated); the intensifying contradictions of contemporary urbanization, even for the privileged (some of which are highlighted in the New Urbanism), create all sorts of interstitial spaces in which liberatory and emancipatory possibilities can flourish. The New Urbanism identifies some of those spaces, but its conservatism, its communitarianism, and its refusal to confront the political economy of power blunt its revolutionary potential.  

Critiques like this one are valid, but could be used when comparing any beachfront resort, or greenfield subdivision regardless of whether or not it was designed using the principles of new urbanism. Unfortunately for New Urbanists, most examples of FBC’s are either resorts or greenfield subdivisions. It is only recently that form-based codes are being adopted by larger municipalities and used for regulating urban infill development.

Nashville, for example, is one of the few large municipalities in the U.S. that has developed and implemented a form-based code in their downtown to regulate and encourage infill development.

Between 2006 and 2008 Nashville adopted FBC in an area just Southeast of the central business district called the Gulch. This area experienced a surge of development and over a five-year period, experienced a 75% growth in taxable value. Other areas in Nashville only grew at a rate of 28% in the same five-year period. Financially, Nashville is a key precedent because there is direct data linking the adoption of FBCs with growth in taxable income. Cities and States across the country are constantly seeking out ways of increasing their tax base without increasing taxes. The new development in Nashville encouraged new business and new residents to move to the area resulting in the increased tax base. From a development perspective, Joey Garrison from the Nashville City Paper points out how dated and irrelevant their zoning code had become.

Even before the department embarked on that study, planners had already found the existing downtown zoning system to be out of sync with recent downtown developments, including the Pinnacle at Symphony Place office tower and the Row 8.9 Lofts on Rosa Parks Boulevard. Both projects required exemptions from zoning requirements, hurdles now removed with the passage of the Downtown Code.²⁵

There is a problem when successful developments that are popular with citizens and generate increases in tax revenue are illegal to develop according to the zoning code. Single-use zoning codes based on the modern ideas of the Functional City are out of touch with the dynamic way citizens want to live their lives.

Citizens want to be a part of the visioning process for their communities and just like in Nashville, citizens of Hercules California were displeased with their zoning code and set out to create a form based code that replaces and supercedes any prior codes. Here is an excerpt from the introduction of the Regulating Code for the Central Hercules Plan.

The Regulating Code shall not be pre-empted by any previously adopted local or state codes that regulate public health and safety such as the Uniform Building, Plumbing, Electrical, or Mechanical Codes. Should any conflict arise between the provisions of this Code and the City of Hercules Zoning Ordinance, the provisions of this Code shall apply.26

The citizens, along with Dover, Kohl and Partners, designed a code around the community’s vision of how they wanted their town to develop. The town recognized that the auto-oriented development that was occurring with help of their existing zoning code did not match the vision they had for their town. Through the charrette process, the community of Hercules expressed their vision for the form and character of future development and the design firm helped to create graphics showing possible transformations. A charrette is defined by the National Charrette Institute as a “…multiple-day, collaborative design workshop [that] harnesses the talents and energies of all interested parties to create and support a feasible plan that represents transformative community change.”27

Critics of Form Based Code and New Urbanism, more often than not, criticize the traditional architecture style of these developments. These criticisms are valid in that most of the developments thus far have been designed in some form of a neo-traditional, or simply a traditional style. Some of these critics view the traditional style of the buildings as a device to evoke a nostalgic feeling in the residents and visitors. David Harvey asserts that the nostalgia of new urbanism movement does little to tackle social issues of “…uncontrolled capital accumulation, backed by class privilege and gross inequalities of political-economic power.”28 Harvey argues further that “…the New Urbanism pays no mind to that: it builds an image of community and a rhetoric of

28 Harvey. Pg. 3
Form Based Codes: A Critical Review

Harvey also neglects to mention any of the successful HOPE VI programs. “The HOPE VI Program was developed as a result of recommendations by National Commission on Severely Distressed Public Housing, which was charged with proposing a National Action Plan to eradicate severely distressed public housing. The Commission recommended revitalization in three general areas: physical improvements, management improvements, and social and community services to address resident needs.” Harvey argues that the new urbanism favors the upper class “…while abandoning those that do [need an image of community and civic pride]:” Although HUD has received some criticisms for their handling of the HOPE VI program, the New Urbanism principles that are mandated by the program makes it clear that the New Urbanists are far from abandoning, as Harvey calls them, the “underclass.” The HOPE VI program is a clear reaction to the failings of the modern urban renewal initiated by HUD that destroyed neighborhoods and any sense of community in favor of building super blocks with housing towers that we now tear down because of their unpopularity and security problems.

As stated previously, the CNU does not advocate for a traditional or neo-traditional style of architecture, or any style for that matter, but when private developers choose to market their developments in a neo-traditional manner, the CNU gets pegged as being an advocate for such a style. By doing some basic web-based research on the CNUs web site, one will find examples of

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developments ranging in size from low rise housing to skyscrapers and from one acre sites to 300 acres and beyond. Among these examples one will find a wide range of styles from traditional to more progressive approaches.

In the end, a successful development transcends style and is judged on how it functions and how well visitors and residents are able to interact with others as well as how well they interact with the built environment. Simply designing a neo-traditional house with a front porch, or a modernist glass and steel box will not make a development succeed or fail. It is the relation of the buildings to the public realm that can create dynamic public and private spaces. The idea of contextual relationship of buildings to other buildings and to the public realm is not an idea that the new urbanist created, or a principle that is only practiced by new urbanists. These are principles, accompanied with many other factors, which successful architects and urban planners take into account when designing.
“Instant cities” and “instant architecture” are terms that are often used to negatively describe massive mixed-use developments that are developed in a short period of time. These terms are used in opposition to “incremental cities” that have developed “organically” over a long history. Critics of these “instant cities” usually have a negative opinion about the developments because the developments attempt to appear as if they developed organically. The critics find this tactic to be deceptive and misleading. Much of the criticism that some of the new urbanist communities receive is centered on the deceptive tactics used by the developers to make the developments appear as if they have developed organically. These developments might function quite well, but visitors feel as if they are in a manufactured environment that critics compare to Disney World, or the set of a movie like The Truman Show.

The developers and architects of some “instant cities” take a less deceptive approach to their design. These developments can be both traditional and very avant-garde. Rem Koolhaas, founder of the Office of Metropolitan Architecture, has designed many urban developments, and some of them could fall into the category of “instant cities.” Koolhaas’ instant cities are not traditional, and although they display the visual interest found in an organic development, Koolhaas’ designs make no attempt to appear organic. The avant-garde designs of Koolhaas do not escape criticism. Some critics compare Koolhaas’ work to the work of some early modernists like Mies and Le Corbusier sighting a lack of a contextual relationship to the surroundings. Although Koolhaas’ work may not visually relate to the historical buildings adjacent to his sites, on a functional level, Koolhaas’ designs deliver a unique and exciting urban experience, something that the early modernists struggled to perfect.

Instant cities, either traditional or avant-garde in design, will be judged on how they function over time. While the traditional new urbanist developments feel manufactured, over time individuals will have the opportunity to make their mark on the structures with additions and façade improvements that will help to create a more dynamic environment that feels more authentic.31

The designs of Koolhaas may feel more authentic initially, but they too will be judged over time. It is hard to speculate about how well these large projects will integrate into the city, or how well they will be able to adapt and change with the city over time.

These large developments, regardless of style, often spark new development on adjacent sites. This concept is favorable to the site in Mt. Washington. Although the Kroger site is the most in need of repair, the whole Beechmont Avenue corridor adjacent to the Kroger site also needs attention.
New Urbanism advocates that Form Based Codes are the municipal answer to promote responsible development. Although the principles of the New Urbanism transcend style, why are traditional and classical styles so often used in the built projects? Modernist advocate for incorporating new thinking into design and for using architecture to effect social change. Modern urban renewal in America created housing for the poor, but in the process, destroyed the urban fabric of many neighborhoods and also destroyed the neighborhoods sense of community. Both of these movements try to control development to ensure positive results for humanity, and responsible architects should critically engage both of these theories to better inform their designs. As for Mt. Washington and the development of the Kroger site, an integrated design approach is necessary that makes use of the latest technology and building systems while providing a unique and dynamic pedestrian experience.
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Design Implications
Design Implications

The population of Cincinnati is at the beginning stages of a recentralization. Development in the outer ring suburbs and exurbs has slowed down, while new development has increased in the urban core and some of the inner ring suburbs like Hyde Park and Mt. Lookout. As the population shifts towards the urban center, there is no question that inner ring suburbs like Mt. Washington will be redeveloped. This new development has the opportunity to radically improve the character and function of the neighborhood business district. At the same time, if nothing is done to improve the municipal zoning codes, the character of Mt. Washington could be destroyed by the single-use, auto-oriented development practices that are so prevalent in the parking lot landscapes of the outer ring suburbs and exurbs. A form based code for Mt. Washington could be the answer, but at the very least it is clear that the current zoning code is not in line with the communities goals and significant changes need to be made to update the zoning code.

There are many possible design implications for the Mount Washington site ranging from light interventions to more intensive urban scale redevelopment. It is necessary to explore this range of possibilities to ensure that the community of Mount Washington has the opportunity to choose what works best for them. The range of design solutions showcases the agility of the designer and insures that the community has multiple solutions at their fingertips to implement as the financial and physical conditions of the neighborhood change over time.

The design solutions are focused on five main areas:

- **Infrastructure improvements**
- **Parking**
- **Streetscape**
- **Pedestrian details**
- **Building massing and design**
Design Implications
Parking

EAST-WEST STREET SECTION
Design Implications
Parking
Design Implications

Streetscape and Pedestrian Details
Design Implications

Streetscape and Pedestrian Details

Phase 1
Design Implications
Preliminary Design Sketches
Design Implications
Building Massing and Design

TYPICAL BUILDING ELEVATION OPTIONS
Design Implications
Building Massing and Design

PUBLIC OUTDOOR SPACE

PRIVATE OUTDOOR SPACE
Design Implications
Building Massing and Design
Design Implications
Building Massing and Design
Appendix A: Physical Features and Experiential Conditions
As seen from the aerial view, Mt. Washington is a predominantly residential neighborhood split by Beechmont Ave., a four lane arterial road. This neighborhood is also split between traditional girded development, and more modern cul-de-sac subdivision development. The built environment of Mt. Washington has areas of density, and also areas of public and private green space.
This aerial is zoomed in on the Neighborhood Business District, or NBD. This aerial shows the close proximity of housing to the NBD, and highlights pedestrian opportunities. It is clear through this image how the auto-oriented zoning has created a necessity for parking lots and drive throughs. This auto-oriented development is threatening the pedestrian nature of the NBD, and the parking lots are negatively affecting the spatial characteristics of the public realm.
This zoomed in aerial image highlights the juxtaposition between the scale of the larger Kroger building and parking lot to the east and the smaller buildings with storefronts to the west. This image also shows the holes in the urban fabric for automobile access that are common with auto-oriented zoning and development. It is also necessary to point out the relatively full parking lot. Some parking lots are sized for peak times of the year, (holidays) but this parking lot is usually full during normal hours. Parking is critical to any further development of this site.
The angled view in this image illustrates the massive street presence of the Kroger building. The solid brick wall acts like a fortress, creating a barrier between the street life and the store. The overwhelming presence on the street dominates the corner and suppresses any engagement the building might have with the pedestrian.
The image of the site model makes the topography of the site clearer. The bird's eye image is looking east, where north is to the left. The Mt. Washington NBD is situated at the crest of a hill. The NBD is located on a gradually sloping site, which slopes up from north to south. The Kroger site is deceivingly sloped, from the ground photography, the site feels more flat, but the site actually falls more than 20 feet.
The two site section images further illustrate the steeper, and then more gradual sloping nature of the site. The high point of Mt. Washington is marked by the location of the water tower. The Mt. Washington Water Tower is a neighborhood landmark and is visible from different parts of the city, and Northern Kentucky. This landmark is helpful when navigating the neighborhood, and is a good reference point for giving, and receiving directions.
The Mt. Washington NBD is divided between auto-oriented development and pedestrian oriented development. These images convey that divide. The top grouping of images documents the east side of the NBD and shows the massive scale of the Kroger building. The bottom grouping of images shows the mix of auto and pedestrian oriented developments. The images on the left page are more auto oriented. The buildings are set back from the street and parking lots are the predominate feature. Towards the middle of this grouping of images, the development is much more pedestrian oriented. These buildings are built to the sidewalk and engage the pedestrian. There is on-street parking and additional parking in the rear of the buildings and access through a pedestrian gateway.
Appendix B: Climate Data
The solar angle chart, created with the assistance of the University of Oregon, is a useful tool to track the movement of the sun throughout the day and for each season. This chart quantifies the movement of the sun into exact degrees and makes it easier to design for proper solar exposure. The following shading diagrams illustrate the current conditions of the site.
This solar shading chart, provided by Climate Consultant 4.0, graphically interprets the solar angle chart. This specific chart illustrates the sun's position from June to December. The red dots represent when shading is necessary, based on the angle of the sun in the sky and the average temperature. The blue dots represent the angle of the sun during colder average temperatures where shading is not necessary, and letting the sun in will help heat a building, or outdoor space.
The monthly diurnal average chart illustrates the average temperature swing throughout the day. This graph also charts the radiation that is present as well. The rise and fall of the daily temperature is closely related to but not 100% consistent with the amount of radiation from the sun. It is somewhat obvious, but still important to point out that warmer temperatures in the summer months are correlated with increased solar radiation. There is one exception, January is a month with colder temperatures, but the direct normal radiation is at the same levels of the month of June. The average cloud cover might explain this abnormality for January, which is less than the other cold months. Since January is the coldest month of the year in Mt. Washington, and one of the more sunny months, there might be a design opportunity to take advantage of the increased solar radiation.
The psychometric chart produced by Climate Consultant 4.0 is a great tool because it graphically displays the yearly climate data and directly relates the data to design decisions. For example, 54.6% of the year climate conditions require conventional heating. This graphic data and related design implications makes it clear that any building design needs to investigate some type of passive heating strategy. The data also shows that climate conditions for designs with high thermal mass that take advantage of night time cooling would only be effective for four hours through out the entire year. This data is helpful, and lets designers know that they shouldn’t waste their time on certain design strategies, which allows them to focus their attention on more relevant design.
Appendix C: Site Context and Shading
The Fall Equinox image shows the shading at solar noon on the spring equinox. During this equinox, the sun is higher in the sky than it is in the winter, but not as high as it is in the summer. Therefore, the sun angle at noon casts a larger shadow that it does at noon in the summer, but not as large of a shadow as it does in the winter.
The winter solstice image illustrates the lower position of the sun in the sky at noon. This lower position in the sky casts longer shadows, creating shadier atmospheres. This is important to consider, because the warm sun is valuable during the winter months, and any outdoor space should try to take advantage.
The spring equinox image is very similar to the fall equinox, but the sun is in a slightly different position in the sky. Like the fall, the spring shadows are not as large as the winter ones, but considerably larger than the summer.
The summer solstice image illustrates the highest position of the sun in a given year. The high angle of the sun creates very small shadows. The summertime in Mt. Washington, like anywhere in Cincinnati, is hot. Shade is valuable, so any outdoor space must take advantage of shade and provide some relief from the sun. The contradictory nature of the winter and summer sun angles and the need for sun in the winter and the need for shade in the summer, points to a dynamic design solution that is able to adapt to the seasons.
The winter morning image shows the sun low in the eastern sky and the long shadows that are present in the morning.
The winter afternoon image shows the sun low in the western sky. This image, like the morning image, illustrates that shadows from other buildings, not on the Kroger site, have an effect on that site. Shadows from any built structures on the Kroger site will also affect buildings and streets located off of the immediate site.
Public Space

Public Space Diagram

This diagram illustrates the public and municipal spaces of Mount Washington. These spaces include: city parks, perceived public green space, community centers, schools, municipal buildings, and religious buildings. The largest public green space is Stanberry Park that is located in the northwest quadrant of Mt. Washington. This park has recently been renovated to include an accessible path and also has a hilly, wooded trail that runs along the periphery of the park's property. This park is somewhat secluded and removed from the center of the neighborhood business district (NBD). One of the perceived green spaces is the grounds of the St. Gregory seminary. The grounds are open to the public, and it is a common place to take pets for a walk. The Mt. Washington Recreation Center serves as the community center. This facility is operated by the Cincinnati Recreation Commission and offers tennis courts, an indoor track, weightlifting area, and community meeting rooms. There are three elementary schools and one high school in Mt. Washington. Two of the elementary schools are public and one is a catholic school. The high school is also catholic. The municipal buildings in the area include: a fire house, a post office, a public library, and the water tower. There are four religious buildings in the neighborhood, one Catholic Church, one Catholic seminary, one Presbyterian Church, and one Baptist church.

The public buildings and public space are for the most part located around the periphery of the neighborhood business district with the exception of the water tower, library, and post office. This diagram illustrates the lack of public or civic space in the heart of the NBD.
Mt. Washington has three commercial areas. Two of the areas are minor “B” districts and one is the major commercial center for the neighborhood. The first minor commercial district is on Sutton Ave at the intersection with Benneville Street. This area consists of one daily necessities store, a few empty retail storefronts, and a local bar. The second minor business district is located at the intersection of Beechmont Ave and Burney Lane. This area includes one single story store front, a fast food drive through, a gas station, and a daily needs convenient store. The main business district is located at the corner of Beechmont Ave and Corbley Road. This district is anchored by a medium to large size Kroger supermarket and diagonally across the street, a Walgreen’s drugstore. There are four local branch banks, and one national branch bank. There are also a number of local businesses that occupy the storefronts across from the Kroger. These businesses include one restaurant, one bar, various offices, two hair care businesses, a dog groomer, a comic book store, a jewelry store, an ice cream shop, a specialty beer walk up, a boutique wine shop, and a lock smith / hardware store. The list of businesses above is incomplete, but relays the types of businesses that occupy the Mt. Washington NBD. This diagram and investigation uncovers a few market niches that are not being served. The only restaurant is a Larosa’s, and it is delivery only so there is no local restaurant in the NBD to sit down and eat lunch or dinner.
Multi-Family Housing

Multi Family Diagram

The multi family residential buildings in Mt.Washington are spread throughout the neighborhood. There are multi family buildings near the NBD, as well as along the major roads. The outskirts and secondary roads are mainly single family. The multi family buildings range in size from smaller two and three family houses, to buildings with 50 or more units. Some of the larger developments have many buildings and associated facilities such as a gym and outdoor pool. Many of the larger buildings are tucked back away from the streets and address the street with the parking lot.
The majority of the housing in Mt. Washington is smaller single-family homes on small lots. There are a few streets with larger houses on larger lots, but for the most part the houses are less than 2000 square feet and sit on small lots. This diagram illustrates the two development organizations that are present in the area. The older homes and streets are organized along a North-South grid system with major and minor streets. The newer streets and homes are organized using a more modern subdivision model with cul-de-sacs and few streets that connect. This diagram also indicates the lack of single family housing in the NBD and a lack of for sale condominiums in the entire neighborhood.
Appendix D: Spatial Programming
Classification of Activities and Functions

- Project Buildings:
  - Three story mixed-use buildings forming a civic green / square / piazza over two levels of subterranean parking.
- The Classification of Activities and Functions
  - Arrival
    - Pedestrian: The pedestrian arrives on site either by walking, biking, or being dropped off at the transit hub by streetcar or metro bus. This hub will act as a filter to take visitors from the busy street atmosphere of Beechmont Avenue to the bustling pedestrian commercial piazza.
    - Automobile: Entering from one of the two clearly defined automobile entrances, either the northeast corner or southwest corner, the automobile will follow distinct signage to the public portion of subterranean parking garage. Residents will follow signage to their private parking area. After finding parking on one of the two levels, the driver and any passengers will follow signage that leads them to elevators and stairs. Once in the elevators or stairs the drivers and passengers ascend one or two floors and arrive, as pedestrians, in the transit hub and pedestrian filter. Residents, from their private parking area use a separate private elevator that takes them to their residential lobby.
  - Users
    - Patron: From the transit hub and pedestrian filter the patron will be introduced to the square and will be free to visit the shops, galleries, restaurants, bars, and or grocery store. Before, during, or after shopping or eating, the patron has the opportunity to use the civic green to rest, relax, read, eat, congregate, or engage in recreation. While patronizing the shops or relaxing in the square, the patrons will have access to public restrooms and a seasonal climate relief area that provides shelter from the seasonal elements.
    - Worker: From the transit hub the worker (restaurant and bar service staff, managers, owners; office employees, managers, owners; and Kroger employees, managers, executives) will enter the square and disperse to their place of employment.
      - Retail: The retail employee will enter their store and put their personal belongings in the designate employee storage section of the retail storage and service room (back of house) located in the back or side of the retail store. This service area will have a direct connection to the exterior and
Classification of Activities and Functions

Retail Store: The retail employee will enter the establishment and, similar to the retail employee, will put their personal belongings in a designated employee storage area located in the back of house portion of the retail store. All of the service functions and kitchen will be located in this back of house (BOH) section. The retail employee will then proceed to their position either in the BOH or the front of house (FOH). Depending on the theme and organization of the retail store, the tenant's space will include a reception area, coat check, reception seating, bar seating, informal dining area, a more formal dining space, and patron washrooms.

Office: From the square, the office employee will walk to the associated first floor lobby space of the office. From the lobby, the employee will use a key card to access his or her floor and ride the elevator, or walk up the stairs to the second floor common area and where the office washrooms are located. Two or more offices that are served by the first floor lobby will use this common area. If a large company wishes, they can lease the entire space, and this common area could serve as a reception area.

Resident

Pedestrian: From the square, the pedestrian resident will walk to the associated first floor lobby space shared with the second floor offices. In the lobby, the residents can take the elevator or walk up the stairs and gain access to the third floor with a key card. At the third floor the stairs and elevator open to a common area where residents can access two to four units.

Automobile: Once residents pull into the parking garage they can access their private parking area with their key card. From their cars they can follow the signs for the designated elevator that will take them to the retail area.
Classification of Activities and Functions

- common space on the third level.
  - Departure
    - Pedestrians: Patrons, Workers, and Residents leaving the square will exit the store, restaurant, place of work, or home and enter the square. From the square they will walk to the transit hub where they can sit down or stand under a covered shelter to wait for the streetcar or bus. If they are not waiting for a bus, they can depart by walking or riding their bikes.
    - Automobile: Patrons and Workers will leave their establishments and walk to the transit hub to take the stairs or elevators down to one of two subterranean levels of parking. From there, they will find their cars and exit the area through either of the two exits. Residents will leave their homes and take the stairs or elevator down to their private parking area. From there, the residents will get in their cars and exit through on of the two vehicular exits.
Space Standards and Criteria

Project Description: This large-scale development will include multiple mixed-use buildings each having its own unique programmatic relationships. Each of these buildings will be unique and have some combination of the following functions:

- Subterranean Level 2
  - Parking
- Subterranean Level 1
  - Parking
- Ground Level Exterior:
  - Civic Green
  - Pedestrian Promenade
  - Transit Hub / Pedestrian Filter
    - Street Car / Bus / Bike
- Ground Level Interior:
  - Renovated and expanded existing Kroger grocery store
  - Renovated 5/3 Bank
  - Retail Space
  - Gallery Space
  - Restaurant / Bar Space
  - Live / Work
- Second Level
  - Office Space
  - Live / Work
  - Gallery Space
- Third Level
  - Residential Apartments
  - Residential Condominiums
  - Live / Work Units
- Roof Level
  - Public Roof Garden
  - Private Residential Roof Terraces

For the purpose of this assignment, this exercise will focus on one hypothetical 3 story, 7500 (gross) square foot building containing retail on the first floor, office space on the second floor, and two residential units on the third floor. As part of a larger development, this building will be built on top of two levels of subterranean parking totaling 500 plus parking spaces. Again, this exercise will calculate parking requirements only for the hypothetical building and not the entire development.
Appendix E: Precedent Analysis

The proportional relationship of building height to open space is an important consideration when studying and designing public spaces. The following studies document the general proportions of building height to open space and also document the spatial compression and release commonly found in these public spaces. These studies include European and American examples including local examples of neighborhood public spaces in Cincinnati.
The Piazza Della Repubblica is a modestly sized piazza located in Florence, Italy. Like most of the piazzas in Italy, the public space that is the Piazza Della Repubblica is formed by the architecture surrounding it. The buildings consist of a commercial ground floor, and residential or office on the upper floors. The piazza is accessed from 6 possible entry points, the arched west entry being the most formal. Each of the streets leading to the piazza is at a 3:1 ratio of building height to open space. The 3:1 ratio gives the pedestrian a feeling of compression. The spatial release occurs as the pedestrian passes from the 3:1 ratio to the 1:3 ratio of the open space of the piazza. The 1:3 ratio allows
the pedestrian to see more of the sky and allows for more sun to penetrate the space.
The Piazza della Signoria, also in Florence, Italy, is a little larger than the previous piazza but has similar elements, and experiences. Signoria is accessed from seven main points where the western most entrance is the most significant. The access streets, just like Repubblica, compresses the pedestrian with a 3:1 building height to open space ratio, and the release is accomplished with a 1:4 ratio in the piazza. Shops and restaurants activate the ground floor of the piazza and the upper floors are residential, office, and cultural space.
Piazza della Signoria

Image Credit: Piazza della Signoria Florence, Italy. Google Earth 2009
The Piazza del Campo in Siena, Italy is larger than both Repubblica and Signoria and, because of the topography of the region, is a sloped piazza. The slope of the piazza faces south and, on nice days, allows visitors to sit and enjoy the sun. On warmer days, the buildings provide shaded areas and awnings and umbrellas shade the storefronts and outdoor cafés. The Piazza del Campo is accessed from ten narrow streets, none of which are visually more significant than any other. The building height to street width ratio for these access streets is about 3:1 and gives the feeling of compression. The compression is contrasted by the 1:6 ratio at the widest portion of the piazza. Similar to the other piazzas, the
buildings that create the shape of the Piazza del Campo provide a mix of uses including ground floor shops and restaurants and upper floors that are occupied by residential, office and cultural functions.
The Piazza Vittorio Veneto located in Torino, Italy shares some basic characteristics with the previous piazzas, but is also quite unique. Buildings on three sides form the shape of this piazza, but the southeast side is bounded mainly by the topography of the landscape. Also unique to this piazza, from the previous three, is the prevalence of the automobile and streetcar. Although the majority of the piazza is allocated to the pedestrian, there is significant automobile traffic that runs down the center of the square. This piazza is accessed from ten streets; the northwestern entrance located along the long axis of the piazza is the most prominent. The street that feed the piazza are shared
by the automobile and the pedestrian and have a 2:1 height to width ratio, making them a little less compressive than the previous three piazzas. Buildings do not bound the southeastern end of the long axis of the piazza, so the proportional measurement is taken from the short axis and measures about 1:6. The Piazza Vittorio Veneto is also unique because all of the buildings use an arcade to shade the storefronts and protect the pedestrians from the weather.
The Louvre in Paris, France has had numerous functions from fortress to palace to art museum that its current function. As the function changed, so did the architecture and the shape of the building. This once private palace is now a public art museum and the once private courtyard is now a public square. Although function of the building surrounding the square is a unified (art museum) the museum is popular enough to activate the public space. Similar to the Piazza Vittorio Venito, the Louvre has an open end that is not bound by buildings. The Louvre’s open end faces the west, and although it is not bounded by buildings, the vegetation and the Arc de Triomphe du Carrousel provide a visual
barrier that terminates the space. Similar to the Italian piazzas, the access roads leading into the square have a 3:1 height to open space ratio that creates a compressive feeling to drivers and pedestrians. The 1:4 ratio of the open square provides a spatial release.
Placa Reial

The Placa Reial is located off of La Rambla, a tree lined street in Barcelona, Spain. The buildings that form the shape of the square provide a mix of uses including restaurants, bars, and nightclubs. La Rambla is a wide two-lane boulevard with a central tree lined public space between the lanes. The street and the adjacent public square are filled with activity through out the week, but especially on the weekends. The 2:1 proportion of the entrance to the Placa Reial from La Rambla is narrow, but not as tight as some of the Italian examples. The spatial compression of the entrance is contrasted by the openness of the 1:4 ratio of the square.
Placa Reial


Government Square, located in Boston, Massachusetts, is a very large public square. The scale and proportion of this square make it function much differently than the previous European examples. Although the shortest proportion in this square is 1:3, the buildings on either side are between 12 and 15 stories, much different than the 4 to 5 stories found in some of the Italian examples. The proportion in the long direction far exceeds 1:6, and is imperceivable to the pedestrian that they are enclosed in a space. Some have suggested that the over scaled proportions make this square uncomfortable for pedestrians and the discomfort is the cause of the square’s unpopularity.
Greater than 1:6. Greater than the perceivable maximum
The campus of the University of Cincinnati is a collection of signature buildings designed by renowned architects like Frank Gehry, Peter Eisenman, Morphosis Architects and landscape architects like George Hargreaves. The “Main Street” area of campus is a pedestrian street / plaza which is formed and shaped by the architecture at its edges. As pedestrians interact with the street they are confronted with spatial compression at narrow spaces between the buildings that release into an open piazza. Diagramed to the right are the spatial proportions of the compressed spaces and the open space. At the narrowest point, the space is compressed to a 2:1 ratio of height to width. The spatial compression is followed by a release as the pedestrian enters the seating area where the spatial ratio is 1:3. Although the architecture is contemporary, the spatial games of compression and release are the same as those found in the older European examples.
Hyde Park Square

Hyde Park is an inner ring neighborhood located roughly 5 miles north east of downtown Cincinnati. This established neighborhood was among the first neighborhoods to develop outside of the city. Like many of the older, established neighborhoods in Cincinnati, the commercial center of Hyde Park is organized around a public space that is formed by the both buildings and vegetation. There is a public green space with a fountain that separates the lanes of traffic running through the square and provides a shady space for pedestrians to sit and relax and enjoy the local ice cream. The organization of Hyde Park Square is typical of most of the squares in Cincinnati of the same era. Hyde Park Square is similar to the Piazza Vittorio Venito in that each of these squares has a busy road as a major component. The diagrams to the left show that the local density is far less dense than the European examples. This being the case, the proportional game of compression and release are still apparent. The side streets are more compressed than the main street, although it is not as dramatic as some of the European examples, there still is a feeling of compression and release.
Mt. Lookout Square is located to the Southeast of Hyde Park Square and is also about 5 miles from the center of downtown Cincinnati. Mt. Lookout is a neighborhood much like Hyde Park where the center is organized around a commercial district. Mt. Lookout Square is different from Hyde Park Square because the central space that separates the lanes of traffic is a parking area rather than a public green space. The diagrams to the left show that Mt. Lookout square is even less dense than Hyde Park and this lack of density and building height make the square harder to perceive. Although there is still a perception of compression and release, the 1:6 proportion of the square makes it feel much more suburban and less urban.
Oakley is a neighborhood located about 6 miles Northeast of downtown Cincinnati and just Northeast from Hyde Park. Oakley Square is very similar to Hyde Park Square in organization, but Oakley Square has very different spatial proportions. Buildings on either side form the square and the lanes of traffic are separated by a public green. The 1:6 proportion of Oakley Square is much like Mt. Lookout and makes perceiving the square a little difficult and also makes the square feel more suburban. The entrances to the commercial square are also wider and less compressive than the European piazzas. The 2:1 proportion at the entrances of the square relate to the suburban location of the neighborhood.
Mariemont is a neighborhood located about 8 miles East-Northeast of downtown Cincinnati and is one of the first planned communities in the country. As seen in the aerial photograph, the plan for Mariemont is centered around the public square with streets radiating diagonally from the center. Like the other Cincinnati neighborhoods, Mariemont square incorporates a busy road that runs through a commercial center. The central public space combines a pedestrian green space with automobile parking. This combination of functions addresses both the pedestrian and the automobile, but the compromise detracts from each of the experiences. The pedestrian green space is surrounded by automobile traffic and makes the experience somewhat uncomfortable.