# Enhancing Community and Place Through a Suburban Retrofit

A Thesis Presented for the
Master of Landscape Architecture Degree
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# DEDICATION

To my beautiful wife Leah, for her unconditional love, understanding, and support through the countless hours and late nights of work these past three years.

To my parents, Matthew and Rhonde' Murphree for their love, support, wisdom, and council throughout my life.

To my Heavenly Father, for his continued blessings and forgiveness.

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# ABSTRACT

Suburban sprawl, characterized by low-density, scattered, single-use development, is an ever-increasing concern for the environment, economy, and sense of community and identity of cities today. Sprawling communities have been designed with poor neighborhood connectivity, a lack of walkability, and in isolation from public space, jobs, and schools, creating a place that is virtually devoid of social interaction and a distinguishing identity.

Suburbia constitutes roughly 75% of contemporary development in the United States. Many buildings in these suburban areas are either vacant or out of date, and demographic and market shifts indicate a growing demand for more diverse housing types and urban-style living. Given current population growth projections, new development strategies must be considered. One such strategy is known as retrofitting suburbia, and involves the rehabilitation, adaptive re-use, or redevelopment of the built and natural environment in order to induce holistic, long-lasting, transformative change (Dunham-Jones and Williamson vi-xii). While retrofitting suburbs requires a holistic approach to address economic, environmental and social issues, this thesis posits that community building and place-making are fundamental to retrofitting suburbs.

This thesis proposes a retrofit of suburban sprawl through the application of principles of New Urbanism and Landscape Urbanism in order to reverse the negative impacts, with a focus on enhancing community and sense of place. The community of Halls Crossroads, a ‘bedroom suburb’ of Knoxville, Tennessee has been selected for a suburban retrofit that uses existing New Urbanist retrofit best practices from which planners and designers of Halls and similar sprawling suburbs can begin to address issues of  isolation, lack of identity, and poor sense of community.

# PREFACE

This thesis does not seek to abolish suburban sprawl or provide the ultimate remedy for it. The scope of such a challenge is too extensive to cover in this investigation. There are numerous well-documented negative impacts of suburban sprawl, but my argument focuses primarily on social issues by investigating the community building and place-making potential of suburban retrofits. In addressing community and place, this thesis provides a demonstration of a retrofit method in action with which to remedy the social woes of most typical suburban communities, but in the process, there are also considerations of how the environment and local economy might benefit.

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# CHAPTER I
# THE SPRAWL DEBATE

## Sprawl Defined

Since the end of World War II and the subsequent increased demand for single-family-housing, suburbs, or small communities on the fringe of cities, have developed at an unprecedented rate. Cheap land, ease of building, and single-use zoning were the primary catalysts for this fringe development (Mehaffy et.al). Over the past 60 years, suburban development has spread so quickly and has consumed so much land that 'suburban sprawl' became its new name. However, it should be noted that there is a difference between sprawl and suburbia. Many first-generation suburbs built before World War II, such as Forest Hills in New York or Radburn, New Jersey function quite well because they are compact, walkable, and are mixed use developments (see fig. 1). The majority of other suburbs have been developed in a sprawling pattern (see figs. 2 and 3). While there are varied meanings of the term sprawl, the working definition

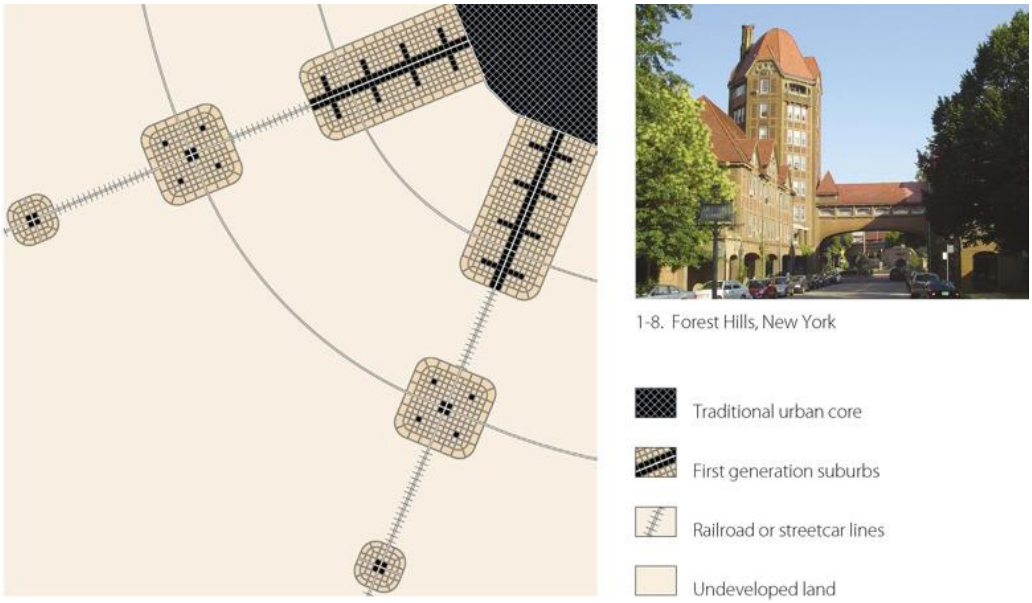



Figure 1: First Generation Suburbs, Pre World War II (Tachieva 5)




Figure 2: Second Generation Suburbs, Post World War II (Tachieva 6)




Figure 3: Third Generation Suburbs (Tachieva 7)

that I will use in this thesis is that of low density, scattered, automobile-dependent, urban development that adheres to single-use, Euclidean-based zoning, which dictates development based on segregation of land-uses. Researchers from the organization, Smartgrowth America recently developed sprawl-indicating metrics based on four factors, including residential density; neighborhood mix of homes, jobs and services; strength of activity centers and downtowns; and accessibility of the street network (Ewing, et al. 3). I assert that the strength of each of these factors directly affects the sense of community and place within a suburban community.

## Sprawl Opposed

Anti-sprawl activists, including architect and New Urbanist, Ellen Dunham-Jones and author James Kunstler, assert that sprawl is an ever-increasing concern for our environment, our economy, and our sense of community and place. They, among many designers and policy makers, claim that increased impervious surfaces and vehicle miles traveled as a result of sprawl, degrade water and air quality. Also, between the additional municipal costs of added infrastructure and the increased personal costs of transportation, sprawl severely strains municipal budgets and personal economics. Most pertinent to my argument, sprawling communities have been designed without comprehensive consideration to connectivity and walkability, and without adequate access to their public space, jobs, and schools. The resultant place is virtually devoid of community interaction.

While the social effects of sprawl are difficult to quantify, they are easily identified. Suburbia has gained popularity due to is perceived provision of safety for children, but James Kunstler, in his novel, *Home from Nowhere*, suggests that children above the age of seven are in need of more than just a safe place to ride bikes. He argues that they need at least the same things adults need: shops, eating establishments, libraries, theaters,

museums, and dignified places to hang out. Unfortunately, these amenities are rarely within walking distance of typical neighborhoods in sprawling communities, and require the expensive use of the automobile for access (Kunstler 55). Consequently isolation seems prevalent, especially for housewives, elderly, children, and the poor, as many of them either do not have, can not operate, or can not afford an automobile. The lack of other alternative modes of transportation severely limits their ability for social interaction in public spaces. Because suburban developments typically have a very low residential density of roughly 1-4 dwelling units per acre, they also lack the critical mass to generate an informal social scene, whether it be in parks, squares, or on the street (Kunstler 94).

Additionally, there are several social issues associated with the long commutes required of suburban residents due to the fact that sprawling communities are often located far from employment centers. A direct effect of lengthy commutes is the reduced time available for family, friends, or other social interactions. The average one-way daily commute for residents of the suburban community of Halls Crossroads, Tennessee is approximately 24 minutes, which equals a weekly total of four hours and a yearly total of just over eight full days of driving ("Knoxville, Tennessee"). Closer proximity of jobs to homes would allow much more time for needed social interaction. A more direct personal effect of commuting is the personal stress associated with traffic and driving long distances. Kunstler portrays the realistic scenario of a stressed suburban commuter upon his or her arrival home:

> Having suffered to get home, leaving home after work to socialize in suburban sprawl becomes problematical, even for highly motivated young people. Not only are the live bodies thinly distributed over vast areas, but there are often few social destinations, and they are generally not concentrated in one area, meaning you have to get back into the goddam car, which you just struggled to get out of (Kunstler 95).

In short, suburban ‘communities’ usually lack readily accessible, culturally relevant, communal space where social interaction is able to occur, much less encouraged.

Because so many sprawling suburbs fail to distinguish themselves from other suburbs through unique architectural and spatial qualities, they are increasingly devoid a sense of place that connects with vernacular architecture and landscape elements. As evidenced in figures no. 4 and no. 5, a commercial district in the Halls Crossroads community is unequivocally similar to a commercial district in Prince Edward Island, Canada, even though the two locations are geographically distant from one another. The deterioration of suburbia’s sense of place has occurred largely in part due to Euclidean zoning regulations. Under this form of zoning, the automobile and its required expensive infrastructure are the only connecting devices.  Kunstler explains just how damaging single-use zoning can be to both community and place:

> Zoning degrades the public realm of our streets by favoring cars over the human scale, making the streets unpleasant…It *dis*-integrates (sic) the formerly integrated human settlement. In doing so, it destroys the




Figure 4: Prince Edward Island, Canada (Kolb)




Figure 5: Maynardville Pike in Halls Crossroads, Tennessee (Author)

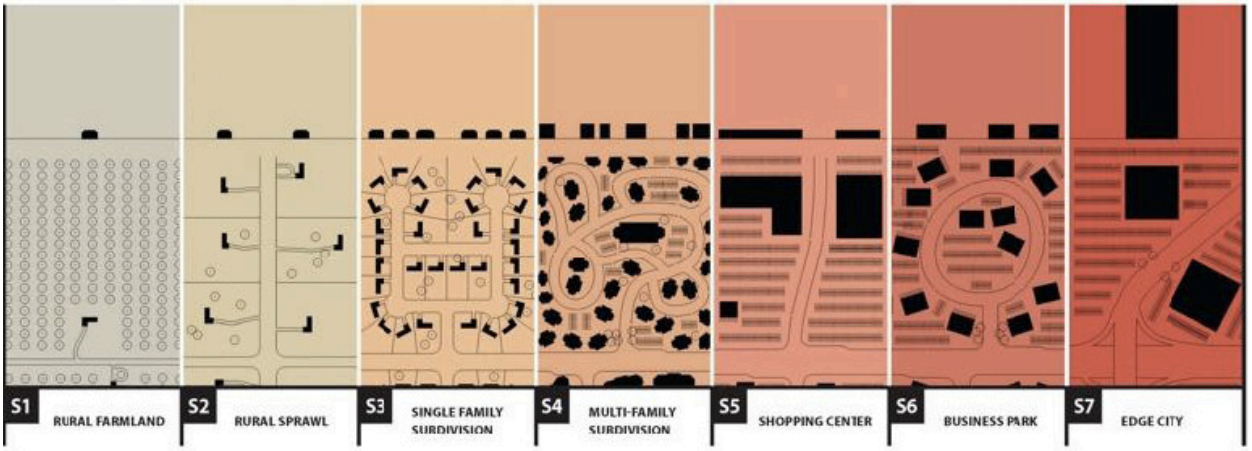


Figure 6: Suburban Transect Caused By Euclidean Zoning (Tachieva 29)

> fibers of civic connection and the patterns of civic life. It sows distrust and paranoia between different categories of citizens. It disconnects the young from cultural institutions. It is neither economically nor ecologically sustainable. Zoning destroys the bonds of communities and, ultimately, whole cultures (Kunstler 125).

Many East Tennessee landscapes are defined by open space in the form of parks and natural areas, agricultural lands, and topographic ridge lines. These lands,


Figure 7: Rural Lands of Halls Crossroads Meets Sprawl (“Halls Crossroads”)

which provide a myriad of benefits to local residents including local food production opportunities, increased habitat corridors, recreation, and aesthetic values such as historic and iconic landscapes, are threatened and consumed by the continued sprawling growth and development of suburbs (see fig. 7). Within the Knoxville Metropolitan Statistical Area of Knox, Blount, Loudon, Union, and Anderson Counties between 1992 and 2007, farm acreage decreased by 15%, primarily due to agricultural land being sold for development ("East Tennessee Livability Report Card").

There may be only few statistical numbers to depict the negative effects sprawl has on community and place, but the evidence lies in the experiences, lifestyle, and memory of those of us who live in these auto-dependent, disconnected, monotonous suburbs. Kunstler's *Home From Nowhere* depicts these types of suburbs and the drab experiences, lifestyles, and memories associated with them.

## Sprawl Defended

While many see sprawl as largely a negative force at play in our social, natural, and built environments, there is much debate as to whether or not suburban sprawl is an inherently poor form of urban growth. On the positive end of the sprawl support spectrum are those who think like Robert Bruegmann, who in his book, *Sprawl: A Compact History*, attempts to completely deconstruct the basis and morality of each anti-sprawl argument that has arisen since the 1800's. While many anti-sprawl activists claim that sprawl is responsible for consuming vast amounts of valuable agricultural lands, Bruegmann asserts that since 1945 in North America, more land has been added to the permanent register of open space than has been developed, and that only a meager five percent of the nation's land was urbanized (Bruegmann 144). While some claim that suburbs are lacking in diversity of classes and race, Bruegmann goes so far as to argue that there is more real economic and racial integration in most suburban malls today than

on the streets of central cities (143).

Bruegmann reminds us of the benefits of sprawl while revealing the problems caused by reform efforts. After all, the suburbs were created to escape the urban woes of the inner city including pollution, congestion, and crime. Single-use, Euclidean-based zoning, which has received much criticism for enabling suburban sprawl, provides benefits to society by promoting orderly growth, prohibiting overcrowding of land and people, relieving congestion, and isolating incompatible land uses ("Types of Zoning Codes"). By living in the suburbs, residents have the freedom for mobility, privacy, and choice of which type of community they live. Furthermore, residents are enticed by paying less for more land and square footage in the suburbs than in the urban core. This price difference is a result of cheap land, quick and easy development, and simplified land acquisitions. Home ownership and pride in one's own property became ingrained in the American dream, and this pride has not waned in the past few decades. Drawing on historical precedence and market trends, Bruegmann seriously doubts that 'sprawl' will ever go away, and rebukes the many efforts at attempting to stop it. While he agrees that planning should occur at some level, he is not certain at which level it should be and through what means. He only urges to avoid sweeping governmental policies that may adversely affect some part of the population (222-223).

In reminding us of why so many of us chose to live in the suburbs, Bruegmann raises many valid considerations in support of suburban development. However, as his book was written in 2005, he did not foresee how the dream of suburbia would implode on itself with the mortgage crisis of 2008. Prior to 2008 the buyers of these newly developed homes in sprawling areas utilized unsustainable, adjustable-rate mortgages as well as increased debt to purchase their homes. As Michael Mehaffy and Galina Tachieva put it in their article, "The Unbearable Costs of Sprawl,"

> Buyers drove increasingly farther away from jobs and services, to

> increasingly remote, car-dependent enclaves that offered apparently cheaper homes - at least, until the true costs of transportation, furnishing and home heating and cooling were factored in (Mehaffy et.al).

As these isolated, energy in-efficient homes went into foreclosure and entire neighborhoods and commercial developments began to fail, so did the assumption that this form of growth was sustainable.

Bruegmann also did not forsee how changing demographics of home buyers would affect housing market demand. According to a study conducted in 2010 by real-estate consulting firm RCLCO, 77 percent of Generation Y, or most of the children of the baby boomers, want to live in an urban-style core where restaurants, parks, offices, and civic amenities are in a walkable distance, and diverse housing types are available. (Ballinger).

While I side more with the views shared by anti-sprawl activists, I find it frustrating that statistical evidence and language used by both sides of the debate is often conflicting. For example, as Richard Weller points out in his essay, “Landscape (Sub) Urbanism in Theory and Practice” Bruegmann claims that only five percent of the nation’s land has been urbanized, while Adam Rome, in his equally well-researched book *The Bulldozer in the Countryside* states that the five percent figure was established by the 1950’s and had reached nearly twenty percent by the 1990s (250). Furthermore, as Portland is hailed by many, including James Kunstler, as the premier anti-sprawl city due to its progressive urban growth boundary and public transit initiatives, Bruegmann criticizes it for its increased traffic congestion and failed attempts at halting sprawl (250). Therefore, in this thesis I aim to address the clear, unambiguous social issues of sprawl and use non-conflicting language and statistics.

# CHAPTER II
# RETROFITTING AND URBANISMS

According to the Plan East Tennessee Livability Report Card, population is expected to rise by 43 percent, or 298,000 people, within the Knoxville MSA between 2012 and 2040 (Plan East Tennessee Livability Report Card, 2). Due to this projected population growth, alternative development strategies must be considered to create more livable communities for future generations. Three potential strategies include: infill development in the urban core, more compact development on the fringe of cities, and the retrofit of existing suburbs. While each strategy holds its own merit, the retrofit of failing suburban communities emerges as the primary method within this thesis due to the fact that suburbia now constitutes nearly 75 percent of contemporary development within the United States (Dunham-Jones and Williamson vi).

## Why Retrofit?

The literal meaning of the word retrofit is to add a component or accessory to something that was unavailable at the time of construction. In this thesis, retrofitting extends beyond rehabilitation or adaptive re-use and encompasses potential partial or whole redevelopment of the built and natural environment in order to in order to induce holistic, long-lasting, transformative change. A suburban retrofit can simultaneously call for greyfield development, demolition and replacement of entire buildings, re-greening of developed lots, or the adaptive re-use of existing buildings. Retrofitting suburbia aims to transform existing suburbs into sustainable communities that are poised to absorb population growth and evolve in accordance with changing demographic, economic, and regional conditions. Most suburbs were developed at a time when successful elements of urbanism, as understood today, were either not permissible per zoning regulations or undesired by the consumers (Dunham-Jones and Williamson xii). It was not until 1982

when the first form-based codes were implemented in Seaside, FL by the architecture firm, Duany, Plater-Zyberk in response to a growing population's disdain for the suburban development trends of the time. These codes augment existing zoning, enable mixed use development, and dictate a pedestrian friendly public realm by setting form guidelines for new buildings and streets ("What Are Form Based Codes?").

The catalysts behind current suburban retrofits include the fact that many suburban properties are aging and in a state of disrepair, many suburban communities are now seeking to distinguish themselves as a livable community and distinct place, and lastly, acknowledging the environmental limits of unbridled population growth, suburban governments are embracing Smart Growth practices that rethink zoning, plan for improved mass transit, and encourage affordable housing construction. By increasing connectivity and walkability and addressing issues of community and place through landscape architectural and urban design practices, the retrofitting of existing suburbs will provide the most rational answer to the previous 60 years dominated by suburban sprawl (Dunham-Jones and Williamson xii-xiii). The question then becomes which form of re-development should guide the retrofit process. I will highlight two urbanism theories that may inform a method for a suburban retrofit that promotes increased community and place: New Urbanism and Landscape Urbanism.

## New Urbanism

Coined in the 1980's, New Urbanism is an urban design theory that focuses on the re-structuring of cities, towns, and neighborhoods based on traditional development principles ("New Urbanism"). The Congress for New Urbanism (CNU), an organization founded by leaders of the New Urbanism movement, outlines its objectives in its Charter. First, it:

> views disinvestment in central cities, the spread of placeless sprawl, increasing separation by race and income, environmental deterioration,

> loss of agricultural lands and wilderness, and the erosion of society's built heritage as one interrelated community-building challenge ("Charter of the New Urbanism").

CNU leader Andres Duany and his colleagues reject sprawl and offer clear and concise programming requirements and form as an alternative. Newurbanism.org sums up the overall viewpoints of the CNU:

> New Urbanism promotes the creation and restoration of diverse, walkable, compact, vibrant, mixed-use communities composed of the same components as conventional development, but assembled in a more integrated fashion, in the form of complete communities....[it] is the revival of our lost art of place-making, and is essentially a re-



Figure 8: Plan of Seaside, FL ("The Seaside Plan")

ordering of the built environment into the form of complete cities, towns, villages, and neighborhoods - the way communities have been built for centuries around the world (“New Urbanism”).

New Urbanists think about cities and regions in a more holistic way, offering a possible solution to overcoming the fragmentation of suburban communities. The CNU also propose to heal the virtual non-existent pedestrian street life and sociality of suburbia by integrating uses and forms of development that supersede existing Euclidean zoning based development (Harvey 22) (see fig. 9).



Figure 9: New Urbanist Street and Mixed Use Development (”Why the “New””)

While New Urbanism has the potential to increase density and street-life while reducing vehicle miles traveled, many, like Bruegmann, see the movement as a denser, more aesthetically pleasing version of sprawl. Similarly, Harvey believes that New Urbanism repeats at a fundamental level the same fallacy of planning and architectural styles that it criticizes. Referring to the movement as more of a “communitarianism,” Harvey stresses that New Urbanism privileges spatial forms over social processes, just as Modernism did in the 1950s (23). Due to the prescribed, activity-assuming, rigid nature of the products of New Urbanism, Harvey believes they lack elements that make the urban life so exciting as he explains:

> the unexpected, the conflicts, the excitement, of exploring the urban unknown- will be tightly controlled and screened out with big signs that

say “no deviant behavior acceptable here” (25).

Furthermore, Harvey states that community has always meant different things to different people, and questions what sort of “community” is understood by New Urbanists. According to the CNU, an authentic community is a collection of people with diverse ages, ethnicities, and incomes interacting on a daily basis. (“Charter of the New Urbanism”). While the CNU would presume this interaction would occur through individuals’ proximity to one another in and between open spaces, civic buildings, and coffee chops, it fails to realize that not all people desire interaction with a such diverse demographic. Michael Brill, in his article, “Problems with Mistaking Community Life for Public Life,” proposes the idea that as radical new forms of social life are constantly developing, perhaps meager adaptations to the stock typologies of architecture and planning will become inadequate for dealing with them (Brill 50). While anti-sprawl activists like Ellen Dunham-Jones are convinced New Urbanism can save sprawl, Weller seriously questions that New Urbanism Projects can be taken as a complete remedy to sprawl. According to Weller, due to the fact that it now takes close to 12 acres of land to sustain one American, any New Urbanist “village” is in this sense a fallacy (252).

While I agree with these critiques of New Urbanism, there are several ideas of the CNU that could help guide suburban retrofits in terms of promoting community and place. Most of these applicable ideas are mentioned in the “Charter of the New Urbanism.” One principle stated in the charter is that streets should be designed as an interconnected network  that encourages walking and that daily living activities should occur within walking distance. This interconnection and proximity will not only promote increased mobility, but also increased opportunities for social interaction. Similarly, emphasis should be placed on “the physical definition of streets and public spaces of shared use” in a way that provides safety, comfort, and interest to the community (“Charter of the New Urbanism”). Concentrations of civic/institutional, retail, and office activity should be

imbedded within residential communities as opposed to isolated in remote areas, and appropriate building densities and land uses should be within walking distances of transit stops in order for public transit to become a viable alternative to the automobile ("Charter of the New Urbanism"). The charter also calls for the preservation and renewal of historic buildings and landscapes while encouraging infill development over development along the suburban fringe ("Charter of the New Urbanism"). In her article "11 Urban Design Tactics for Suburban Retrofitting," June Williamson, a member of the CNU, echoes a principle from the charter as she promotes the revision of zoning codes and public works standards. These revisions would ease the difficulty of building compact, mixed use developments that utilize pedestrian friendly streetscapes while making it more difficult to develop single use buildings (Williamson).

Given that the CNU is comprised primarily of architects, the principles of the CNU focus largely on the built environment when prescribing certain forms and guidelines. However, the charter does state that a range of parks should be distributed throughout neighborhoods while open lands and conservation areas should be used to connect and define various districts and neighborhoods. Furthermore, these landscapes should be designed in a way that is informed by local climate, topography, history, and building practice ("Charter of the New Urbanism"). As evidenced within the Charter, landscape is portrayed as an accessory and afterthought to architecture. One can begin to see the lack of attention paid to the more dynamic aspects of landscape. These aspects are more clearly investigated and broken down within the design movement of Landscape Urbanism.

## Landscape Urbanism

In order to utilize landscape urbanism as a relevant framework for a community building suburban retrofit, it is necessary to establish its meaning, themes, and proponents. Coined in 1996 by Charles Waldheim, landscape urbanism "posits a

process of city building that places landscape architecture as the formative step in urban development rather than the last" (Waldheim, et al.). This form of urbanism asserts that landscape architecture encompasses not just the design and construction of traditional parks and gardens, but equally as much the design and planning of transportation corridors, remediation of post-industrial toxic lands, the infrastructure of stormwater and sewage, and enduring real estate processes. Very much focused on an over-arching interdisciplinary approach to urban planning, landscape urbanism increases the scope of landscape architecture's examination and involvement as it grapples with the intersection of design, policy, and ecological planning (Waldheim et al.).

Prominent landscape architect and author James Corner, in his essay, "Terra Fluxus," positions the character of landscape urbanism against schools of thought like New Urbanism:

> thematic of organization, dynamic interaction, ecology, and technique point to a looser, emergent urbanism, more akin to the real complexity of cities and offering an alternative to the rigid mechanisms of centralist planning (Corner 23) (see fig. 10).

Perhaps more revealing, Corner lists important potentials for landscape urbanism, most of which enhance a community's sense of place:

> the ability to shift scales, to locate urban fabrics in their regional and biotic contexts, and to design relationships between dynamic environmental processes and urban form (24).

Furthermore, Corner breaks down landscape urbanism into four distinct themes: Processes over time, the staging of surfaces, the operational method, and the imaginary. Processes over time is a theme that stresses the importance and inter-connectedness of cultural, social, political, and natural processes. This theme suggests placing more emphasis on the systems that affect the density and distribution of urban form rather



Figure 10: Port Lands Estuary 2032 (“ASLA 2008”)

than on the formal or organic qualities of space (28-30). The staging of surfaces theme addresses the wide range of scales of the ground plane, or the “field of action,” ranging from the sidewalk to the street, to building surfaces. Landscape urbanism is concerned with these working surfaces over time, and proposes the design of them in such a way that anticipates change, open-endedness, and negotiation (30) (see fig.11). Next, the operational method is a theme of landscape urbanism that reveals the importance of both a unique representational technique as well as how one actually puts into effect the work of the urbanist given the demands of contemporary development. Corner believes these techniques are desperately lacking in the field of landscape architecture, given the sheer scope of urban issues that exist (31-32). Finally, the imaginary simply reminds the designer that the collective imagination, derived and stimulated by the experiences




Figure 11: PatchWork Section, Living City Design Competition ("PatchWork")

of environments across the world, must remain the primary driver of any contemporary development. Encouraging an approach to public space design that avoids the creation of "vessels for this generic activity called 'recreation,'" Corner states that:

> public spaces are firstly the containers of collective memory and desire, and secondly they are the places for geographic and social imagination to extend new relationships and sets of possibility (32).

I argue that the design of these public spaces of collective memory and desire is symmetrical with the design of community.

The arguments against landscape urbanism range from it being an ideological and irrational, to it being what author Michael Mehaffy refers to as "sprawl in a pretty green dress" (Mehaffy). One distinguishing characteristic that these opponents fail to realize, as Gale Fulton points out in his review of The Landscape Urbanism Reader, is that landscape urbanism

> is not simply advocating 'landscapes' in urbanization – the designed objects found between buildings and exemplified in urban plazas, nineteenth-century parks, and ornamental plantings – but a radical shift in practices that draws from those characteristics of landscape which are best suited to more fully engage the creative forces

swirling across the globe (50).

Fulton does, however, criticize landscape urbanist projects that seem to focus too heavily on the performative aspects of the project in lieu of other dominant methodologies of landscape practice, including the decorative and restorative. Instead, he urges, these projects have the potential to serve in all three of the above dimensions (52). Given the limited amount of landscape urbanist projects completed, and given the temporal-based aspect of these performative and responsive landscapes, it is difficult to draw immediate objections to the movement. However, given the drastic state of suburbia with its degraded natural environments, chaotic organization, social isolation, and place-lessness, one can begin to see the potential for landscape urbanism's influence on a suburban retrofit.

One of the principles of landscape urbanism that are applicable to suburban retrofits is the idea of placing landscape architecture as the determinative step in the retrofit process. While urban form is informed by existing street layout and buildings, ultimately existing landscape conditions involving hydrology, topography, and vegetation, which sprawl typically disregards, determine new urban form. Additionally, landscape urbanism encourages a multi-scalar design of retrofits that integrates a suburban development within its regional and environmental context, and thus strengthening its sense of place. This principle involving scalar shifts suggests a retrofit framework that proposes interventions at a detailed site design level and at the level of master plan. Landscape Urbanism's principle of the imaginary also encourages inspirational design of public spaces that extend new sets of relationships between people and their environment, rather than the creation of traditional, mono-functional parks, squares, and streetscapes. Lastly, the principles of processes over time and staging of surfaces encourages the integration of parks and open space with transportation, stormwater and sewage, and social infrastructures, yielding a multi-functional landscape that is sensitive and responsive to cultural, social, political, and natural processes over time.

# CHAPTER III
# COMMUNITY AND PLACE

## Community

While retrofitting suburbs requires a holistic approach to address economic, environmental and social issues, this thesis posits that community building and place-making are fundamental to retrofitting suburbia. Alissa North, in her book, *Operative Landscapes: Building Communities Through Public Space*, defines community as "an easily understood unit within any civilizations...[that] provide individuals a structure of identification in which to function" (North 12). Communities exist at various scales, including region, city, and neighborhood. Communities organize around shared interest such as sports, favorite books, or academics, ethnic affiliations, religion, or simply a shared group of friends. Communities can also be virtual, such as online communities among blogs, social networking sites, and common interest message boards.

Given that community means different things to different people, it is necessary to explain what aspects of community I address within this thesis. To me, community has a dual nature as both the physical territory on which daily life ensues and as the collective body of residents within a given neighborhood, city, or region. One's sense of community is determined by how connected they feel to their community (both fellow residents and physical spaces) and how much pride they take in being a part of that community. Community building refers to the process of strengthening the sense of community.

I argue that designing for an increased sense of community involves the creation of public space where people will desire to be, and once there, these people will interact with one another actively and passively. This interaction may be in the form of spontaneous conversation, lending a helping hand, or playing games, but more often than not, this interaction, what I call 'passive interaction' occurs as simply being in the

prolonged presence of fellow citizens within these desirable public spaces. This passive interaction, I argue, reinforces a sense of belonging and pride to the community. Lastly, I would emphasize that a shared sense of stewardship and ownership for the natural and built environment leads to an increased sense of community. North also discusses this community stewardship:

> The degree of investment in one's physical community, or neighborhood, is largely dependent on its quality, and particularly the characteristics of the collective public realm. Whether it is a park, a river corridor, community gardens, a plaza, or a streetscape, the public spaces where people interact provide a shared sense of ownership, and the qualities of these spaces influence how the communities operate and evolve (North 13).

As previously mentioned in Chapter I, sprawl design does not foster community or promote passive interaction. Quality public spaces easily accessible to the public are virtually non-existent due to single-use zoning, unwalkable block structures, and a form of development that revolves around dependence on the automobile.

## Sense of Place

Given the homogeneity of suburban architecture, landscapes, and the spaces formed therein, many suburban communities are in dire need of distinguishing themselves from one-another as distinct places (see figs. 4 and 5). Therefore, in addition to community building, this thesis proposes a design that increases sense of place. The term 'sense of place' embodies the unique and special qualities of a place, and is used in relation to those characteristics that foster an authentic sense of human attachment or belonging. Some use the term in reference to a perception help by people while others use it as a characteristic of a geographic place. Dr. Thomas A. Woods, president of Making Sense of Place, Inc. explains that,

> People develop a “sense of place” through experience and knowledge of a particular area. A sense of place emerges through knowledge of the history, geography and geology of an area, its flora and fauna, the legends of a place, and a growing sense of the land and its history after living there for a time...This definition is complex and multi-faceted much like true Places are, blending the physical characteristics of the land with memory, art, story, and the inexplicable feel that Places leave on the skin and mind (Woods).

Fritz Steele attempts to simplify the complexity of the term by juxtaposing it with the similar phrase ‘spirit of place.’ She defines sense of place as “the particular experience of a person in a particular setting (feeling stimulated, excited, joyous, expansive, and so forth),” and the spirit of place as “the combination of characteristics that gives some locations a special ‘feel’ or personality” (Steele 3).

While a community’s sense of place may exist as a result of existing features of the surrounding environment, it can either be enhanced or diminished by human intervention and development. Steele further explains,

> The environment is made up of a combination of physical and social features; the sense of place is an experience created by the setting combined with what a person brings to it. In other words, to some degree we create our own place, the do not exist independent of us (Cross).

This thesis therefore attempts to enhance sense of place through the application of various place-making design tactics. These tactics build on the unique qualities of a place and help establish a memorable environment through spatial and experiential measures. Place-making devices that I explore in this thesis include:

- Historic celebration. This historical celebration and recognition occurs through material selections for designed elements, and the conservation and glorification of historic landmarks, iconic landscapes, or special views within the site.
- Edges that separate two or more kinds of districts and can easily be defined (Hall and Porterfield 12).
- Unifying architectural and site details (Bohl 75)
- Promotion of social activity. Social activity helps create sense of place and is also a strong indicator of community.
- Enclosure. Among other methods, trees arching over a promenade or buildings serving as walls on either side of a street or plaza provide enclosure. Enclosure is a technique that has been utilized in public spaces throughout history, and is still used for the purpose of making spaces more intimate and human scaled (Bohl 62).
- Accessibility and interconnection. Ideally there are multiple ways of reaching the place, not just by automobile. This will enable a more diverse amount of residents and/or visitors. Accessibility would also help the sense of community as well. By making amenities more accessible to a community, walkability is increased, in turn also promoting social interaction and health ("Charter of the New Urbanism").
- Gateways that provide a sense of arrival (Stephens Planning and Design). Developing a sense of place aids in a person's connection to their local community, region, and each other, leading to an increase in sense of community (Woods).

## Case Studies of Community and Place

The following are case studies of developments that enhance place and community. The lessons learned and successful design strategies apparent in these projects

operate regardless of the project's classification as a greenfield development or grayfield redevelopment. I take many of the lessons and design strategies learned and apply them in the retrofit project described in Chapters IV and V.

*VILLAGE HOMES, DAVIS, CALIFORNIA*

Designed and developed in 1973 by landscape architect and planner Michael Corbett, Village Homes is hailed by architects and planners as one of the most innovative examples of sustainable community design since Radburn, New Jersey was planned in 1928. Comprised of 242 housing units and 650 residents within 60 acres, the development promotes various elements of sustainable living, including agricultural plots, mixed uses, ample open space, and natural stormwater infrastructure (Francis 24). Perhaps most noteworthy for its applicability in this thesis, however, is its

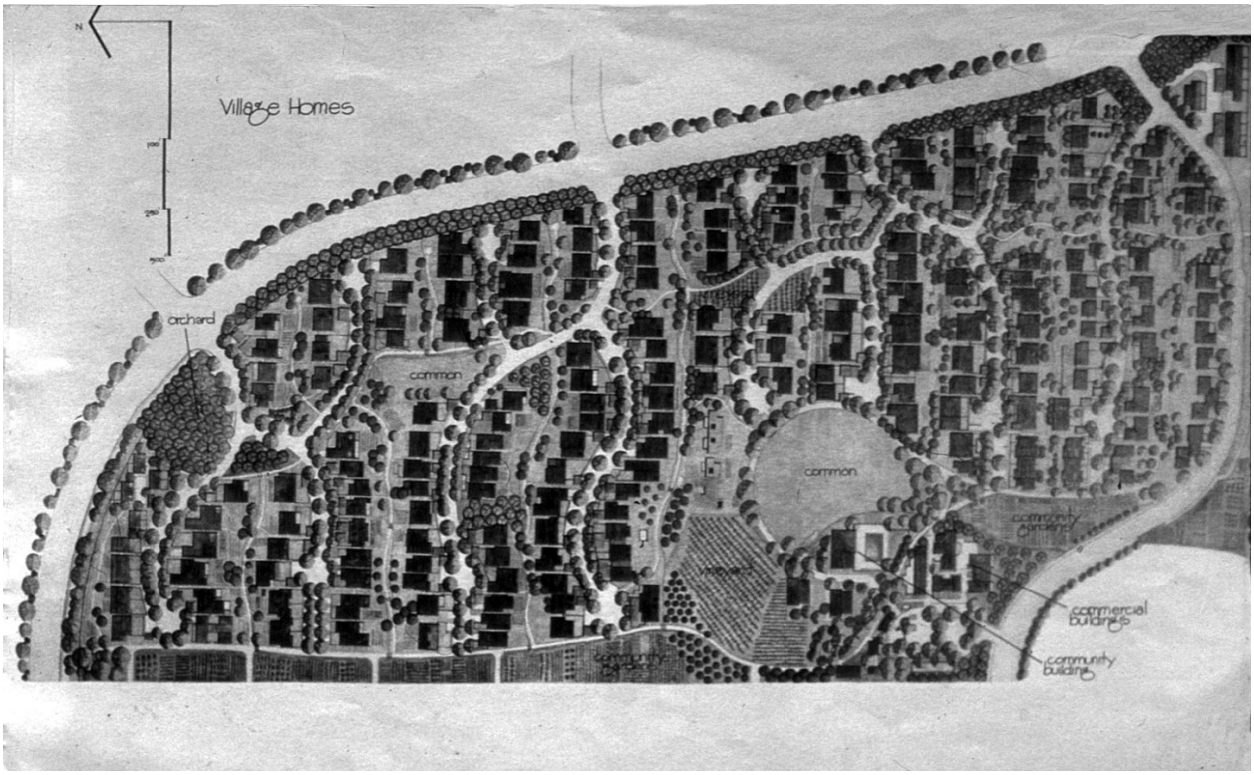


Figure 12: Village Homes Master Plan (Francis 27)

emphasis placed on community. This emphasis makes sense, given the developers' two interrelated goals for the development was to "design a neighborhood which would reduce the amount of energy required to carry out the family's daily activities, and establish a sense of community" (26). The plan was one of the first of its kind to distill natural and social ecology into an "integrated vision of people, nature, economy, and community" (27). Part of this integration revolves around the idea of a residential area



Figure 13: Section through Natural drainage canal (Francis 28)



Figure 14: Courtyard designed and built by the community (Francis 29)

organized around open space, as opposed to the street. Community gardens throughout the neighborhood provide organic produce that is either consumed by families or sold to local businesses. Each year, residents come together for the annual harvest festival,



Figure 15: Community Pool (Francis 38)



Figure 16: Bioswale (Francis 35)



Figure 17: Enclosure and edges of fruit orchard (Francis 29)

further increasing community involvement and reinforcing their connection with the land on which they live (29). Local ecology and natural processes are celebrated and revealed through open channel drainage systems that meander through open spaces, allowing groundwater re-charge while saving nearly $200,000 in initial infrastructure costs (30).

Village Homes maintains a sense of place through its unique designed and natural landscape. The designers utilized landscape in lieu of building form and streetscape design to create enclosure, gateways, edges, and public space (39). Furthermore, environmental values among residents are fostered by the sustainable landscape of Village Homes, and these values in turn contribute to the sense of place (40).

Village Homes offers a refreshing perspective on community building in methods opposing those endorsed by New Urbanism, focusing on local agriculture, open space inter-connectedness, and a sense of community involvement and shared stewardship. While some of the design and planning methods employed for this community are unorthodox to contemporary planning standards, it is interesting to note that in order for the community to be built and experience success, the developers and the city had to break almost every ordinance code in the book in order to get Village Homes approved (25). Similar design tactics may be employed in this thesis, as changing demographics and market trends often call for a re-evaluation of existing design codes.

### *THE WUNGONG URBAN WATER LANDSCAPE STRUCTURE PLAN*

In his article Landscape (Sub)Urbanism in Theory and Practice, Richard Weller quotes from Cynthia Girling and Ronald Kellet's book, *Skinny Streets and Green Neighbourhoods: Design for Environment and Community*:

> It is possible to design better developments only if strategically situated, interdependent networks of open space, streets, utilities, and land use

can be planned and designed together from the outset (Weller 255-256).

The Wungong Urban Water Landscape Structure Plan is a conceptual master plan that Richard Weller and students at the University of Western Australia landscape architecture program hope will demonstrate Girling and Kellet's possibility put into action. Weller describes this plan as an example of how landscape urbanism theory might be applied in a suburban context.

Situated on 3,750 acres of degraded agricultural land on the fringe of Perth, Australia, this plans to accommodate 15,000 homes at low to medium density for approximately 40,000 people in a construction span of 15 years. The principles of this project included:




Figure 18: Initial Landscape Structure Plan (Weller 257)

- Protect, interlink, and enhance existing vegetation deemed of cultural and ecological value.
- Create a holistic matrix of public open space that transcends individual property ownership and is robust, simple, and multi-functional.
- Integrate with the public open space matrix a comprehensive storm water management system as a legible infrastructural component of the project.
- Assert the public open space matrix as the primary guidelines for subsequent development.
- Align streets and housing orthogonally (north-south and east-west) to maximize passive solar access.
- Create an iconic site identity not through suburban pastiche but through the use of substantial plantings of endemic vegetation (Weller 258).

The plan calls for a series of water collecting ‘avenues’ that are linear parks in between rows of housing. These interconnected avenues direct all stormwater back into the water table and connect with the river and wetlands flowing through the site. Also, wetland buffers of several hundred feet weave through the site, linking a massive network of open space (259).

I am investigating this case study because it takes a critical look at how landscape urbanism may be applied in the suburbs. While the effectiveness of its community-building elements may be unclear due to it’s conceptual nature, it is very evident that the proposed interventions of the plan will greatly increase the sense of place. For example, Weller notes that the ‘avenues’ not only provide an internal drainage system and a vast network of open space, but will also contribute to the large-scale sense of place of the



Figure 19: Place-making elements utilized within a park avenue: enclosure, edges, unifying site details, and use of native plants. (Weller 258)

community by utilizing the green infrastructure as defining element of the plan (Weller 260). Weller reinforces the place-making characteristics of the plan when he says:

> Its avid protection and enhancement of existing wetlands, retention of remnant vegetation, and restriction of all plantings to species of provenance should form a coherent registration of local landscape character. Furthermore, retaining sites of Aboriginal significance adds to the project's registration of site specificity (263).

*STAPLETON, COLORADO*

Another development that shows a strong sense of community and sense of place as a result of planning and design is Stapleton, Colorado. Compiled in 1995 through a collaboration of the City and County of Denver, Stapleton Redevelopment Foundation, and the Citizens Advisory Board, the Stapleton Development Plan set the framework that would shape Stapleton's development over the next 30-40 years. The Stapleton Community encompasses 4700 acres. Just six miles outside of Denver, it is the result of a planned infill development project that is located on the land formerly occupied by the Denver International Airport into a thriving mixed-use community of 15,000 residents and growing. In addition to 12,000 homes and apartments, the plan calls for 10 million square feet of office space and 1.5 million feet of planned retail space to serve an expected 25,000 residents at full capacity. Of the 4700 acres, 1,100 acres have been devoted to parks and open space ("Stapleton by the Numbers").

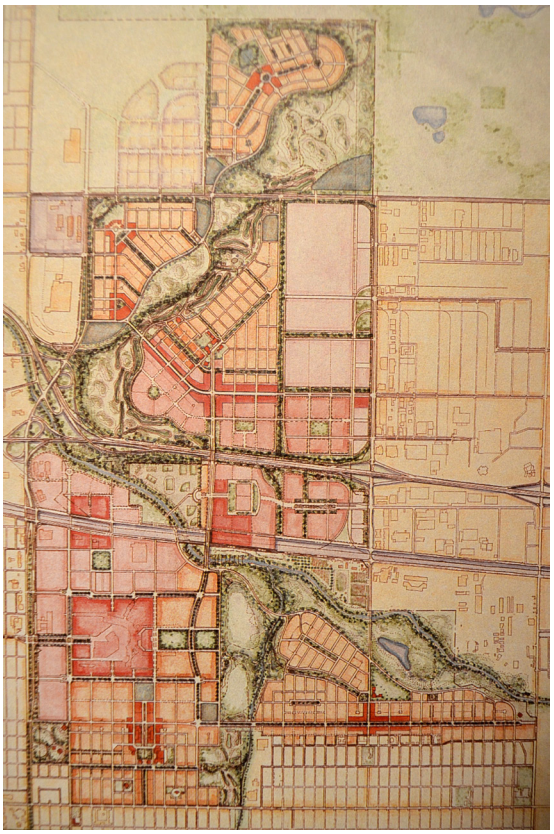


Figure 20: Stapleton Development Plan (City and County et. al 5-2)

Several important aspects of this project, from both planning and implementation standpoints, can be similarly applied to a suburban retrofit. Many of the guiding principles echo themes from both New Urbanism and Landscape Urbanism, a correlation that I credit for the development's success



Figure 21: Common Lawn Area (“Connectivity”)



Figure 22: Defined edges of residential streets
(“Meet the Neighborhoods”)



Figure 23: Mixed Use District (“Shopping and Dining”)

in terms of building community and sense of place. One of the primary ways the development fosters a strong sense of community is by providing an abundance of public space provided through plazas, greenways, parks, and open space, which provides much opportunity for residents and workers to be among one another. Furthermore, the plan positions a mixture of shopping, schools, offices, parks, and neighborhoods within a walkable distance of one another through interconnected streets, sidewalks, and greenways, enabling opportunities for people to cross paths via walking on a regular basis. The plan also promotes the development of community by calling for continued opportunities for citizen participation in the planning process throughout the life of the redevelopment program through public meetings and volunteer efforts. The plan also provides amenities and services in central locations that can be shared by adjoining neighborhoods (City and County et. al 4-3).

The urban design and spatial qualities of the street and building layout contribute to the town's sense of place through the creation of edges, enclosure, and gateways. An over arching physical design principle of the plan "is to consider the property as a single site with a unique, defining identity" (4-6). This principle is carried out through the use unifying architectural details and material selections throughout each of the plan's three districts. One of the strongest ways that a sense of place has been established in Stapleton is through the multi-functional, sustainable open space system. Driven by one of the guiding principles of the Development Plan, the planners utilized the site's pre-existing topography, drainage patterns, stream corridors, and historic channels as an organizing element to the form and structure of the basic site plan (4-6). According to the Development Plan, the open space plan employs "critical systems and features include[ing] regional storm drainage, wildlife habitat corridors, active and passive recreation areas, transportation, recycling and regarding of runway areas, and soil and groundwater remediation" (4-6). Furthermore, the open space network utilizes its green



Figure 24: Stapleton's expansive open space and trails ("Parks and Open Space")

infrastructure to restore the health of natural systems on the site while making important connections to significant regional natural resources found off site (4-3). Denver is a city whose identity was at one time framed primarily by parks and parkways. The Stapleton Development Plan effectively picks up on this sense of place through the many community connections forged through its open space network (5-6).

These case studies demonstrate and offer insight into how programming and design implementation through landscape architecture and urban design practices can enhance place and community. These lessons are applied within my suburban retrofit proposal.

# CHAPTER IV
# SITE SELECTION AND ANALYSIS

## Site Selection Criteria

The following is a list of criteria that have informed the site selection for this thesis. Many of the criteria are drawn from Ellen Dunham-Jones and June Williamson's book, *Retrofitting Suburbia: Urban Design Solutions for Redesigning Suburbs* while others are derived from community and place based issues of sprawl realized through other research. Dunham-Jones and Williamson developed these criteria based on their knowledge as architects, urban designers, and planners, as well as the successes and failures of the numerous suburban retrofits from the past:

1. The site is located in the suburbs of an expanding city, dominated by suburban form, and has potential to function as a polycentric urban node based on its proximity to arterial roads and its surrounding population (Dunham-Jones, x).
2. There are failing or vacant commercial buildings nearby. This existing infrastructure should be utilized as much as possible (Williamson).
3. There are limited transportation options, primarily due to:
    - Poor street connectivity
    - Poor walkability: There are limited sidewalks and crosswalks. Block sizes are greater than a perimeter distance of 1700 linear feat (Williamson).
    - Lack of bike lanes and pedestrian trails
4. The site should be at least 30-50 acres, as this is the size necessary to really enact major change within a community (Dunham-Jones, 5). At this size, changes involving parking structures, street networks, and landscape processes become a possibility.

The following additional criteria, while perhaps implied by Dunham-Jones and Williamson, are derived from my past academic experience and personal research of community and place-based issues of sprawl:

5. There is no authentic sense of place.
6. The site is located on an arterial road with a strong potential for the creation of a public transit route. This sort of road would also serve as much of the broader community as possible in terms of accessing the site.
7. The site lacks any sense of a community, public space and/or town center. Without these spaces, communal gathering becomes a significant challenge.
8. There is a general lack of amenities nearby, including community service sector buildings such as hospitals and libraries, retail, grocery, shopping and office space. Community members frequent these establishments on a daily basis. A lack of these spaces indicates a strong potential for increased community interaction.
9. There are large amounts of impervious surfaces. These surfaces indicate issues of degraded water quality, impairment of streams, increased flooding, and and unpleasant public realm.
10. The site's surrounding area maintains a low residential density between one to five dwelling units per acre, and lacks diversity in housing types.

## Site Selection

Knoxville, Tennessee is a highly applicable city with many opportunities for suburban retrofits, and stands to improve from the resultant community building and place-making benefits of these retrofits. A recent study conducted by Smartgrowth America labels Knoxville as the eighth most sprawling city in the United States. Out of the study's four

main indicators of sprawl, Knoxville ranks number one in terms of residential density (Ewing, et al. 4) (see fig. 25).

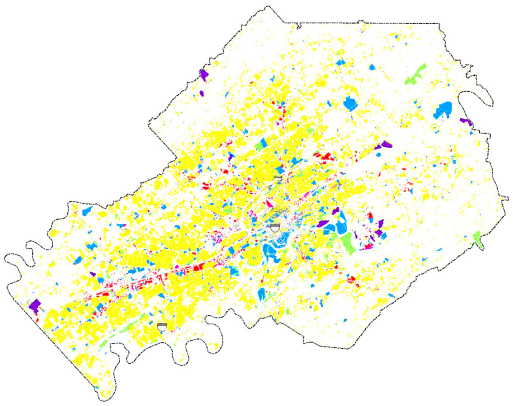


Figure 25: Knox County Land Use Map. Single Family Residential Shown in Yellow (KGIS, *Existing Landuse*, Author)

The site I have chosen for a community-strengthening suburban retrofit is located in Halls Crossroads, an unincorporated suburban community just north of Fountain City within Knox County. Due to its dominant suburban form of single use buildings, lack of quality public spaces, lack of an authentic sense of place, poor connectivity, low residential density, and large amounts of impervious surfaces, Halls is Knoxville's epitome of suburban sprawl, and meets the previously outlined criteria. The specific site in Halls that I have chosen for a suburban retrofit is located along Beaver Creek and surrounds the intersections of Maynardville Pike, Emory Road, and Andersonville Pike. This 215-acre site consists of vast asphalt parking lots, vacant and failing buildings, two commercial strip centers, a community park, and expansive areas of residual open space (see fig. 26). A 30-acre lot consisting of a vacant Wal-Mart facility, aging and out-of-date retail stores, and an expansive parking lot anchor the center of the site and pose an excellent location for the new town center due to its potential for redevelopment (see fig. 27). This potential is based the underuse of its expansive parking lot, the vacancy of nearly 50% of the development, and its deteriorated condition.

## Site Inventory and Analysis

In order to best plan and design for an increased sense of community and place, I have conducted an inventory and analysis of existing conditions within Halls based on




Figure 26: Existing Conditions Within Site Boundary (“Halls Crossroads”, Author)



Figure 27: Panorama of Vacant Wal-Mart Site (Author)

two different foci: place-making elements and community infrastructure. There is also an observed consistency between the focus of the detailed inventory and analysis and the site selection criteria.

One of the defining elements of Halls that will be a basis for placemaking gestures is its history. Halls Crossroads was settled by Thomas Hall, who moved to the area in 1796. Once a prisoner of war in the British camps of Charleston during the Revolutionary war, the United States Government awarded Hall this land following his release for his military service as a colonial soldier. Several generations after Hall settled in the area, his grandson and wife opened up a general store and inn that became known as Halls Crossroads due to its location at the intersection of Emory Road and Andersonville Pike (see fig. 28). The store and inn were used by both Union and Confederate troops during the Civil war, and led to the naming of the Halls Crossroads community ("Halls"). As inhabitants increased throughout the 1900's, Euclidean zoning enabled typical patterns of sprawl as commercial districts began sprouting haphazardly along Maynardville Pike, and developing neighborhoods began consuming agricultural lands and isolating themselves from one another through single entrances and cul-de-sacs. This development has been to the detriment of Halls' sense of community and place. Edges and enclosure within the built environment and unifying architectural site details are virtually non-existent. The consumption of agricultural lands as iconic landscapes further

decreased Halls' sense of place. The resultant neighborhoods inhibit community through a lack of connectivity and walkable proximity to each other and community amenities.

Currently, the original crossroads are neither preserved or celebrated due to haphazard development and lack of planning around the intersection (see fig. 29). As the historic epicenter of Halls, the intersection now lacks any connection to the communty's origins, founders, and legacy, therefore missing an opportunity for an increased sense of place through historic celebration.



Figure 28: 1896 Topographic Map of Halls Crossroads (U.S. Geological Survey)


Figure 29: 2012 Birds Eye View of the Site of the Original Crossroads ("Halls Crossroads")

As seen on telephone poles, Halls has recently adopted a motto: “Halls Has It!.” (see fig. 5) Roy Arthur, Knox County Watershed Coordinator and long-time resident of nearby Powell, TN believes that “it” is Halls’ extensive parks and greenway system. Notably, Halls has an existing open space network that consists of Halls Community park to the east, a greenway system that traverses through the park, and  recently restored wetlands to the west (see fig. 30). However, these community assets lack connectivity, are underutilized, and are in need of enhancements through added programming.




Figure 30: Existing Open Space Diagram  (Author, Knox MPC, *GIS*)




Figure 31: Beaver Ridge frames the entrance into Halls (Author)

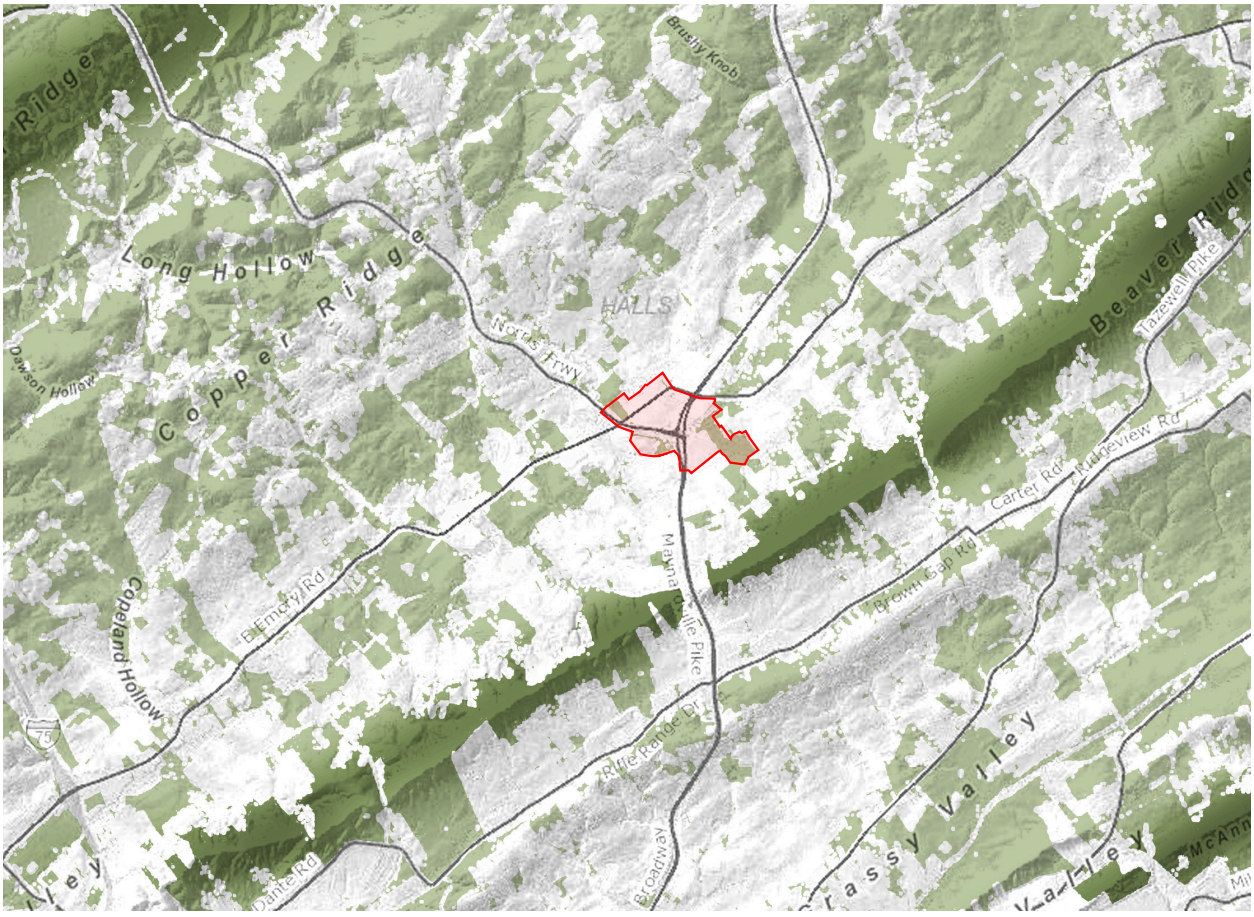



Figure 32: Iconic Landscapes of Halls Crossroads (KGIS, *Topography Map*, Author)



Figure 33: View of Rural Landscape One Mile North of Site Along Maynardville Pike (Author)

I would add to Mr. Arthurs' proposition that the iconic landscapes in and around Halls are additional noteworthy assets of the community. These landscapes are unique to East Tennessee and include rural and agricultural farmsteads, rolling meadows, grasslands, woodlands, and scenic ridges that frame the entrance into Halls from the south (see figs. 31-33). Another defining landscape element of Halls is Beaver Creek. Collecting stormwater runoff from Halls and the Beaver Creek watershed, this water body supports extensive riparian habitats and plant communities. While some portions of the Creek have been straightened due to historic development practices, others remain in a more naturalized condition. This straightening has reduced efficiency of the Creek's hydrologic functions as well as habitat quality within the riparian ecosystem. Similar to the open space system, Beaver Creek is also an underutilized asset of Halls and many areas are in need of restoration due to erosion and invasion of invasive plant species. Furthermore, some areas of Beaver Creek tend to flood during heavy rainstorms, indicating the need for added wetlands, ponds, and bioswales.

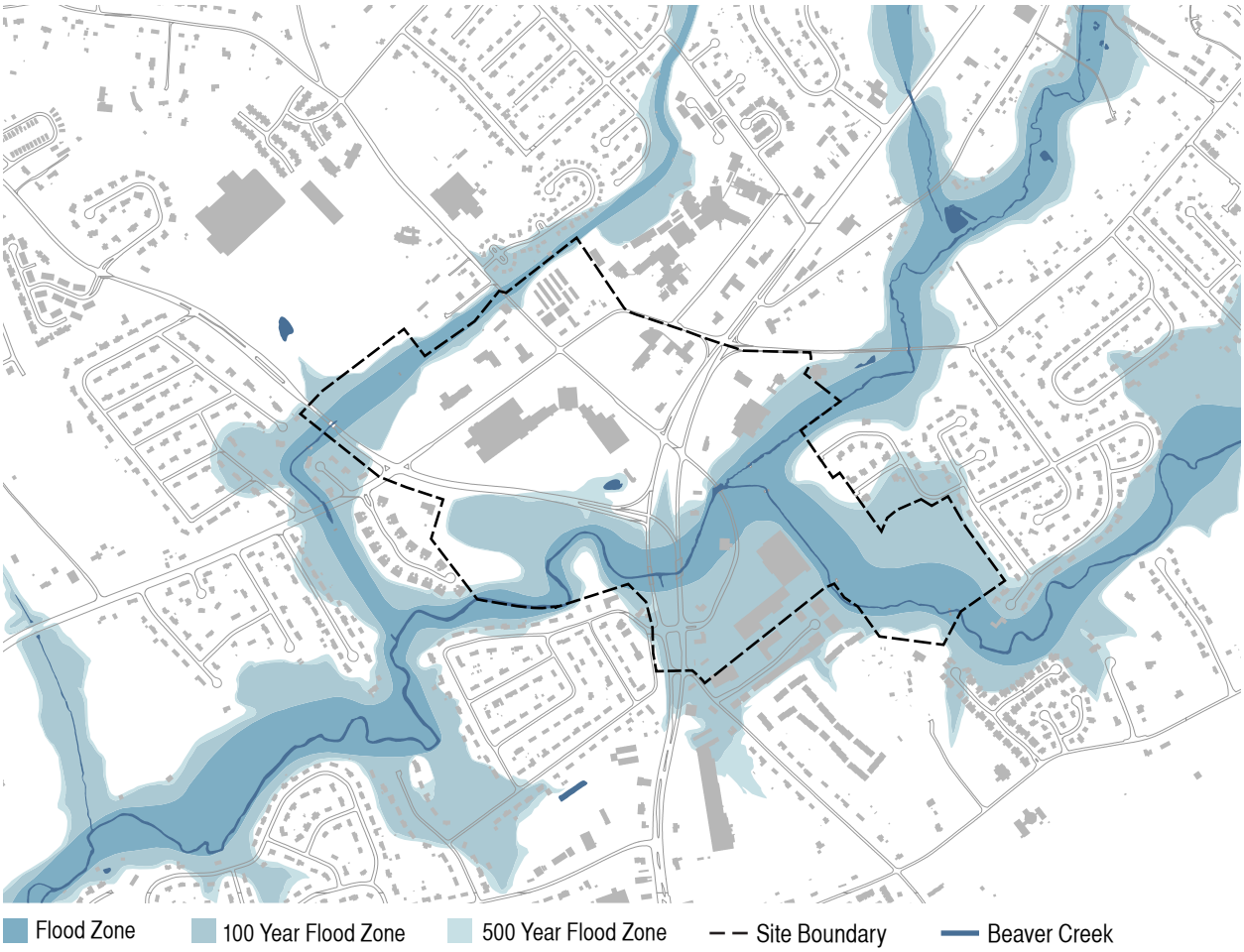



Figure 34: FEMA Flood Zones of Beaver Creek (Author, Knox MPC, *GIS*)

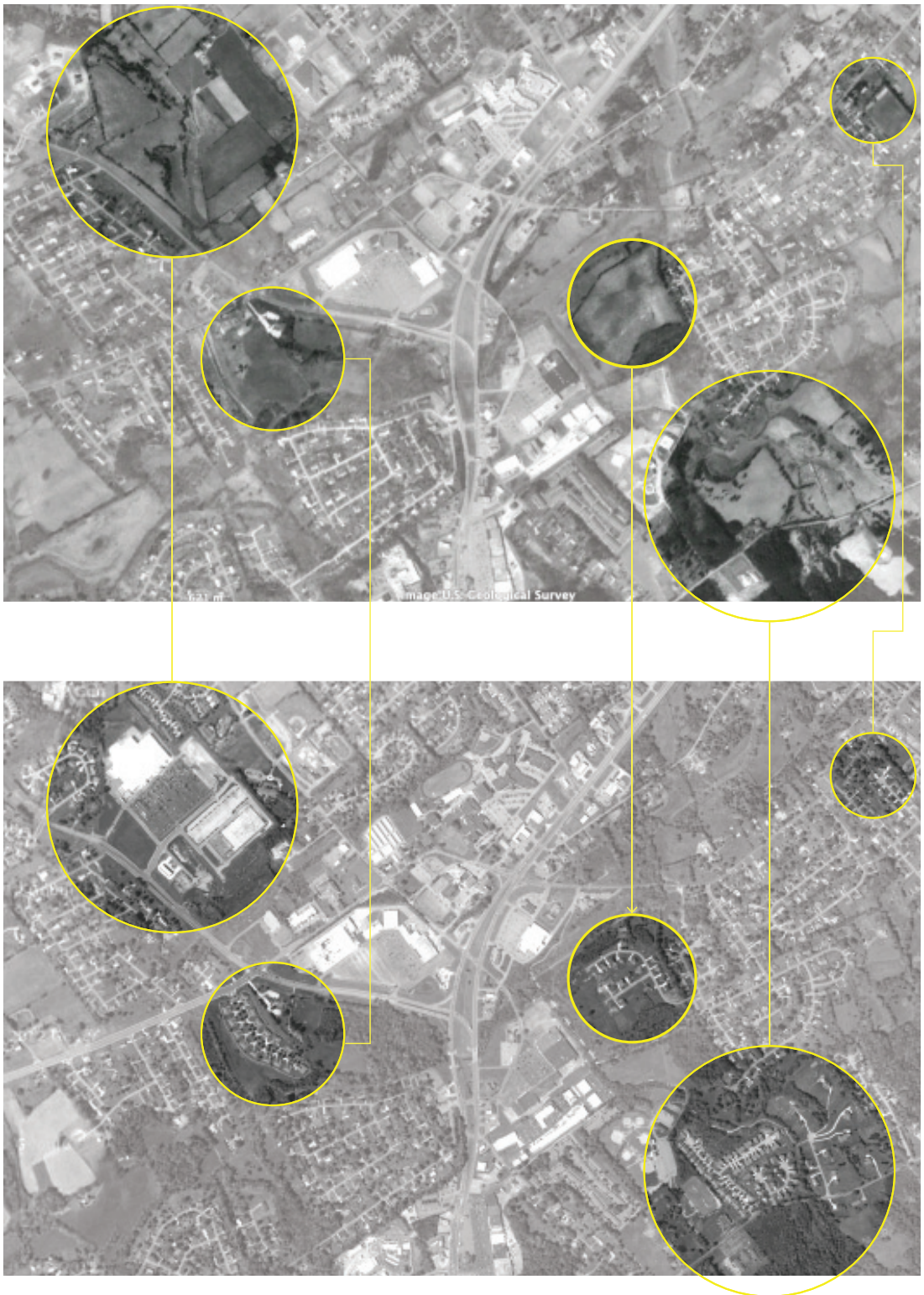



Figure 35: Loss of Agricultural Lands from 1992 (top)- 2012 (bottom) (“Halls Crossroads”, “Halls Library,” Author)

In terms of a community-based infrastructure inventory and analysis of Halls, one of the more revealing truths is its status as a bedroom suburb. According to the U.S. Census Bureau, only three percent of workers living in Halls actually work in Halls (see fig. 36). This statistic indicates a shortage of employment centers within Halls in relation to its working population. Furthermore, the remaining 97% of workers living in Halls have an average commute time of 24 minutes ("Knoxville, Tennessee"). This commute may be acceptable to some, but others view it as a stress-inducing four hours per week and just over eight days per year that could be spent with family or enjoying daily activities among community. Working residents of Halls spend the majority of their work week outside of the community in which they live, and this alarming statistic foreshadows many of the previously discussed social issues that accompany sprawling suburbs.

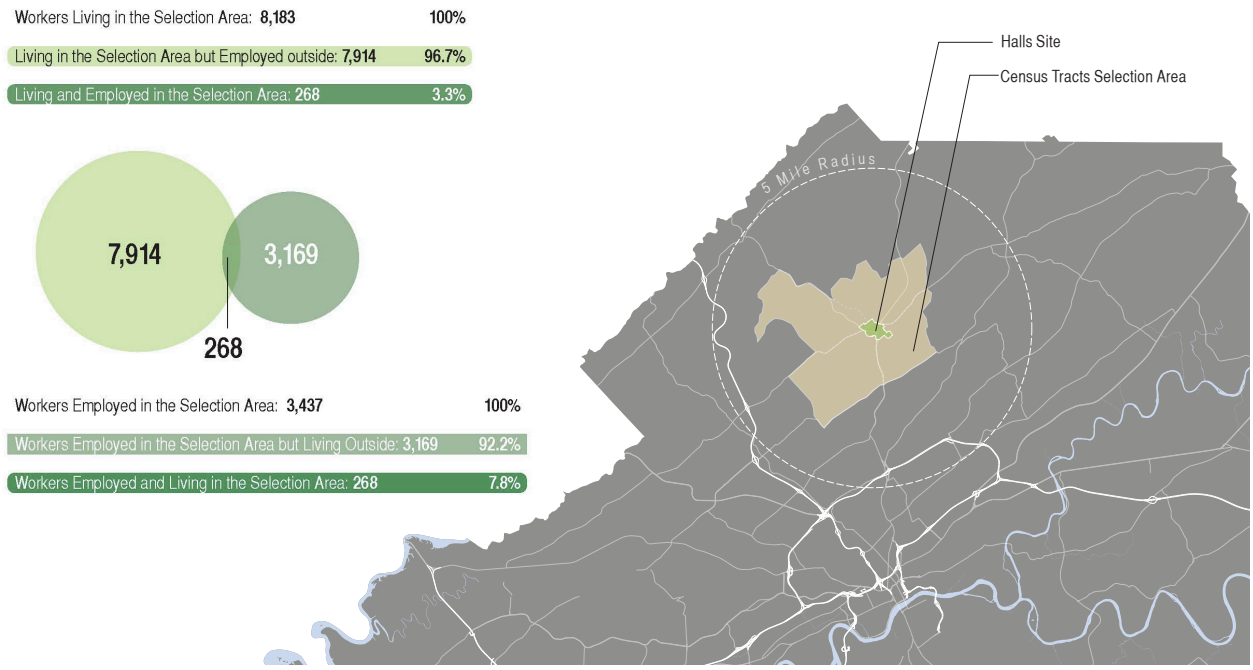



Figure 36: Halls, A Bedroom Suburb (U.S. Census Bureau, Author)

Halls' development patterns indicates additional weaknesses in its community infrastructure. For example, figure 39 illustrates the disconnected road infrastructure. This road layout reveals an unwalkable, discontinuous block structure that severely limits community presence within the public realm and access to jobs, schools, shopping, and entertainment. As seen in figure 38, a lack of sidewalks, crosswalks, and bike lanes increases dependence on the automobile and limits pedestrian presence in the public realm. Maynardville Pike also severes any pedestrian connections between the east and west portions of the site through its expansive right-of-ways and traffic moving at speeds in excess of 45 miles per hour (see fig. 37). Expansive medians and drainage ditches seemingly unnecessarily expands the right-of-ways up to 380 feet, yet pose opportunities for increased landscape programming. As seen in Figure 40, the dispersed and exposed parking further contributes to the unfriendly pedestrian environment.  Figure 41 highlights the excess of residual space within the public realm of Halls. Lacking spatial form and hierarchy, these public spaces are either roads, parking lots, easements, or residual open space that are unusable. Aside from Halls Community park and the Halls Outdoor Classroom, civic space in the forms of parks, plazas, playgrounds, etc. are non-existent.



Figure 37: View of Maynardville Pike Looking North (Author)

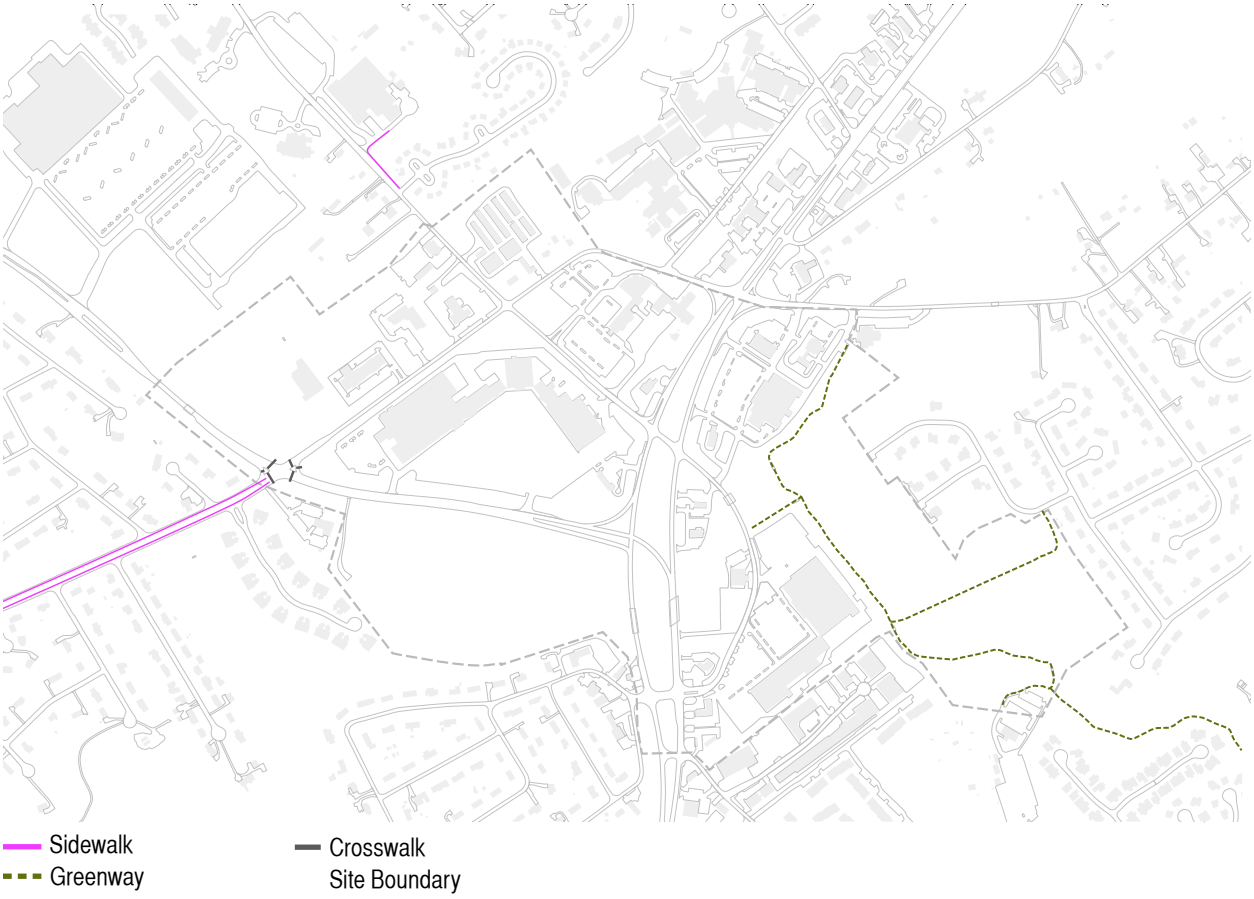


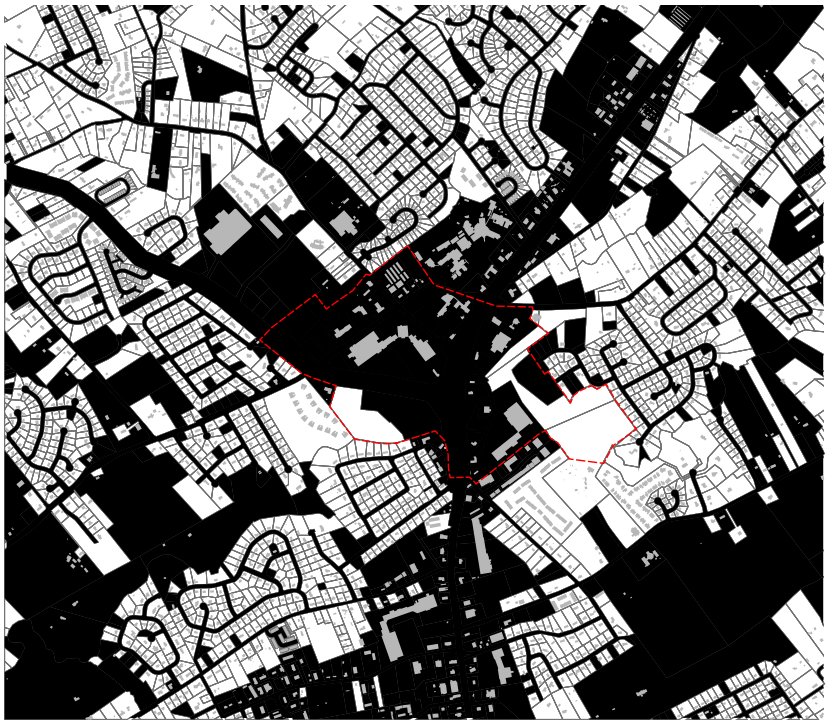

Figure 38: Existing Intermodal Circulation (Author, Knox MPC, *GIS*)




Figure 39: Sporadic Infrastructure Indicates a Lack of Mobility (Author, Knox MPC, *GIS*)

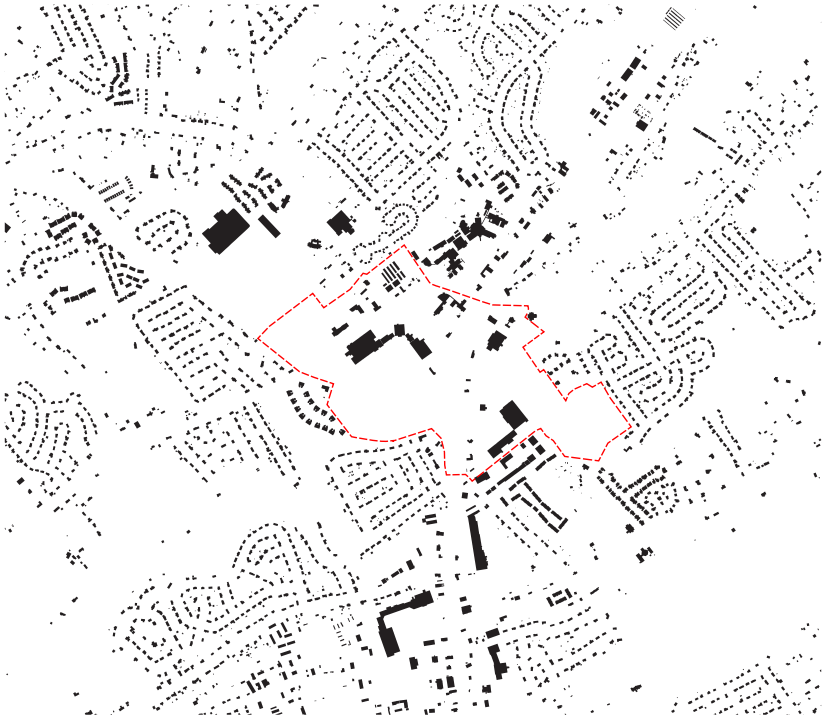



Figure 40: Dispersed and Exposed Parking (Author, Knox MPC, *GIS*)



Site Boundary

Figure 41: Diagram Highlighting the Surplus of Residual, Underutilized Space. (Author, Knox MPC, *GIS*)



Site Boundary

Figure 42: Figure Ground Diagram (Author, Knox MPC, *GIS*)

Finally, figure 42 shows the lack of building types and resultant lack of uses. Civic uses within and around the site include three schools, a post office, and the Halls Library (see fig. 43). Roads are the only connective device between these community assets. These existing conditions allow much opportunity for increased connectivity, building uses and density, and formation of public spaces.

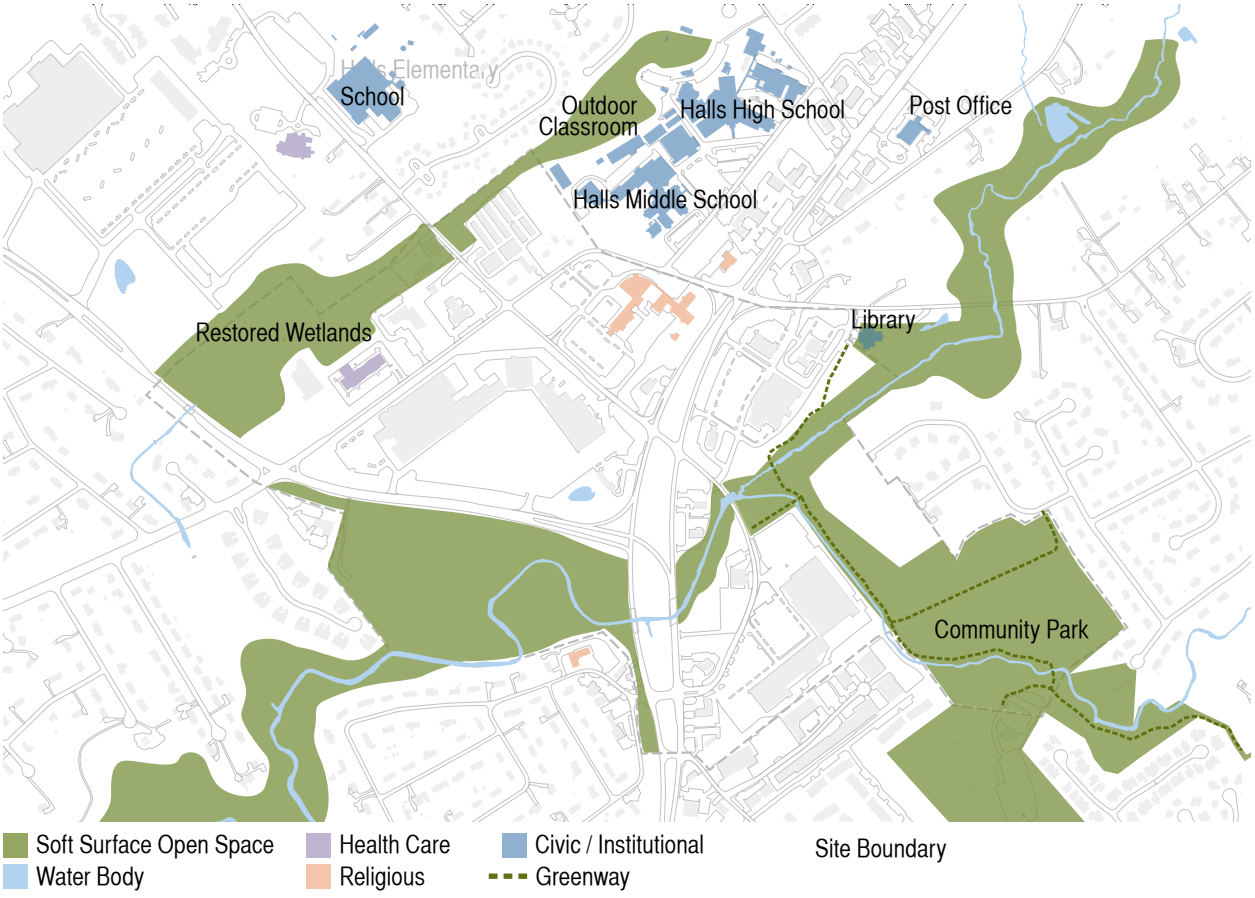



Figure 43: Existing Community Infrastructure (Author, Knox MPC, *GIS*)

The topograhy within the site also poses opportunities and constraints. There are few topographic features within the site that limit development, but slopes of three to five percent across the vacant Wal-Mart Site present an opportunity for natural drainage elements within the proposed open space. In the northern portion of the Wal-Mart site, 24% slopes present a challege for transition between the crossroads into the Wal-Mart site, but also an opportunity for public space that incorporates the use of an amphitheater.

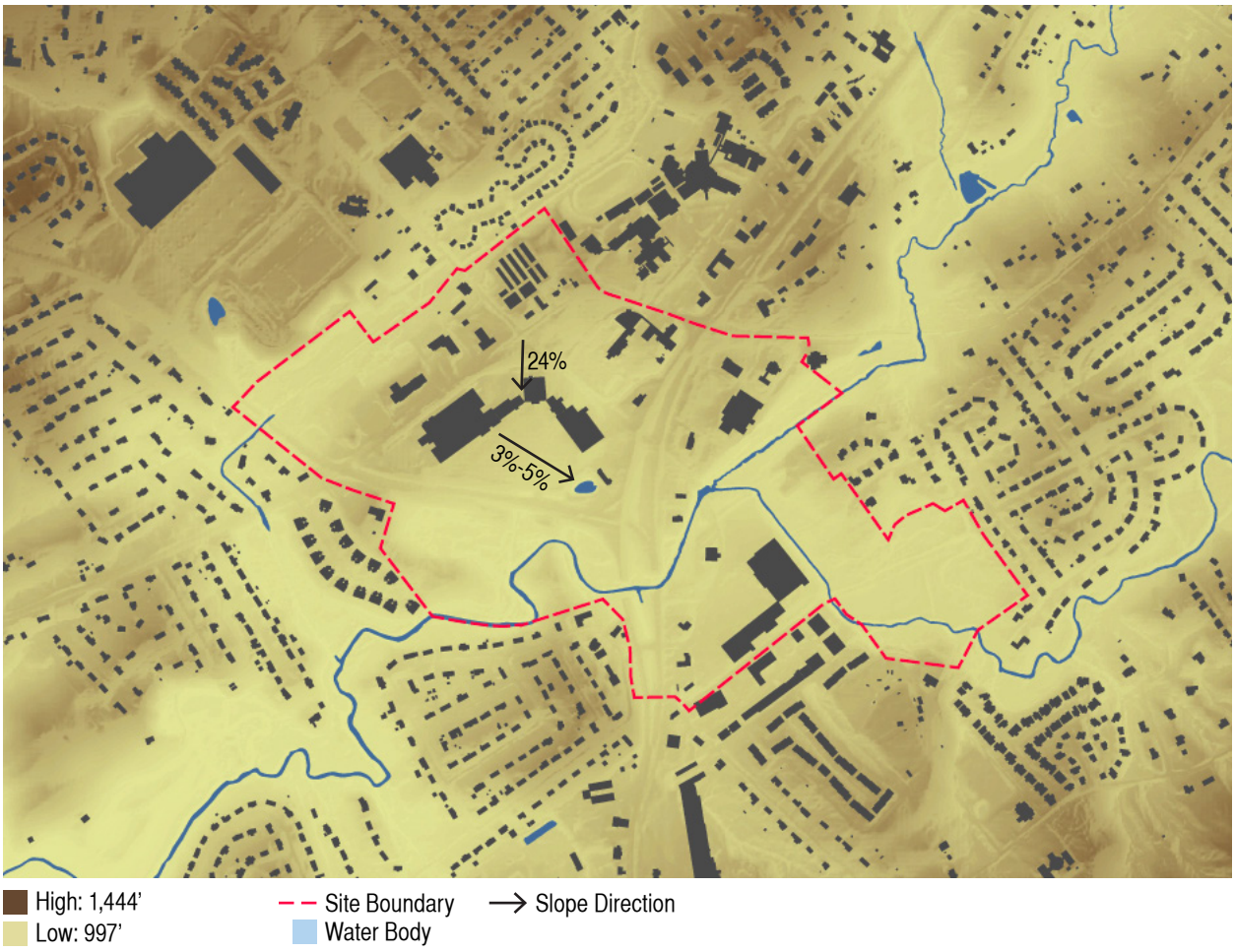



Figure 44: Elevation Diagram (Author, Knox MPC, *GIS*)

Halls' connection to I-75 and Knoxville is currently problematic for those leaving and traveling to Halls. Travel to Halls from I-75 requires a 10 minute drive on Emory Road while entry along Broadway Avenue requires a 20-minute drive from Knoxville. An opportunity exists for a direct connection between Halls and Knoxville, and can be capitalized on with a public transit route. Fortunately, the Knoxville Regional Transit Corridor Study drafted by Sasaki Associates and STV in 2012 calls for a bus-rapid-transit route along Broadway Avenue ending in Fountain City (STV and Sasaki). As a projected new growth center, I propose that Halls serve as the terminus community along the proposed bus-rapid-transit route.

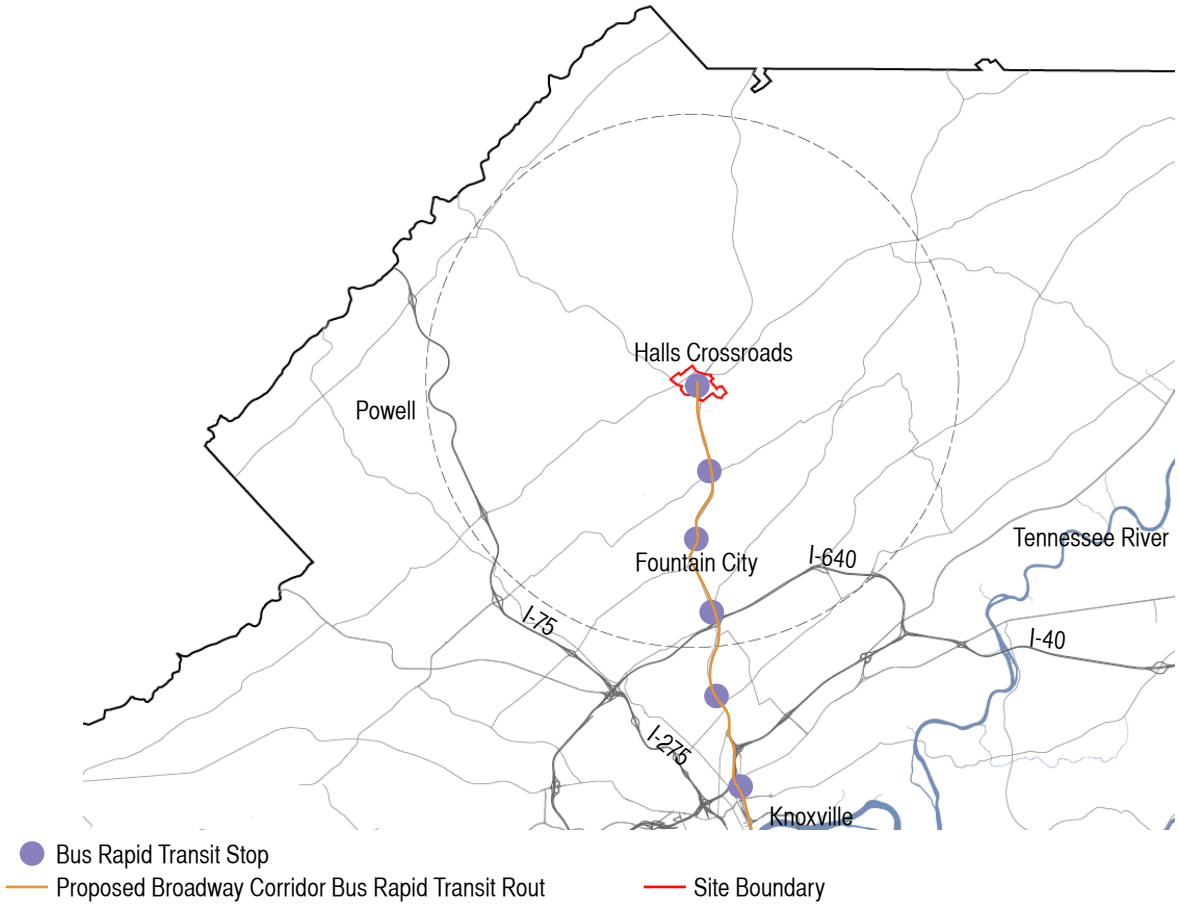



Figure 45: Proposed Bus Rapid Transit Route (Knox MPC, *GIS*, Author)

While the physical infrastructure may be an obstacle for social interaction and community building within Halls, existing social networks continue to thrive. The Halls Crossroads Women's League hosts a variety of volunteer efforts including clothing outlets, litter pick-up, and park maintenance and installations. The Halls Business and Professional Association primarily promotes business within the Halls community by encouraging a healthy environment to network, learn, support, and nurture the businesses of the Halls community ("Halls Business & Professional Association, Inc."). Events throughout the year include the Halls Outdoor Classroom Celebration, Fourth of July Parade, and the Christmas Parade. Parades are conducted along Maynardville Pike. These activities and organizations reveal an existing level of devotion and interconnection among the Halls population throughout the year, but still do not provide for social activity on a daily basis.

A recent analysis conducted by the Knox County Metropolitan Planning Commission indicates projected growth numbers under a scenario that imagines a new town center within Halls for the year 2040. The projected number of residents added within the site boundary is approximately 1,400, while the projected jobs added are 3,500 (Knoxville-Knox County MPC). These projections indicate opportunities for high density residential units as well as various office, retail/commercial, and civic space, and support the notion for a new town center within Halls.

# CHAPTER V
# PROGRAMMING FOR COMMUNITY AND PLACE AND RETROFIT PROPOSAL

While the proposed design primarily promotes community building and an increased sense of place, it also secondarily addresses issues of environmental degradation due to large areas of impervious surfaces. Following the inventory and analysis of the Halls Crossroads community, I developed the following community building and place-making guiding principles based on revealed opportunities and constraints, lessons learned from case studies, and applicable principles of New Urbanism and Landscape Urbanism. These principles served as a framework that guided decisions throughout the design process at all scales of intervention in order to propose a suburban retrofit that enhances Halls' sense of community and place. Guiding principles for the Halls Crossroads suburban retrofit include:

1. Increase density at the core of Halls through mixed use development.
2. Consolidate parking through the introduction of concealed parking structures, on-street, and shared parking.
3. Preserve existing buildings where pragmatic, but repurpose them as needed based on community needs.
4. Provide a diversity of transportation options, including mass transit, automobile, walking, and cycling.
5. Improve street connectivity.
6. Preserve and celebrate historic sites.
7. Promote and enhance green infrastructure as a defining element of Halls.
8. Provide community gardening spaces.
9. Create an engaging pedestrian environment with an emphasis on streetscape and presence in the public realm.

10. Create more civic space in the form of squares, park space, and outdoor entertainment venues for an increased community presence.
11. Look to the landscape surrounding Halls for inspiration to help inform physical form, topography, and material and plant selections within public spaces in order to connect to its existing sense of place.

Further explanation of how each guiding principle translates into the design solution can be seen below.

**1. Increase density at the core of Halls through mixed use development.**

Echoing a principle of New Urbanism, the master plan proposes a new town center for Halls through a dense, mixed use development. This intervention relieves development pressures off of rural landscapes in order to protect Halls' sense of place. Program districts, generated with consideration to existing buildings, landscape systems, and circulation, guided the design of the master plan (see fig. 48). Building program districts include shopping, dining, entertainment, service, office, live-work, and future adaptive re-use. Open space districts include a general passive recreation area, community park, restored wetlands, and re-greened space.

Program districts, indicating concentrations of specific uses, help inform the placement of efficiently sized building typologies that consist of two to three stories, and are programmed for retail or office on the first floor and multi-family residential on the top floor(s) (see fig. 49). A higher degree of building and landscape programming can be seen in figure 47 that depicts locations of community-strengthening amenities such as the relocated Halls Library and post office, health and wellness center, movie theater, fine arts center, grocery store, park-and-ride, and a day care. As seen in figure 50, the square footage of the proposed buildings define a town center which exceeds the needs of current

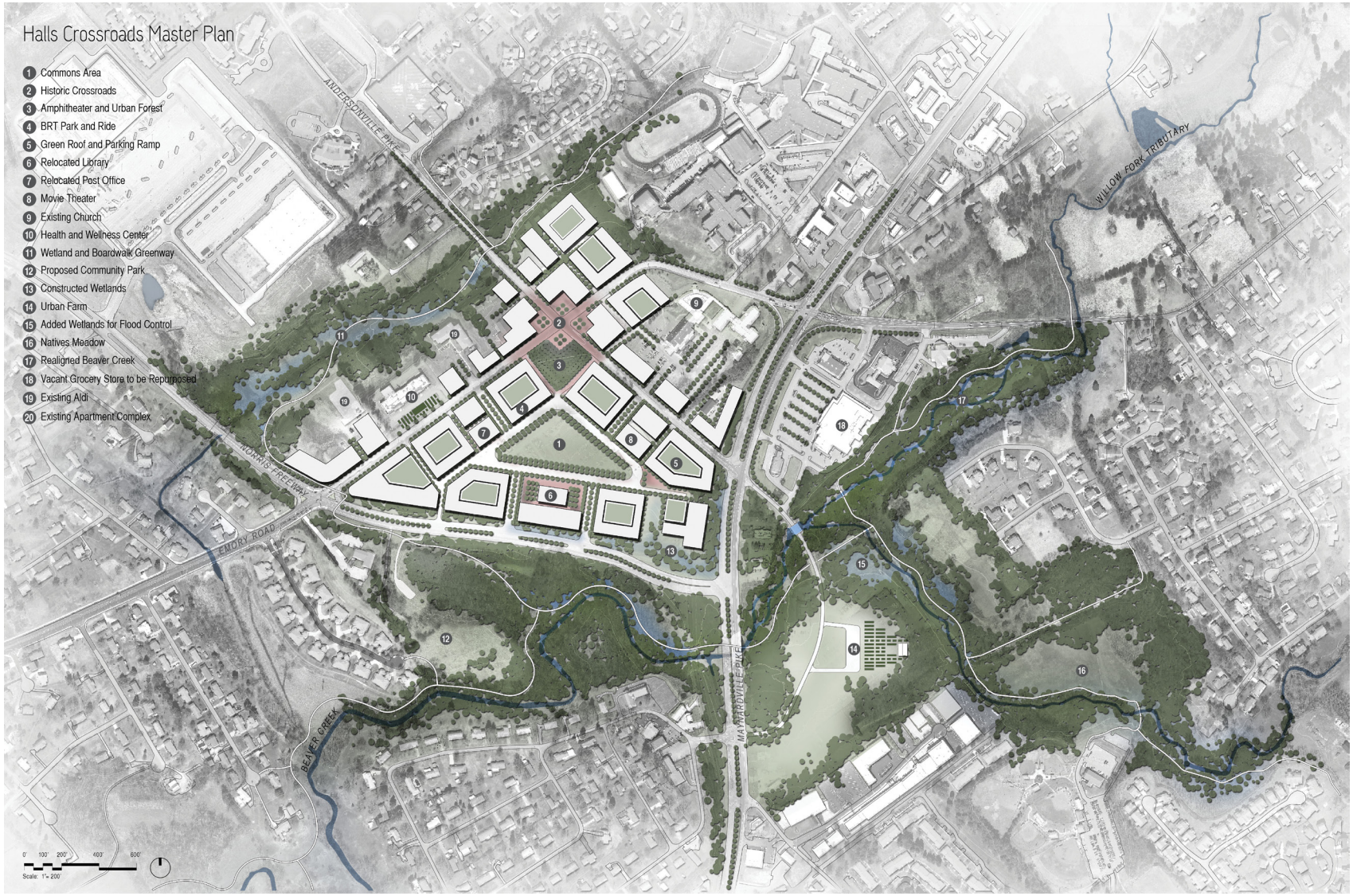


Figure 46: Halls Crossroads Master Plan (Author)




Figure 47: Program Bird's Eye View (Author)



Figure 48: Districts Diagram (Author, Knox MPC, *GIS*)

growth projections while allowing more land to be used for open space. This combination of programming and density will produce the critical mass needed to generate an informal social scene in public spaces at all hours of the day. The building typologies aid in creating a sense of place by framing gateways into the town center and providing edges that define public space.

2. **Consolidate parking through the introduction of concealed parking structures, on-street, and shared parking.**

Parking is largely consolidated out of public view in multiple structures within the building typologies. Shared parking is introduced in the large surface parking lot located behind the existing church identified as number nine on the master plan. On-street

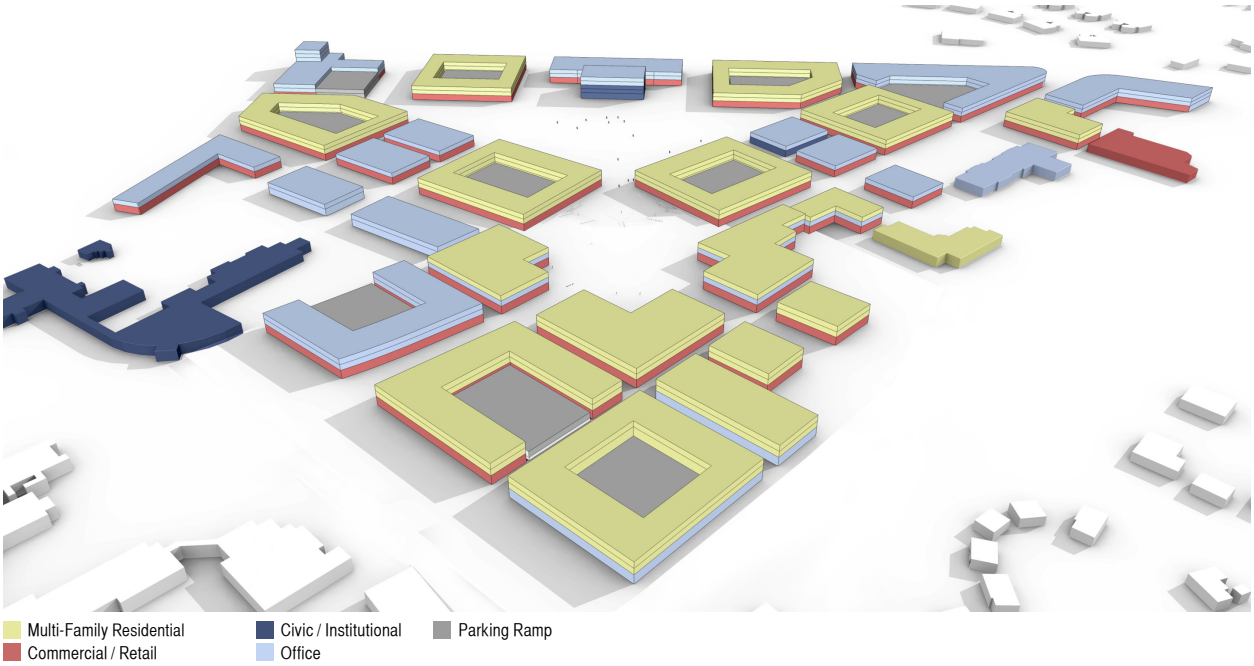



Figure 49: Land Use Diagram (Author)

## Master Plan Numbers

| | |
|---|---|
| Office: | 720,000 |
| Commercial / Retail: | 810,000 SF |
| Civic / Institutional: | 54,000 SF |
| Dwelling Units: | 730 D.U. |
| Gross Density: | 17 D.U. / Acre |

## Within The Site Boundary:

| | | | |
|---|---|---|---|
| Projected Residents Added by 2040: | 1200 | Projected Jobs Added by 2040: | 3500 |
| Residents provided for based on D.U.: | 1400 | Potential Jobs Provided based on Square Footage: | 4500 |

Figure 50: Master Plan Numbers (Author, Knox MPC, *Plan*)

parking further activates the store frontages and provides an added sense of safety for pedestrians. Inspired by New Urbanist theory, these parking measures free up land for high density, mixed use development and open space, and promote a more pedestrian centered public realm, thus increasing sense of community and place.

3. **Preserve existing buildings where pragmatic, but repurpose them as needed based on community needs.**

To maximize the place-making and community building potential of the master plan, some existing buildings are proposed for demolition while others either remain untouched or repurposed (see fig. 51). The demolition of these buildings and repurposing of others is necessary in order to induce long term, systemic change as it enables development that absorbs growth and promotes increased community and sense of place. Consistently one story and overly set back from the street, many of the buildings proposed for demolition are either vacant or out of date. These buildings include a vacant Wal-Mart and big-box grocery store, a storage facility, two dated single-story strip retail centers, and another grocery store that lies entirely within the 100-year flood zone. The existing Tenova health care facility is enhanced as a health and wellness center, while the existing Halls Library building, due the relocation of the program to the town center, has been converted to a wildlife observation and interpretive center. The large church in the northern portion of the site remains as an iconic civic structure that serves the needs of the surrounding community. The recently constructed Aldi remains a general store that will serve the residents of the proposed surrounding dwelling units.

4. **Provide a diversity of transportation options, including mass transit, automobile, walking, and cycling.**




Figure 51: Figure Ground: Before and After (Author, Knox MPC, *GIS*)

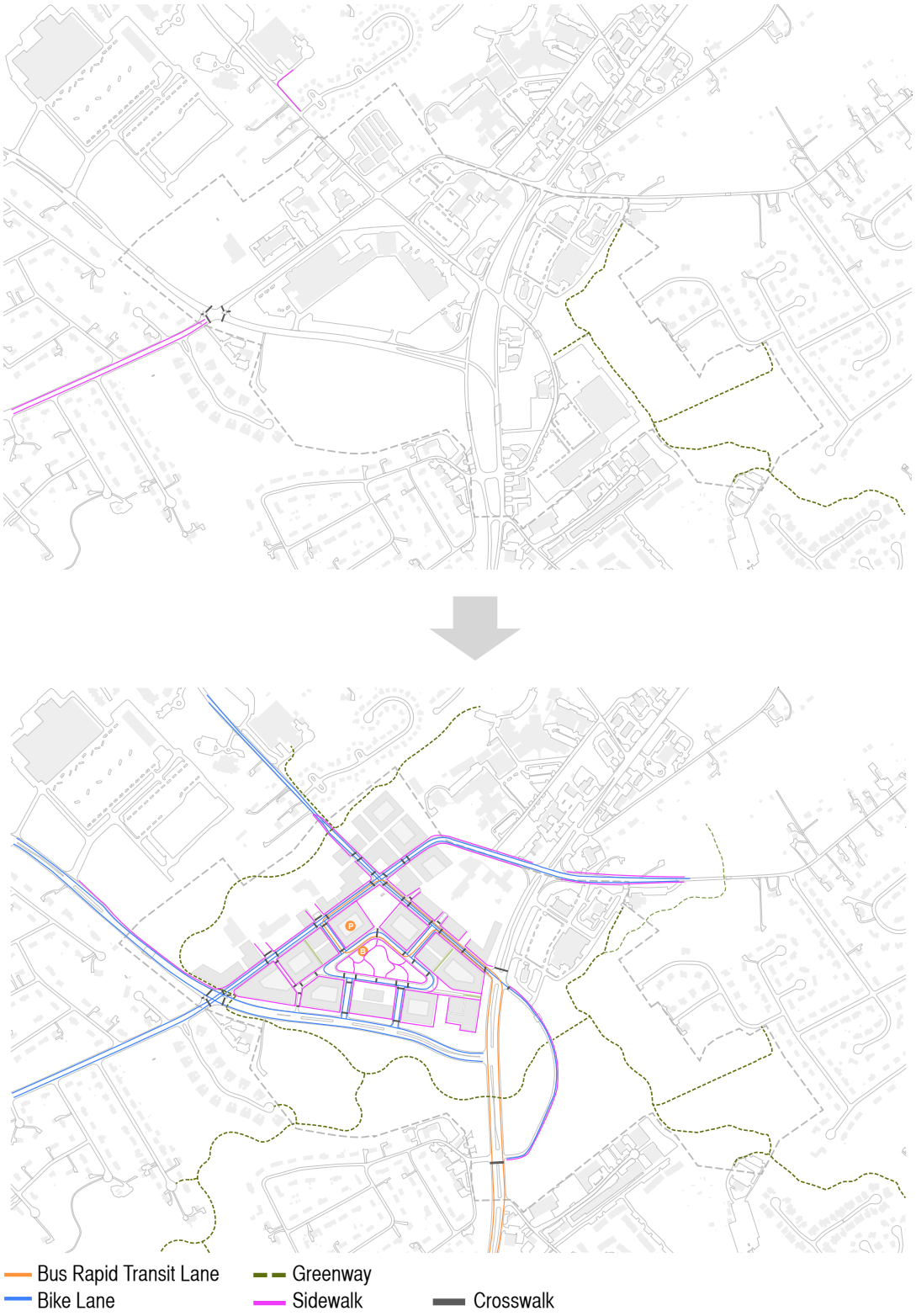



Figure 52: Intermodal Circulation: Before and After (Author, Knox MPC, *GIS*)




Figure 53: Community Infrastructure: Before and After (Author, Knox MPC, *GIS*)

The guiding principle of promoting diverse transportation options is applied in the proposal in several ways (see fig. 52). An existing Maynardville Pike realignment plan calls for collapsing the currently separated lanes of Maynardville Pike into one continuous road, and releases the underused 200' vegetated median to the natural landscape east of the road. This realignment plan is incorporated into the plan because it supports the above guiding principle through more efficient automobile travel, pedestrian friendly streets, and frees up more landscape for additional programming.

To promote walking, generously wide sidewalks have been added on all proposed and nearly all existing roads within the site boundary, while the existing greenway system has been extended roughly two miles in order to connect the surrounding residents to parks, schools, and community centers. Bike lanes are also proposed to create an extensive cycling network within the town center that connects to the broader communities.

Building on an existing proposal within the Knoxville Regional Transit Corridor Study to have a Broadway Corridor Bus Rapid Transit (BRT) line, this proposal also incorporates an intermodal BRT terminus station. The proposed BRT line is designed to enhance the riders' sense of arrival to the new town center. Arriving from Maynardville pike, the bus takes a route through the redeveloped original crossroads before entering into the commons area where the terminus station and park-and-ride are located. By sequencing the arrival in this manner, the riders becomes immediately acquainted with the unique public spaces they are about to encounter.

Through the addition of these alternative transportation options, walkability and connectivity increases and the surrounding residents are further enabled to access the proposed amenities. Consequently, people engage in passive interaction which strengthens their sense of community.

### 5. Improve street connectivity

In order to further increase walkability and connectivity, block lengths within the town center are reduced to approximately 260 feet as new roads are introduced (see fig. 52). The reduced block sizes and street additions enable a safer pedestrian environment by slowing traffic, which further increases walkability. Sense of place and community is increased as a result of increased interconnection and access to buildings and public spaces.

### 6. Preserve and celebrate historic sites.

Given the need to celebrate historic sites in order to build on Halls uniqueness as a place, the original crossroads is re-imagined as the new social center of Halls (see figs. 54 and 56). Framed as a civic square by three mixed-use buildings and an urban forest, the crossroads now supports a variety of social activities and programming. Within the square, generous fifteen-foot sidewalks adjacent to the lower level retail stores enable outdoor dining, sitting, window-shopping, and gathering for events. An additional hardscape area composed of aggregate paving serves as a flexible space for a weekly farmers market, which can be simultaneously accessed by the sidewalk and a larger, shade-tree covered, decomposed gravel space.

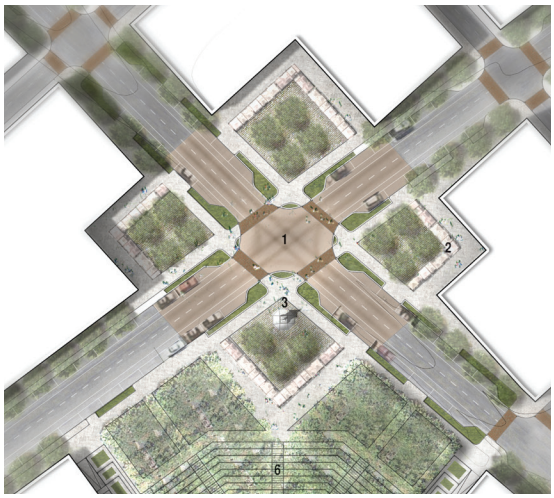


Figure 54: Plan of the New Crossroads (Author)

Aside from the spatial qualities and



Figure 55: The New Crossroads (Author)




Figure 56: Halls Crossroads Town Center Plan (Author)

social-minded programming of the square, added measures were taken in order to set the space apart as a unique and special landmark of Halls. The primary way this indication is accomplished is through the use of distinctive paving materials. Through visual and tactile means, stained and stamped asphalt introduce the driver to the space, while brick crosswalks guide the pedestrian safely between the four areas of the square. Additionally, a commemorative statue of Thomas Hall within a fountain simultaneously engages the user while signifying the historic importance of the space. For important events such as the Christmas and Fourth of July Parades, the square is able to be closed to automobile traffic.

**7. Promote green infrastructure as a defining element of Halls.**

Green infrastructure is defined as “an interconnected system of natural areas and other open spaces managed for the benefits to people and the environment,” and “includes natural areas, recreational places, infrastructure elements, heritage lands, and hazard areas” (Dekay and Moir-McClean 5)

Drafted in 2006, *The Beaver Creek Watershed Green Infrastructure Plan* outlines a long-range plan that utilizes green infrastructure:

> “To help protect and restore naturally functioning eco-systems;
>
> To propose solutions that can improve water quality and mitigate flooding;
>
> To enhance recreation opportunities; and
>
> To provide a framework for future development” (Dekay and Moir-McClean 5)

The Halls Crossroads Master Plan enhances this regional initiative by promoting green infrastructure as a defining element of Halls. Several interventions can be seen within the Master Plan, one of which is the re-greening of an existing developed lot that




Figure 57: Water Management (Author)

lies entirely within the 100-year flood zone. The lot is replaced with native meadows, woodlands, wetlands and provides space for an urban farm that serves the surrounding neighborhoods. Additionally,  numerous proposed wetlands along Beaver Creek increase flood remediation, biodiversity, natural drainage, and  water quality of the Beaver Creek watershed. Extensions of the Halls Greenway system enables mobility while preserving and restoring habitat corridors and increases Halls' identity as place boasting quality parks and greenways. Integrated management of storm water is depicted within figure 57 in a more urban setting through the use of streetscape bioswales, urban wetlands, and natural drainage systems. One of the performative design elements of the Commons Area is the primary bioswale that meanders through the center of the space as it aids in the collection, filtration, and infiltration of stormwater runoff from the surrounding landscape. Lastly, a proposed realignment of Beaver Creek East of Maynardville Pike into a more naturalized flow pattern improves hydrologic functions while increasing habitat quality within the riparian ecosystem.

**8. Provide community gardening spaces.**

This initiative gives nearby residents an opportunity to grow their own food, promotes healthy lifestyles, increases community involvement through social interaction and increased sense of ownership of place, and re-connects the town with its agricultural heritage. Within the Master Plan, the urban farm replaces

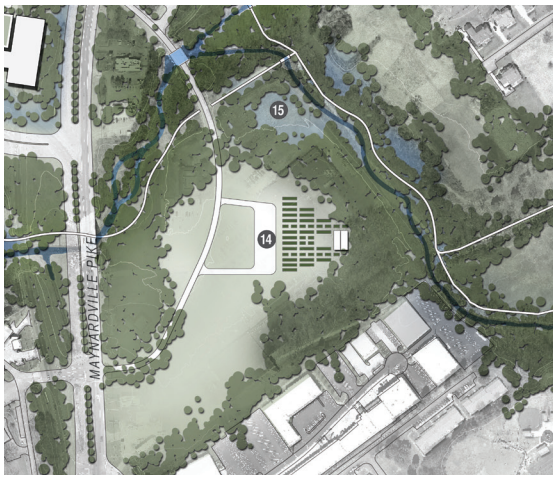


Figure 58: Urban Farm Location (Author)

an existing grocery store, parking lot, and strip retail center that lie within the flood plain. The farm's adjacency to Halls Greenway and Maynardville Pike allows easy access to nearby residents through walking, biking or driving. The farm is planned to satisfy gardening and farming enthusiasts' desire for land to exercise a hobby. An additional community garden space is part of the proposed Health and Wellness center located in front of the existing Tenova Health Facility. These gardens are a combination of urban farming, medicinal gardens, and therapeutic gardens that promote the health facility as an overall health and wellness center. Lastly, community gardens are conceptualized as a design element on the parking structure green roofs. These gardens serve the needs of residents of the multi-family units within the town center. To promote economic activity, food grown from all proposed community gardening spaces can also be sold at the farmers market.

**9. Create an engaging pedestrian environment with an emphasis on streetscape and presence in the public realm.**

An improved streetscape is incorporated into the Master Plan as a multi-functional network of public spaces (see fig. 59). Aside from incorporating multi-modal lanes within the street itself, careful attention is given to the connective tissue of sidewalks, plantings, crosswalks, and site furnishings in order to promote an engaging pedestrian street environment. Generous sidewalks ranging from eight to sixteen feet wide promote social activity by providing space for seating, informal gathering, outdoor dining, and window-shopping. Planting strips composed of mixed perennials, shrubs, and shade trees create a visually pleasing, comfortable atmosphere along the street. These planting strips, in addition to on-street parking, also provide the pedestrian with a safety buffer from automobile traffic. Custom site furnishings such as lampposts, benches, light

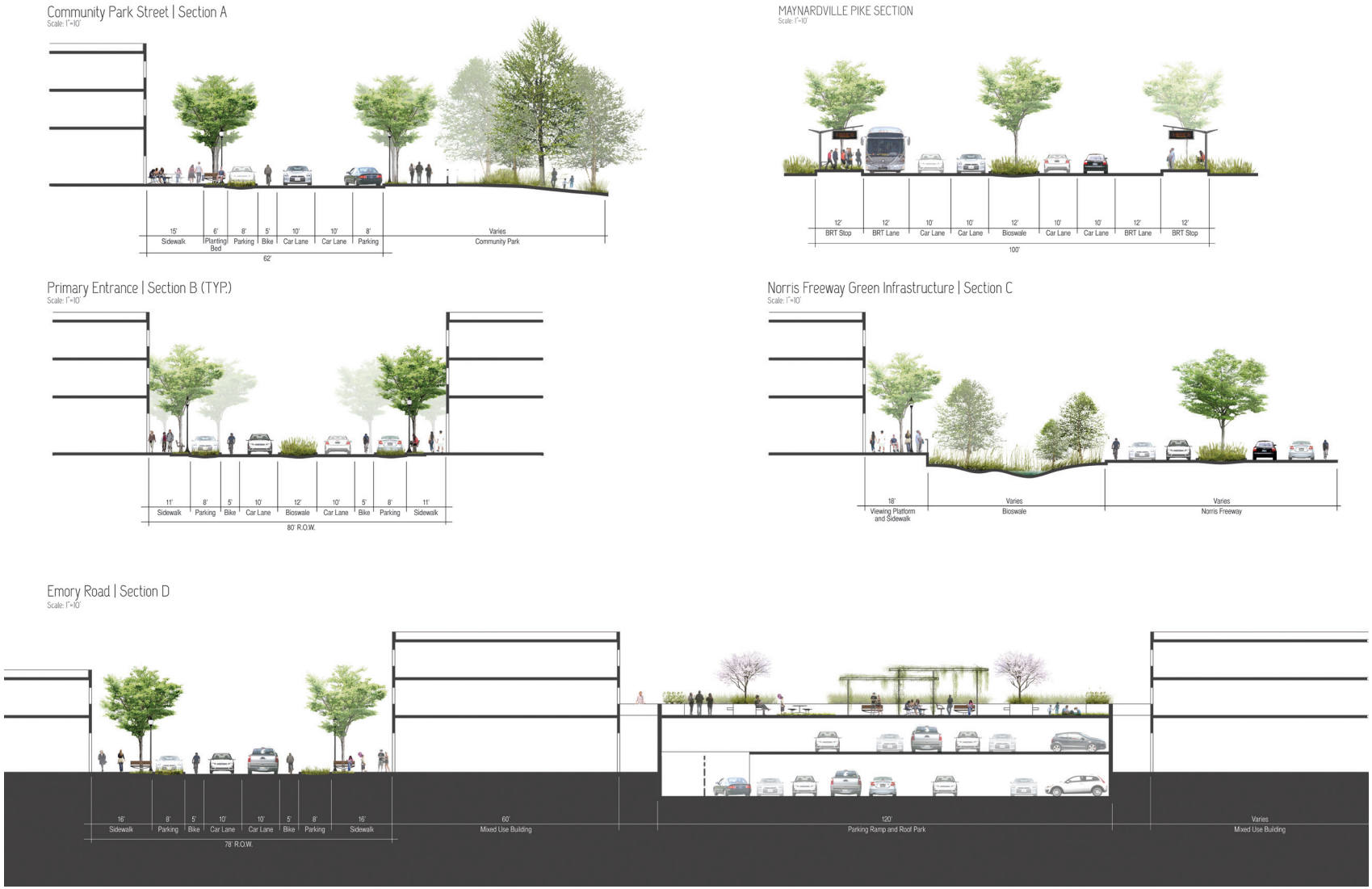



Figure 59: Street Sections (Author)

bollards, and traffic signals add to the charm, safety, and pedestrian orientation of the proposed streetscape system within the Halls Town Center while increasing the sense of place. While the old streetscape was designed strictly for the automobile, the proposed streetscape is scaled for the pedestrian.

10. **Create more civic space in the form of squares, park space, and outdoor entertainment venues for an increased community presence.**
11. **Look to the surrounding landscape of Halls to help inform shapes, topography, and material and plant selections within public spaces in order to build on its existing sense of place.**

In addition to the previously mentioned streetscapes, three primary civic spaces serve as the social center of this proposal including the Amphitheater, Commons Area, and the previously discussed Historic Crossroads Square. As Halls' premier outdoor entertainment venue, the amphitheater provides a range of activities including formal and informal performances, events, passive recreation, leisure, people watching, and rest (see figs. 60 and 61). Outdoor dining areas and shops on the ground and terrace levels surround the space and provide opportunity for social presence nearby at all times of day. Lighting provides an inviting atmosphere for nighttime occasions while the dense tree canopy enables comfort and relaxation



Figure 60: Plan of the Amphitheater (Author)



Figure 61: The Amphitheater (Author)

on a hot day with its dappled shade. A series of steps, pathways, and ramps facilitate transition from the Crossroads Square to the Amphitheater. Custom benches are crafted from locally harvested limestone and re-claimed barn wood, while pathways consist of limestone pavers, aggregate paving, or concrete. Use of limestone and re-claimed barn wood strengthen the sense of place by connecting the public space to the broader material pallet found in the surrounding landscape. Other materials, such as aggregate paving or decomposed granite are used for their rugged tactile and visual qualities that are evocative of place.  Consistent use of these materials throughout these three public spaces emphasizes the place-making device of unifying architectural and site details.

Just south of the Amphitheater, the Commons consists of lawn spaces, plazas, play areas, public art, and shade-covered walkways that become catalysts for community presence and social interaction (see fig. 62). The organizing elements for the Commons are circulation, features evocative of the regional landscape, and hydrologic functions. Meandering walkways, composed of decomposed granite in some places and aggregate pavement in others, form an interconnected network that guide pedestrians through



Figure 62: Plan of the Commons (Author)

major access points, crosswalks, and surrounding public spaces.

As a gateway into both the central commons area and the library plaza, the play area on the south of The Commons is a community amenity for all ages (see fig. 63). Outcrops of local limestone and shale intended to emulate geologic features common in the surrounding landscape anchor the center of the play area for further enjoyment by children and are also used to frame the perimeter for various types of seating. Splash pads - supplied by treated water collected from the wetlands - also provide seasonal enjoyment and introduce the natural element of water in a playful and artistic manner. Integrated design of seating, water features, and a play area prime this space for social activity.

One of the most unique features of the Commons is the emphasis on integrated stormwater management through the central bioswale, collection pool, and constructed wetlands. The meandering central bioswale blends three distinct plant communities that parallel the surrounding landscape of Halls: woodlands, meadows, and wetlands (see fig. 64). The woodlands reflect the layered landscape of canopy, understory, shrub, and groundcover, while the meadows echo a rolling topography seasoned with the rich colors, textures, and forms of its grasses, wildflowers, and cedar trees. In addition to the natural filtration of stormwater, the wetlands, along with the woodlands and meadows, introduce new habitat and biodiversity to the site that was previously non-existent. The Commons therefore reveals a strong sense of place through integration of native plant communities, materials, landforms, and hydrologic elements that compose Halls Crossroads' iconic landscapes.



Figure 63: A Regional Landscape and Play Area (Author)




Figure 64: Planting Zones (Author)

# CHAPTER VI
# CONCLUSIONS

The suburban retrofit proposed in this thesis increases a sense of community and place through increased connectivity and transportation options, dense, mixed-use development, creation of civic space, increased green infrastructure, landscape programming, and context-sensitive design. The proposed retrofit is designed to absorb population growth in Halls Crossroads over the next 30 years and relieve pressures on the rural and agricultural lands, preserving the overall character of Halls as a rural community with surrounding iconic landscapes. The Master Plan introduces many assets to the Halls community that previously were either lacking or non-existent. Within the town center, these new assets include outdoor and indoor entertainment venues, a retail shopping district, a diverse stock of residential rental units, a bus-rapid-transit station, a children's play area, and several flexible gathering spaces in the form of plazas, a square, and an open lawn. Furthermore, an entirely re-imagined streetscape enables pedestrian presence, accessibility, and circulation within the new town center. Outside the town center, the primary proposed community-building asset is the expanded park system. Within this system, greenway extensions connect schools, parks, and neighborhoods; a large urban farm serves the community; added wetlands, meadows, and woodlands increase biodiversity, improve water quality, and provide enjoyment to Halls' residents.

As evidenced in this thesis proposal, principles of both New Urbanism and Landscape Urbanism hold great potential for application in community building and place-making suburban retrofits. Principles of New Urbanism help inform building form and uses, streetscape design and layout, and connectivity networks. Principles of Landscape Urbanism encourage the integration of parks and open space with transportation, stormwater, and social infrastructures and a multi-scalar design that integrates the suburban development within its regional and environmental context, yielding a multi-

functional landscape that is sensitive and responsive to processes over time. Given the homogeneous nature of most sprawling suburbs, this framework can help inform future retrofits within Knox County and the broader region of East Tennessee.

In order to accommodate the projected growth nearly 300,000 people by 2040 within the Knoxville MSA, we can continue sprawling development, degrading social networks and compromising place, or we can begin to look inward and retrofit existing suburbs. Projected nodes of growth within the suburbs are primed for retrofits. However, challenges impede these retrofits from happening.

Financial challenges are perhaps the primary obstacle to suburban retrofits, as they require considerable initial funding for multiple parcel acquisition and infrastructure. Unfortunately many local economies remain stagnant due to a lack of private investment and government funding. However, when considered from a long term perspective, retrofits become more feasible in comparison to conventional suburban development, primarily due to the reduced cost of infrastructure per capita that accompanies dense, mixed use development (Tachieva 10). Additionally, a new mixed use development would establish a much higher tax base than the previous single-use development, and the value of adjacent land would also rise, perhaps spurring on private investment. An implemented Halls Crossroads retrofit as a new town center would also have far-reaching implications on the corridor development between Halls and Knoxville. The Broadway Corridor stretching between these two destination 'book-ends,' would likely be flooded with private investment capitalizing on the high volume of traffic traversing the corridor daily.

Many suburban communities' zoning regulations impede mixed-use development and higher density by requiring separation of building uses and excessive parking. This form of zoning also leads to roadways and parking lots taking priority over the buildings that form the public space. Furthermore, because segregated land uses have fragmented the built environment, parcel ownership is also disjointed. These factors result in the

need for expensive land acquisitions and coordination among multiple stakeholders due to acreage requirements of mixed-use town centers. Developers play a key role in the future of suburban retrofits, as they are ultimately the ones who financially enable the implementation of the retrofits. Developing in typical sprawling fashion is both cheap and quick compared to developing a mixed use town center but comes at a significant cost to community and place. The form of their future development ventures will hinge on both market demand for housing types, government support, and the successes or failures of attempted retrofits.

Another challenge can be the public's resistance to new development. Well-meaning residents often oppose new development for fear that it will be poorly organized, unattractive, a catalyst for traffic congestion, or a degradation to the environment (Mehaffy et.al). While much suburban development has fostered these fears, new dense, mixed-use development can actually reverse these effects and conditions, as demonstrated by this retrofit proposal.

In order to overcome these challenges, proactive steps should be taken to enable suburban retrofits. We need to augment Euclidean zoning regulations with mixed use, form-based zoning, which promotes a predictable development by designating "the appropriate form and scale (and therefore, character) of development, rather than only distinctions in land-use types" ("What Are Form-Based Codes?"). Funding and zoning policy change can be accelerated only after the public begins to demand mixed use. Due to much of the public's misconception about high density, mixed use development, and the sustainability of sprawl, public advocacy also plays a dominant role in the support of retrofit-enabling policies and funding. Therefore, public design charrettes and meetings are needed not only for public education, but also community involvement through participation, support, and brainstorming of what possibilities suburban retrofits can offer. By overcoming these challenges and enabling suburban retrofits, we can begin a new era of suburban design that emphasizes meaningful community and distinguishing, memorable places.

# LIST OF REFERENCES

"ASLA 2008 Professional Awards: Port Lands Estuary: Reinventing the Don River as an Agent of Urbanism, By Michael Van Valkenburgh Associates, Inc." *American Society of Landscape Architects*. 2008. Web. 11 Apr. 2013. <http://www.asla.org/awards/2008/08winners/013.html>.

Ballinger, Barbara. "Ellen Dunham-Jones: The Recycling of Suburbia." *Realtor Magazine*. National Association of Realtors, Jan. 2011. Web. 29 Oct. 2012. <http://realtormag.realtor.org/news-and-commentary/last-word/article/2011/01/ellen-dunham-jones-recycling-suburbia>.

Bohl, Charles C. *Place Making: Developing Town Centers, Main Streets, and Urban Villages*. Washington, D.C.: Urban Land Institute, 2002.

Bruegmann, Robert. *Sprawl: A Compact History*. Chicago: University of Chicago, 2005.

"Charter of the New Urbanism." *Congress for the New Urbanism*. N.p., 2001. Web. 29 Oct. 2012. <http://www.cnu.org/charter>.

City and County of Denver, Stapleton Redevelopment Foundation, and Citizens Adviory Board. *Stapleton Development Plan*. Forest City: Forest City Development, 1995.

"Connectivity" *Stapleton*. Forest City, 2012. Web. 12 Apr. 2013. <http://www.stapletondenver.com/community/better-plan/connectivity>.

Corner, James. "Terra Fluxus." *The Landscape Urbanism Reader*. By Charles Waldheim. New York: Princeton Architectural, 2006. 23-33.

Cross, Jennifer E. "What Is Sense of Place?" Department of Sociology, Colorado State University, 2 Nov. 2001. Web. 10 Apr. 2013. <http://www.western.edu/academics/headwaters/headwaters-conference/archives/cross_headwatersXII.pdf>.

DeKay, Mark, and Tracy Moir-McClean. *Beaver Creek Watershed Green Infrastructure Plan*. Knoxville, TN: Beaver Creek Watershed Task Force, 2006. PDF.

Dunham-Jones, Ellen, and June Williamson. *Retrofitting Suburbia: Urban Design Solutions for Redesigning Suburbs*. Hoboken, NJ: John Wiley & Sons, 2009.

"East Tennessee Livability Report Card." PlanET. Knox County Metropolitan Planning Commission, Apr. 2012. 15 Sept. 2012. <planeasttn.org>.

Ewing, Reid, Rolf Pendall, and Don Chen. *Measuring Sprawl and Its Impact*. N.p.: Smart Growth America, n.d. PDF. 02 September 2012.

Francis, Mark. "Village Homes: A Case Study In Community Design." *Landscape Journal* 21.1 (2002): 23-41. Http://lda.ucdavis.edu/people/websites/francis/vh.pdf. Web. 29 Oct. 2012.

Hall, Kenneth B., and Gerald A. Porterfield. *Community by Design: New Urbanism for Suburbs and Small Communities*. New York: McGraw-Hill, 2001.

"Halls." *Knoxville.com*. Scripps Interactive Newspapers Group, n.d. Web. 07 Oct. 2012. <http://www.knoxville.com/neighborhoods/halls/>.

"Halls Crossroads, Tennessee." Map. Google Maps. Google, 18 Feb. 2013. Web. 18 Feb. 2013.

"Halls Library." 36°05'03.77" N and 83°55'36.83" W. *Google Earth.* 15 Mar. 1992. 12 Feb. 2013.

"Halls Business & Professional Association, Inc." *Halls Business & Professional Association*. Halls Business & Professional Association, 2013. Web. 07 Feb. 2013. <http://www.hallsbusiness.com/about/>.

KGIS. *Topography Map*. "KGIS Maps*".* KGIS, 2013. 12 Feb. 2013. < http://www.kgis.org/KGISMaps/Map.htm>.

KGIS. *Existing Landuse Map*. "KGIS Maps*".* KGIS, 2013. 12 Feb. 2013. < http://www.kgis.org/KGISMaps/Map.htm>.

Knoxville-Knox County MPC. *GIS Data for Halls Crossroads*. Feb. 2013.

Knoxville-Knox County MPC. *Plan East Tennessee Regional Growth Concepts, Centers Growth Concept Allocation of Population and Employment*. 2013.

"Knoxville, Tennessee." *City-Data.com*. Onboard Informatics, n.d. Web. 13 Feb. 2013. <http://www.city-data.com/city/Knoxville-Tennessee.html>.

Kolb, David. *Commercial Sprawl, Prince Edward Island, Canada*. N.d. Photograph. Sprawling Places. Oct. 2010. Web. 25 Feb. 2013. <http://www.dkolb.org/sprawlingplaces/generalo/placesto/thestrip.html>.

"Meet the Neighborhoods." *Stapleton*. Forest City, 2012. Web. 12 Apr. 2013. <http://www.stapletondenver.com/community/whats-here/meet-the-neighborhoods>.

Mehaffy, Michael, Galina Tachieva, Laurence Qamar, and Mary Vogel. "The Unbearable Costs of Sprawl." *Sustasis.net*. Sustasis Foundation, May 2010. Web. 25 Feb. 2013. <http://www.sustasis.net/unbearablecostofsprawl.htm>.

Mehaffy, Michael. "The Landscape Urbanism: Sprawl in a Pretty Green Dress?" *Planetizen*. N.p., 4 Oct. 2010. 29 Oct. 2012. <http://www.planetizen.com/node/46262>.

"New Urbanism." *New Urbanism*. N.p., n.d. Web. 15 Dec. 2012. <http://www.newurbanism.org/newurbanism.html>.

North, Alissa. *Operative Landscapes: Building Communities Through Public Space*. Basel: Birkhäuser, 2013.

“Parks & Open Space.” *Stapleton*. Forest City, 2012. Web. 12 Apr. 2013. <http://www.stapletondenver.com/community/whats-here/parks-open-space>.

“PatchWork.” *OLIN*. OLIN, 2011. Web. 11 Apr. 2013. <http://www.theolinstudio.com/flash>.

“Sense of Place.” *Stephens Planning & Design LLC*. Oregon Planning Institute, 16 Sept. 2011. Web. 15 Dec. 2012. <http://www.stephensplanning.com/sense_of_place.pdf>.

“Shopping and Dining.” *Stapleton*. Forest City, 2012. Web. 12 Apr. 2013. <http://www.stapletondenver.com/community/whats-here/shopping-dining>.

Steele, Fritz. *The Sense of Place*. Boston, MA: CBI Pub., 1981. 3.

STV and Sasaki Associates, Inc. *Knoxville Regional Transit Corridor Study.* Knoxville Regional Transportation Planning Organization, Dec. 2012.

Tachieva, Galina. *Sprawl Repair Manual*. Washington: Island, 2010.

“The Seaside Plan.” *The Seaside Research Portal*. Hesburgh Libraries of the University of Notre Dame and The University of Notre Dame, n.d. Web. 11 Apr. 2013. <http://seaside.library.nd.edu/essays/the-plan>.

“Types of Zoning Codes.” *Zoning Matters*. Philadelphia Zoning Code Commission, 2013. Web. 10 Apr. 2013. <http://zoningmatters.org/facts/trends>.

U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarterly Employment, 2nd Quarter of 2002-2010). Web. Feb. 2013. < http://onthemap.ces.census.gov/>.

U.S. Geological Survey. *Maynardville Quadrangle [map]*. “US Topo and Historical Topographic Map Collection.” USGS, 2013. 3 Feb. 2013. < http://geonames.usgs.gov/pls/topomaps/f?p=262:18:5815668742337936::NO:RP:P18_STATE,P18_SCALE,P18_MAP_NAME,P18_MAP_TYPE:TN%2CALL%2C%5CMaynardville%5C%2CAll>.

Waldheim, Charles, et. al. “What Is Landscape Urbanism?” *Landscape Urbanism*. N.p., n.d. 29 Oct. 2012. <http://landscapeurbanism.com/about/>.

Weller, Richard. “Landscape (Sub)Urbanism in Theory and Practice.” *Landscape Journal* 27.2 (2008): 247-67.

"What Are Form-Based Codes?" *Form-Based Codes Institute*. Form-Based Codes Institute, 2011. Web. 13 Apr. 2013. <http://www.formbasedcodes.org/what-are-form-based-codes>.

"Why the "New" in "New Urbanism"?" Noodles New Urbanism. N.p., 02 Oct. 2012. Web. 11 Apr. 2013. <http://noodlesandnewurbanism.org/2012/10/02/why-the-new-in-new-urbanism/>.

Williamson, June. "11 Urban Design Tactics for Suburban Retrofitting." *Build a Better Burb*. Long Island Index, n.d. Web. 15 Oct. 2012. <http://www.buildabetterburb.org/article.php?aid=145>.

Woods, Thomas A. "What Is a Sense of Place?" *Making Sense of Place, Inc. - Historical Consultants Preserving Places, Stories, and the Past*. Making Sense of Place, Inc., n.d. Web. 10 Apr. 2013. <http://www.makingsenseofplace.com/about-place.htm>.

# VITA

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