# THESIS ABSTRACT

Title of Thesis: SUBURBAN CLEANSING: AN ECOLOGICAL, ECONOMICAL AND SOCIAL INTERVENTION IN TYSONS CORNER VIRGINIA

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Suburban sprawl in America is destroying the environment and communities at an overwhelming rate. The rapid growth of unplanned suburban sprawl has led to increased traffic congestion, increased dependence on fossil fuels, worsening air and water pollution, lost open space and wetlands, increased flooding, destroyed wildlife habitat, and dying city centers.

There is a great need for a thorough investigation in the areas of suburban sprawl and how to transform them into sustainable developments. This thesis investigates Tysons Corner Virginia and attempts to transfigure it into an ecologically, economically, and socially responsible place.

The thesis exploration has three primary concentrations: a master plan, a site study within the master plan, and a proposed building typology. The master plan critiques the Fairfax County Comprehensive Plan for Tysons Corner Urban

Center and the Dulles Corridor Rapid Transit Project. Within the master plan is a more detailed analysis of a specific site that deals with environmental functions and preservation, adaptive reuse, and infill viability. Lastly, this thesis proposes a housing typology that is a transformation of commercial strip shopping centers.

# SUBURBAN CLEANSING: AN ECOLOGICAL, ECONOMICAL AND SOCIAL INTERVENTION IN TYSONS CORNER VIRGINIA

by

David Matias Fenchel

Thesis submitted to the faculty of the Graduate School of the
University of Maryland, College Park in partial fulfillment
of the requirements for the degree of
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# Chapter 1. INTRODUCTION

Suburban sprawl in America is destroying the environment and communities at an overwhelming rate. The rapid growth of unplanned suburban sprawl has led to: "increased traffic congestion, longer commutes, increased dependence on fossil fuels, crowded schools, worsening air and water pollution, lost open space and wetlands, increased flooding, destroyed wildlife habitat, higher taxes and dying city centers."[i]

There is a great need for a thorough investigation in the areas of suburban sprawl and how to transform them into sustainable developments. This thesis investigates Tysons Corner Virginia and attempts to transfigure it into an ecologically, economically, and socially responsible place.

Tysons Corner is known as the "poster child" of suburban sprawl to the attentive. Yet, according to *The Washington Post*, Tysons Corner has the nation's fourteenth largest daytime office population and a retail concentration second only to New York City on the East Coast. In spite of its financial success, Tysons Corner suffers from the same environmental and social epidemic as nearly all other suburban developments.

The thesis exploration has three primary concentrations: a master plan, a site study within the master plan, and a proposed building typology. The master plan critiques the Fairfax County Comprehensive Plan for Tysons Corner Urban Center and the Dulles Corridor Rapid Transit Project. Within the master plan is a more detailed analysis of a specific site that deals with environmental functions

and preservation, adaptive reuse, and infill viability. Lastly, this thesis proposes a housing typology that is a transformation of commercial strip shopping centers.

Each primary site application serves as a means for investigating a number of theoretical ideas about suburbia. These ideas are focused on suburban neglect, the suburban fallacy, lack of public interaction and community, the generic society and a new outlook. Suburban neglect is an attack on architectural education and the design profession for ignoring design opportunities in the suburbs and allowing the epidemic to explode. The idea of suburban fallacy focuses on suburbanites' erroneous belief that they live in a villa out in the landscape, off a country road, in a clean, private, crime-free neighborhood. Another attack is on suburbanites' lack of interaction with one another and how their lifestyle is a result of suburban sprawl and not the inverse. Additionally, the way suburbanites live perpetuates an overly generic society where they depend on one store, usually a large corporate store, for all needs. To address these ideas, a new outlook is proposed for changing the current pandemic through public awareness and new policies.

A series of precedent analyses were done as a design strategy to address the challenges inherent to Tysons Corner and which are identified in the site analysis. The major precedent studies are of Commonwealth Avenue in Boston, Pentagon Row in Virginia, the Kentlands in Maryland and Forest Hills Gardens in New York. Additionally, great streets like the Ringstrasse in Vienna, Regents Street in London, Unter den Linden and Kurfurstedamm in Berlin, and others were also analyzed.

Three master planning design strategies are explored in this thesis. The first strategy is an idealized approach that considers the existing program for Tysons Corner and how to redesign it regardless of its current condition of buildings, roads, and property lines, etcetera. The second design strategy overlays the existing condition with that of the first strategy and evaluates the relationship of the two plans to design a new one. The third strategy attempts to conserve the existing structure and transform it will minimal demolition and maximum intervention.

This thesis takes the perspective of the more than sixty-percent of Americans whose life experience is suburban. My architectural education has taught me to be critical. Through a maturing critical awareness, I have become increasingly concerned with our current suburban lifestyle. This concern has led me to the concern of others and their theories have led me to formulate my own.

## Chapter 2. PHILOSOPHY

The phenomenon of suburban sprawl is rampant across the United States, and Tysons Corner Virginia is only an example of the destructive result of a number of policies that encouraged this type of development. The historical progression is as important of a consideration as the ecological, economical and social ramifications. Understanding the history of suburban sprawl empowers us to not make the same mistake twice, and to more completely address the root of the infection. The multitude of ecological, economical and social consequences is also important to consider, because they are the symptoms and pains of this disease.

### History and Predicament

Suburbs originally began as slums outside of old walled-cities. They were places where people who could not afford the luxury of the city lived. But, during the era of industrialization, the suburbs changed and became a retreat from industrial pollution and a relief from the enormous population influx affiliated with industry.

The evolution of suburban sprawl in the United States is a direct result of a number of new policies after World War II. The most significant of these were the Federal Housing Administration and Veterans Administration loan programs, which provided mortgages for over eleven million new homes.[ii] These two policies encouraged the construction of new single-family suburban houses. Concurrently, the Interstate Highway act of 1956 provided 41,000 miles of

roadways, which made suburban construction more appealing to developers and automobile commuting more affordable and convenient for the average citizen. In combination of the mass influx of new homes and roads encouraged urban flight and inevitably neglect.

"History has a fundamental relevance to contemporary public policy, and that Suburbanization has been as much a governmental as a natural process."[iii] The American divergence from the rest of the world occurred during the industrial and postindustrial age. The importance of land developers, of cheap lots, of inexpensive construction methods, of improved transportation technology, of abundant energy, of government subsidies, and of racial stress all played a roll in the divergence.

> "…Affluent and middle-class Americans live in suburban areas that are far from their work places, in homes that they own, and in the center of yards that by urban standards elsewhere are enormous. This uniqueness thus involves population density, homeownership, residential status, and journey-to-work."[iv]

America imported its building traditions and culture from England and other parts of Europe. Through precedence, America deviated to develop its own building traditions. But at the turn of the twentieth century, we abandoned all we had developed as American, for an ideology that was both foreign and destructive.

The Industrial Era was a time in which people were cognizant of the natural environment. They had to live this way. But now, people have the misconception that technology can supersede the natural environment.[v] "Suburbanites increasingly complain-with reason- about traffic congestion, road

rage, rising taxes, municipal debt, crime, pollution, loss of open space, lack of affordable housing, and out-of-control development. As the suburbs and urban fringe have absorbed the spaces of the New Economy, the same development standards that once promised a retreat from the city-densities below three to four dwelling units per acre; auto dependency; a road system designed to minimize traffic in residential areas; single-use zoning; discontiguous developments and stand-alone buildings-now trigger sprawl."[vi]

"Harriet Tregoning, director of the Urban and Economic Development Division of the EPA and coordinator of the Smart Growth Network, points out that although 80% of Americans call themselves 'environmentalist', few of them display this leaning in their life circumstances-beyond engaging in curbside recycling and perhaps buying the Eddie Bauer model of the SUV."

Neglect

"Elite clients interested in distinguishing themselves from middle-class conventions soon discover that the unconventional projects of the neo-avant-garde suite them much like designer-label fashion. Today, despite growing attention to new technologies, urban design, and environmental and energy agendas, it isn't theory or critique that dominates architectural discourse so much as agenda-less celebrity."[vii]

"With blithe inconsistency, architects and architectural scholars point to the seemingly undesigned sprawl of suburbia and say, 'Don't blame us, we had nothing to do with it.' This avoidance is precisely the problem."[viii]

Our society as a whole has neglected suburbia, but it's the responsibility of the architecture community to direct their attention. Our neglect has allowed for the money driven, short-term invested developers to shape our communities. "Space around us- the physical organization of neighborhoods, roads, yards, houses, and apartments- sets up living patterns that condition our behavior."[ix] Winston Churchill famously said, "First we shape our buildings then our buildings shape us". With this idea in mind, money driven developers are shaping most of our society! This is a great social problem that has sponsored many movements to end suburban sprawl, but what is equal to, or possibly a larger problem, is the existing suburban condition.

Suburban Fallacy

Suburbanites live in a Suburban Fallacy. There is an image of living off some country road, out in the landscape, in some Palladian Villa. This fallacy is a lot like Disney World, a place where nothing bad ever happens, no crime, no pollution, no housing shortages and no employment problems. In fact, the segregation notorious to suburbia helps foster the delusion, and the separation of classes. This suburban illusion perpetuates the problems by not addressing the concerning issues.[x]

"Suburbanites increasingly complain-with reason- about traffic congestion, road rage, rising taxes, municipal debt, crime, pollution, loss of open space, lack of affordable housing, and out-of-control development. As the suburbs and urban fringe have absorbed the spaces of the New Economy, the same

development standards that once promised a retreat from the city-densities below three to four dwelling units per acre; auto dependency; a road system designed to minimize traffic in residential areas; single-use zoning; discontiguous developments and stand-alone buildings-now trigger sprawl."[xi]

With competent master planning and intervention, suburbanites can have both their villa and their small town atmosphere without destroying the environment and impeding a social infrastructure that promotes rather than prevents community.

Public Realm

Private experience is a more than common occurrence for suburbanites. Daily routines usually take place in the private home, then the private automobile, then the private office, and then back to the private automobile to get back to the private home. In that daily routine, one may have a few public experiences. For example, one might stop at the Giant grocery store, Giant by name and by size. And when the typical suburbanite has a few potential public opportunities, they may spend it talking on their cell phone to someone somewhere else, missing chance-encounters with their neighbors, children's teachers and others alike.

Activated ground planes provide the opportunity and encourage public interaction. This should be required for all development, and insured through land use zoning and other prescriptive policies. Connectivity at the neighborhood scale is a component for walkable design, which promotes both physical and

social health, it allows for cross-generational opportunities, and it improves the quality of space and activity in and around the neighborhood.[xii]

New Outlook

I want to challenge our society to be observant of our everyday environment. A person of common intelligence can go to an art museum and observe a piece of artwork, decide whether or not they like it, and maybe consider for a few seconds why they like or dislike the piece. This idea of looking at a creation, having an opinion about it and understanding a little about why it makes you feel the way it does should not be contained in a box, or a museum. We as a society most think outside of the museum walls. We must look around our everyday environment and consider if we like it or not, and then reflect on why. And if we do this, we might start seeing things, like the vast wastelands of parking lots and say, "I don't like this. I don't like this because it is ugly, an impediment to the community, and abusive to the environment."

New Policies

It is necessary to create a new policy system to work within because the current system perpetuates the current epidemic. In development practice, N.I.M.B.Y.s are probably the principal impediment for positive change. If necessary policies are created and obstructive policies are removed, then sensible and beneficial growth can prevail.[xiii]

Generic Society/ Community

We cannot sustain our level of energy consumption. There are not enough available resources or realistic alternative fuels. We will have to change. The Wal-Marts of the world wont be able to stabilize in a natural gas epidemic, and wont be able to ship 100,000 plastic pools from San Alamo to every town in America. Therefore you wont save a few dollars anymore on the everyday items that put your neighbor's "mom and pop shop" out of business prior to the oil-peak disturbances.[xiv]

Organized residents can influence a positive course of development and planning in their region, as they did in Mystic View, Massachusetts. Residents' involvement prevented locally unwanted land uses, in this case big-box retail. Our society is more often disconnected and unwilling to spend the time and make the effort to improve one's community. This is probably because community is more of a marketing term used by developers than a lifestyle. Additionally, it is difficult to get people to afford the time in their community when they aren't even spending enough time with their family. And, in a capital economy where a person is financially compensated for their time, "time is money", this is especially difficult to get community involvement.[xv]

"How can architecture contribute to the leading of an admirable contemporary life in suburbia? How can architecture better deal with middle-class identities and tastes? How might the increasing mass customization of products (from Levis to kitchen cabinets to entire construction systems) help

decrease suburban homogeneity and spur consumer demand for better architecture and design?”[xvi]

Chapter 3. SITE

Tysons Corner is a 1,700-acre area located in northern Virginia, about halfway between downtown Washington, D.C. and Washington Dulles International Airport. The residential communities of McLean, Vienna and Falls Church surround the area. Tysons Corner's boundary is defined by: the Capital Beltway to the east, the Dulles Access and Toll Roads to the north, and by local roads and Old Courthouse Stream Branch to the southwest. Because of its accessibility to regional highways and proximity to Washington, D.C. and Dulles International Airport, Tysons Corner's has flourished in recent-past decades.

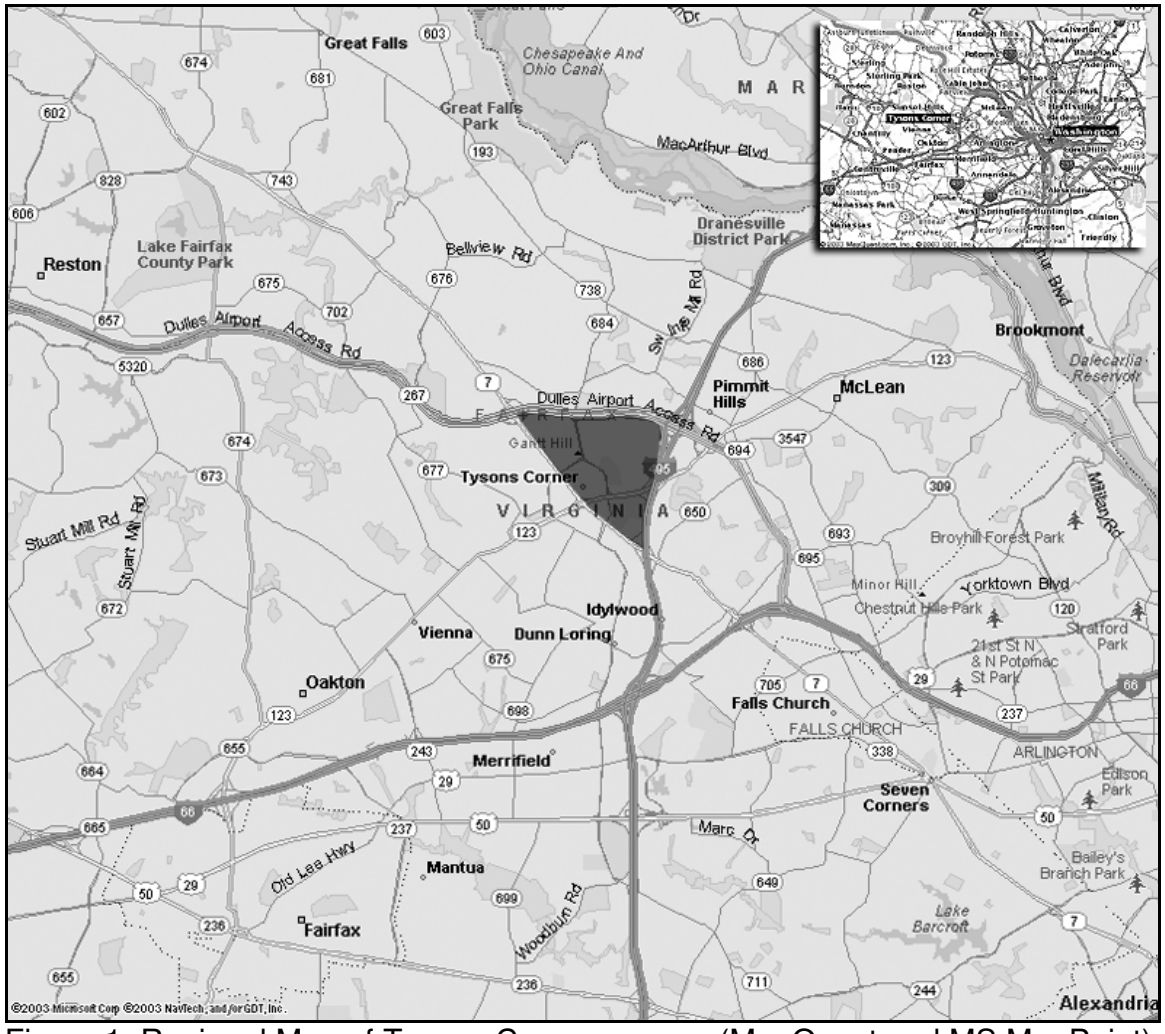

Figure 1: Regional Map of Tysons Corner (MapQuest and MS MapPoint)

History

In the late 1950s, Tysons Corner was a rural crossroads with a general store and gas station. Since the early 1960s, Tysons Corner's growth has been characterized by the development of large office complexes, hotels, super-regional retail malls and community-serving retail uses.[xvii] The transformation occurred with the Capital Beltway and the Dulles Airport Access Road being planned in the 1950s and constructed in the 1960s. This greatly improved the area's accessibility, thus catapulting it on the forefront of the nationwide movement of relocating business districts from downtown areas to suburban locations. The construction of the Tysons Corner Shopping Mall in 1968 began forming a reputation as a retail district with, and continuing it with the Galleria at Tysons II in 1993.

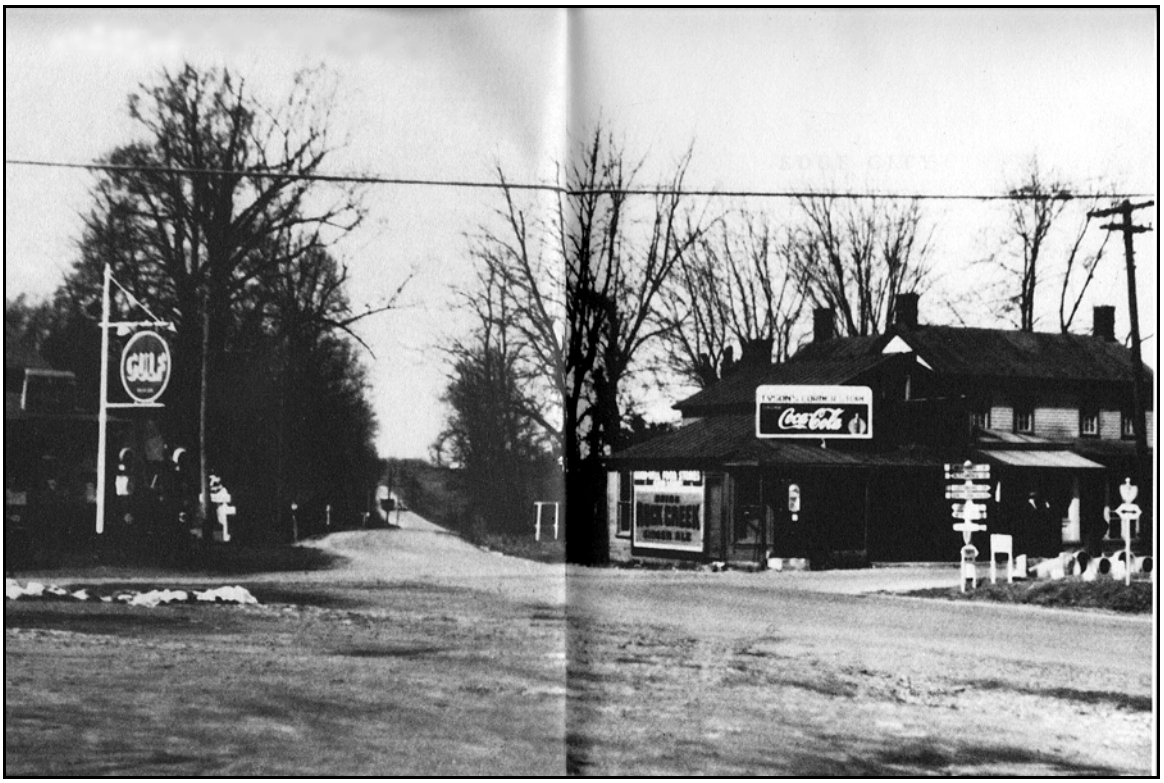

Figure 2: Tysons Corner, circa World War II (Edge City)

Figure 3: 1968 Aerial Photo of Tysons Corner Region (F.F.C. archives)

Figure 4: 1978 Aerial Photo of Tysons Corner Region (F.F.C. archives)

Figure 5: 1988 Aerial Photo of Tysons Corner Region (F.F.C. archives)

Figure 6: 1998 Aerial Photo of Tysons Corner Region (F.F.C. archives)

Existing Plan

Present day Tysons Corner has all the components of a great town except they act individually creating a disconnected, inefficient, placeless place. The strict segregation of housing subdivisions, shopping centers and office parks, and the lack of civic institutions and unreasonable roadways all sponsor the reckless nature of the plan of Tysons Corner. Consequentially, the ecological, economical and social repercussions are horrendous and far too common and preventable.

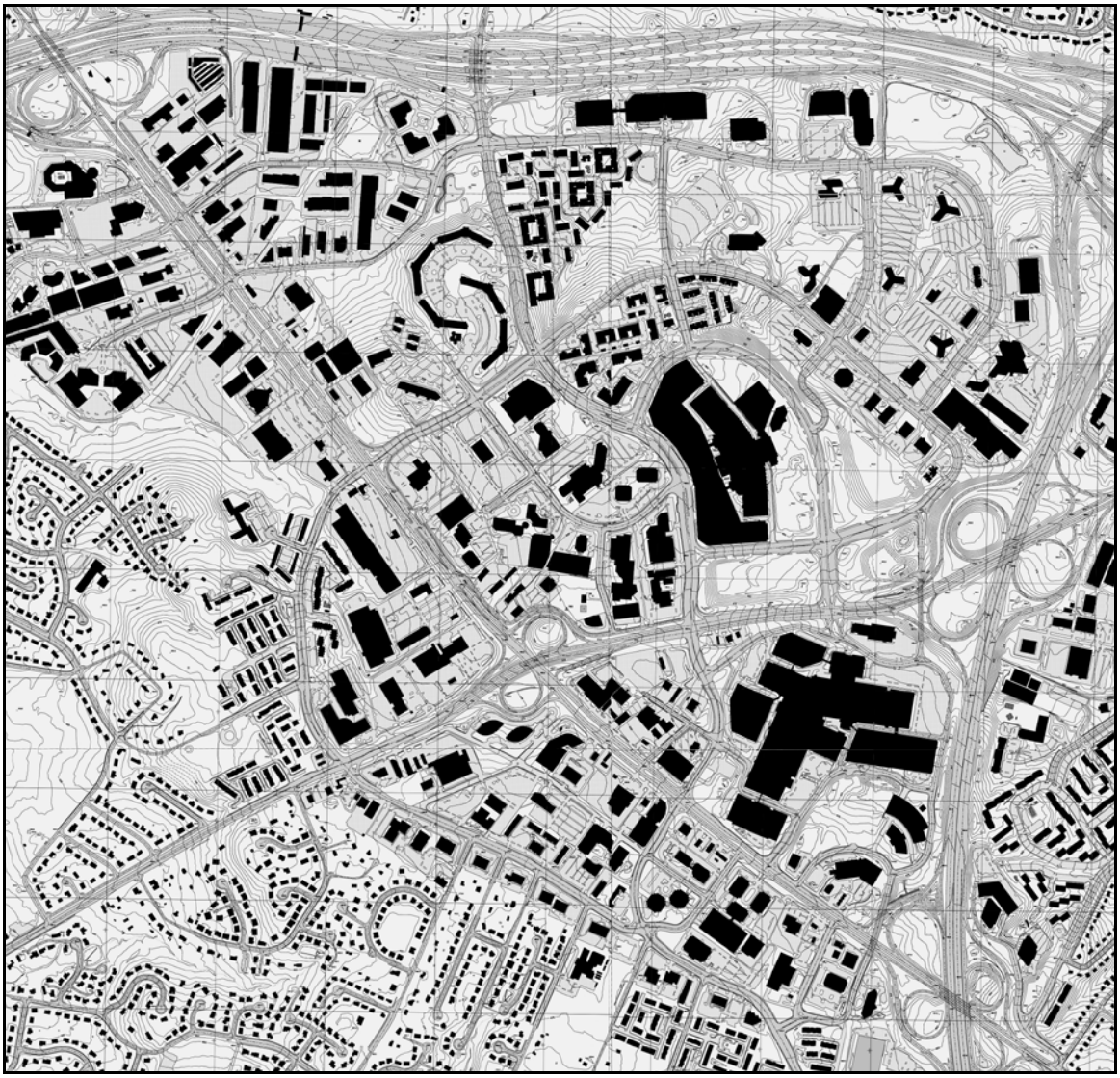

Figure 7: Plan of Tysons Corner

Scale Comparison

Forest Hills Gardens in New York is a Transit Oriented Development outside of Manhattan that is approximately 164-acres in comparison to Tysons Corner, which is approximately 1,700-acres. Unlike Tysons Corner, Forest Hills Gardens' private spaces frequently engage and support the common open spaces. Additionally, the scale comparison illustrates the size of Tysons Corner and it may constitute a series of neighborhoods rather than just one.

Figure 8: Scale Comparison of Tysons Corner with Forest Hills Gardens

Scale Comparison

Sabaudia is a renowned seaside resort area and lush agricultural center approximately forty-four miles outside of Rome. The town is located in the center of Ciceo National Park, which in is approximately 174,860-acres. Sabaudia was built in a clean, simple, and linear manner, which is centered around the Piazza del Comune. Similarly to Forest Hills Gardens, the scale comparison of Sabaudia illustrates Tysons Corner's large size in relation to a more traditional town size.

Figure 9: Scale Comparison of Tysons Corner with Sabaudia, Italy

Scale Comparison

Kentlands is a Traditional Neighborhood Development located in the Maryland suburbs of Washington, DC, which is approximately 352-acres. Nearly one third of the land area is devoted to open space and common greens, which are woven through the neighborhood in response to various environmental conditions. The scale comparison exemplifies Kentlands' integration of diverse land uses and controlled density in contrast to Tysons Corner.

Figure 10: Scale Comparison of Tysons Corner with Kentlands, Maryland

Existing Buildings

The buildings in Tysons Corner consistently act independently from on another and are commonly arranged in clusters. These groupings of buildings lack a clear relationship to their surroundings, with the exception of the two historic routes through Tysons Corner. Additionally, the figure/ground diagram shows an inconsistency and irregularity in the building fabric across the urban core area and into the lower scale residential building fabric at the fringe.

Figure 11: Figure Ground of Tysons Corner

Existing Open Spaces

The existing open spaces in Tysons Corner lack several qualities preventing an imagable place. The majority of open space isolates one building from another. Also, the open spaces characteristically lack connection from one to the other. There is an enormous lack of figural spaces, especially at the urban scale. Lastly, Tysons Corner has a obvious imbalance of open spaces, many of which are prominent alongside the major highway systems.

Figure 12: Figure Ground Reversal of Tysons Corner

Existing Street Network

The existing street network of Tysons Corner is characteristic to suburban sprawl. "Tysons Corner is filled with highways and streets that are not pedestrian friendly at a cost of significant public expenditure."[xviii] The street system is based on the collector type, in which the segregated buildings and separated land uses collect from the discontiguous servicing streets to strained oversize collector roads. This system has caused immense traffic congested and inefficiency.

Figure 13: Street Network of Tysons Corner

Existing Surface Parking

Tysons Corner has extensive surface parking throughout. The large amount of surface lots is largely due to the lack of pedestrian opportunities and the consistent separation of buildings from one another. The areas of surface parking are concentrated to the urban core and are not prominent on the residential fringes. Additionally, excessive surface parking results from not taking advantage of shared parking opportunities between different buildings and uses.

Figure 14: Surface Parking of Tysons Corner

Existing Paved Surfaces

Tysons Corner has a considerable amount of existing paved surfaces, which is a combined result from the excessive surface parking and ineffective roadway system. Consequentially, the predominant building material in Tysons Corner is asphalt.

Figure 15: Surface Pavement of Tysons Corner

Existing Impermeable Surfaces

The combination of scattered buildings and paved surfaces in Tysons Corner results in an immense amount of impermeable surface area. The impermeable surface diagram illustrates the few opportunities for rainwater to recharge the groundwater in the direct area it falls. Tysons Corner uses storm drains and a storm water collection pond to manage rainwater runoff problems attributed to the high percentage of impermeable surfaces.

Figure 16: Impermeable Surfaces of Tysons Corner

Existing Street Types

Tysons Corner has grown as an auto-dependent region, which is reflective in its immense traffic congestion. This problem did not exclusively result from streets, but they are significant contributing factor. Such issues are: street section, dimension, vehicular volume, hierarchy, connectivity, frequency, image, etc.

The typical street section and dimension of Tysons Corner is excessive and non-compatible with the pedestrian. The street sections lack a sense of enclosure because the building setbacks are large and they are widely spaced between each other. The typical dimension of Leesburg Pike is 120 feet curb to curb, plus a paralleling service road adding another 24 feet of asphalt. Secondary roads typically lead to the office parks. The typical dimension of secondary roads is 60 feet cub-to-curb, and have tree lined sidewalks

Figure 17: Traffic Congestion

Figure 18: Leesburg Pike

The street could be a likely place for public spaces, with a hierarchy of episodes that may be in the form of public nodes. This direction of intervention will mandate that a system of interconnected primary, secondary and tertiary streets be planned. The system of streets will be treated as boulevards, avenues and lanes, not highways, parkways and cul-de-sacs. Connectivity at the neighborhood scale is a component for walkable design: walkability promotes both physical and social health, it allows for cross-generational opportunities, and it improves the quality of space and activity in and around the neighborhood.

Figure 19: Chain Bridge Road

Figure 20: Typical Office Park Street

Figure 21: Lack of Enclosure


Figure 22: Immense Intersection

Proposed Metrorail Stations

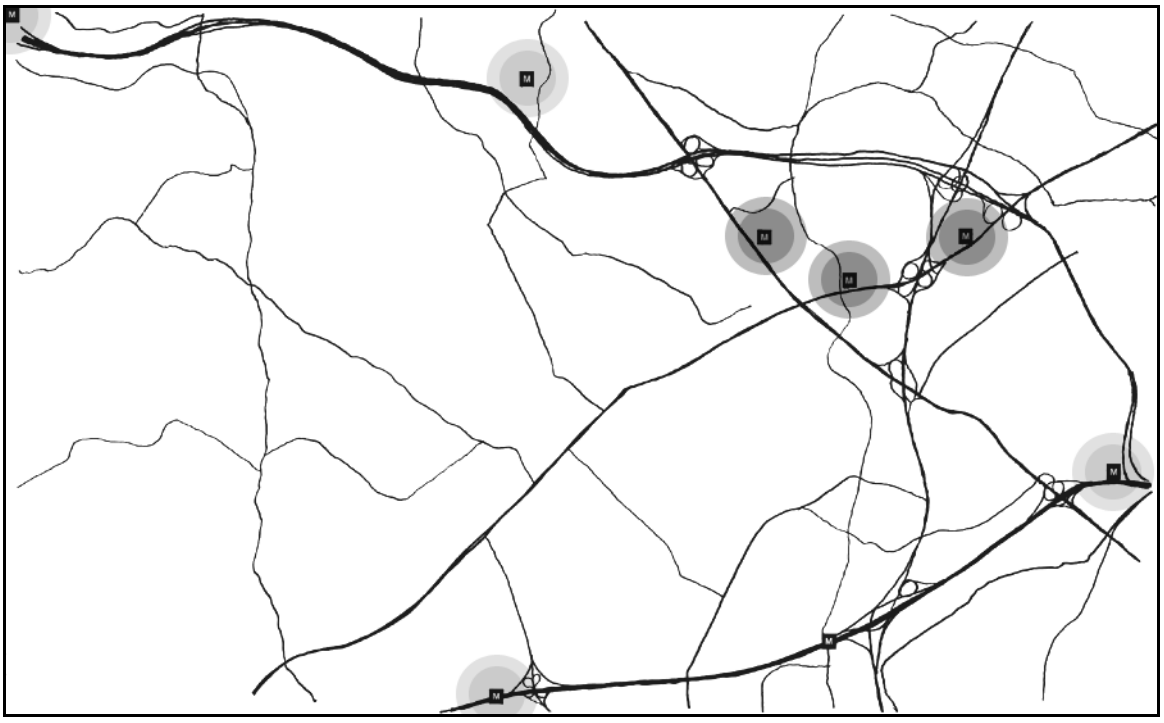

Figure 23: Proposed Metrorail Stops and Pedestrian Sheds

## Chapter 4. LAND USES

Tysons Corner has grown since the late 1950s from a rural crossroads with a general store and gas station, to one of the most successful business centers in the United States.[xix] Two super-regional retail malls, office parks, strip shopping centers, a high concentration of hotels, and a variety of housing subdivisions and clustered apartment buildings dominate Tysons Corner. Each type of land use has its own distinctive characteristic and is commonly zoned in isolation from one another by major thoroughfares, surface parking and orientation.

Figure 24: Aerial Photograph of Tysons Corner (www.SmartGrowth.com)

Office Parks

The predominant commercial building type in Tysons Corner is the office building, with the majority of occupants being high-tech firms and professional service firms.[xx] These buildings are commonly located along the Capital Beltway, the Dulles Access and Toll Roads, and beside the two mega-malls. The typical office building is organized in an office park manner, in which the buildings are assembled in clusters and are almost entirely surrounded by surface parking lots. Additionally, these buildings are typically about ten to fifteen stories tall and are significantly setback from the street. Lastly, office buildings/ parks are commonly surrounded with low-density trees and vegetation to create façade of integration with the natural environment.

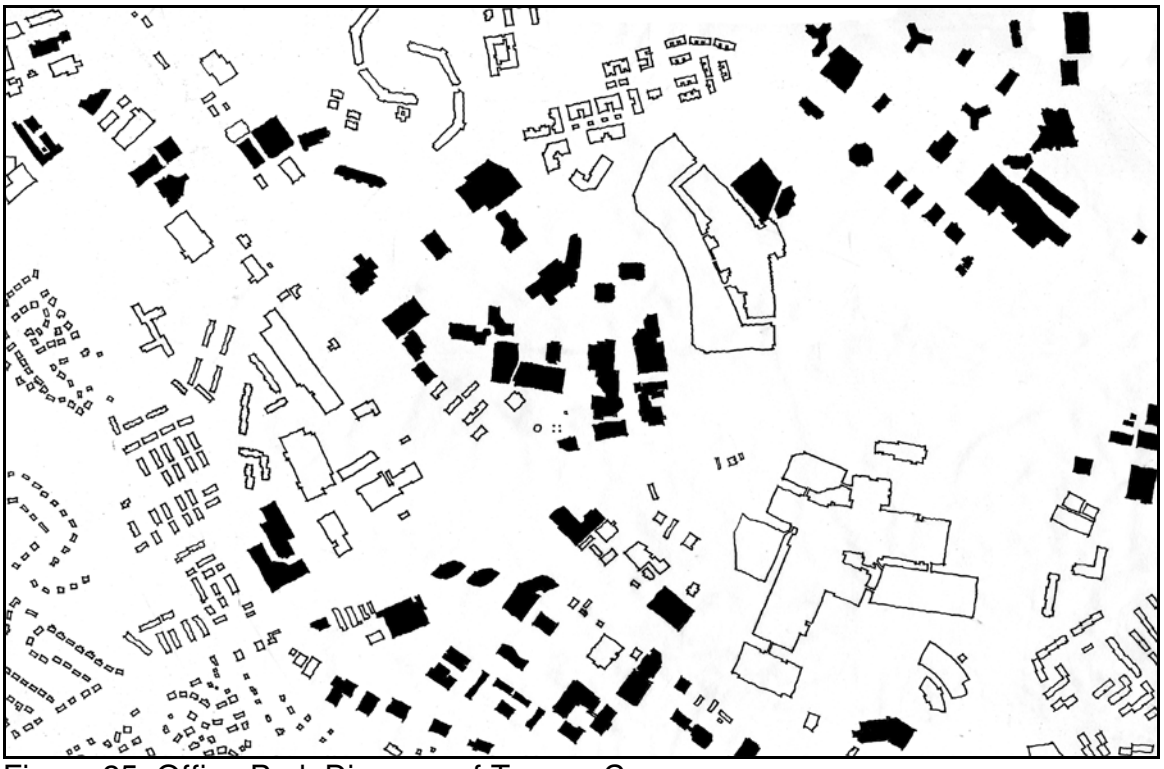

Figure 25: Office Park Diagram of Tysons Corner

Existing Office Buildings

Figure 26: Office Building Skyline

Figure 27: Objectified Office Buildings

Existing Office Buildings

Figure 28: Office Park

Figure 29: Isolated, Single Use Office Building

Mega-Malls

Tysons Corner Shopping Center opened in 1968 and The Galleria at Tysons II opened in 1993. Both shopping centers account for more than 3.5 million square feet of retail space. Tysons I is a two-story building with integrated structured parking and surface parking lots. Tysons II is a two-story building with a twelve-story office and hotel component, and provides structured parking. Despite their close proximity, pedestrian accessibility to one another is minimal, therefore requiring a parking space at each location for the same shopper. Both malls' footprints are exceptionally out of scale with the surrounding context. Their oversized footprints act as pedestrian and vehicular impediments isolating the malls from the rest of the area. Although Tysons I is located along the edge of the Capitol Beltway, it cuts off the area in the north-south direction.

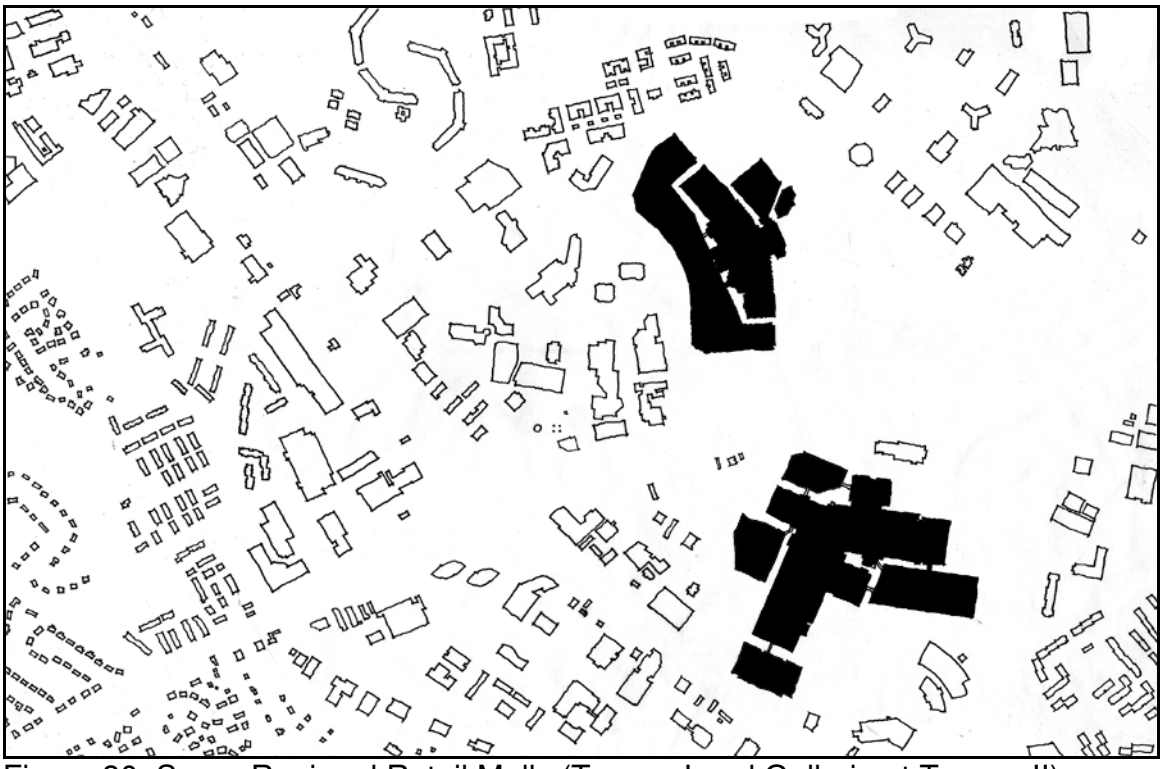

Figure 30: Super Regional Retail Malls (Tysons I and Galleria at Tysons II)

Existing Mega Malls

Figure 31: Tysons Corner Shopping Center

Figure 32: The Galleria at Tysons II

Retail Uses

Retail uses in Tysons Corner included fashion stores, restaurants, general merchandise, home furnishings, and automotive dealerships. Tysons Corner's identity as a retail center began with the construction of the Tysons Corner Shopping Center, which drew national attention for being the largest covered shopping mall in the nation. The area attracts thousands of consumers from the greater Washington area and beyond, because of the proximity of the two super-regional malls and the availability of a variety of smaller retail centers nearby. The typical retail centers are in single-use, single-story strip shopping malls along Leesburg Pike. These buildings are significantly setback from the road, in which vast surface parking lots exist. Additionally, Tysons Corner's has a large number of hotels and motor vehicle facilities, which both require substantial parking.

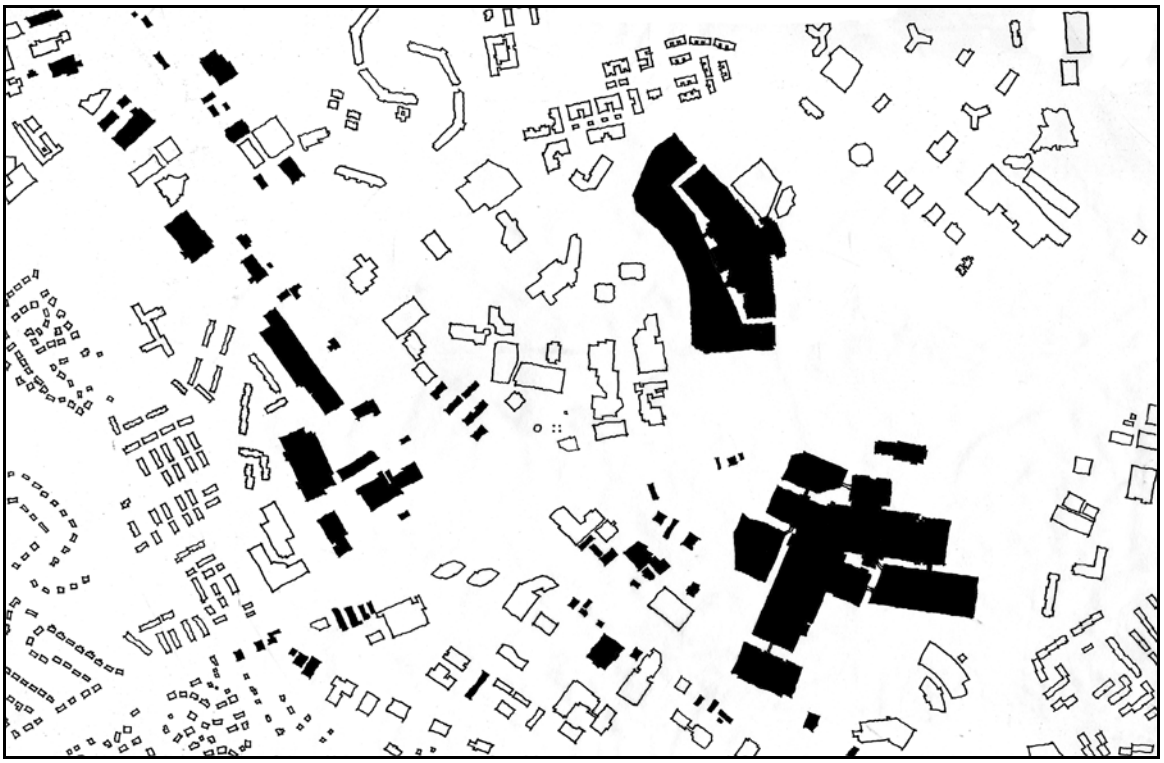

Figure 33: Retail Use Diagram of Tysons Corner

Existing Retail Buildings

Figure 34: One Story, Single Use Retail

Figure 35: One Story, Single Use Automobile Dealer

Existing Retail Buildings

Figure 36: Strip Shopping Center with Oversized Signage

Figure 37: Strip Shopping Center with Big Box Retail and Parking Lot Frontage

Residential Uses

Tysons Corner has a variety of housing types, but only 17.8 percent of the land use square footage is residential use.[xxi] Within the variety of housing types, multi-family housing is the predominant housing type. Low-rise and high-rise multi-family housing makes up over ninety percent of all dwelling units, with townhouses only nine percent and single-family detached houses one percent.[xxii] Residential buildings tend to be grouped in subdivisions and are scattered toward the edges of the urban center. There is a strong division between the residential areas and the other land uses. This division is even common between each residential cluster and subdivision. Tysons Corner especially lacks residentially mixed buildings types in addition to its severe short falling of mixed-use buildings of other types of uses.

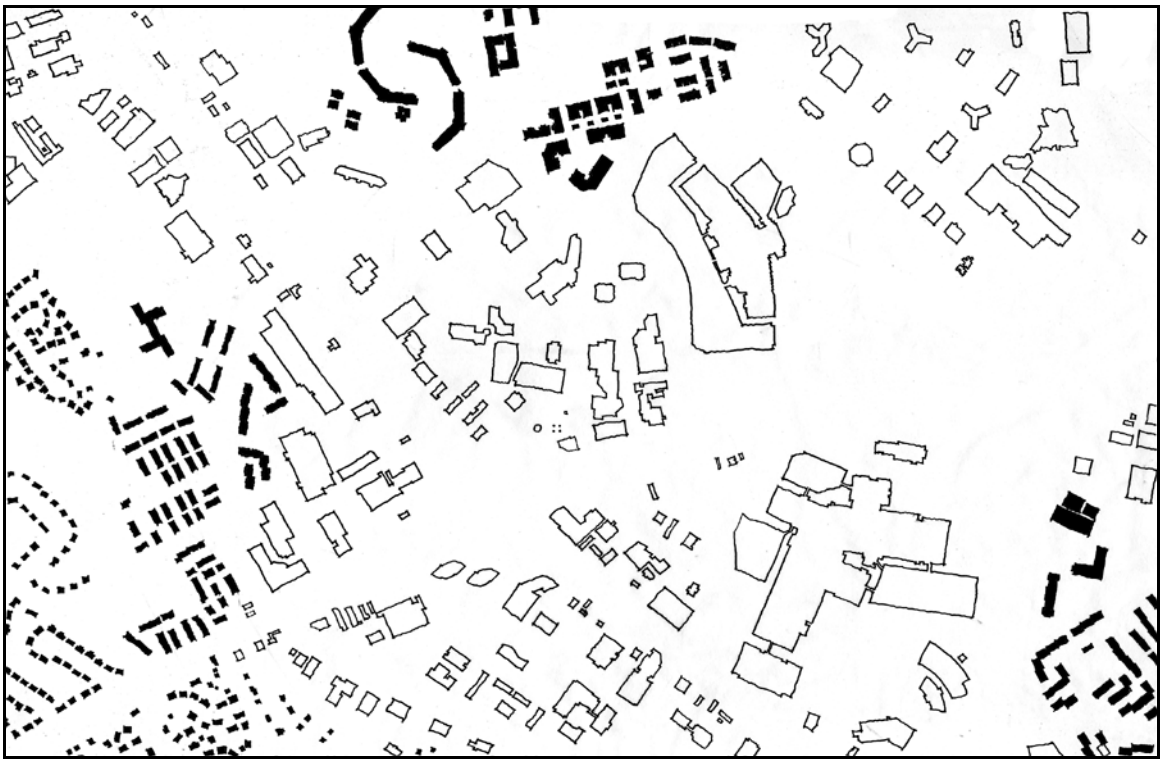

Figure 38: Residential Use Diagram of Tysons Corner

Existing Residential Buildings

Figure 39: Gated High-Rise Multi-Family Housing

Figure 40: Low Rise Multi-Family Housing on Elevated Retaining Wall

Existing Residential Buildings

Figure 41: Single Family Attached with Excessive Street/Parking


Figure 42: Typical Single Family Subdivision Condition

Civic Uses

Tysons Corner severely lacks any type of Civic place, space or building. In fact, less than one percent of the total land use square footage is used for parks, institutional and governmental use.[xxiii] This civic and cultural deprivation may be a significant cause for Tysons Corner to be thought of as a place of commerce instead of a place of culture. Additionally, instructions such as schools, libraries, communities center, etcetera, will be essential to the success of Fairfax County's anticipated population influx in Tysons Corner over the next ten years.[xxiv]

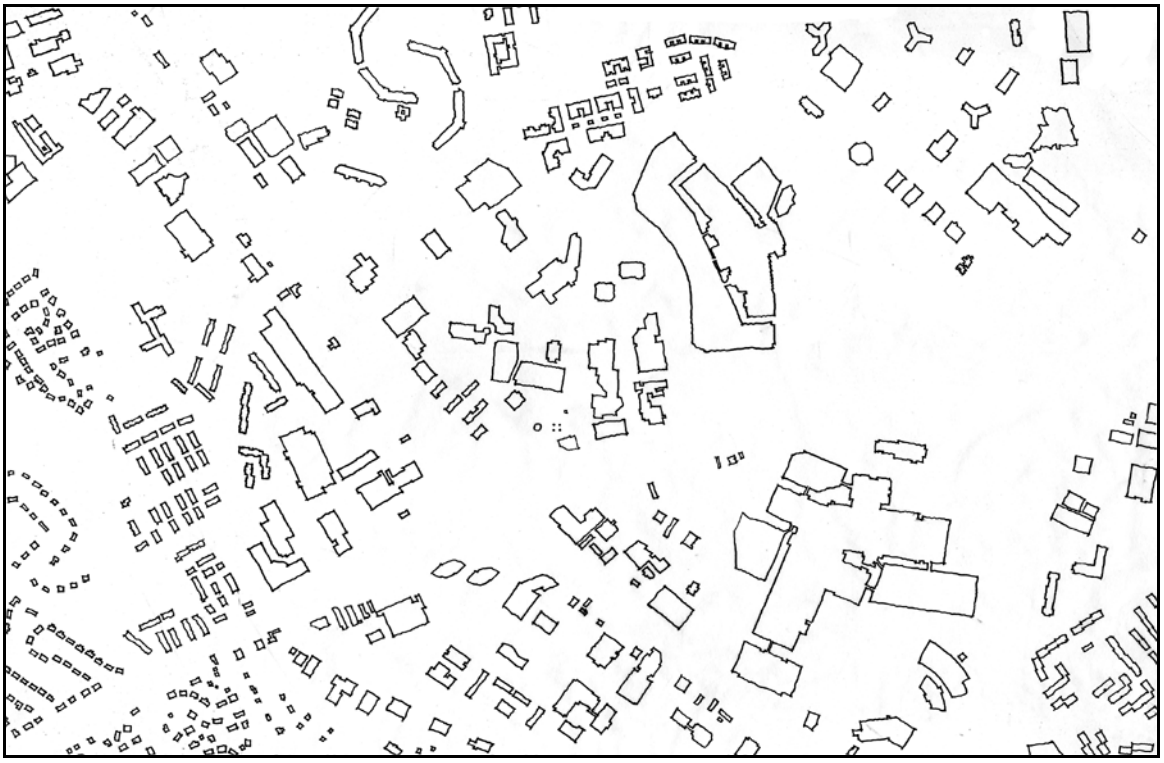

Figure 43: Civic Use Diagram of Tysons Corner

Landscape

The landscape and vegetation is sparse and limited in Tysons Corner. The majority of vegetation can be generalized as either private residential use, surface-parking treatment or as highway buffer. Consequently, Tysons Corner surfers from a lack of usable open space and parks.

The private residential landscape is typically associated with the single family detached housing along the fringes of Tysons Corner. This type of landscaping is common to suburban sprawl, in that it serves the needs of the individual rather than contributing to the greater community.

The landscaping found in surface parking areas is simply an aesthetical treatment. There are minor benefits to the landscaping in these areas, such as the proved shade for automobiles. Nevertheless, the surface parking landscaping neglects the pedestrian.

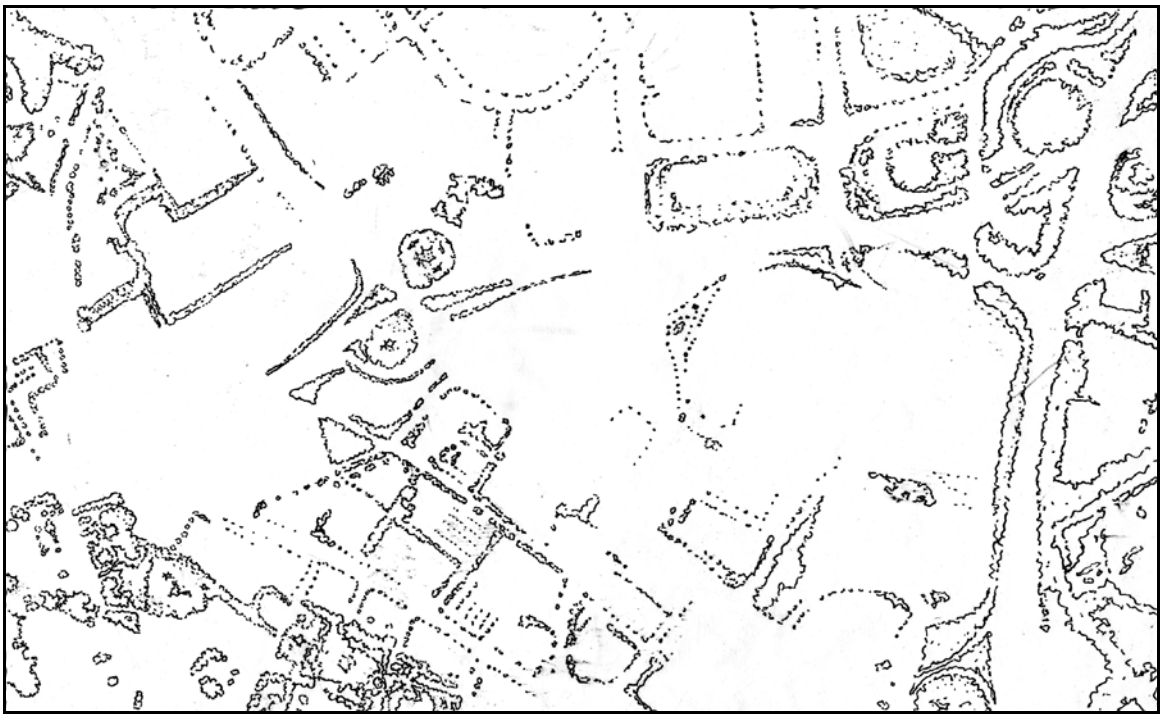

Figure 44: Landscape Diagram of Tysons Corner

The thickest and most dense vegetation is along the major highway systems. This landscape serves to separate and buffer the noise, exhaust fumes and view of the congested roads. Unfortunately, these areas are unusable spaces and appropriately inaccessible. The buffering landscape along the highways in Tysons Corner are typically separated with chain-link fencing or enclosed by cloverleaves.

Figure 45: Landscape and Streets Diagram of Tysons Corner Urban Center

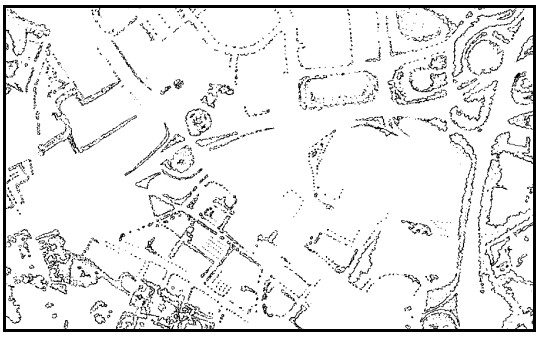

Figure 46: Landscape Diagram

Figure 47: Road System Diagram

Existing Landscape

Figure 48: Surface Parking Landscape


Figure 49: Highway Buffer Landscape

Existing Landscape

Figure 50: Storm Water Retention Area

Figure 51: Storm Water Management Along Route 7

Existing Landscape

Figure 52: Old Courthouse Branch Preservation Area


Figure 53: Water Quality Preservation Area

Environmental Conditions/ Considerations

- Chesapeake Bay Preservation
- Groundwater Mitigation
- Topology
- Climate
- Prevailing Breezes
- Solar Orientation
- Parks/ Amenities

A reconnection with the natural environment can be achieved in many ways. The seemingly most obvious connection is the physical one. Tysons Corner Virginia has a clear boundary between the built environment and the natural one. Allowing for the landscape to weave through the built environment will, by default, guarantee some kind of interaction with the landscape. This interaction may be a visual one in some cases, and it may be a physical experience in others. Another role the natural environment should have is to allow for local and regional natural convalescence of environmental conditions. Such conditions are storm water management and groundwater mitigation. Limiting non-permeable surfaces and maximizing permeable filtration surfaces can mandate systems to replenish the ground water.

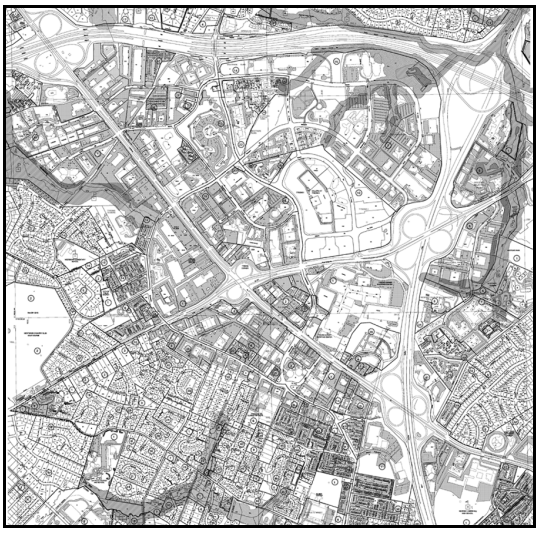

Figure 54: Tysons Corner Chesapeake Bay Preservation Areas

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average temp. (°F) | 33.7 | 36.9 | 45.3 | 55.2 | 64.5 | 72.9 | 77.4 | 75.8 | 68.9 | 57.1 | 47.1 | 38.1 |
| High temperature (°F) | 42.7 | 46.8 | 56.3 | 67.3 | 76.0 | 84.0 | 88.1 | 86.3 | 79.5 | 68.5 | 57.4 | 47.2 |
| Low temperature (°F) | 24.6 | 26.9 | 34.3 | 43.1 | 52.9 | 61.8 | 66.8 | 65.3 | 58.4 | 45.7 | 36.6 | 28.9 |
| Precipitation (in) | 3.4 | 2.8 | 3.9 | 3.4 | 4.6 | 3.8 | 4.3 | 4.0 | 4.5 | 3.6 | 3.5 | 3.2 |

Figure 55: Average Weather in Tysons Corner

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Days with precip. | 10 | 9 | 10 | 10 | 12 | 10 | 11 | 10 | 9 | 8 | 9 | 10 |
| Wind speed (mph) | 8.6 | 9.0 | 9.5 | 9.2 | 7.9 | 7.3 | 6.7 | 6.4 | 6.7 | 7.1 | 8.0 | 8.2 |
| Morning humidity (%) | 76 | 76 | 76 | 75 | 81 | 82 | 84 | 86 | 88 | 87 | 81 | 77 |
| Afternoon humidity (%) | 58 | 54 | 52 | 49 | 54 | 55 | 55 | 55 | 56 | 54 | 54 | 58 |
| Sunshine (%) | 46 | 50 | 55 | 57 | 58 | 64 | 62 | 62 | 61 | 59 | 51 | 46 |
| Days clear of clouds | 7 | 7 | 7 | 7 | 7 | 6 | 8 | 8 | 9 | 11 | 7 | 7 |
| Partly cloudy days | 7 | 6 | 8 | 9 | 10 | 12 | 11 | 11 | 9 | 8 | 8 | 7 |
| Cloudy days | 17 | 15 | 16 | 14 | 14 | 12 | 12 | 12 | 12 | 12 | 15 | 17 |
| Snowfall (in) | 7.0 | 6.1 | 3.1 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 3.3 |

Figure 56: Normal Climate in Tysons Corner

Chapter 5. PRECEDENTS

Forest Hills Gardens

Forest Hills Gardens is located in Queens, New York, 15-minutes by rail from Manhattan. The development was intended to demonstrate that a good plan with open spaces and better housing could realize a better profit in suburban development, thereby encourage imitation. Protective restrictions and architectural review process ensured the architectural character and quality.

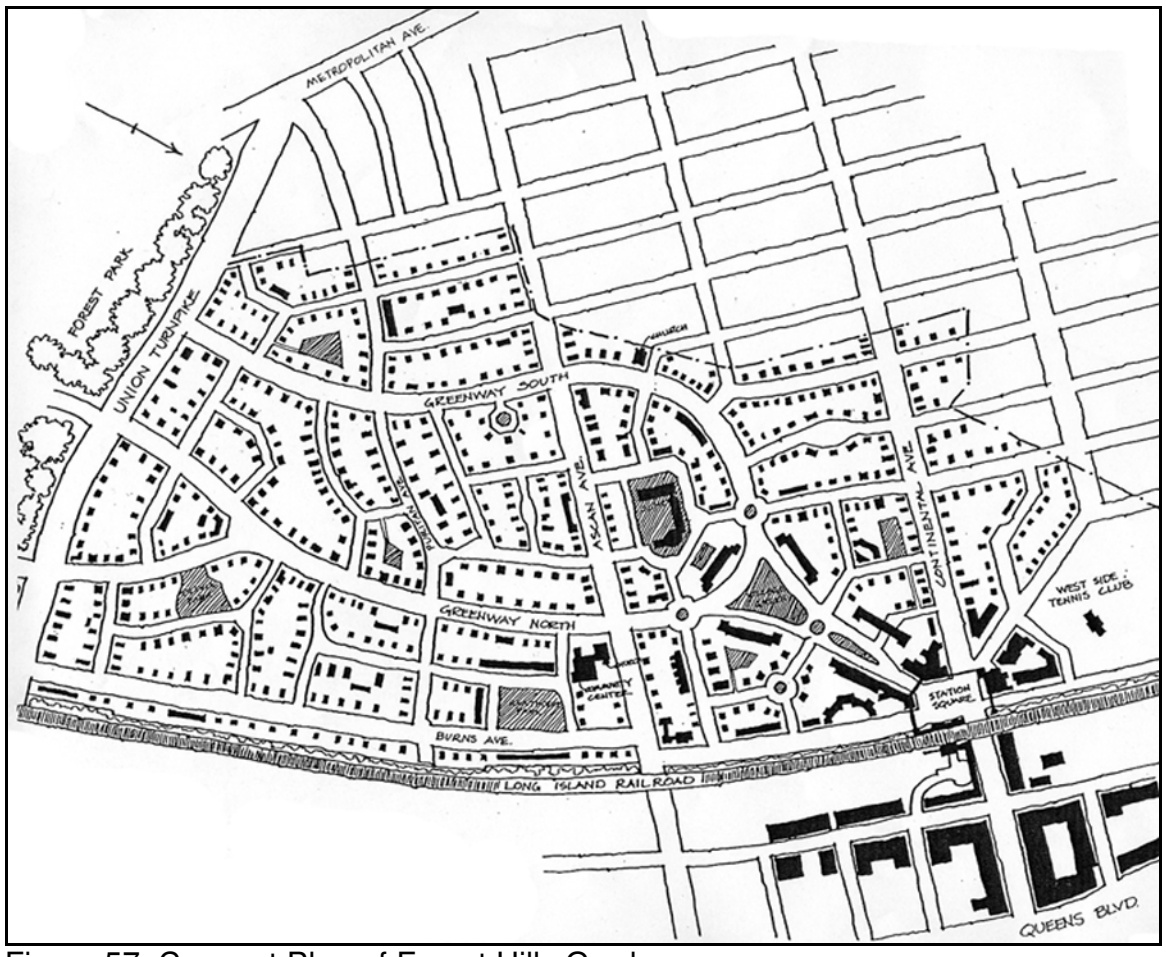

Figure 57: Concept Plan of Forest Hills Gardens

The development area of Forest Hills Gardens totals 164-acres and has a density of 10 dwelling units per acre. Forest Hills Gardens has a population of five thousand people, which is thirty people per acre. There is a total of 34.5-acres or twenty-one percent of the site as built form, and 129.5-acres or seventy-nine percent of the site that is open space. There is a mixture of open space uses. The roads constitute 36-acres, which is twenty-two percent of the open space. The common space is only 6.5-acres, which is four percent of the open space. And, private space makes up 87-acres, which is fifty-three percent of the open space. The twenty-five percent of the land use is public and seventy-five percent is private.

Figure 58: Station Square

Figure 59: Framed View of Landscape

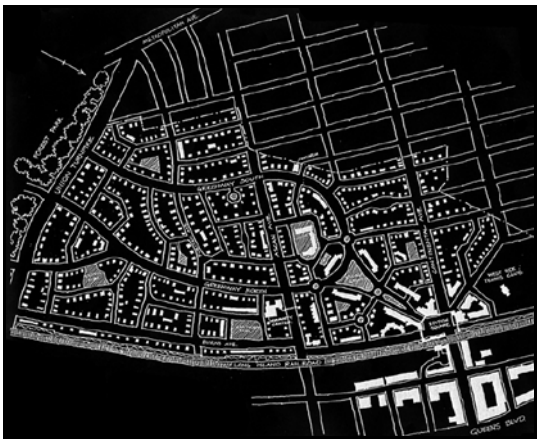

Figure 60: F/G Reversal of Forest Hills

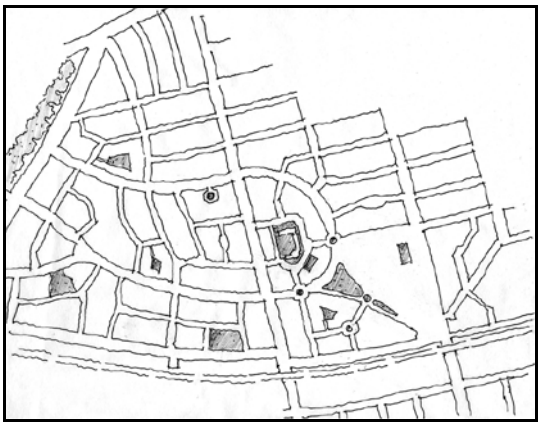

Figure 61: Public Gardens

Forest Hills Gardens is accessible by means of a commuter train, subway and several regional highways. The commuter train station is located at the focal point of the development, Station Square. Residential units decrease in density as they move away from the square, which is known today as transect. The main thoroughfares are direct, ample and convenient.

Figure 62: Typical Secondary Street

Figure 63: Mixed Transportation Uses

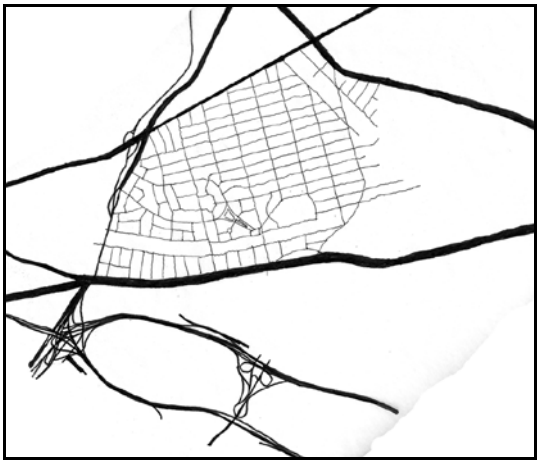

Figure 64: Street Network of Forest Hills

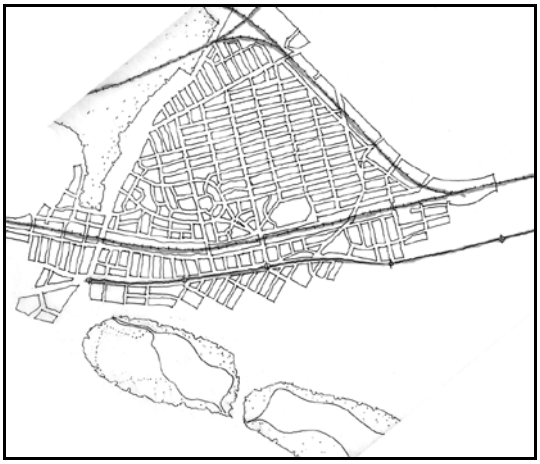

Figure 65: Transportation Systems

Kentlands, Maryland

Kentlands is a Traditional Neighborhood Development located in the Maryland suburbs, approximately 16 miles northwest of Washington, DC. The neighborhood was initially surrounded by conventional suburban office parks, residential subdivisions and strip shopping centers. While many of the preceding suburban developments still exist, several recent developments adjacent and nearby, such as Lake Lands and King Farm, have followed the pedestrian oriented, traditional neighborhood model used at Kentlands. Additionally, the master plan is subdivided into a series of districts throughout the neighborhood.

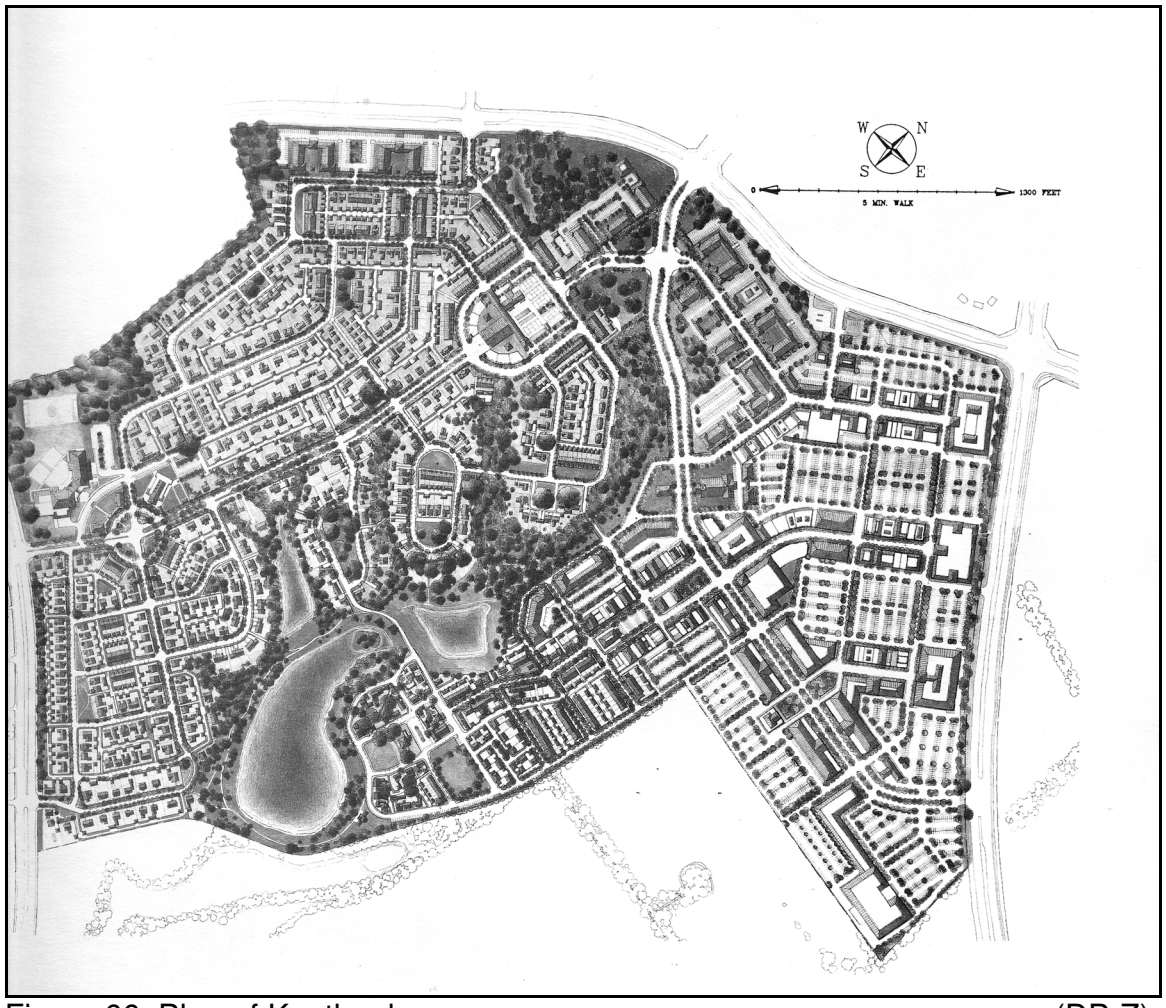


Figure 66: Plan of Kentlands (DP-Z)

There are several advantages to the division of Kentlands into a series of neighborhoods, or districts within the overall master plan. One advantage of this design approach is that it organizes smaller areas into more identifiable and intimate districts. This also responds to pedestrian sheds by creating and spacing districts and nodes so that they are perceivable and scaled to the pedestrian. Additionally, individual districts throughout the master plan of Kentlands also for a great flexibility to respond to varying environmental and geographic conditions.

Figure 67: Inner-block Housing

Figure 68: Main Street

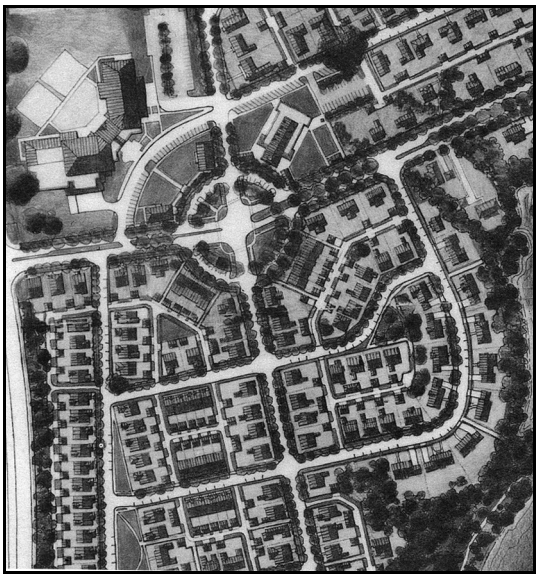

Figure 69: School District (DP-Z)

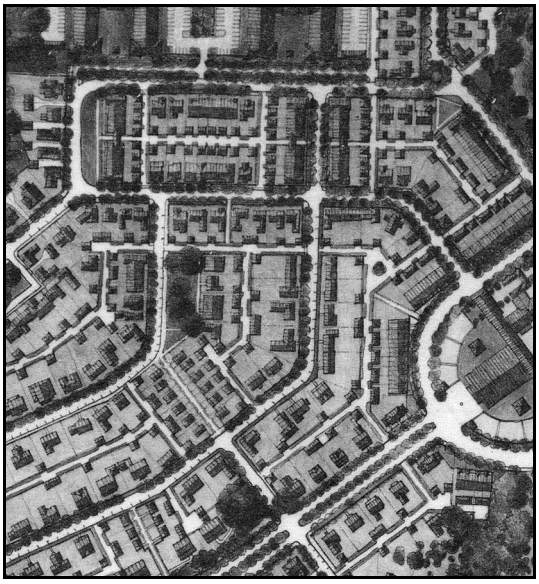

Figure 70: Hill District (DP-Z)

KENTLANDS, Maryland

| | |
|---|---|
| Site: | 352 acres |
| Net Site: | 236 acres |
| Residential total: | 2,051 units |
| Housing: | 477 |
| Rowhouses: | 378 |
| Multi-Family Condos. | 560 |
| Apartments: | 590 |
| Live/Work Units: | 46 |
| Commercial total: | |

KING FARM, Maryland

| | |
|---|---|
| Site: | 440 acres |
| Residential total: | 3,200 units |
| Housing: | 425 |
| Rowhouses: | 825 |
| Multi-Family Condos. | 850 |
| Apartments: | 1,100 |
| Live/Work Units: | |
| Parks: | 150 acres |
| Commercial total: | 3,125,000 square feet |
| Office: | 3,000,000 square feet |
| Retail: | 125,000 square feet |

KAROW-NORD, Berlin

| | |
|---|---|
| Site: | 243 acres |
| Residential total: | 5,200 units |
| Housing: | 0 |
| Rowhouses: | 400 |
| Apartments: | 4,800 |
| Live/Work Units: | 0 |
| Parks: | 21 acres |
| Commercial total: | 20,000 square feet |

Pentagon Row, Virginia

Pentagon Row is a hybrid destination project located in Arlington, Virginia. The project composes into a mixed-use urban set piece catering to both the automobile and the pedestrian. Pentagon Row is accessible to from Northern Virginia and Washington, DC via the Washington Metro Rail or Interstate 395.

The site of Pentagon Row is isolated and introverted. Interstate 395 cuts off the site to the north. The parking lot for Fashion City Mall separates the project to the east. The last major isolating influence is the open expanse of land resulting from the large setbacks of the residential towers to the south and west. In response to the nature of Pentagon Row's isolation, it is self-sustaining and a successful destination place.

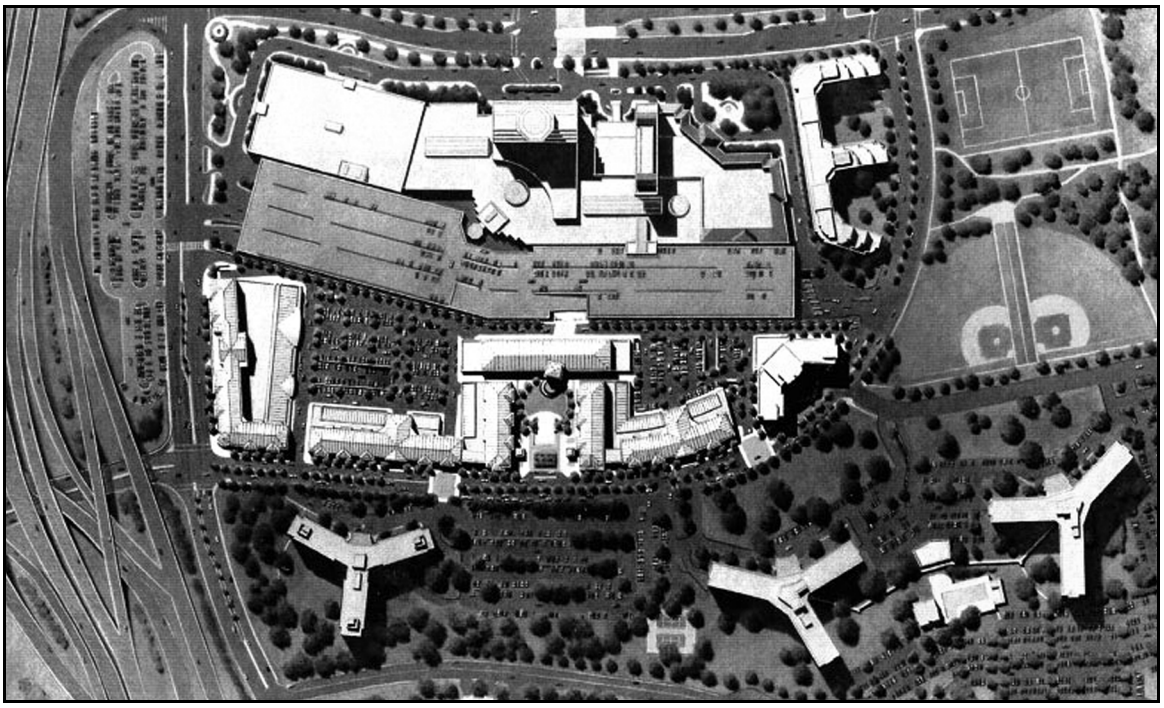

Figure 71: Plan of Pentagon Row (RTKL)

Pentagon Row sits on approximately an 18-acres site. The immense block the project sits on inhibits local porosity. The super-block most likely existed as surface parking for Fashion City Mall prior to the development of Pentagon Row. The project's configuration, massing and articulated facades de-emphasize its size and urban disruption. Nonetheless, the lack of fine-grain quality in the urban fabric is prevalent.

Figure 72: Site Model of Pentagon Row (RTKL)

The organization of Pentagon Row is in such as fashion that it has both an urban and formal front, which is oriented to the pedestrian, and a more suburban face that addresses parking and service uses. The most prominent feature is the central plaza space. Additionally, the street frontage plays a significant role in the project's imagability to the surrounding neighborhoods.

The distribution of program elements is an important economical component to the success of Pentagon Row. Retail program is distributed in a manner with anchor store on the prime corners and boutiques in-between. This is similar to suburban mall organizations. Unlike suburban program distributions, Pentagon Row has residential apartment units located above commercial uses.

Figure 73: Central Plaza Space (RTKL)


Figure 74: Typical Pedestrian Street

Figure 75: Suburban-like Service Side


Figure 76: Pedestrian Connection (Mark Zonarich)

Commonwealth Avenue

Commonwealth Avenue boulevard is the main thoroughfare in the Boston's Back Bay, the preeminent Victorian residential neighborhood in America. Three to five-story residential buildings border the boulevard. Commonwealth Avenue has an overall width of approximately 200-240 feet from building face to building face. It features a 100-foot-wide pedestrian mall for strolling, art, and appreciation of the tree canopy that provides nearly 100 percent shade protection in the summer. The long, linear pedestrian mall totals 8.7 acres in size and is lined along its length with trees that are spaced at intervals of 45 to 65 feet. Commonwealth Avenue is big, but it is built to a human scale. Statuary and public memorials are located along the mall. The flexibility and adaptability of this type of boulevard can be an important lesson for an urban development of a multi way boulevard street form.[xxv]

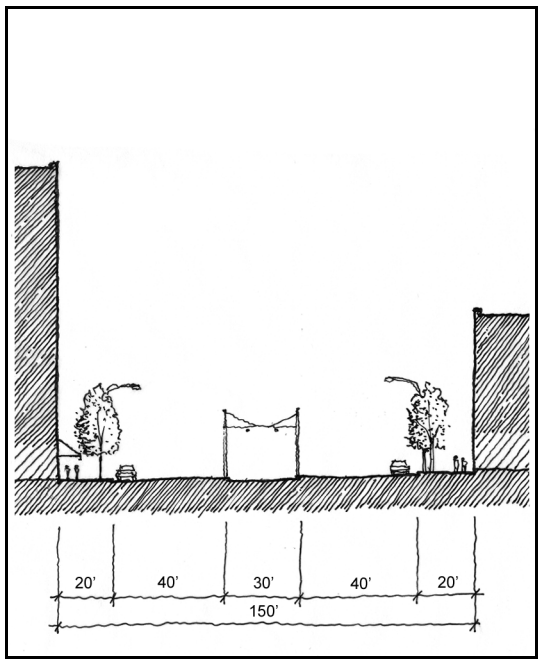


Figure 77: Commonwealth Ave -BU

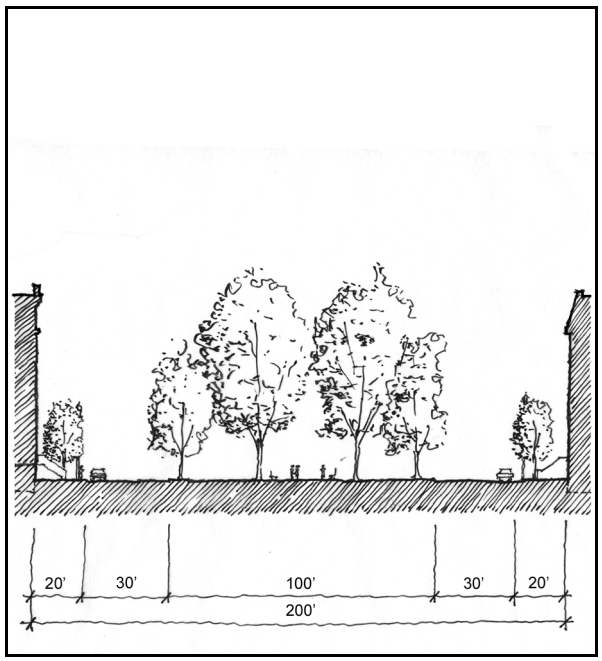


Figure 78: Commonwealth Ave -Back Bay

Boston's Emerald Necklace

The Emerald Necklace is a six mile linear park in Boston and the Town of Brookline from Franklin Park to Back Bay, totally 1,098-acres. The park system is comprised of a series of parks connected along a central artery, which expanded the open space into the neighborhoods. The plan was envisioned by F.L. Olmstead as a retreat for all classes of people to escape everyday city life. Olmstead writes about the experience and appeal of the Emerald Necklace:

> We want a ground to which people may easily go after their day's work is done, and where they may stroll for an hour seeing, hearing and feeling nothing of the bustle and jar of the street. We want, especially, the greatest possible contrast with the restraining and confining conditions which compel us to walk circumspectly, watchfully, jealously, which compel us to look closely upon others without sympathy.[xxvi]

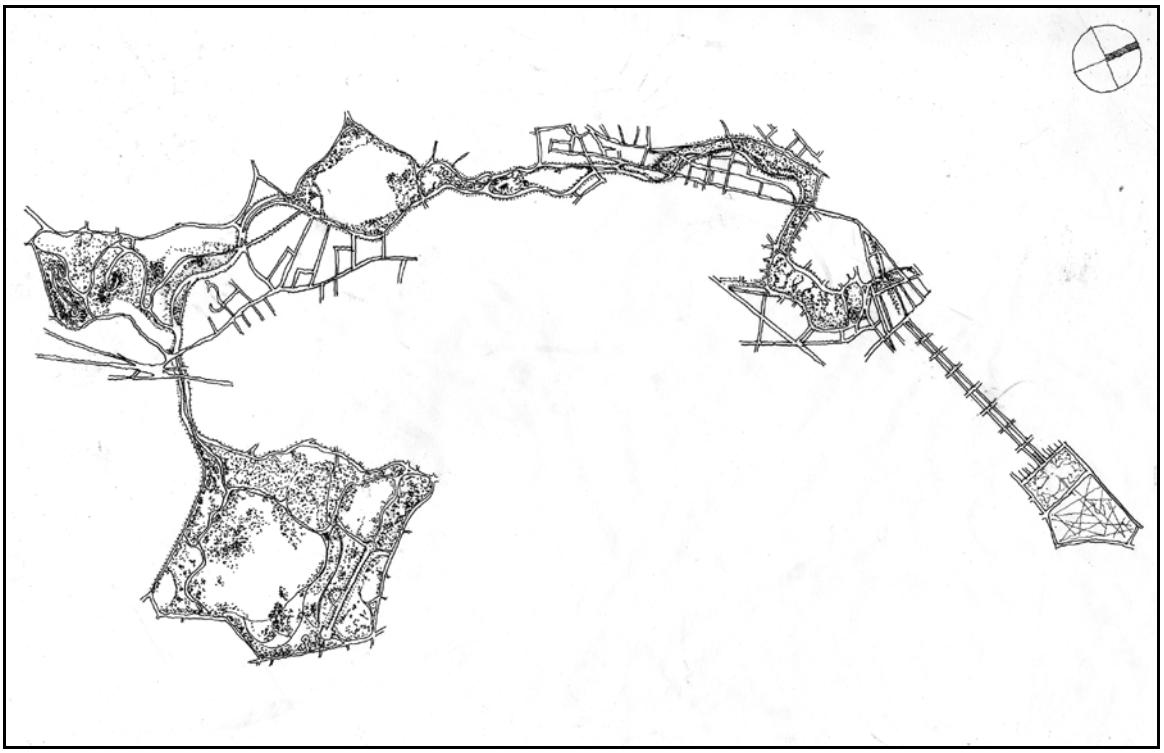

Figure 79: Plan of Boston's Emerald Necklace

Rambla de Catalunya, Barcelona

In spite of the almost 100-foot right-of-way, Rambla de Catalunya has a sense of intimacy, which is in part due to narrow sidewalks, narrow cartways, signs and awnings. The street is lined with buildings approximately five to seven stories tall. The central walkway has a planting strip along the curb with integrated trees and benches. The planting strip stops before intersections and for about 75-feet in the center of the block.[xxvii] The overall character, image and sensitivity to the pedestrian are considerably successful.

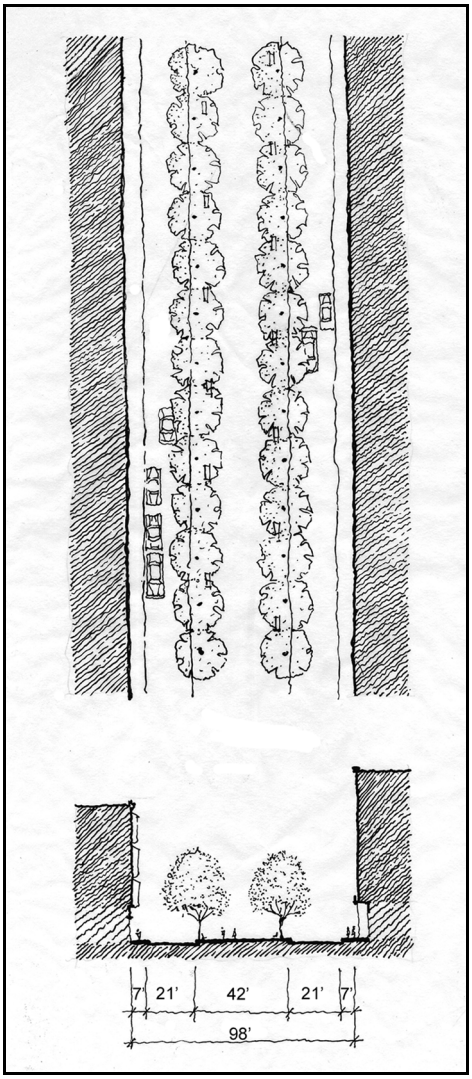


Figure 80: Rambla de Catalunya

Kurfurstendamm, Berlin

Kurfurstendamm is a significant central boulevard with a pleasant sense of informality in part because of the diversity of many people. The street has a distinct starting point, but no sense of an end, despite appearances of bending and turning points. The street is lined with buildings up to ten stories tall, but usually between five to seven stories tall. The buildings have commercial uses on the ground floor and office or residential uses above. Also, café intrusions are a significant part of sidewalk activity.[xxviii]

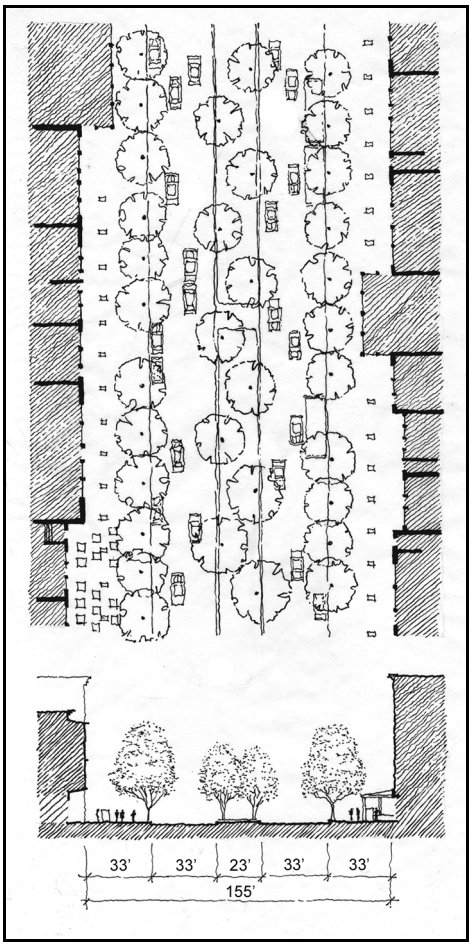


Figure 81: Kurfurstendamm

Regent Street, London

Regent Street is most notable for its large, formal buildings that clearly enclose the wide space in between. All Souls Church tower ends the street, while connecting St. James Park with Regents Park to the north. The buildings lining Regent Street are approximately six to seven stories tall, and are architecturally uniform to the street front. The street is generally an automobile street with lots of noise and exhaust fumes. A special crossing arrangement is incorporated at street corners, resembling a maze, to encourage appropriate intersection crossing.[xxix]

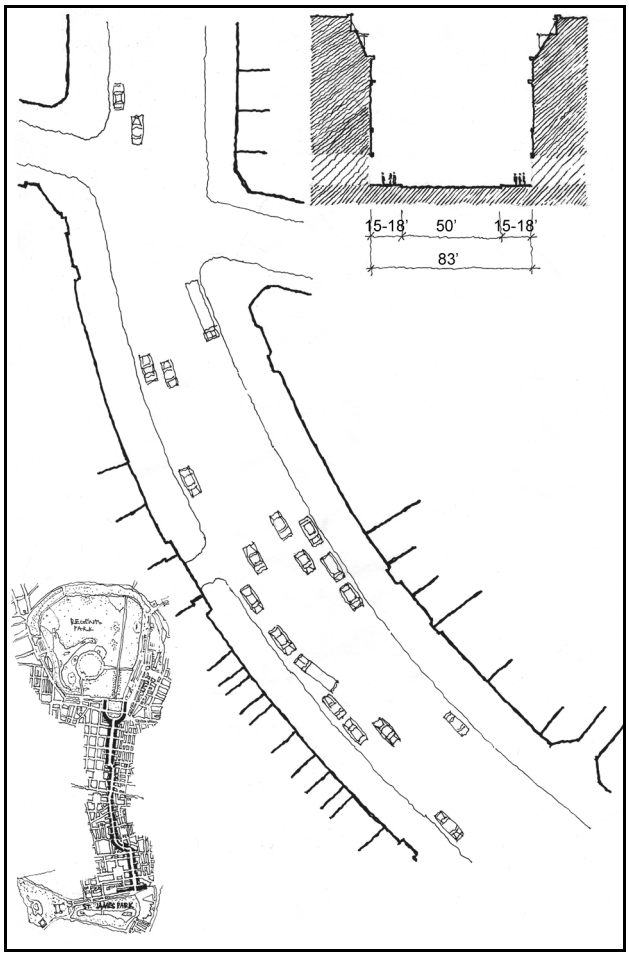


Figure 82: Regent Street

Unter den Linden, Berlin

Unter den Linden is similar in concept to Rambla de Catalunya with the exception of its size and proportion. The street is lined with older buildings of approximately five to six stories tall, totally about 55 to 65 feet in height. Post-World War II buildings are generally dull with long stretches of blank walls, and tend to lack activity. Also, the street deteriorated and becomes a parking lot at the monument in front of the university.[xxx]

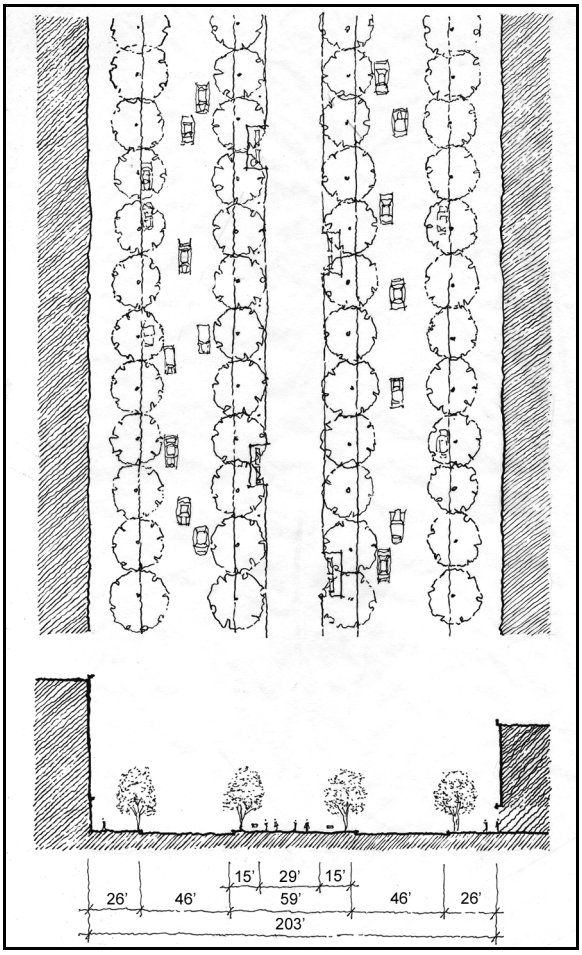


Figure 83: Unter den Linden

Ringstrasse, Vienna

The Ringstrasse is a wide avenue that encircles the old city of Vienna, Austria. The street is a symbol of aesthetic and political change in terms of its view of its urban landscape. The Ringstrasse is the focal point of Vienna's city center, and has major, singular destination buildings along it. From a distance, the turning points help define a sense of enclosure and give a sense of direction. Activities are commonly concentrated at these points. Raised planting strips are continuous to deter midblock crossings, and typically run less than three trees (approximately 50 to 60 feet) to ease street crossing elsewhere.[xxxi]

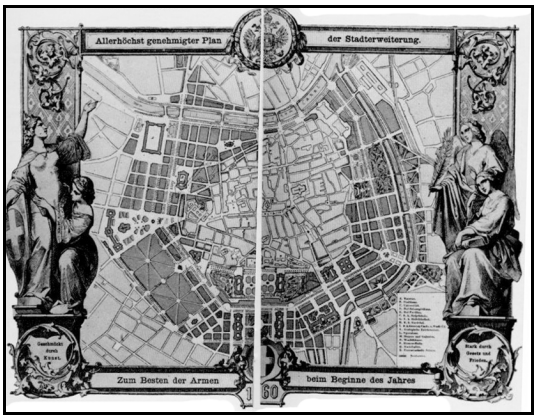


Figure 84: Historic Ringstrasse Plan

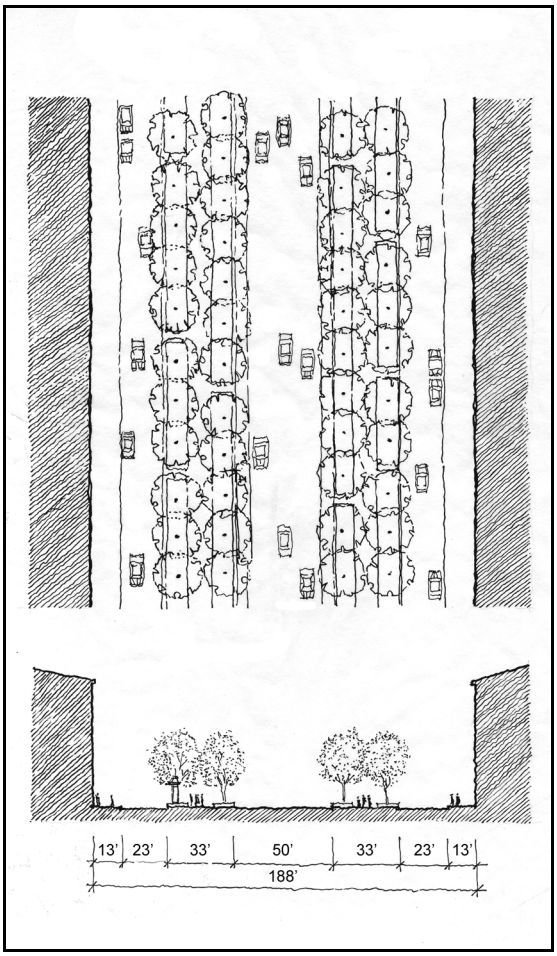


Figure 85: Ringstrasse

## Chapter 6. FUNCTION CONSIDERATION AND PROGRAM

### Existing Commercial Space[xxxii]

| | |
|---|---|
| Office: | 24,286,251 square feet |
| Industrial: | 1,072,874 square feet |
| Retail: | 4,462,739 square feet |
| Hotel: | 2,551,579 square feet |
| Total: | 32,573,443 square feet |

### Existing Housing Units

| | |
|---|---|
| Multi-Family: | 5,130 units |
| Single Family Attached: | 513 units |
| Single Family Detached: | 57 units |
| Total: | 5,700 units |

### Existing Housing Land Area

| | |
|---|---|
| Multi-Family: | 11,700,000 square feet |
| Single Family Attached: | 1,170,00 square feet |
| Single Family Detached: | 130,000 square feet |
| Total: | 13,000,000 square feet |

# Chapter 7. DESIGN APPROACH

## Land Use Design Approach

Tysons Corner contains many of the elements for a complete town, but they are disconnected and imbalanced. The design approach towards land use will primarily focus on reconfiguring and evening or balancing the various uses while strengthening the spatial definition. Additionally, neglected land uses will be integrated into the master plan. Such neglected uses are civic institutions, mixed-use, diverse housing types and number of units, usable open space, active streetscapes and parks.

One approach to addressing segregated land uses and isolated buildings is to infill surface parking lots with mixed-use buildings. An approach is to attempt to weave together the segregated land uses, while intensifying the development. The infill uses should vary in both density and type. The primary types should be especially cognoscente of the neglected land uses, including landscaping.

A clear hierarchy of land uses and spaces is another significant factor to the land use design approach. While there currently are areas of greater intensity, destination places and imagable places will greatly enhance Tysons Corner. The more hierarchical places will act as public engagements with surround neighborhoods. Additionally, these places may represent what Tysons Corner is rather than the current mega regional malls which disrupt the urbanism.

Landscape Design Approach

There are several park systems outside of the immediate Tysons Corner area. The potential to connect into this resource is promising. In addition to providing a natural amenity to the area, bold landscaping moves can de-emphasize the urban image and manipulate the more suburban fringes.

Significant landscaping approaches can refocus density intensification and the urbanization of Tysons Corner. Many neighboring residences are resistant to Tysons Corner's need to increase its density to contend with anticipated regional population increase, because they fear the area will loose its suburban character. An intense landscape program can diminish some of the reluctant N.I.M.B.Y.s

A reconnection with the natural environment can be achieved in many ways. The seemingly most obvious connection is the physical one. Tysons Corner Virginia has a clear boundary between the built environment and the natural one. Allowing for the landscape to weave through the built environment will, by default, guarantee some kind of interaction with the landscape. This interaction may be a visual one in some cases, and it may be a physical experience in others. Another role the natural environment should have is to allow for local and regional natural restitution of environmental conditions. Such conditions are storm water management and groundwater mitigation. Additionally, minimizing non-permeable surfaces and maximizing permeable filtration surfaces will replenish the ground water and provide a more suburban aesthetic.

## Street System Design Approach

The existing street network in Tysons Corner is likely the most disturbing factor. The street system design approach has several components. The first is to increase sensible vehicular connectivity throughout. The second intervention is to decrease the scale and size of the streets. The third method is to intensify street frontage and street activity, and public nodes. The last primary design approach is to institute a clear hierarchical street system. In combination, the four foci will heighten the sense of place and discourage vehicular use by promoting pedestrian life along the street.

Promoting connectivity at a variety of levels will make the vehicular use of streets more efficient in Tysons Corner, decreasing traffic congestion. A clear grid of connecting boulevards, avenues and lanes should replace the existing disconnected highways, parkways and cul-de-sacs. Connectivity at the neighborhood scale should incorporate pedestrian sheds of both five and ten minute walks. Walkable neighborhoods promote both physical and social health. Additionally, walkable neighborhoods provide chance encounters, cross-generational interaction, and enhances the spatial quality.

The street system design approach integrates pedestrian and vehicular promenades with a series of hierarchical public episodes. The series of events will be in the form of monumental civic spaces, market spaces, parks and squares. The overall design approach will weave all design approached together, in a holistic manner to promote an imagable and functional place.

Linear Parti

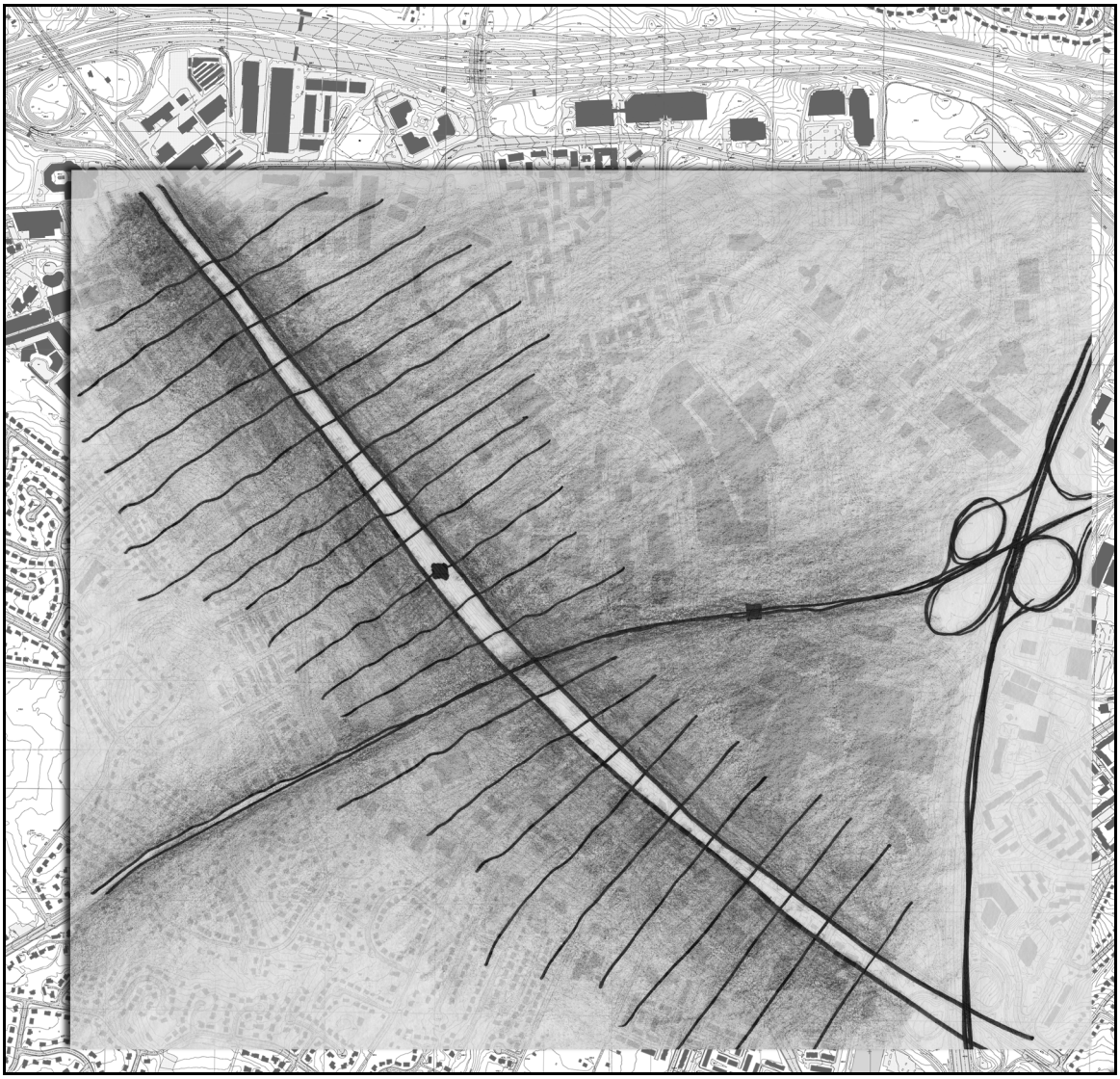

Figure 86: Linear Parti Diagram

Centralized Parti

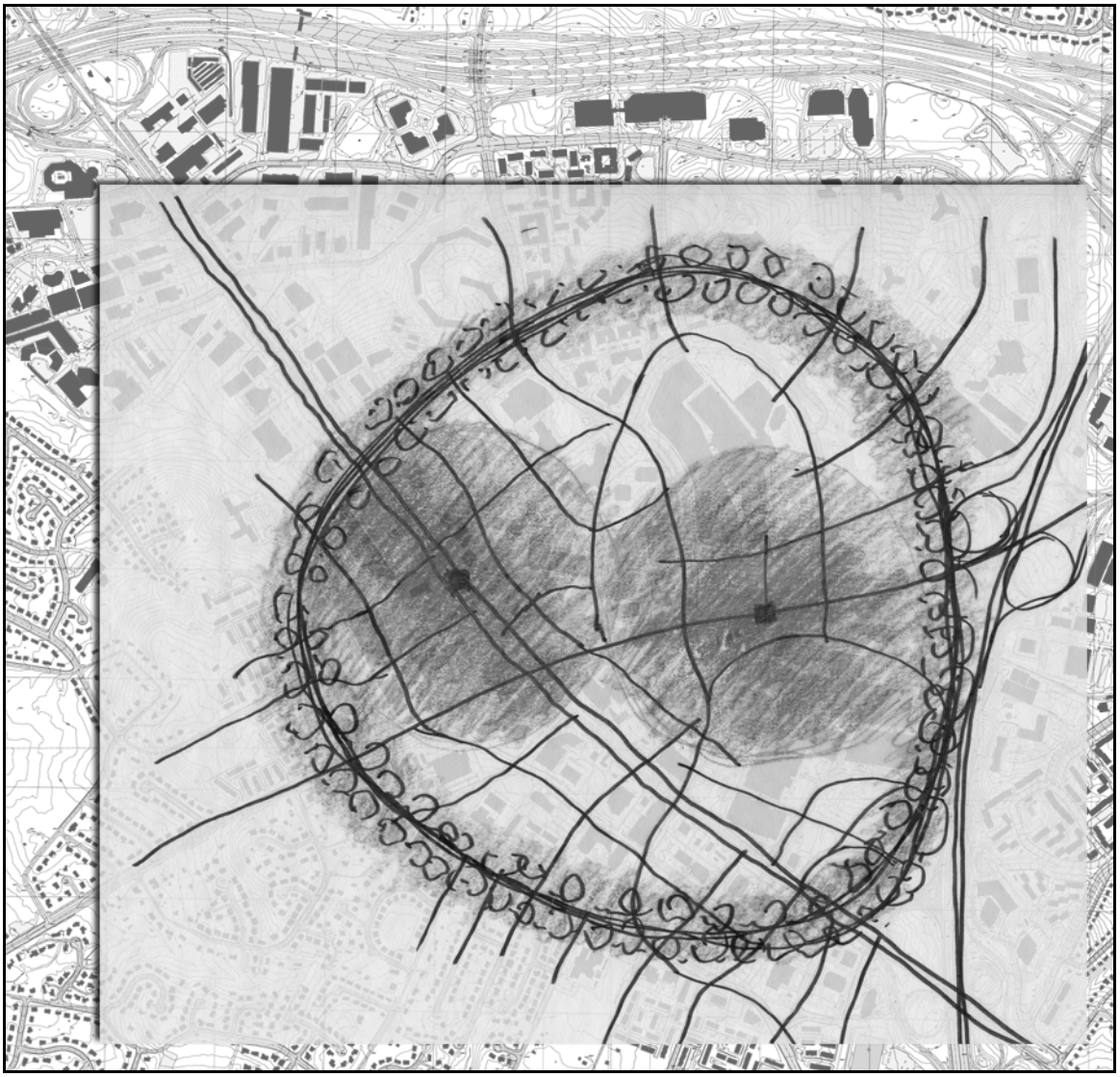

Figure 87: Centralized Parti Diagram

Cross-Axis Parti

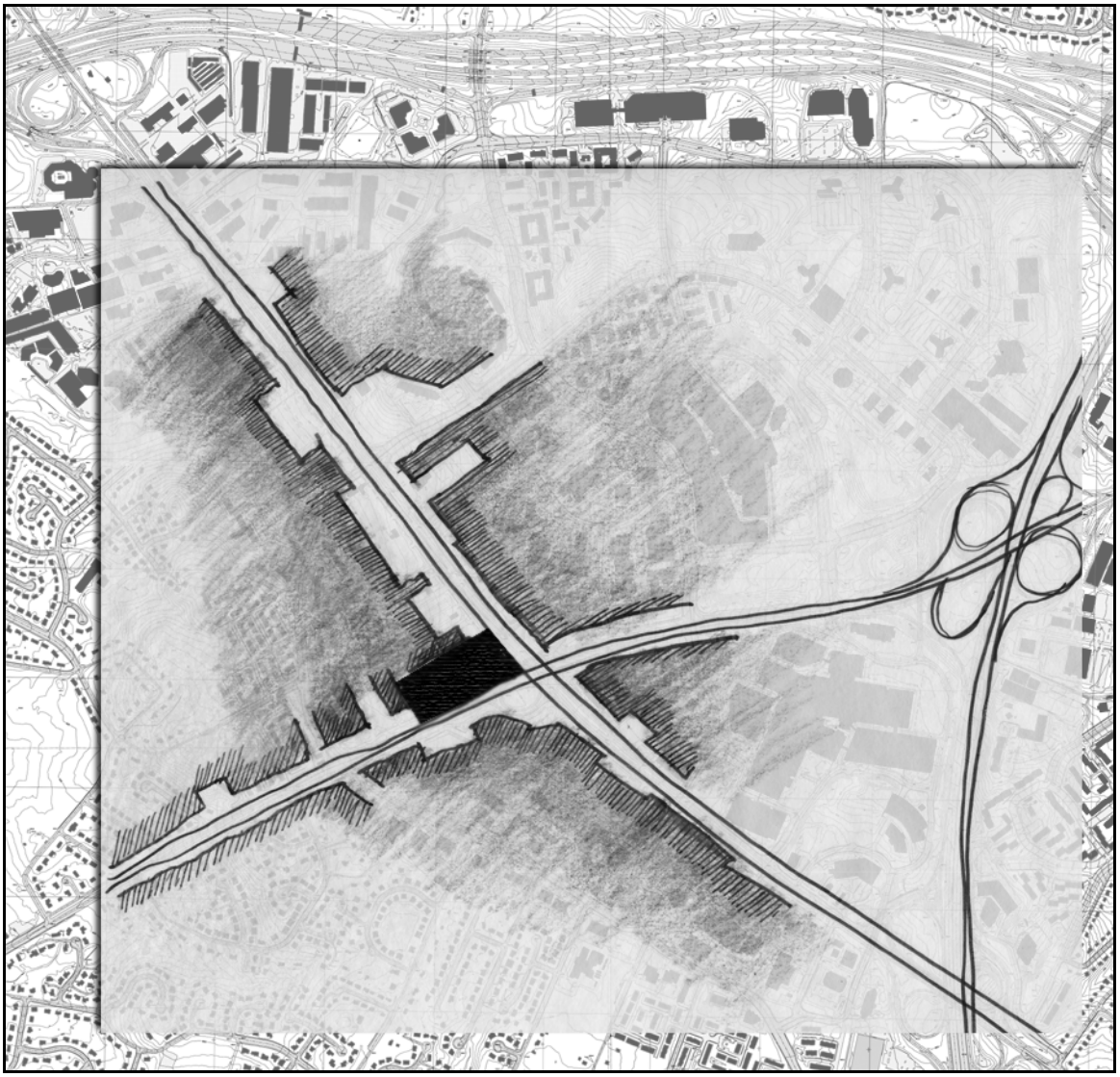

Figure 88: Cross-Axis Parti Diagram

Cross-Axis Parti

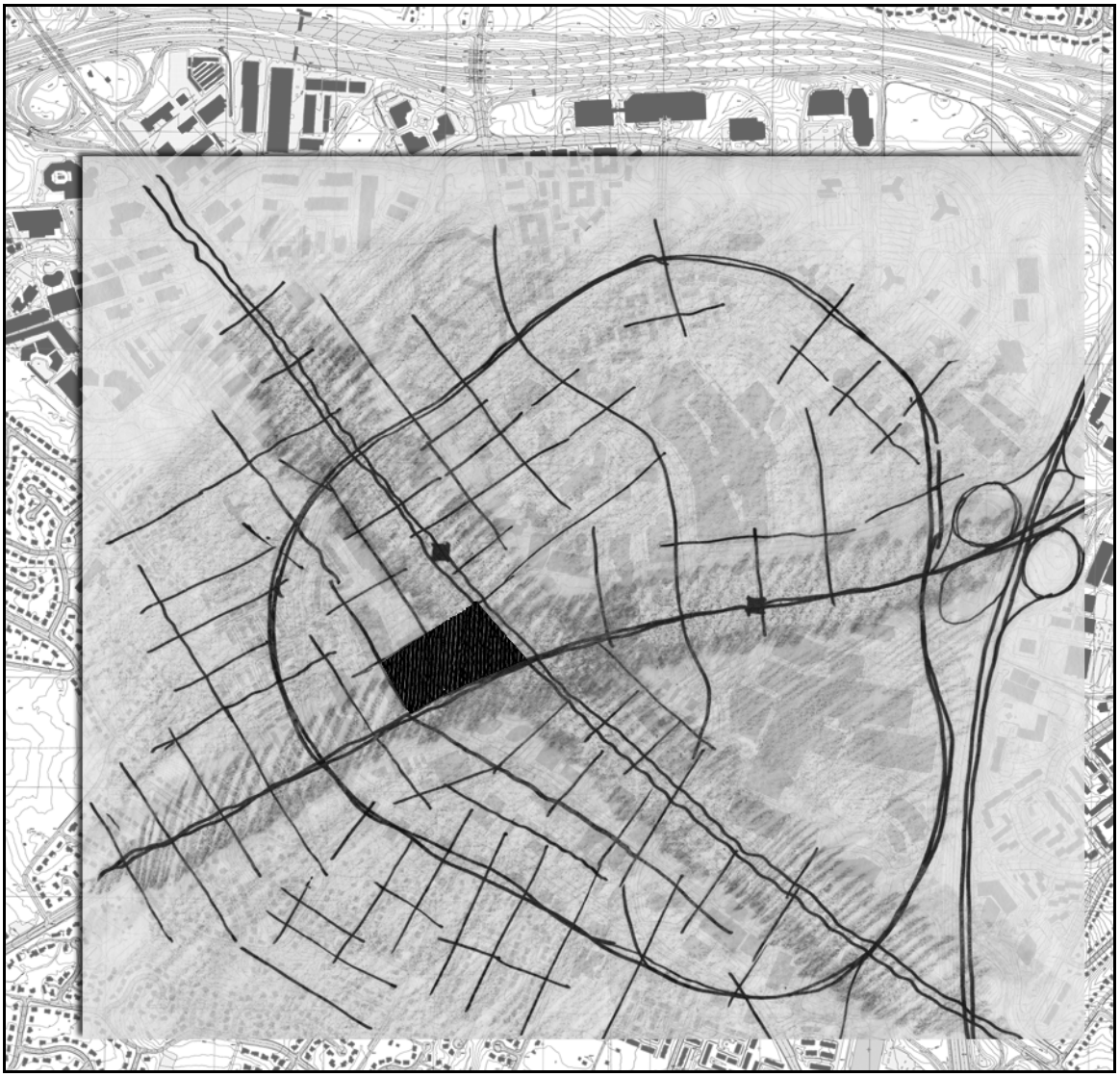

Figure 89: Cross-Axis Parti Diagram

Converging Street Network Parti

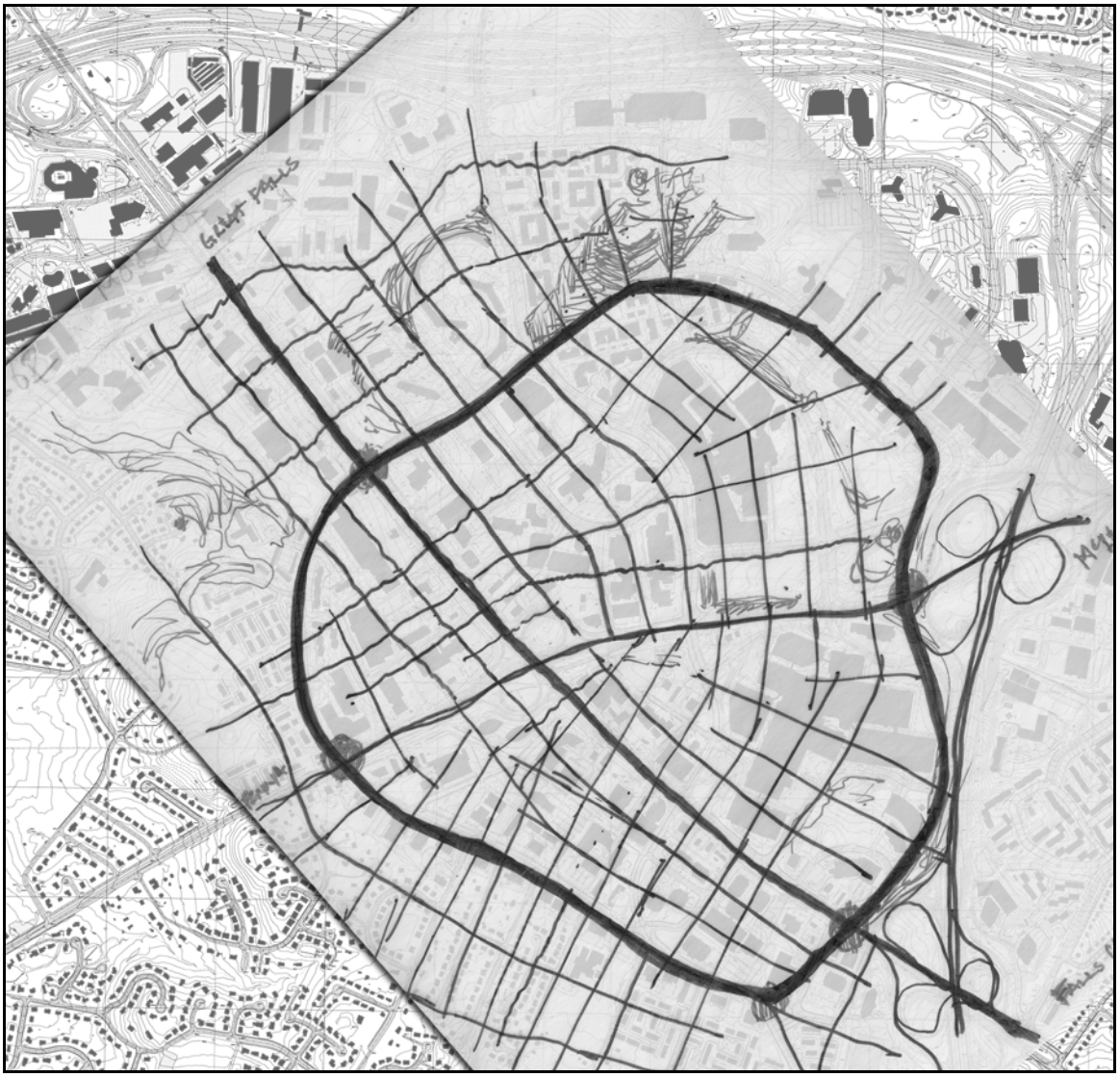


Figure 90: Converging Street Network Diagram

Imperious Street Network Parti

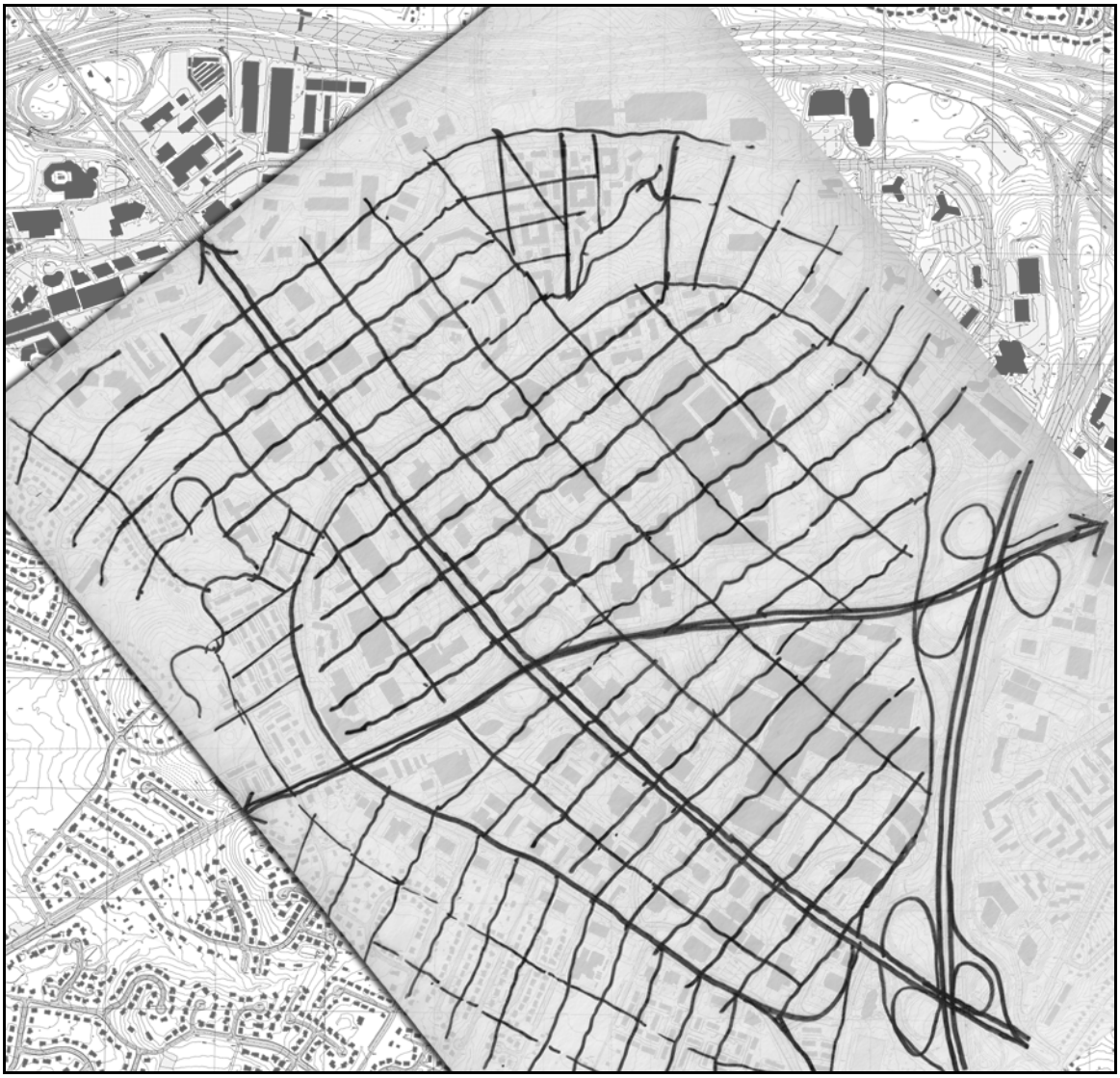

Figure 91: Imperious Street Network Diagram

Organic Street Network Parti

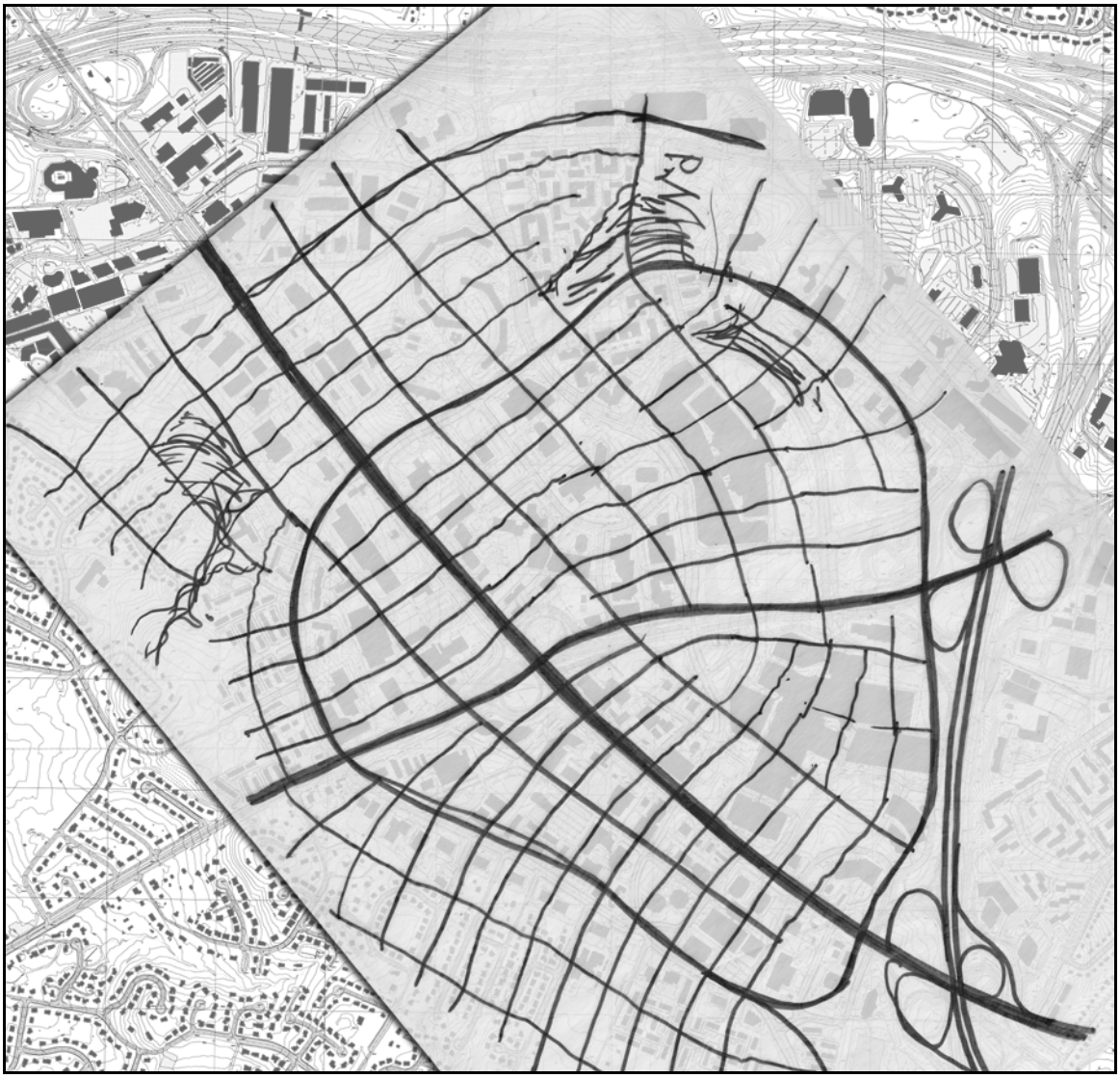

Figure 92: Organic Street Network Diagram

Mall-to-Mall Connection Parti

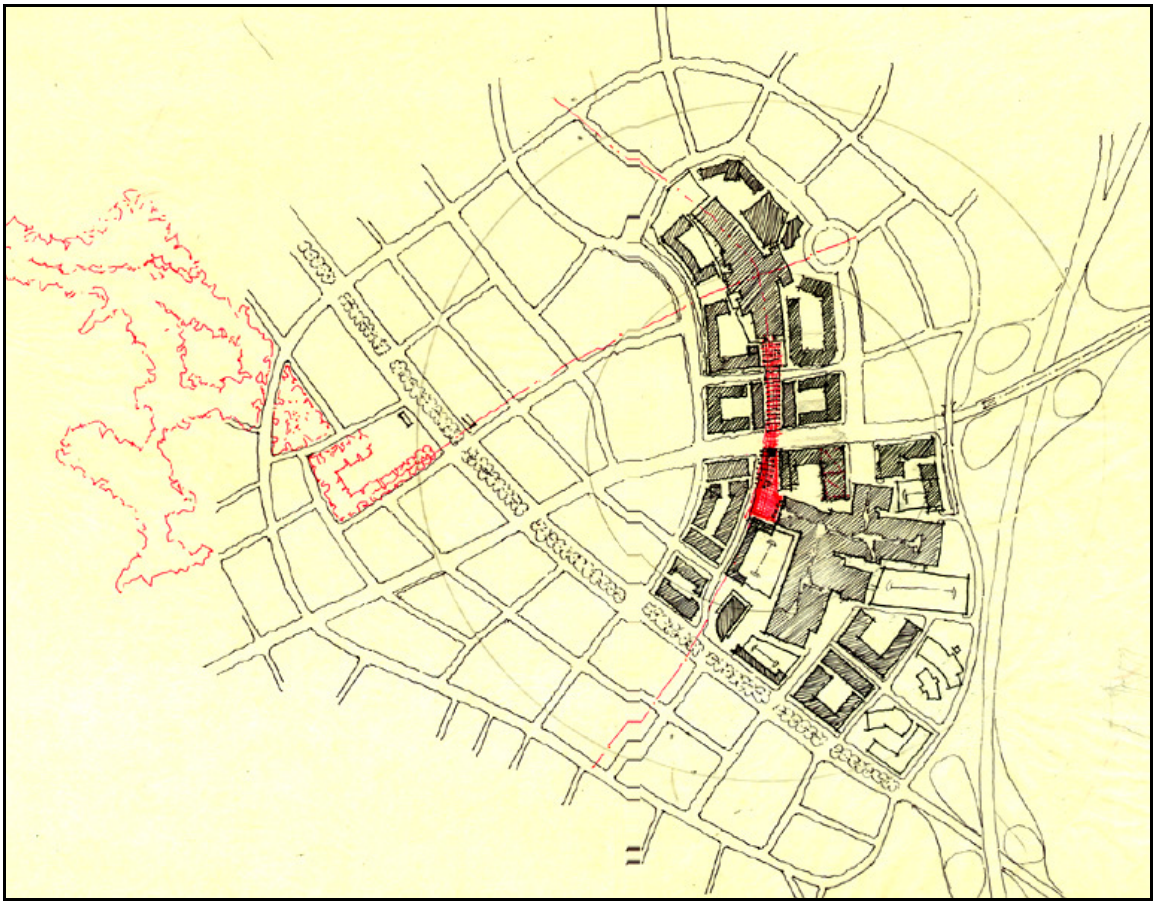

Figure 93: Schematic Design Approach One Diagram

Mall-to-Civic Square Parti

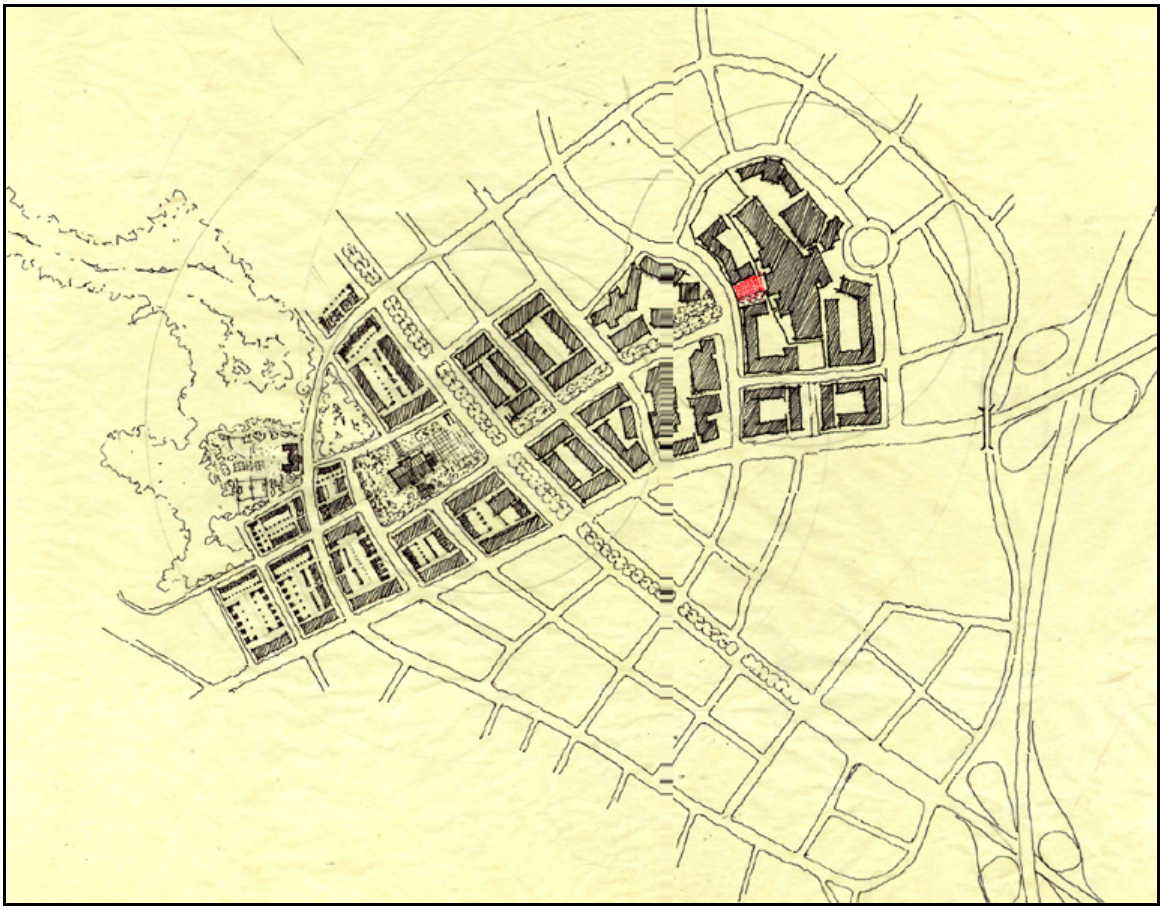

Figure 94: Schematic Design Approach Two Diagram

Connection Spine Parti

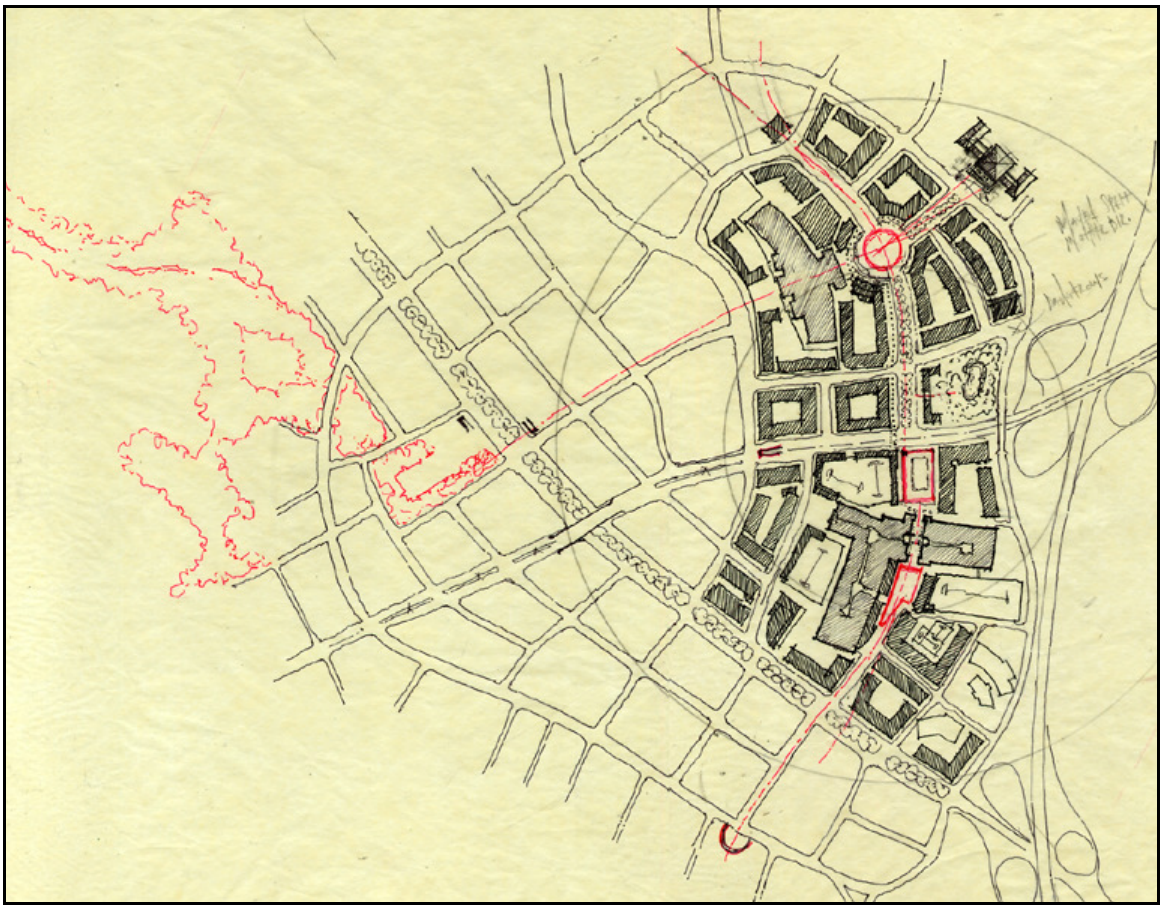

Figure 95: Schematic Design Approach Three Diagram

# Chapter 8. DESIGN CONCLUSION

The rapid growth of unplanned suburban conditions has led to increased dependence of fossil fuels, worsening air and water pollution, lost open space and wetlands, increased flooding, destroyed wildlife habitat and dying city centers. This thesis investigates the suburban conditions in Tysons Corner, Virginia and how to transform them into a diverse, livable place.

Today, Tysons Corner is known as the “Poster child” of suburban sprawl. Yet, it has the nations fourteenth largest daytime office population, and a retail concentration second only to Manhattan, on the east coast. Inspite of its awesome financial success, Tysons Corner suffers from the same environmental and social epidemics as nearly all other suburban developments: isolated land uses, lack of connectivity, and lack of urban form.

Tysons Corner, Virginia has the potential of transforming into a vibrant community that one can live, work and play, by using the proposed Metrorail extension as a catalyst for change. The proposed plan in this thesis illustrates a strategy to connect the fragmented areas of Tysons Corner locally and regionally. It creates urban form with the existing fabric, along with gateways and vibrant twenty-four mixed-uses. Within the proposed plan are connections to public park space, public civic space, and promenades. Finally, the design proposal weaves together a system hierarchical street creating legible blocks and intersections.

The suburban condition is the United States is approaching a catastrophic point, but it is not too late to save from total environmental, social and economical destruction.

Organic Street Network Parti

Figure 96: Existing Aerial Photo (unknown)

Figure 97: Proposed Aerial View of Tysons Corner Region

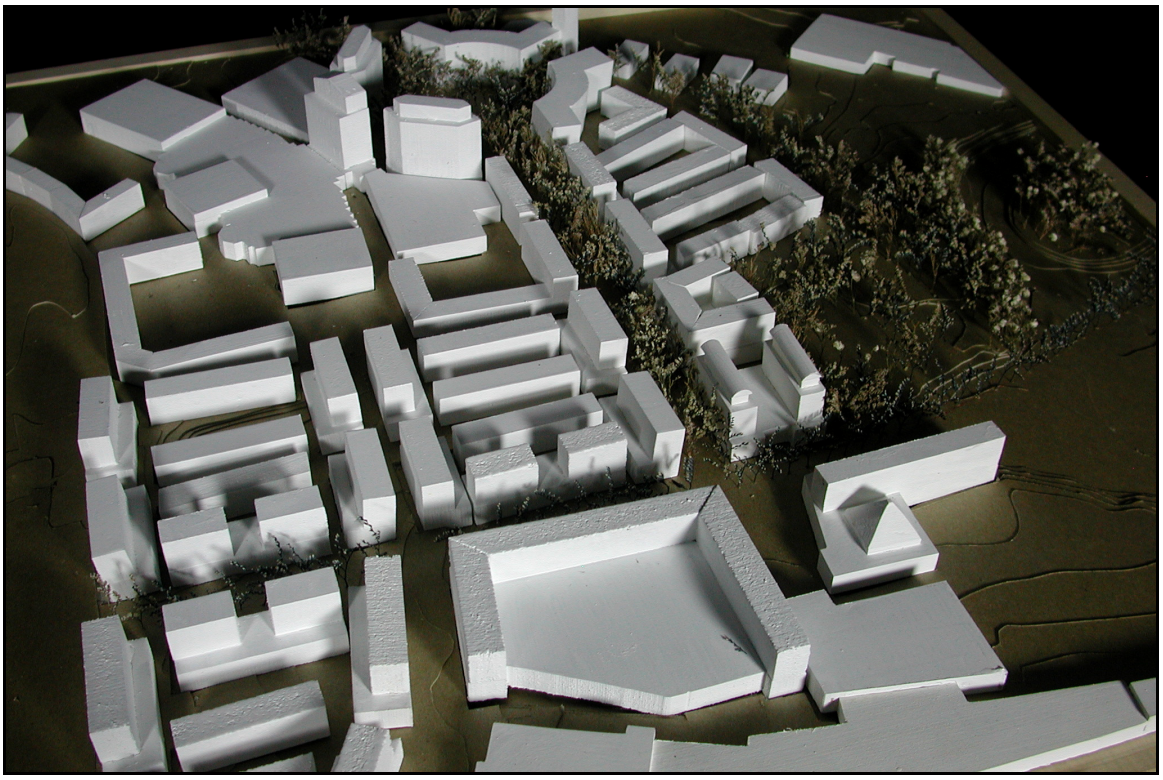

Figure 98: Proposed Aerial View of Model looking north

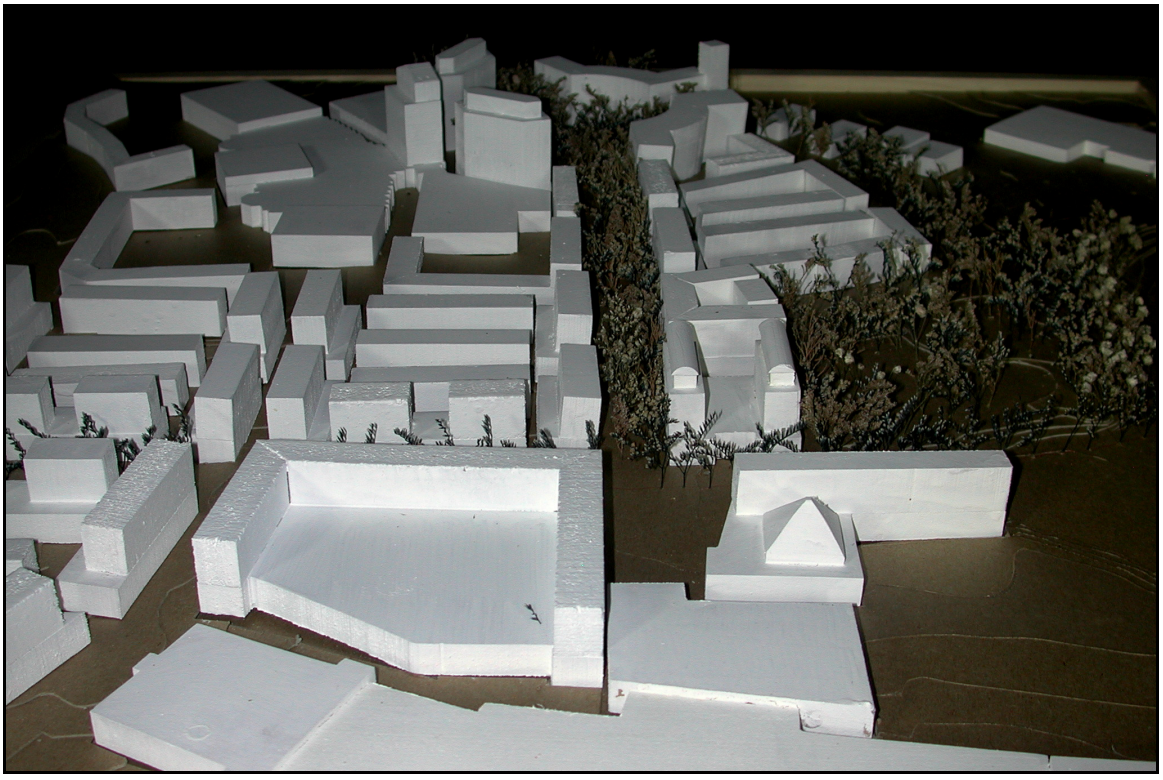

Figure 99: Proposed Aerial View of Model at Retail Gateway

Figure 100: Proposed Aerial View of Model looking east

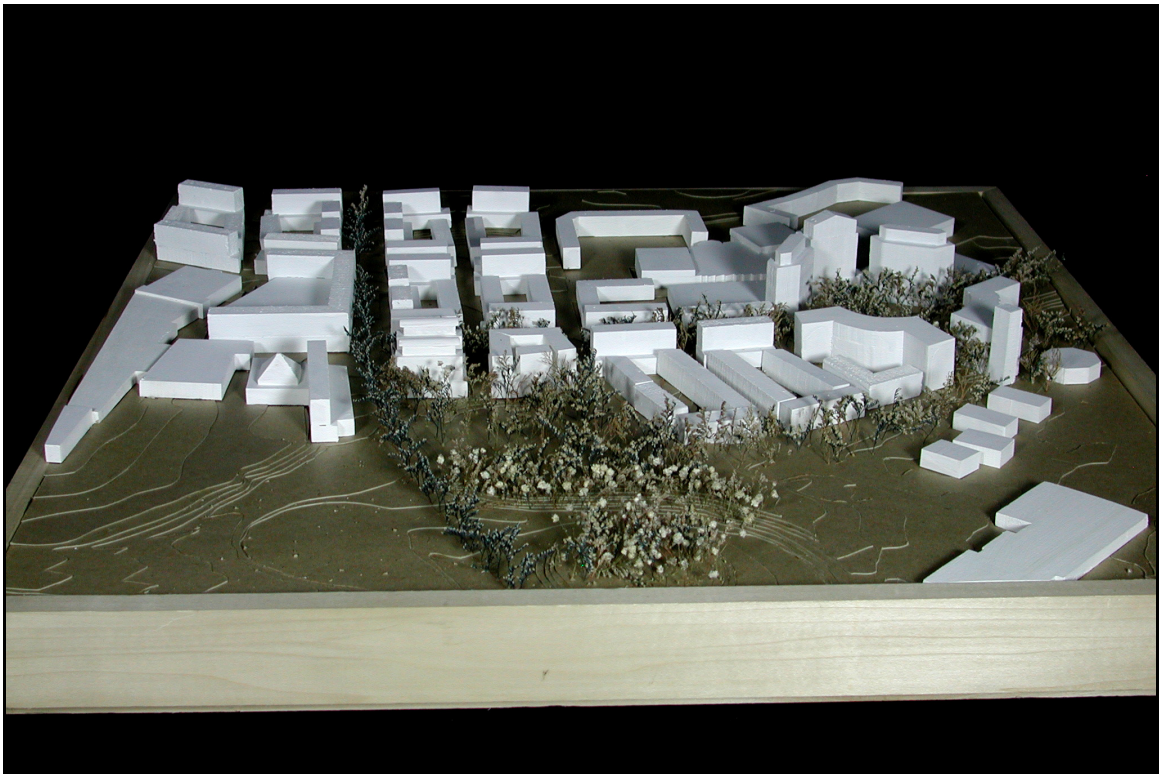

Figure 101: Proposed Aerial View of Model looking west

Figure 102: Proposed Master Plan


Figure 103: Proposed Site Plan


Figure 104: Proposed Residential Level Plan (typical)


Figure 105: Proposed Ground Level Plan

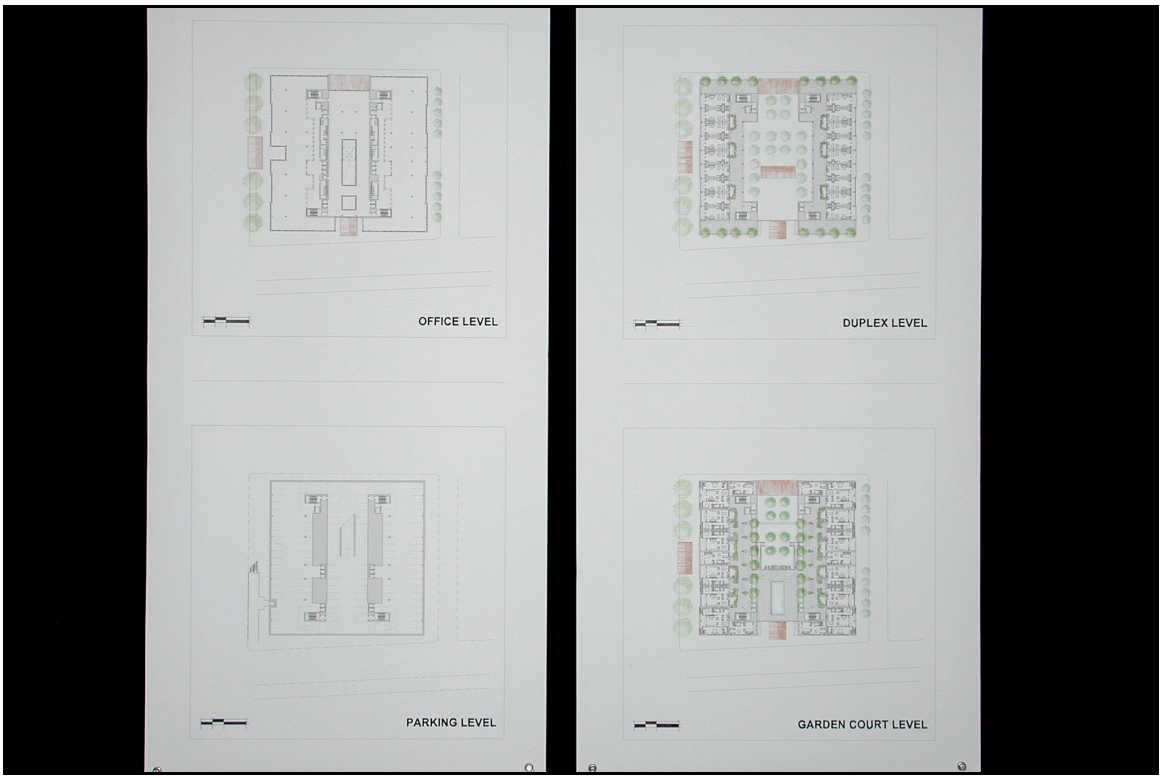


Figure 106: Proposed Typical Level Plans

Figure 107: Model of Proposed Building, looking northwest

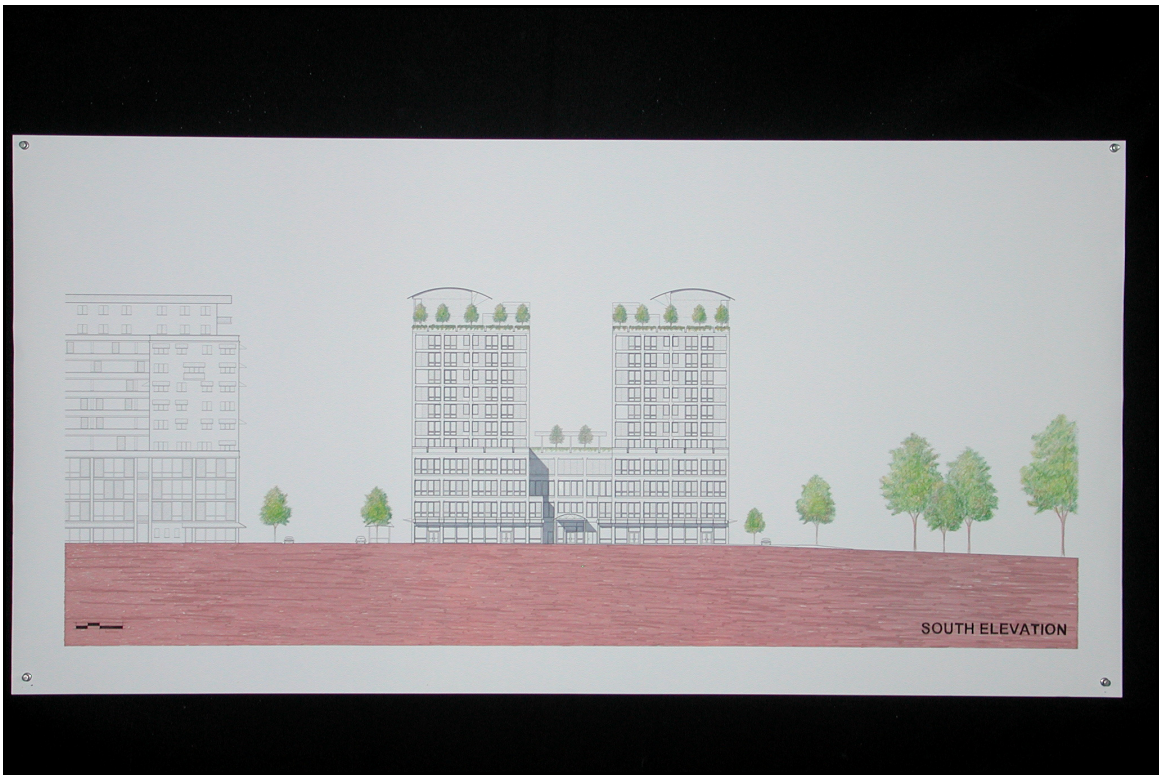


Figure 108: Proposed South Elevation


Figure 109: Proposed West Elevation

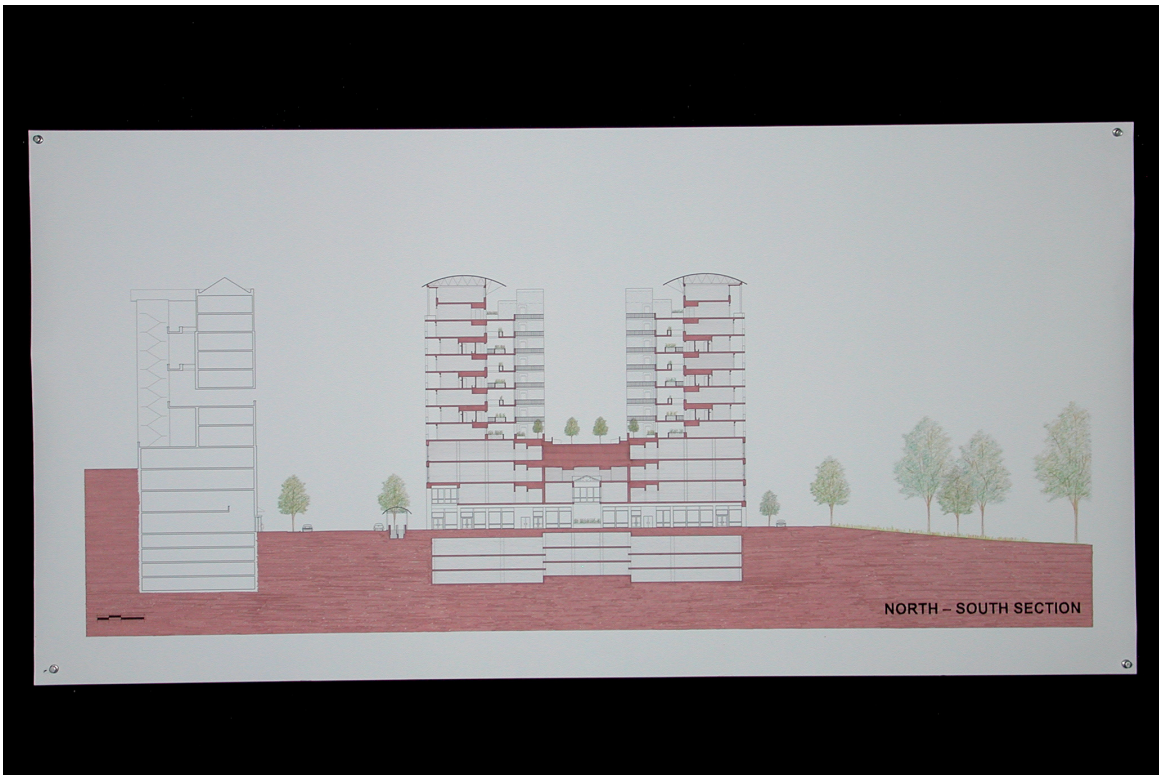


Figure 110: Proposed North-South Building Section

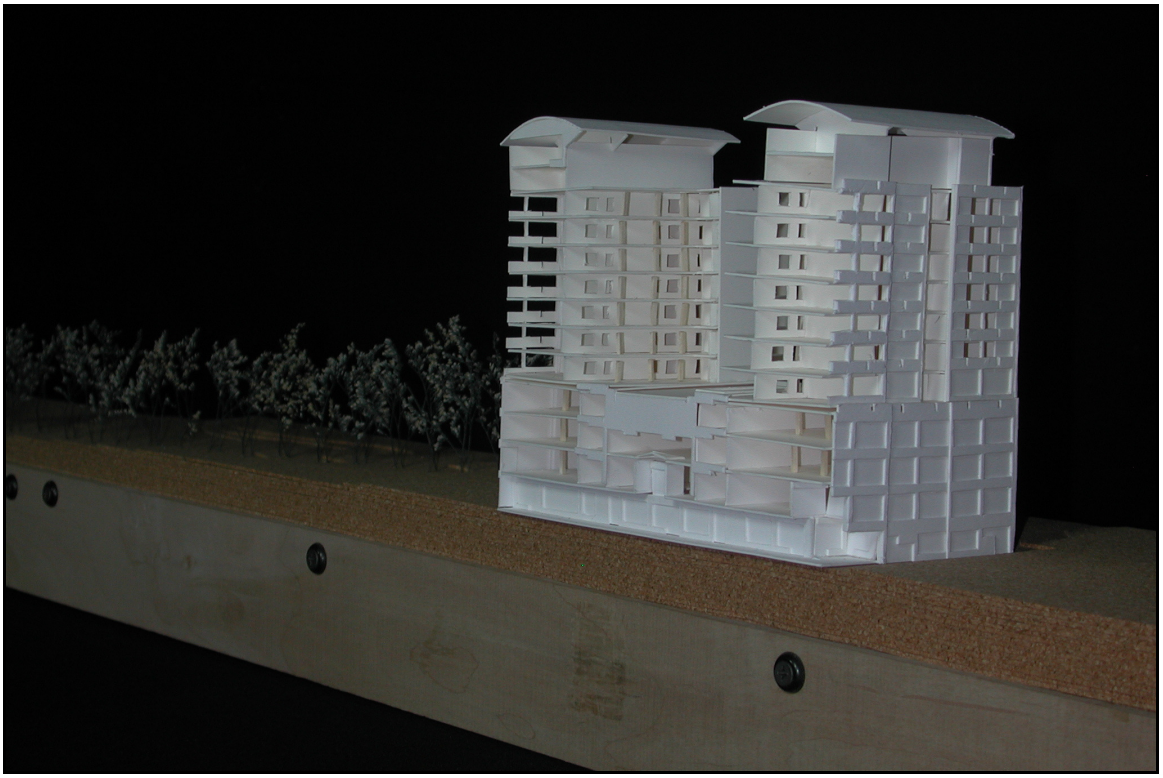

Figure 111: Section Model of Proposed Building, looking southeast

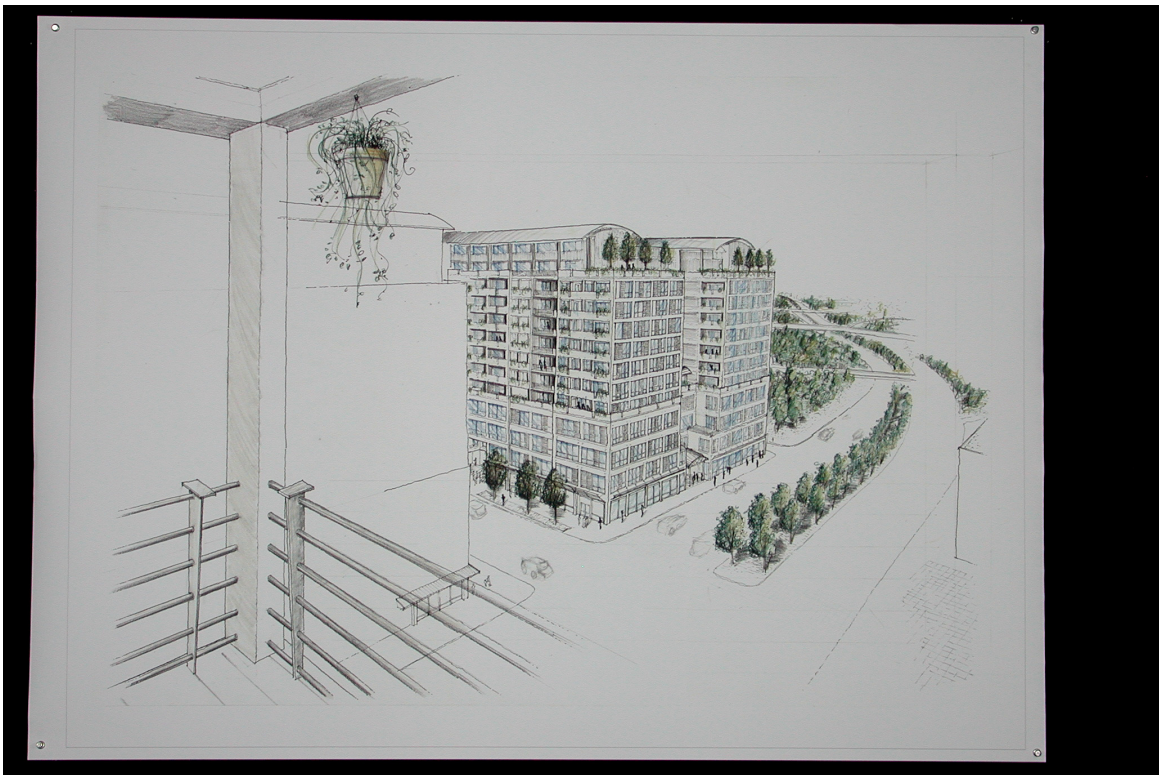

Figure 112: Proposed Perspective view from southwest looking northeast

Figure 113: Proposed Aerial View of Tysons Corner Region

ENDNOTES

1. [i] Sierra Club
2. [ii] Duany Platter-Zyberk, Suburban Nation, pgs 7-9
3. [iii]
4. [iv] Kenneth T. Jackson, pg 6
5. [v] Jackson
6. [vi] Ellen Dunham-Jones, pg7
7. [vii] Dunham-Jones, pg 6
8. [viii] Dunham Jones
9. [ix] Kenneth T. Jackson, pg 3
10. [x] Douglas Kelbaugh
11. [xi] Dunham-Jones
12. [xii] CNU XI, “Designing and Placemaking for Lifelong Health”
13. [xiii] Douglas Kelbaugh
14. [xiv] James H. Kunstler
15. [xv] Anne Tate
16. [xvi] Ellen Dunham-Jones, pg 10
17. FFC Comprehensive Plan, pg 3
18. Duany Platter-Zyberk & Company
19. FFC Comprehensive Plan, pg 1
20. FFC, pg 3
21. FFC, pg 6
22. FFC, pg 5
23. FFC, pg 6
24. Duany Platter-Zyberk & Company
25.
26. Zhan Guo and Alex-Ricardo Jimenez of MIT, under the direction of Thomas J. Piper
27. Olmstead, F.L., 1870
28. Allan B. Jacobs, Great Streets, pgs. 146-147
29. Jacobs, pgs. 158-161
30. Jacobs, pgs. 162-165
31. Jacobs, pgs. 148-149
32. Jacobs, pgs. 142-145
33. [xxxii] Fairfax County Economic Development Authority (FCEDA), Yearend 2001 Real Estate Report, (FCEDA) market research

# APPENDIX

## SOCIAL DEMOGRAPHICS

The majority of jobs in Tysons Corner are office-related, “white collar” professionals. Businesses are predominantly high-tech firms, professional services and consulting firms, financial, accounting and legal services, corporate headquarters, federal government uses, and professional and trade associations.[i] There are more than 36,000 highly skilled employees at more than 1,100 technology companies. Information Technology services firms constitute nearly 70 percent of the office space in Tysons Corner.

| Median Housing Value (year 2000) | | Average Monthly Rent (year 2000) | |
|---|---|---|---|
| Detached: | $607,300 | Detached: | $2,880 |
| Attached: | $338,900 | Attached: | $2,220 |
| Condo: | $177,500 | Condo: | $1,470 |

Median Household Income (year 1997): $84,000

White Non-Hispanic (66.7%), Hispanic (6.1%), Two or more races (5.7%), Asian Indian (4.7%), Korean (4.3%), Black (3.9%), Chinese (3.9%), Other Asian (1.6%), Filipino (1.3%), Other race (1.3%), Vietnamese (1.2%), Japanese (0.8%), American Indian (0.5%)

Average household income is significantly above state average; Unemployment is significantly below state average; Black population is significantly below state average

Traffic Counts (year 2000)[ii] (average vehicles per day)

| | |
|---|---|
| Leesburg Pike from City of Falls Church limits to Capitol Beltway: | 23,000 |
| Leesburg Pike from Capitol Beltway to Chain Bridge Road: | 66,000 |
| Chain Bridge Road from Capitol Beltway to Leesburg Pike: | 33,000 |
| Chain Bridge Road from Leesburg Pike to Town of Vienna limits: | 31,000 |
| Capitol Beltway from Leesburg Pike to Dulles Toll Road: | 180,000 |

[i] FFC Comprehensive Plan, pg 3
[ii] Virginia Department of Transportation

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