ABSTRACT

One of the fastest growing, and most intriguing design philosophies in community development is New Urbanism. New Urbanists seek to create neighborhoods that are pedestrian friendly, accessible, and self-sustaining. In the early 1980s, Andres Duany and Elizabeth Plater-Zyberk designed the first New Urban community: Seaside, Florida. The development was on eighty acres of prime beachfront property in the Florida panhandle, and was widely criticized for focusing more on creating a sense of nostalgia, than creating a viable community.

As the discipline grew, so too did the need for guiding principles. At the fourth Congress of the New Urbanism, 266 members signed into existence the Charter of the New Urbanism. These twenty-seven principles would become the guiding force for a design movement. With the growth of the movement, comes the growing pains of practitioners blindly using the principles. This thesis studies the next generation of New Urban designs to see how closely they respond to selected principles of the New Urbanism. Three communities in the Orlando, Florida area were studied, and their developments were compared to five New Urban principles that addressed the design of the Block, the Street, and the Building.

This study found that the case study developments were meeting most of the five selected criteria. It also found that some of the required relationships can be compromised slightly, without destroying the overall image and desired functional characteristics of the development.
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INTRODUCTION

While some new housing developments have a minimal sense of interior hierarchy, they provide no relationship to the hierarchy of the greater city. Instead, they simply dump their residents out onto over-congested arterials leading to the employment centers of the city, while adding to the traffic problems of the greater metropolitan region. New developments continue to sell a sense of escape – escape from the city, escape from the congestion, escape from the deterioration, escape from the “undesirable” diversity that the city provides – to the secluded enclaves of social equals. If cities continue to progress according to current development standards, they will begin to take on a form strikingly similar to a doughnut; the downtown will slowly be abandoned by companies moving to the edges of the city, where the employees live. The blighted, under-maintained neighborhoods in need of redevelopment will continue to be passed over in favor of the profitability of the suburbs.

New Urbanism is a design practice that looks to the past for inspiration for the future. Designers were disenchanted by the current development patterns, and became concerned with the form that cities were taking; leaving urban cores as desolate, lifeless places. They began to look at the problems that many cities were facing, and found that most of these problems could be traced to contemporary development patterns. A closer look at these problems also began to reveal tendencies that could have been avoided through the proper design of neighborhoods. As designers worked towards new development standards, they found that existing patterns were extremely successful, especially those found in pre-World War II communities. Using these
communities as models, they developed a set of guiding principles and strategies for new
development. These principles can be found in the *Charter of the New Urbanism*.

This study looks at three New Urban developments and compares what was built to the five
selected principles found in the *Charter of the New Urbanism*. The results from the study were
compared to gain an understanding of whether the principles of New Urbanism have been
compromised to create the built product, and if so, whether that compromise is detrimental to the
overall form and conceptual fabric of the neighborhood.

**Research Precedent**

Several researchers have conducted case studies of the design of New Urban communities
comparing them to the philosophies behind the New Urban movement. These range from looking
at the overall form of the community compared to other research on good urban form, to traffic
congestion, to accessibility. After several researchers have conducted studies, the determination
on the success of New Urban communities is fairly ambiguous. While some aspects of the design
philosophy that are integral to the development of neighborhoods are successful in these studies,
others are not. These studies create a starting point for the research associated with this thesis.

The first case study was conducted by Mr. Banai of the University of Memphis. His study
focused on the five dimensions of performance that were developed by the expert on urban form,
Kevin Lynch, and reported in the book *A Theory of Good City Form*. The five dimensions of
performance are vitality, “the degree to which the form of the settlement supports the vital
functions” (Lynch, 1984, p. 118), sense, “the degree to which the settlement can be clearly
perceived and mentally differentiated” (Lynch, 1984, p. 118), fit, “how well its spatial and
temporal pattern matches the customary behavior of its inhabitants” (Lynch, 1984, p. 151),
access, “the ability to reach other persons, activities, resources, services, information, or places” (Lynch, 1984, p. 118), and control, “the degree to which the use and access to spaces and activities…are controlled by those who use, work, or reside in them” (Lynch, 1984, p. 118). After comparing the form of New Urban development to these five performance dimensions, Banai concluded that, “viewed against the background of the five performance dimensions, it turns out that the neotraditional settlement form does not completely break away from, and indeed accommodates, certain features of the modern settlement form” (Banai, 1996, p. 189).

In his paper, “On Form Versus Function: Will the New Urbanism Reduce Traffic, or Increase it?,” Randall Crane looks at the transportation benefits that many New Urbanists claim their projects possess. By creating a network of streets, New Urbanists claim that traffic is less concentrated, and the residents have the option to walk or drive to their destinations. Also, due to the mix of uses, and the centralization of the commercial core, the residents are not forced to leave the development to take care of their day to day needs. This study looks at travel both within the development and travel to other destinations that are caused by the existence of the development. His study found that while many developments do not put added stress on the congestion of arterial streets, some may. As long as designers are cognizant of the decisions they make, they will continue to help alleviate the traffic problems that potentially could be caused by contemporary development patterns (Crane, 1996).

The topic of non-work related travel seems to be a popular one among critics of the New Urbanism. Susan Handy also chose to study the implications of New Urban design on non-work related travel. Her paper, “Regional Versus Local Accessibility: Neo-Traditional Development and its Implications for Non-work Travel,” is based on the premise that the amount and distance an individual will travel is influenced by the type, form, and character of the community he or she
lives in (Handy, 1992). In the end she found that “the evidence presented in this paper does not support the popular belief that neotraditional style development will help to reduce levels of non-work travel” (Handy, 1992, p. 266). After going through the process of her study, she found that it was difficult to determine how the pedestrian trips and general trips to the town center related to automobile trips. The methods of her study made it difficult to determine if pedestrian trips replaced automobile trips to the town center, or if they were in addition to the typical automobile trips, also, she found it difficult to determine whether those trips to the town center replaced trips to a regional shopping center (Handy, 1992). Her final conclusion reported that “the results of the case study were somewhat ambiguous” (Handy, 1992, p. 253).

**What is New Urbanism?**

“Whether regarded as a panacea for today’s suburban woes or just another incarnation of sprawl, the New Urbanism has arrived as the newest form of development” (Richards, 2000, p. 184). In the early 1980s, a group of designers, including Andres Duany, Elizabeth Plater-Zyberk, and Peter Calthorpe, began looking at design alternatives to the jumbled mess that was contemporary design.

Contemporary design was based around zoning laws that segregated uses and created a lack of connectivity between adjacent parcels. A trip that was physically less than 1000 feet often generated a travel distance that could be as far as two miles (Figure 1.1). There was a lack of accessibility which inconvenienced the residents. Their solution to this problem was to look at successful neighborhoods and the relationships that make those communities successful.
they found was that the successful communities had a network of streets that allowed people to make choices when traveling; it also allowed them to walk to nearby destinations. Street widths were narrower to accommodate the automobile, while allowing the pedestrian a shorter distance to cross. Garages were in the back of the house, serviced by an alley, to bring a sense of security and friendliness to the façade of homes. Commercial areas and civic buildings were in accessible, prominent locations for the citizens to easily find. Parks and public squares were an integral part of the community. Using these communities as a model, they began to design new neighborhoods that provided a greater sense of community and a greater sense of connectivity. Designing a place where the residents could take pride in their community and have options for travel became the goal. “According to Duany…there is nothing radical about ‘traditional neighborhood developments…the prototype is right under our noses and it’s the traditional American town of the early 20th century’” (Bookout, 1992, p. 23). New Urbanism was born from the reintegration of historical precedent into community design.

Many of their findings also form the basis for the principles used to measure how well three New Urban communities are meeting the design criteria of the Charter of the New Urbanism. The principles addressed in this thesis are definitive of the street, architectural style, accommodation of the automobile, respect for pedestrians, and the design and location of civic buildings.

**Design Elements**

Communities and neighborhoods are only as good as the design of their parts, and how those parts work together to create a whole. New Urban principles lay out guidelines for the relationship of the parts, and how they must work together to make the integrated whole. While many of the pieces that come together to create a neighborhood are not new, some of them are being reintroduced to modern development. The alley, main street, front porch, interconnected
network of streets, and parks in prominent locations, to name a few, have reemerged as important design elements in New Urban communities. Listed below are a few of these elements that have reemerged and play an important role in the design of new neighborhoods.

**Main Street:** The main streets of the past have virtually disappeared in contemporary development. Suburban shopping malls and strip centers have disconnected the shopping experience from the pedestrian oriented streets. Roads that could be used in a main street context are eight lanes wide, and traffic is allowed to move at forty-five miles an hour (Figure 1.2). Shopping malls that front these roads are set back, floating in a placeless mass of parking. New Urbanists propose to reintroduce the pedestrian oriented main street, where the cross section of the street allows for both pedestrian and vehicular life to coexist in a safe and comfortable environment (Figure 1.3). The same square footage of commercial uses can be introduced fronting the main street, while providing the sense of enclosure in the shopping experience that creates a sense of security. The main street also allows for mixed-use buildings, where commercial and retail shops exist on the first floor of buildings, with office and residential units occupying the upper floors.
Shopping malls are pedestrian friendly on the interior, where climate controlled hallways and corridors connect storefronts. But, as Figure 1.4 shows, they are not pedestrian friendly on the exterior, where people park and must walk great distances through a sea of parking to get to the shopping center.

Shopping malls are also centrally focused, meaning their shopping experience is created by what’s inside the walls, rather than the public face that they portray to the people passing by the building. Main streets, on the other hand, provide small pockets of parking that are conveniently located behind storefronts, where there is little conflict between pedestrian traffic and vehicular traffic. A sea of parking is avoided because not only are the small parking lots distributed throughout; but some of the parking load is incorporated into the design of the street. On-street angled or parallel parking allows for individual parking lots to be smaller and provides a buffer for the pedestrian from the moving traffic. Finally, “neighborhood main streets reinforce community identity while providing an alternative shopping experience” (Hall & Porterfield, 2001, p. 200).

**Street Networks:** One of the essential design elements of the New Urbanism is a series of interconnected streets. The reason this is so important is that it provides the best opportunity for people to make a choice about the path they use to arrive at a destination. The reemergence of the grid in New Urbanism seeks to provide the pedestrian oriented street system of pre-World War II towns. A grid is the basic, fundamental form to creating a network of streets. Grids provide the best method to disperse traffic over an area (Figure 1.5). The only problem is that conflicts occur
where the grid intersects, but conflicts are reduced because traffic, again, is dispersed over a large area (Lynch & Hack, 1984). It is important to realize that in order for the grid to work, there must be meaningful destinations that can be reached via the grid system. If a grid is set up in a neighborhood where only housing is provided, all of the vehicles must funnel down to one single connection point to access their everyday needs. On the other hand, if the commercial and core areas of a development are integrated into the grid, and an individual is not forced to leave the community, several options are provided for travel, because several roads have direct access to the different destinations. The network of streets has become the building block, upon which New Urban communities take shape.

**Integrated Parks and Open Space:** One of the shortfalls of contemporary design is the accessibility of open space. Not only are the parks and provided open space difficult to access, they are also located in the leftover space, after all the other land has been designated for use. Parks then become disjointed, they are an odd shape, and there is little or no relationship to the people they serve. In some cases, the open space is in the corners of the property, located behind lots where access by the residents is basically cut off. In most conventional suburban designs, the open space is defined “quantitatively, as a function of population or land area. This practice may
result in large, misplaced open areas which are underutilized by the community” (Duany Plater-Zyberk & Company, 2002, p. E-1).

The New Urbanism believes that open space should be an integral part of the design (Figure 1.6). Open space should be an amenity for the residents, and should be associated with other public spaces. Instead of being residual space, it should be an important part of the design of the community. Open space can be used for many functions; it can serve as a setting for outdoor events and festivals, can contain playgrounds, house sports fields, or simply provide a place for people to sit and relax while enjoying what nature has to offer. Unplanned, leftover space is not dynamic, because it does not provide the form of space that can be used for many different events or activities. A fully functional open space “should straddle pedestrian trajectories or be adjacent to meaningful destinations” (Duany Plater-Zyberk & Company, 2002, p. E-1).

Front Porches: In a progressively private culture, the backyard has provided an oasis for homeowners to go when they desire separating themselves from the world. The problem is that the front of the house suffers because there is a lack of attention to the recreational uses on the front of the home, while the back of the home receives all the attention. Yet, it is the front of the home that is most public, that provides a safety net for the pedestrian, and the best opportunity to create a sense of community. “Front porches are the semi-private spaces that create opportunities
for social interaction within a neighborhood and bring
eyes onto the street, rather than isolating communities
behind garage doors” (Calthorpe, 1993, p. 85). As
Figure 1.7 shows, New Urbanists propose building
porches on the fronts of homes to create a sense of
streetscape and a sense of life along the street.
Neighbors do not meet other neighbors when they are
hiding out in the oasis of their backyards, screened
from their neighbors by six-foot tall privacy fencing. They meet their neighbors by being openly
visible, and by engaging in random conversation. The chance meeting of neighbors takes place
when one neighbor is walking along the street and another is relaxing on the front porch just a
few feet away. The front porch provides a very strong opportunity for community building
activities in the neighborhood.

**Alleys:** Streets in contemporary neighborhoods have
become impersonal, lined with two- and three-car
garages with the entries to the house being pushed
back away from the street. New Urbanists want to
personalize the street front. Part of that is done by
pulling the front of the house to the street, and lining it
with front porches that provide opportunities for
interaction between passersby and homeowner. It’s
not possible to cut off the car completely, it is still an absolute necessity in daily life. New
Urbanists realize this; and therefore, plan communities for automobiles to continue to be used, but
their use is not required. In order to maintain a safe street, it is necessary to separate the car from
the pedestrian. Alleys, such as that in Figure 1.8, are used in New Urban developments to lower the amount of traffic on residential streets, while providing access to garages and parking areas that are no longer the focal point on the front of homes. “The alley is the under-appreciated ally of the pedestrian-friendly street” (Duany, Morrissey, & Pinnell, April / May 2002, p. 14). The alley reduces the contact that a pedestrian traveling along the street has with an automobile, and therefore reduces the chance for conflict between the two.

Civic Prominence: Civic buildings of the past were located in prominent locations in the city. The city square typically occurred in the center of town and consisted of a green space with an important building, such as a court house or town hall, located in the center. Schools, libraries, and churches terminated vistas down major streets, and the architecture of these buildings gave them a sense of prominence in the community (Figure 1.9). As cities expanded and modern suburbia set in, less prominence was given to these cornerstone buildings, and more prominence was given to the cornerstone lots that could bring more profit to the developer. Schools and other civic buildings were relegated to large tracts of land at the edges of developments, sometimes in similar leftover land masses that were delegated as open space. New Urbanists believe that this change in location philosophy has helped lead to the downfall of the urban core and the disintegration of the sense of community.

“The re-integration of our civic and commercial world is essential to creating strong communities” (Calthorpe, 1993, p. 93). Because there is less importance placed on the civic buildings, and both their design and location reflect this sentiment, there is less of a sense of
community or civic pride. Civic buildings are important to the identity of a community; they help to define an image for the community and provide a central place where people can gather.

**Live / Work Units:** According to modern zoning ordinances, the live-work unit, which allows for someone to live and work in the same building, is illegal. In fact, mixed-use buildings of any kind are considered illegal by most zoning standards. Live-work units typically consist of a building that has either commercial, retail, or office uses on the ground floor and residential above (Figure 1.10). Many times the first floor use is directly connected to a residential unit, so that access between the two is direct. These units can be used by the shop owners to live and work in the same place, or can be rented out to lower income people who need an inexpensive place to live near their place of work. The New Urban town center relies on the live-work unit to create the density of uses necessary, while providing life to the area twenty-four hours a day. The shopping experience brings crowds to the area during the daytime, and the residents help to provide security at night. “Live-work developments have the potential to generate the kind of casual, multipurpose environment that sets the stage for cross shopping and social activities that build a sense of community” (Gosling, 2002, p. 16).

**Criticism of New Urbanism**

While there is a plethora of New Urban supporters and activists; there are an equally large number of critics of the movement. Most of the criticism consists of the same sentiment, that most designers are “too concerned with appearances, that is, too architecturally based, while
ignoring social concerns and regional issues of transportation and land use” (Southworth, 1997, p. 28). The New Urbanism is based upon historical precedent, bringing the past to the future in a mixture of elements, attempting to create something new and fresh. However, sometimes it is necessary to create a very rigid set of rules that govern the form and appearance of the development, and many people have a problem with that in a democratic society. There is also a budding concern with the newest generation of New Urbanism and its designers; there tends to be a movement toward hybrid communities in many areas, combining some of the elements of contemporary design with New Urban design, but this combination could be more detrimental to New Urbanism than good.

**The Criticism**

The strongest criticism of the New Urbanism comes from a group of people who feel that New Urbanism is just a fancy way of disguising the suburban sprawl that it is trying to eliminate (Mitchell, 2001). Most New Urban projects are being created on greenfield sites; that is, sites that were once farmlands or open space, and have never been developed. The principles of the New Urbanism, however, strongly suggest infill development and the development of blighted lands as a primary focus for new neighborhoods (Lecese & McCormick, 2000). The problem that New Urbanists are attempting to solve is the constant expansion of our cities into the imperative farmlands and open space that surround them. By creating a new town, on the edge of the city, they are still developing on the valuable farmlands and open space; but claim that because of the higher density of development, and the finer urban fabric that it creates, they are reducing the overall green space removed in the larger picture. However, “the New Urbanism repeated ad nauseam could become ‘New Urbanist sprawl’” (Thompson, 1998, p. 84).
Of equally strong criticism, is the claim by New Urbanists that their communities provide diversity in housing types, providing homes for people of all income ranges. Seaside, Florida, the model for New Urbanism, was designed by Andres Duany and Elizabeth Plater-Zyberk. The problem with Seaside is that it has become a resort community, a community of second homes and time-share units for the residents of the community. “[The residents] are tourists acting like they live there or wishing that they did live there or planning on trying to live there someday…Seaside is a great success. It is a model for [Traditional Neighborhood Development], but not the real thing” (Peterson, 1997, paragraph 5). In their 2000 book, Andres Duany, Elizabeth Plater-Zyberk, and Jeff Speck illustrate the diversity in value of a block of homes in Kentlands. That illustration is shown in Figure 1.11 where the lowest single family home is valued around $285,000, the townhomes start at $215,000, and rent for the granny flats, typically a 500 to 600 square foot studio style apartment, starts at $750 per month. The concern with many people is that New Urbanism is contrived; it is trying desperately to emulate the great communities of the past, and its clientele is more than willing to spend money to get the sense of nostalgia that New Urbanism might be able to offer. “Seaside represents a community of exclusivity, a community of lifestyle enclaves” (Lane & Burton, 1997, paragraph 3).

Another criticism of New Urban projects is the lack of democracy that seems to be apparent in each new town. Part of the Charter of the New Urbanism is the creation of design standards for new communities (Leccese & McCormick, 2000). The purpose of these design standards is to
create guidelines that drive the form and appearance of development. While some design codes are simple, creating relationships for buildings, streets, and landscaping, others get much more involved, limiting the palate of colors available to home owners, specifying the height and type of fencing, the lighting styles, furniture types for porches, and other very strict regulations that take away from the ability of the individual homeowner to show their personality and tastes through design. Many have compared New Urbanism to Disneyland, because the strict rules and guidelines do more for creating an atmosphere than they do for fostering the creative instincts of the inhabitants. One of the biggest complaints towards contemporary design is its lack of individuality, with street after street of the same house (Figure 1.12). When New Urban building codes are written to be too strict, they create a similar pattern along the street. In a short paper by Roger Wells, the author compared the New Urbanism to the new fascism, saying:

[New Urbanism] is neofascism hiding in the artful clothes of so-called historically based design rules…there is a huge difference, however, between private initiatives and public edicts. If it is created by fiat from the mind of one designer with a set of iron-clad rules how is it different from Disneyland? (Wells, 1998, p. 78)

Not only do these heavily restrictive rules exist, they also attempt to create a historically based atmosphere. Historical references to the fabric and patterns of the urban form can and should be built upon. In most cases, this is what happens. There isn’t a strict block by block grid overlaid on the ground. It is adjusted and interpreted to respond to the topography and existing conditions. Where New Urbanism faul ters is in its detailing, instead of trying new housing styles, old ones are utilized, in an attempt to create a sense of nostalgia and an appearance of having been there.
for a long period of time. Martha Schwartz said, “[New York] seems to be stuck in an Olmstedian language of design, where everything tends to be detailed according to Olmsted’s Central Park, instead of advancing beyond that and creating a new language or dialect” (Schwartz, 2002).

A final criticism, that tends to be popular among critics of the New Urbanism, is the reality of their attempt to cut down on travel and trip distance by creating a dense network of streets and providing all of the daily needs within a short distance of the residents. As mentioned earlier, research has proven to be inconclusive as to the benefits of providing walkable neighborhoods, because it is difficult to determine what role walking plays in the daily lives of the residents. The research has shown that there is a level of success that exists in New Urban communities, yet critics still exist. New Urbanists are opposed to the big box retailer, the WalMarts, K-Marts, Targets, and other large stores of the world, that cater to a larger area than just the quarter-mile walking radius. These big boxes create more vehicle travel miles than the typical commute and work against the entrepreneurial efforts of small mom and pop shops. Also, their expansive parking lots are anything but pedestrian friendly and disconnect them from their neighboring uses (Figure 1.13). Because New Urban communities shut their doors to the land-consuming, sprawl-encouraging big box retailers, many people leave the community to shop. “On this issue alone many developments conceived under the New-Urbanism banner fail to
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meet the basic sustainable-development criteria that proponents of the New Urbanism claim they do” (Bunster-Ossa, 1998, p. 77).

Hybrid Communities

The problem with New Urbanism, as it becomes a more popular alternative to conventional neighborhood design, is that it is becoming hybridized and often loses many of the elements that complete the sense of a true community. This comes about for many reasons, but one of the most prominent is the lack of understanding for the entire philosophy by the developer and, sometimes, even the designer involved. As New Urbanism becomes more popular as a design philosophy, more designers are getting involved in the design of New Urban communities. Many of these designers understand the fundamentals of designing a New Urban community, but don’t understand how everything must come together to make the community work as a whole. Parts of the development reflect New Urban principles, while the remainder follow contemporary design strategies (Figure 1.14). This can cause a big problem for the New Urban movement, where developments falsely claim to be New Urban, and their image leaves a lasting, possibly negative, impression on possible supporters of New Urbanism.

Figure 1.14 – A portion of Oakleaf Plantation, near Jacksonville, Florida, this area is designed primarily with conventional neighborhood design, including dead end and cul-de-sac streets. The Village Center (the green square in the middle) has been designed following New Urban principles.
As more developers are accepting New Urbanism, more designers are being faced with the challenge of getting New Urban projects approved and constructed. Many developers don’t want to sift through the red tape and other barriers, caused by local zoning codes that keep them from fully developing the concepts according to New Urban principles; so they settle for a hybrid version that only takes on some of the characteristics of New Urban neighborhoods. Many communities have begun to adopt Traditional Neighborhood Development zoning codes, which makes the hurdles much easier to cross, but not all have, and it is within these communities where New Urbanism struggles to emerge (The Real Second, 2001). Other developers have difficulty understanding the holistic approach that New Urbanism uses in creating new communities. Older developers, who have built their business around conventional design, have a product that sells. They don’t realize that New Urbanism also sells. They know their cul-de-sac neighborhoods, with garage after garage, will appeal to the current market, so they stick with it, and have a difficult time separating themselves from what works for them. In many cases, “guys at the project manager level are dying to do this stuff (New Urbanism), but they can’t get their bosses to do the full-on version, so the California Hybrid develops with an emphasis on marketing” (TNDs vs. the ‘California Hybrid,’ 2002, paragraph 16). The good thing, for the New Urbanism, is that people are taking notice of the development form, and trying to incorporate similar attributes into their own communities. The hope is that gradually they will take on the entire design philosophy and start to create the full New Urban experience. At this point, though, “developers pick and choose which of these principles they think make sense for their project” (Barrett, 2000, paragraph 6).

**Relevancy of this Research**

This thesis is not intended to disclaim New Urbanism or to prove that it is a poor choice for development patterns, but rather to collect data about New Urban projects and how the
development patterns compare to the theory behind the form of development. The New
Urbanism is as much a design methodology as it is a theory for good place making. The
principles found in the Charter of the New Urbanism prescribe not only the physical relationships
of the parts of a development, but they also propose strategies and approaches to design that help
lead to good design and quality neighborhoods.

As mentioned above, the precedent for this study can be found in how other researchers have
used other methods of studying New Urban theories. Mr. Banai compared the form of New
Urban developments to the five dimensions of performance that Kevin Lynch proposed after
years of studies creating the book A Theory of Good City Form. However, Banai’s study focused
on the theories of New Urbanism compared to the five performance dimensions, and didn’t
compare those dimensions to the way they might actually unfold in a project (Banai, 1996). This
thesis looks at the way three developments responded to selected principles of the Charter of the
New Urbanism to determine how well or closely they followed the principles. In addition, this
thesis will offer an opinion on the issue of whether or not a community can be considered New
Urban when some of the principles have been compromised.
Chapter 2

BACKGROUND

The New Urbanism, and the theories and design principles associated with it, did not develop overnight, nor did it develop from untested and unproven practices. The New Urbanism is just as its name is intended to assimilate, it takes the best historical urbanism and synthesizes it with new ideas to create a new sense of urbanism. The designers involved in the New Urbanism looked at successful movements from the past to draw inspiration for the future. These movements include the City Beautiful movement, which was kicked off by the Chicago World’s Fair in 1893, and the Garden City movement, begun by Ebenezer Howard around 1900.

Since the late 1980s, “there has been a renewal of interest in the City Beautiful movement, regarding urban development. This trend is a return to the traditional values of planning” (Pregill & Volkman, 1999, p. 170). The 1980s brought about a change in the way designers design their projects. A diverse group of architects, landscape architects, and planners began to look at alternatives to what had become the standard form of development. It began with the creation of the Ahwahnee Principles and progressed through the creation of the Charter of the New Urbanism at the first Congress of the New Urbanism in 1996. The charter is a series of twenty-seven principles broken into three scales of development. “Individually most of the principles will not seem radical…yet it is an innovation to consider them as a comprehensive sequence dealing with the built at every scale” (Leccese & McCormick, 2000, p. 10).
History of City Planning

Planning began a long time ago when cities were originally taking form. Early cities in the United States, such as Charleston, South Carolina, Savannah, Georgia, and Williamsburg, Virginia (Figure 2.1), began with a simple plan of interconnected streets, walks, and alleys, with a centralized core and open space that was meaningful and useful. As cities grew, it became clear that more than just a typical plan would help the city to grow in a contiguous and healthy pattern, it would take a vision for the future, taking into account all of the necessary functions of a city, melding them into a complex whole. The City Beautiful movement of the early 1890s and the Garden City movement followed these patterns of foresight for future growth.

City Beautiful

The City Beautiful movement began with the Chicago World’s Fair in 1893 (Figures 2.2 and 2.3). The exposition, designed by Daniel H. Burnham, provided a mixture of landscaped areas, promenades, exposition halls, art, and other uses to display what can
be achieved when planners, landscape architects, and architects work together (Levy, 2000).

After the World’s Fair was over, the movement struggled to establish, as many projects were small and inconsequential. The high years of the movement hit between 1897 and 1902.

 Significant projects during this period built upon the classic-renaissance taste of the movement and included the Boston and New York libraries and culminated with the McMillan Plan for Washington, D.C. Because of its early tendency towards singular projects, the City Beautiful movement was often associated with the municipal art movement, but the difference between the two dealt more with the scale of projects rather than the concepts behind them. “The municipal art movement tended to focus on particular points in the city: an arch, a plaza, a traffic circle, a fountain. The City Beautiful movement sought to create or remake a part of the city: a civic center, a boulevard, a parkway” (Levy, 2000, p. 35).

The City Beautiful movement is often accused of only providing a pretty face for the city, but the reality is that it is much more complex. “It was not a simple social whim for the cosmetic veneer, as it is often misrepresented, but a complex set of forces bidding to expand civic consciousness as well as raise standards of public design” (Krueckeburg, 1983, p. 4).
movement consisted of four basic parts: 1) municipal art, 2) civic improvement, 3) outdoor art, and 4) classical design. The municipal art portion of the movement dealt with the aesthetics of the place. Buildings were adorned with architectural and artistic detail that helped to create a sense of time, culture, and place (Figure 2.4), street trees helped provide comfort to pedestrians, public sculpture added interest, color in civic design helped to bring vibrance to the city, and the removal of billboards and smoke helped to clean up the clutter. Municipal art meant creating an environment that supported the arts, supported pedestrian life, and created a comfortable atmosphere for people to live and work.

The second part of the City Beautiful movement, civic improvement, focused its efforts on creating a better place to live. This meant going beyond creating a more attractive place, and worked to rid the city of eyesores and unsanitary or dangerous conditions. What started out as a small, piecemeal movement, soon became an integral part of the City Beautiful movement.

The third component, outdoor art, was spearheaded by the American Park and Outdoor Art Association (APOAA), but the most important step in this section came about when the APOAA joined with the civic improvement associations to create the American Civic Association. This new association brought together several organizations whose programs of land planning covered subjects from national parks to city parks, urban development to civic art, and better housing to traffic safety (Krueckeburg, 1983). These groups formed an affiliation that promoted the creation of a model city for the St. Louis World’s Fair (Figure 2.5).
Finally, the City Beautiful movement relied upon classic design to create a sense of harmony, consistency, and beauty in the design of buildings. This part of the movement utilized grand design to create monumental city plans, with a strong sense of civic identity (Krueckeburg, 1983).

**Garden City**

Another important movement in city planning, from the early 1900s, was the Garden City movement. Unhappy with new development in the late 1800s, where suburbs were becoming bedroom communities to the larger, neighboring cities, Ebenezer Howard went to work trying to develop a plan that allowed people to live and work in the same community. Congestion within the cities was also becoming a problem because people moved from the countryside to the city for the economic benefits. “The solution to the problem was to create new towns, which would offer the economic and social advantages of the city combined with the tranquility, healthful environment, and closeness to nature that had been lost” (Levy, 2000, p. 45). His concept was a series of towns based around a larger urban core. His study was extraordinarily detailed, as he not only specified the size for each town and garden city, but he also studied the economic effects of creating the cities (Kunstler, 2001).

The basic scale of the Garden City was a development that was approximately 40,000 acres. The central core of the city would be large enough to house 58,000 people, while providing them the necessary jobs (Figure 2.6). Surrounding the central city is a green belt intended to provide the open

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**Figure 2.6** – The Garden City complex consisted of an urban core large enough to house 58,000 people. Surrounding the core were six smaller Garden Cities, each with a population of 32,000 people.
space and farmlands necessary to support the entire system. The outer ring contains six slightly smaller cities, each providing jobs and housing to support 32,000 people. The outer ring was divided into six equal sections, each 6,000 acres in size (Figure 2.7). The central 1,000 acres became the urban core of the satellite cities, with the remaining 5,000 acres to remain as open space for the production of crops to support the cities. Each smaller city was made up of several rings (Figure 2.8). The central ring included a central park, shopping, and the civic core of the community. Going out from the center of the city, there were a few rings of housing followed by a Grand Avenue, which was a continuous greenway that encircled the city. After the Grand Avenue was a few more rings of housing and a ring containing industrial factories and warehouses. This entire system was held together by a system of inter-municipal railways, with tracks radiating from the central city to each satellite town, and a loop connecting all of the smaller towns.

One criticism of the movement came from Louis Mumford, who said,

A city, no matter how well balanced, can never be completely self-contained...in a group of garden cities united by rapid transportation each would have facilities and resources that would supplement those of
the others; so grouped, these ‘social cities’ would in fact be the functional equivalent of the congested metropolis. (Levy, 2000, p. 46)

Although this carefully thought out design held very good ideas, only two projects actually came to fruition: Letchworth and Welwyn were both suburbs of London, England, and were fairly successful as final products.

The Development of New Urbanism

The New Urbanism’s first big project came about in the form of Seaside, Florida, a small 80-acre development in the Florida panhandle. Places that are typically associated with this movement include Kentlands, Maryland; Celebration, Florida; and Laguna West, California. While there are many individuals and firms involved with the enhancement of the New Urbanism, three names stand out above the rest as being pioneers of the movement: Andres Duany, Elizabeth Plater-Zyberk, and Peter Calthorpe.

People of the New Urbanism

In the early 1980s two groups began working on a new philosophy in community design. The more notable pair was the husband and wife team of Andres Duany and Elizabeth Plater-Zyberk. Based out of Miami, Florida, they began looking at the relationships within urban cores that make those centers successful. Their work focused on redefining a sense of community and developing safe, self-sufficient, identifiable towns and neighborhoods. On the other side of the country, Peter Calthorpe was focusing his efforts on the relationship the natural environment has to the built product. While Duany and Plater-Zyberk were focusing on Traditional Neighborhood Design (TND), where creating an appropriate ratio of housing to jobs is key, Calthorpe’s efforts fell along the lines of Ebenezer Howard’s Garden City. Calthorpe’s Transit Oriented Developments (TOD) used the larger city’s transit system as a central focus to provide access from the
development to the central city, while also providing the necessary components for everyday life. While both designers started out on opposite sides of the country their work relied upon similar patterns and relationships to create a sense of place and a sense of community.

Duany and Plater-Zyberk’s work begins with a belief that design affects behavior. They see that the structure and function of a community are interdependent and that designer’s decisions not only permeate the lives of residents visually, but also in the way they live their lives (Duany & Plater-Zyberk, 1991). This shows through in no greater place than the typical contemporary subdivision. As described many times by New Urbanists, the contemporary subdivision is impersonal, with garages, not windows, facing the street (Figure 2.9). “Since 1969, the number of cars and trucks in the U.S. has grown twice as fast as the population…garages, once built out back, are often in front” (Mitchell, 2001, p. 52). The lack of living space fronting the street also creates a lack of usable outdoor space and security. People are drawn to the oasis of their backyards instead of their front porch. The street becomes lifeless because of a lack of pedestrian traffic, and guard gates are often necessary to keep the unsavory people out. Front doors are set back far enough from the street where the rare pedestrian and someone stepping out to pick up the morning newspaper don’t have the opportunity to interact. Residents walk into their garage from their house, get in the car, back down the driveway, and speed off down overly wide streets; all without the opportunity to interact with other people.
Duany, Plater-Zyberk, and Jeff Speck describe three groups of people in their book *Suburban Nation*. These groups are the “cul-de-sac kid, the bored teenager, and the stranded elderly” (2000, pp. 116 – 124). The cul-de-sac kid is the child who lives in an overly safe, overly protected world. They are alright until they get to the age of five, but then they become a burden as they require shuttling from place to place by their newly anointed soccer moms (Duany, Plater-Zyberk, & Speck, 2000). As these kids grow older and become more involved, they require more taxiing to and from events. This situation could be avoided if streets were walkable, locations were safely accessible by bicycle, and more than one use, or density of use, was able to exist. In a study at the Kentlands, Maryland, Jason Miller followed the typical day of a twelve-year old boy. He was able to meet his friends at the park for a pick-up game of basketball, go fishing, go uptown for pizza, go back to the park to play some more sports, go back uptown to watch a movie, and finally arrive home again, all without being a burden to his parents (2000). The next group is the teenager who is old enough to drive, but because of inexperience and the higher congestion of the over burdened streets, the risk of an accident is greater. This makes parents less likely to allow their kids to go out, which leads to boredom and resentment by the child (Duany, Plater-Zyberk, & Speck, 2000). Finally, the stranded elderly are unable to get around on their own, safely. They could drive, but their vision and reflexes are prohibitive on the busy streets. They could walk, but the separation of land uses makes the distances further than they need to be, and thus out of range. Many otherwise healthy elderly are forced to live in retirement homes because they are unable to be independent from a driving standpoint (Duany, Plater-Zyberk, & Speck, 2000). Not only are all of these groups created, but they also become a burden to the remaining group, the working generation who is forced to become a taxi service. At Kentlands, Duany and Plater-Zyberk created a strongly mixed-use community, bringing together all the necessary uses and making them accessible. “Kids can easily get to stores without hitting any
collector streets. This frees parents from their roles as family chauffeur chained to the car” (Kunstler, 1993, p. 39).

Duany and Plater-Zyberk are best known for their projects at Seaside, Florida, and Kentlands, Maryland. Designed on 80-acres in 1982, Seaside (Figure 2.10) is the most notable new community in their portfolio, but it also reflects some of the virtues in traditional neighborhoods they found so appealing.

Their crusade for better town planning is described in their threefold mission. First, the design of suburban subdivisions should take on the form of integrated new towns rather than segregated uses (Duany & Plater-Zyberk, 1991). Current practices in suburban design physically separate land uses. New subdivisions that, on a rare occasion, have a commercial component typically place that commercial use at the corners of the design, separating it from the housing and making access to it difficult (Figure 2.11). Duany and Plater-Zyberk encourage the commercial uses to be introduced to the core of the development, where they are easily accessed by the residents as well as by the general public who may be passing by the site. In many conventional designs, the commercial and residential uses are located next to
each other, but are not physically linked by walks, or are physically separated by fences and walls. This physical separation requires a resident to use a vehicle to travel out of the housing, onto a collector and then into the commercial, while the physical distance is easily walkable (Duany, Plater-Zyberk, & Speck, 2000).

Their second mission is to “challenge zoning conventions and write codes that favor traditional patterns of placemaking” (Duany & Plater-Zyberk, 1991, p. 10). City planners currently use the zoning code as a tool to direct development and city growth. One problem that zoning presents is that it segregates uses and leaves little opportunity for those to be integrated with each other. Duany and Plater-Zyberk strive to integrate land-uses, but “few ordinances tolerate (much less encourage) the concentration of uses, the multiplicity of scales, the redundancy of streets, and the hierarchical fabric of public spaces” (Duany and Plater-Zyberk, 1991, p. 9) that they want to achieve. History has proven that very good places exist, places where people want and continue to visit but those places were conceived and built before the revelation of zoning. In the post-zoning world, places such as Charleston, South Carolina, Savannah, Georgia, and Saint Augustine, Florida, would be illegal to build. The long-term goals, of the couple, are to “reform zoning to do the opposite – to connect, to aggregate, and to unify” (Duany & Plater-Zyberk, 1991, p. 96).

Finally, Duany and Plater-Zyberk strive to “work directly with those who produce the modern suburban landscape, the real estate developers, with the aim of persuading them of alternatives” (Duany & Plater-Zyberk, 1991, p. 10). The term developer often conjures up bad thoughts in the mind of many people. Developers are bad; they take away open space and farmlands for houses, strip centers, and other new developments, all to make themselves rich. They “have developed from admired figures into reviled characters, challenging drug dealers and pimps for position in
the public’s esteem” (Duany, Plater-Zyberk, & Speck, 2000, p. 100). In the past, these same developers were held as heroes, town founders, and often immortalized in sculptures and by providing a name for public buildings. George Merrick has long been commended for his work in developing the city of Coral Gables, Florida, into a beautiful, comfortable city to live and work. Duany and Plater-Zyberk want to reestablish the position of developers in society as an integral part of community development and growth. By working closely with this group, they hope to develop the next generation of town founders.

While Duany and Plater-Zyberk were focusing their efforts on place-making and the neighborhood scale, Peter Calthorpe, a California based architect, was looking at the regional city and the role of transit in neighborhood design. “The goal is to apply the best of urban design to both the region and the neighborhood…it is about the way we conceive of community and how we form the region – it is about diversity, scale, and public space in every context” (Katz, 1994, p. xvi). Calthorpe’s design focus centers around five philosophies of design: 1) create a regional city, 2) create a network of developments based around transit corridors, 3) conserve natural open space corridors, 4) redevelop blighted landscapes, and 5) create a diverse community of people and places.

Calthorpe’s design focus and involvement with the New Urbanism centers around the regional city and works from the large scale down.

Most Americans today do not live in towns – or even cities – in the traditional sense that we think of these terms. Instead most of us are citizens of a region – a large and multifaceted metropolitan area encompassing hundreds of places that we would traditionally think of as distinct and separate communities. (Calthorpe & Fulton, 2001, p. 14)
Large metropolitan regions are the greatest example of this phenomenon. The collaborative whole of all of the surrounding neighborhoods creates the city or the region, but the synthesis of these neighborhoods does not. There is a lack of connectivity between different neighborhoods, each has its own name and entry feature, and each tries to create its own identity. In effect, each neighborhood is trying to become its own entity, separate from the city, so the city becomes a region made up of smaller communities. Calthorpe is interested in looking at design on a regional level, looking at how these individual communities fit into the overall plan of the region (Figure 2.12), and how the relationships of these communities can help foster a successful regional city. The most important part of a regional plan is creating policies for new neighborhood growth. “None of the regional visions, policies, or investments would mean much if they didn’t shape our communities at the most basic level: neighborhoods” (Calthorpe & Fulton, 2001, p. 195).

Stepping down from the regional scale, Calthorpe looks at the basic unit within that scale, the Transit Oriented Development (TOD). Calthorpe’s regional planning typically includes several dense clusters or neighborhoods along transit corridors. These neighborhoods provide a high density of housing within a five-minute walk of a transit stop (Figure 2.13 – A neighborhood should be sized to provide a five-minute walk to the Transit Stop.)
2.13). It is his belief “that in theory 2,000 homes, one-million square feet of commercial space, parks, schools, and daycare could fit within a quarter-mile walk of the station, or about 120 acres” (Katz, 1994, p. xxxi). Several of these cluster developments strategically located along a transit line help shape the regional city. The TOD “maximizes the amount of people who can function without a car, and most efficiently develops land so that large areas can remain undeveloped as open space and ecological resources” (Dutton, 2000, p. 93).

Not only does the regional plan help to shape the built environment, but it also helps to curtail the unnecessary destruction of natural resources. By clustering high density development around transportation corridors, more people are able to live in a smaller area, so natural open space and farmlands can be preserved. But it is not an easy task to save these lands, it is a complex and controversial process that clashes the potential locations, elements, and uses with the means of saving the land and the economic effects that it poses (Calthorpe & Fulton, 2001). While preserving land is good in the eyes of some people, the owners of the land are often opposed if they plan to develop their property at some time in the future. “In an ideal world, Greenfield development would logically follow transit and infrastructure opportunities while avoiding critical open space networks…but we do not live in an ideal world” (Calthorpe & Fulton, 2001, p. 208).

Helping in the conservation effort is a strong push to redevelop blighted areas as areas of new growth (Figure 2.14). Often these areas are vacant or are run down to the point where safety is a concern for living there, but the infrastructure already exists, making the biggest issue obtaining the land and getting the project approved by the neighbors. Many infill areas occur where low-income families currently live, so the new developments create racial tension. Cities need to adopt new laws to make infill development and redevelopment easier, without displacing the
current residents (Katz, 1994).

It is not only run-down housing developments that are blighted, many older shopping centers are being replaced by bigger and better facilities, which leaves these large sites on a decline as well.

“Suburban grayfields, the low-density, commercial zones known for their relentless surface parking lots and single story buildings, come in many forms and sizes ripe for redevelopment” (Calthorpe & Fulton, 2001, p. 204).

Calthorpe’s final design philosophy creates a diverse neighborhood of housing types, streets, neighborhoods, and, especially, people. “The four fundamental elements of community – civic places, commercial uses, housing opportunities, and natural systems – define the physical elements of diversity at any scale” (Calthorpe & Fulton, 2001, p. 46). There should be a strong integration of typologies and uses, for each of these categories, for the development to be successful, but diversity starts at the regional scale. At this scale it must be connected, segregated diversity is not urban at any scale, and the diverse population and functions should have a connecting fabric, which makes the region vital and inclusionary (Katz, 1994). At the regional level, planning can direct growth and direct the distribution of housing types so that all levels can be accommodated. Implementing diversity is extraordinarily difficult because people don’t want their property values to be adversely affected by the housing provided for low-income families.
Properly designed housing will help the low-income homes to blend in with the more expensive homes, but people are still difficult to convince (Figure 2.15). As Calthorpe wrote in the *Charter of the New Urbanism*, “Diversity is perhaps the most challenging aspect of New Urbanism, but it is essential to its philosophy” (Leccese & McCormick, 2000, p. 179).

**Problems with Contemporary Design**

After World War II, the United States went through a growth spurt. Soldiers were returning to their families and the government was setting up programs to help them purchase a new home. The only problem was that the cities weren’t prepared for the growth spurt. As time went on, people gradually moved from the city to the suburbs – that was the American Dream – but the form of development has proven to be devastating. When the first Congress of the New Urbanism convened in Alexandria, Virginia, in October of 1993, the participants:

> Were concerned about the placelessness of modern suburbs, the decline of central cities, the growing separation in communities by race and income, the challenges of raising children in an economy that requires two incomes for every family, and the environmental damage brought on by development that requires us to depend on the automobile for all daily activities. (Leccese & McCormick, 2000, pg. 1)

Zoning has played a big role in creating this condition. Its original intent was to separate uses that were harmful to each other, the residential areas should be kept away from industrial and so on, but times have changed and technology has improved to where the separation is no longer as
necessary. Yet, we continue to follow zoning codes that specify lot sizes, setbacks, densities, and other physical dimensions that only worsen sprawl (Katz, 1994).

Zoning not only separated uses, but it created a culture of placeless subdivisions and commercial development. The new strip centers lacked a focal point, as the parking lot separated the building from the street (Figure 2.16). There was a lack of enclosure on the site because there was no cross interaction between separate building façades. The typical suburban shopping center fronts the street with a large parking lot, creating a placeless area with no relationship to the street (Duany, Plater-Zyberk, & Speck, 2000).

Street construction, cul-de-sacs, and traffic congestion are the final culprits of bad design. Zoning once again plays a role in this. The separately zoned pods make it difficult to create connectivity between them, while also forcing all traffic to empty the pod at a limited number of exits onto an arterial road (Figure 2.17). For some vehicles, this trip is necessary, for others, it would be much more convenient to drive to their destination without traversing the collector road. All of the unnecessary traffic only adds to congestion and the need for streets to be widened; and creates an
even more dangerous situation for pedestrians. Andres Duany and Elizabeth Plater-Zyberk studied the cul-de-sac and found that it was the suburb, not the city, that had become ubiquitous in American life, and unless we address the suburb directly, the liabilities involved with its design will overwhelm cities (Duany & Plater-Zyberk, 1991).

Problem Solving

With the first meeting of the Congress of the New Urbanism, came the first steps in the development of the *Charter of the New Urbanism*. This set of principles would lay the groundwork for resolving the problems the group felt the United States was facing. The solution was a “dense, mixed-use neighborhood with walkable streets, civic amenities, defined open space, and, if possible, connections to transit” (Dutton, 2000, p. 11). It was the vision of a self-supporting, walkable village that would help to fix many of the problems found in today’s developments.

The first step towards reconciling the problems of the past is to reevaluate the role and prescriptions of zoning. Through studies and models, the members have found that their methods work, and can provide a very successful and comfortable alternative to contemporary design. The next step is to rewrite the codes, development standards, and regional plans to reflect these designs and to slowly integrate methods of traditional town planning back into the zoning ordinance (Katz, 1994). It is imperative to involve city, county, and state officials in the process, because a development doesn’t just affect its immediate surroundings, it has an affect on all other future developments and impacts the region as a whole. “Think globally, act locally, but plan regionally” (Duany, Plater-Zyberk, & Speck, 2000, p. 225) simply means to consider the impact of a design on the large scale, while designing site-specifically. Planning on the regional level devises where, when, how, and what form that local development will take. “Regionalism is
closely aligned with an ideology of contextualism. Architecture that responds to a regional context, rather than a site by site basis, creates a community of building types and helps to create an identity for the community” (Potteiger & Purinton, 1998, p. 261-262).

The next step in changing is making travel more convenient, and developing communities that are efficient. In many instances people live within walking distance of their destinations, but because of design, they must go to great lengths, often in an automobile, to get to their destination (Figure 2.18). An integrated network of streets helps to alleviate this situation by providing simple access to different parts of the development – without having to leave the development. An efficient grid of streets also allows for pedestrian travel. The lack of dead ends and the continuity and connectivity allow people to easily traverse the streets for short daily trips. “Land-use patterns, street layouts, and densities should make walking, bicycling, and public transit viable alternatives to driving” (Katz, 1994, p. xxx). This also creates a stronger sense of security for the neighborhood because pedestrian travel is visible to the home fronts, so the guard gates can be removed and access is easier.

Property values are at the forefront of every homeowner’s mind whenever something different or new moves into the area. The first question is always, “How is this going to affect MY property?” New Urbanists want to turn this question around a little bit. Through design and experience they have found that it is not the immediately surrounding properties that affect property values, it’s the community as a whole. It’s the atmosphere of the community, the
offered amenities, the proximity to daily needs, and the sense of security and safety. “The deceptively simple responses the New Urbanists propose to these problems are based on one equally simple principle: community planning and design must assert the importance of public over private values” (Katz, 1994, p. xxx). People must realize that their property is not greater than the whole and they must rely upon and contribute to the overall plan of the community for their property to become an even greater success. If communities are ordered with the civic spaces and open spaces as primary uses, public gathering spaces as secondary, and the housing as background, supporting these uses, there will be an equality and diversity to the neighborhood.

Finally, New Urbanists have found that it is imperative to involve the public in the process of designing their community. Many of the stumbling blocks that occur along the way for developers, stem from individuals who are opposed to the project. By allowing these individuals to get involved from an early stage they have an opportunity to voice their opinions, make suggestions, and begin to understand the purpose of the project, all while developing a sense of ownership for the plan. When this occurs they become less likely to oppose the plan and more likely to strongly support it when the developer seeks permits for developing the property (Duany, Plater-Zyberk, & Speck, 2000). As people get involved (Figure 2.19) they begin to understand the positive impact of the development, and they begin to see how the design can affect their livelihoods. There have been many situations where after opponents to development see the result and see the functionality of the place, they become one of the biggest supporters. “At best, the movement has refocused the public’s attention more strongly on how the design of our communities has a very
real impact on our lives” (Katz, 1994, p. xlii). For New Urbanists, time is the greatest storyteller. Only time will tell the successes and failures of New Urban projects determining whether this is a viable direction for the future.

Historically, we have rebuilt our nation every fifty to sixty years, so it is not too late. The choice is ours: either a society of homogenous pieces, isolated from one another in often fortified enclaves, or a society of diverse and memorable neighborhoods, organized into mutually supportive towns, cities, and regions. (Duany, Plater-Zyberk, & Speck, 2000, p. xiv)

Charter of the New Urbanism

The Charter of the New Urbanism is considered by many to be the guiding principles of New Urban practitioners. Leaders in the design of New Urban communities developed a focused set of criteria that should be implemented into projects of all scales for the further development of cities, and the creation of new towns. The set of twenty-seven guiding principles outlines the shape of development on several scales. But what is now a comprehensive set of principles, guidelines, and prescriptions for growth, began with a fairly simple, yet complex look at strategies for creating better places.

Ahwahnee Principles

In 1991, a small group of leading practitioners met in the Ahwahnee Hotel in Yosemite National Park, and developed “the first formal statement of New Urbanist ideals” (Fulton, 1996, p. 5). Andres Duany, Elizabeth Plater-Zyberk, Stefanos Polyzoides, Elizabeth Moule, Peter Calthorpe, and Michael Corbett helped to create what came to be known as the Ahwahnee Principles (Fulton, 1996). The Ahwahnee Principles consisted of a mission statement that diagnoses the ills of cities today. Congestion, air pollution, loss of open space, dependence on the automobile,
costly improvements to infrastructure, and the inequitable distribution of community funds led this group of architects, landscape architects, and planners to reexamine the direction communities are growing. The solution found in the preamble of the Ahwahnee Principles plans to draw “upon the best from the past and the present…” to “…successfully serve the needs of those who live and work within them” (Fulton, 1996, p. 4). Implementation strategies “on the local level, techniques such as voluntary covenants, easements, land purchase, transfer of development rights, zoning, utility extension policies, and performance standards” (Steiner, 2000, p. 21) are all included in the principles. The principles focus on the structure of the community, discussing relationships between uses, the form of public transportation, a balance of jobs and residents, diversity of housing, connectivity of streets and pedestrian passageways, the design of quality open space, and the efficient use of natural resources. This set of principles drew upon past precedent, especially that found in the City Beautiful and Garden City movements. Unlike the Charter of the New Urbanism, very few principles were dedicated to the larger, regional scale, but they do suggest several implementation strategies for future development (Fulton, 1996).

*Charter of the New Urbanism*

While the Ahwahnee Principles were a rough guideline developed by a few of the leading practitioners, they acted as a springboard for the development of the Charter. In October, 1993, a group of about 170 practitioners met in Alexandria, Virginia, to convene the first Congress of the New Urbanism. Their purpose for gathering was to discuss the current trends in development and how those trends were becoming detrimental to the life of the city.

The original Congress participants were concerned about the placelessness of modern suburbs, the decline of central cities, the growing separation in communities by race and income, the challenges of raising children in an economy that requires two incomes for
every family, and the environmental damage brought on by development that requires us to depend on the automobile for all daily activities. (Leccese & McCormick, 2001, p. 1)

At the fifth Congress of the New Urbanism, held in Charleston, South Carolina, in 1996, 266 members signed into existence the Charter of the New Urbanism. The outcome of this meeting “was energizing and created the seed of a larger movement that has now borne fruit” (Leccese & McCormick, 2000, p. 1), bringing into focus a new generation of design.

The Charter puts into words the beliefs and design philosophy that was shared by this group of designers, and outlines strategies for accomplishing those goals. The first few lines of the preamble diagnose the problems that exist with the current forms of development.

The Congress of the New Urbanism views the disinvestments 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. (Leccese & McCormick, 2000, p. v)

Growth is not bad; it is the uncontrolled, unmanaged, disassociated growth that is dangerous to the vitality of the city. New growth that provides the necessary services to the people that live there is good, it cuts down on trip distances, and allows for traffic to be contained, but growth that continues to rely upon existing services causes congestion, longer trips, and more time spent commuting. Sprawl disintegrates the central city and creates a lack of continuity from center to edge. It is the American Dream to be financially secure and own a piece of property (Figure 2.20),
so developers cater to that need, housing-only developments are built with oversized lots and houses, streets that are too wide, and a lack of community open space, all this leading to the demise and destruction of our natural resources.

The Charter continues:

We stand for the restoration of existing urban centers and towns within coherent metropolitan regions, the reconfiguration of sprawling suburbs into communities of real neighborhoods and diverse districts, the conservation of natural environments, and the preservation of our built legacy. (Leccese & McCormick, 2000, p. v)

Along with sprawl is an urban flight, people leaving the central city to chase their opportunity to capture their American Dream. While natural environments, agricultural, and cherished open space is being destroyed by development; the left behind inner-city is being destroyed by disinvestments. One of the goals of New Urbanism is to reclaim these blighted areas and redevelop them as new, thriving communities, where people of every background can live. Does the American Dream have to grow into the farmlands and open space of America to be an American Dream, or can it exist in an urban environment? New Urbanists believe that the American Dream exists anywhere someone can call a place their own, and anywhere they can call that place home. Creating an inviting, safe atmosphere with infill development, on reclaimed land, can create this sense of place.

The Charter continues:

We suggest that physical solutions by themselves will not solve social and economic problems, but neither can economic vitality, community stability, and environmental health be sustained without a coherent and supportive physical framework.
We advocate the restructuring of public policy and development practices to support the following principles: neighborhoods should be diverse in use and population; communities should be designed for the pedestrian and transit as well as the car; cities and towns should be shaped by physically defined and universally accessible public spaces and community institutions; urban places should be framed by architecture and landscape design that celebrate local history, climate, ecology, and building practices.

(Leccese & McCormick, 2000, v-vi)

Design alone cannot make these changes happen, mainly because the necessary design elements and relationships are considered illegal in most municipalities. It starts at a political level, making the agencies in charge aware of the changes that need to be made, and educating the public on the necessity of the changes. The most important part is to create a diversity of uses, people, and places – a community made up of the wealthy and the less fortunate, of diverse races, and of all ages – providing quality public spaces, a mix of uses within buildings, and jobs to support the people that live there.

The Charter concludes:

We represent a broad-based citizenry, composed of public and private sector leaders, community activists, and multidisciplinary professionals. We are committed to reestablishing the relationship between the art of building and the making of community, through citizen-based participatory planning and design.

We dedicate ourselves to reclaiming our homes, blocks, streets, parks, neighborhoods, districts, towns, cities, regions, and environment. (Leccese & McCormick, 2000, p. vi)

Although this movement was started by architects, landscape architects, and planners, it has grown to include a broad range of professionals, including lawyers, developers, real-estate
brokers, bankers, engineers, and the general public. They have all witnessed the damage of
sprawl and want changes made. They want a better environment to live in and will continue to
push until that environment is created. Sprawl is everywhere, and by 2025 the United States will
need nearly thirty-million new homes, most of these will be single family, detached homes at the
good of the city (Mitchell, 2001). There are two choices to continued growth, growth that follows
the detrimental patterns created by sprawl, or growth that is controlled and managed in a smart
and meaningful way.

### Scales of Development

The *Charter of the New Urbanism* doesn’t stop with the preamble, it continues on to look at three
separate and distinct scales of development, providing nine principles for each scale to develop.
These twenty-seven principles will be discussed individually below. While these three scales, the
Region: Metropolis, City, and Town; the Neighborhood, District, and Corridor; and the Block,
Street, and Building, are separate, they must be considered as one whole for the development of a
community. The three scales of development are discussed below along with their corresponding
principles. For a more in-depth look at the individual principles, reference Appendix A-1 on page
156.

### The Region: Metropolis, City, and Town

The largest scale is the Region: Metropolis, City, and Town. Development starts at the scale of
the region, regardless of the size or use of the project, it can have a lasting impact on the function
of the region. This portion of the Charter contains nine guiding principles that help designers and
cities determine the best location for development, and how that development should take shape.
The most important focus of this section of the Charter is to push for regulatory changes on a
regional level; molding the form of new development and determining where development should
occur. The map at right (Figure 2.21) shows the Sacramento, California, metropolitan area, and highlights places where growth should occur along planned and existing transit corridors. “Regional strategies and coordination must guide policies for economic development, pollution control, open-space preservation, housing, and transportation” (Leccese & McCormick, 2000, p. 13). Starting at the regional scale defines how development works into the existing picture, and becomes an asset to society.

Kevin Lynch, in his book The Image of the City, discussed the importance of the metropolitan scale of development. “The metropolitan region is now the functional unit of our environment, and it is desirable that this functional unit should be identified and structured by its inhabitants” (Lynch, 1960, p. 112). It is important to note that that book was originally published in 1960, nearly twenty years prior to the development of the New Urbanism, and fifteen years after planning and design began to take a turn for the worse. Lynch studied the form of the city and development on many scales, from simple site design to the complexities of mixed-uses and the urban form. He notes in many instances throughout many of his books the importance of the very details and relationships that New Urbanism strives to achieve. New Urban principles are not based solely on the preferences and beliefs of the individuals involved in the design of neighborhoods, rather they are a culmination of years of experience and research that shows that development, in its current form, is detrimental to the form of the city. The principles for this scale of development are as follows:
Principle #1: “The metropolitan region is a fundamental economic unit of the contemporary world. Governmental cooperation, public policy, physical planning, and economic strategies must reflect this new reality” (Leccese & McCormick, 2000, p. 15).

Principle #2: “Metropolitan regions are finite places with geographic boundaries derived from topography, watersheds, coastlines, farmlands, regional parks, and river basins. The metropolis is made of multiple centers that are cities, towns, and villages, each with its own identifiable center and edges” (Leccese & McCormick, 2000, p. 23).

Principle #3: “The metropolis has a necessary and fragile relationship to its agrarian hinterland and natural landscapes. The relationship is environmental, economic, and cultural. Farmland and nature are as important to the metropolis as the garden is to the house” (Leccese & McCormick, 2000, p. 29).

Principle #4: “Development patterns should not blur or eradicate the edges of the metropolis. Infill development within existing areas conserves environmental resources, economic investment, and social fabric, while reclaiming marginal and abandoned areas. Metropolitan regions should develop strategies to encourage such infill development over peripheral expansion” (Leccese & McCormick, 2000, p. 35).

Principle #5: “Where appropriate, new development contiguous to urban boundaries should be organized as neighborhoods and districts, and be integrated with the existing urban pattern. Noncontiguous development should be organized as towns and villages with their own urban
edges, and planned for a jobs / housing balance, not as bedroom suburbs” (Leccese & McCormick, 2000, p. 43).

**Principle #6:** “The development and redevelopment of towns and cities should respect historical patterns, precedents, and boundaries” (Leccese & McCormick, 2000, p. 49).

**Principle #7:** “Cities and towns should bring into proximity a broad spectrum of public and private uses to support a regional economy that benefits people of all incomes. Affordable housing should be distributed throughout the region to match job opportunities and to avoid concentrations of poverty” (Leccese & McCormick, 2000, p. 53).

**Principle #8:** “The physical organization of the region should be supported by a framework of transportation alternatives. Transit, pedestrian, and bicycle systems should maximize access and mobility throughout the region while reducing dependence on the automobile” (Leccese & McCormick, 2000, p. 59).

**Principle #9:** “Revenues and resources can be shared more cooperatively among the municipalities and centers within regions to avoid destructive competition for tax base and to promote rational coordination of transportation, recreation, public services, housing, and community institutions” (Leccese & McCormick, 2000, p. 65).

**Neighborhood, District, and Corridor**

The next scale of development encompasses the Neighborhood, District, and Corridor. This scale looks at the individual development and how it fits into its proposed surroundings. It is important
that new developments tie seamlessly into their surroundings, to create continuity in the growth of the city and to respect the established urban fabric. New development can consist of many different parts, the nine principles included in this section of the Charter describe the relationships between these parts that make for a stronger community and a better place to live. Using the structure of the neighborhood, district, and corridor, New Urbanists propose a new approach to development. Instead of isolated single-use zoning, the Charter pushes for a series of highly integrated, mixed-use areas for development to occur. It is important to plan for the human scale while providing places for larger institutional uses (Leccese & McCormick, 2000).

Neighborhoods consist of a mix of uses that allow the residents to access their daily needs without requiring the use of an automobile. Well-designed neighborhoods provide more places to live within a closer proximity to commercial and office space for working and conducting daily activities. On the other hand, “districts are the relatively large city areas which the observer can mentally go inside of, and which have some common character” (Lynch, 1960, p. 66). They become slightly more singular in use, but provide many of the services that help to support that singular use. This might include hotel space in an entertainment district where nightclubs, restaurants, theaters, and bars are the center of activity. Finally, the corridor acts as the binding thread between the areas. While neighborhoods and districts can be one in the same, overlap, or be completely separated, the corridor allows for travel to, from, and through the development. The corridor is usually a highway or expressway that provides quick access to a central city or another adjacent town or village. It can also come in the form of open space, as a natural separation between neighborhoods that allows those neighborhoods to be connected and connect to a larger system of open space. The principles relating the Neighborhood, District, and Corridor are as follows:
Principle #10: “The neighborhood, the district, and the corridor are the essential elements of development and redevelopment in the metropolis. They form identifiable areas that encourage citizens to take responsibility for their maintenance and evolution” (Leccese & McCormick, 2000, p. 73).

Principle #11: “Neighborhoods should be compact, pedestrian friendly, and mixed-use. Districts generally emphasize a special single use, and should follow the principles of neighborhoods and districts; they range from boulevards and rail lines to rivers, and parkways” (Leccese & McCormick, 2000, p. 79).

Principle #12: “Many activities of daily living should occur within walking distance, allowing independence to those who do not drive, especially the elderly and the young. Interconnected networks of streets should be designed to encourage walking, reduce the number and length of automobile trips, and conserve energy” (Leccese & McCormick, 2000, p. 83).

Principle #13: “Within neighborhoods, a broad range of housing types and price levels can bring people of diverse ages, races, and incomes into daily interaction, strengthening the personal and civic bonds essential to an authentic community” (Leccese & McCormick, 2000, p. 89).

Principle #14: “Transit corridors, when properly planned and coordinated, can help organize metropolitan structure and revitalize urban centers. In contrast, highway corridors should not displace investment from existing centers” (Leccese & McCormick, 2000, p. 97).
**Principle #15:** “Appropriate building densities and land uses should be within walking distance of transit stops, permitting public transit to become a viable alternative to the automobile” (Leccese & McCormick, 2000, p. 101).

**Principle #16:** “Concentrations of civic, institutional, and commercial activity should be embedded in neighborhoods and districts, not isolated in remote, single-use complexes. Schools should be sized and located to enable children to walk or bicycle to them” (Leccese & McCormick, 2000, p. 105).

**Principle #17:** “The economic health and harmonious evolution of neighborhoods, districts, and corridors can be improved through graphic urban design codes that serve as predictable guides for change” (Leccese & McCormick, 2000, p. 109).

**Principle #18:** “A range of parks, from tot lots and village greens to ballfields and community gardens, should be distributed within neighborhoods. Conservation areas and open lands should be used to define and connect different neighborhoods and districts” (Leccese & McCormick, 2000, p. 113).

**Block, Street, and Building**

The final scale of development is the Block, Street, and Building. This scale looks at the details of the place, how streets, buildings, and landscape affect the pedestrian and the automobile. The Charter lays down nine final guiding principles that help to disclose the necessary relationships between buildings and street. While the previous principles looked at what should be included, and how it should be arranged, this set of principles looks at how it all comes together. The retail areas depend on the access by vehicles, walking, or bicycling to survive. Housing requires a
certain level of continuity to create diversity in the residents, while no home in particular places itself in a position above the rest (Leccese & McCormick, 2000). This section looks at diversity and how it is created on the detail level. It creates ways to integrate uses in a comfortable pattern and lays down the framework for creating a sense of community and sense of pride in that community.

These principles look at the relationship of the building to the street, and how buildings can be used to create a comfortable, safe environment that encourages pedestrian traffic. The detailing of streets to promote pedestrian life is an important element to these principles, finding ways to incorporate the automobile and the pedestrian into the same cross-section. The pattern of streets and the network of intersections it creates, is imperative to the pedestrian. Options for travel allow a pedestrian to find the shortest path for them to walk, rather than being forced to follow a single path that may lead throughout a development to pick up the release points of other small cul-de-sacs. Grids are one of the best ways to provide this necessary level of choice, and streets set up in grids help promote pedestrian travel. But, walking through a neighborhood can be incredibly intimidating if streets alone are addressed. The relationship of the surrounding buildings must add to the comfort of the pedestrian experience, providing a sense of enclosure that helps to slow automobile traffic and a friendly façade to the houses that face the street, creating a welcome environment. The following lists the nine principles dealing with this scale of development:

Principle #19: “A primary task of all urban architecture and landscape design is the physical definition of streets and public spaces as places of shared use” (Leccese & McCormick, 2000, p. 123).
Principle #20: “Individual architectural projects should be seamlessly linked to their surroundings. This issue transcends style” (Leccese & McCormick, 2000, p. 127).

Principle #21: “The revitalization of urban places depends on safety and security. The design of streets and buildings should reinforce safe environments, but not at the expense of accessibility and openness” (Leccese & McCormick, 2000, p. 133).

Principle #22: “In contemporary metropolis, development must adequately accommodate automobiles. It should do so in ways that respect the pedestrian and the form of public space” (Leccese & McCormick, 2000, p. 141).

Principle #23: “Streets and squares should be safe, comfortable, and interesting to the pedestrian. Properly configured, they encourage walking and enable neighbors to know each other and protect their communities” (Leccese & McCormick, 2000, p. 147).


Principle #25: “Civic buildings and public gathering places require important sites to reinforce community identity and the culture of democracy. They deserve distinctive form, because their role is different from that of other buildings and places that constitute the fabric of the city” (Leccese & McCormick, 2000, p. 161).
**Principle #26:** “All buildings should provide their inhabitants with a clear sense of location, weather, and time. Natural methods of heating and cooling can be more resource-efficient than mechanical systems” (Leccese & McCormick, 2000, p. 169).

**Principle #27:** “Preservation and renewal of historic buildings, districts, and landscapes affirm the continuity and evolution of urban society” (Leccese & McCormick, 2000, p. 173).

**Key Terminology**

Like any profession, there is a great deal of specialized terminology that goes along with planning, and the New Urbanism is no different. Some of these terms are used on a regular basis to describe the shape of development. Some of the more prominent terms have been defined below.

**Traditional Neighborhood Development**

The Traditional Neighborhood Development (TND), also known as neotraditional design, is the most basic form of development in the New Urbanism. This is the development type that designers Andres Duany and Elizabeth Plater-Zyberk became well known for creating. Following New Urban principles, these developments create a mixture of integrated uses and housing types, within a quarter-mile radius of the town center (Figure 2.22). Important community buildings hold a great deal of stature in these designs and the neighborhoods are meant to be pedestrian oriented. They

![Figure 2.22 – The circle in this diagram denotes a quarter-mile radius, or five-minute walk, from the town center.](image-url)
“represent the design principles that were predominant before World War II” (Hall & Porterfield, 2001, p. xx). There is a defined center and edge to the community, with the center being occupied by a traditional town center and the housing branching out from there. Streets are narrow to encourage slower traffic and porches face onto the street rather than garages, which have been moved to the back of the house to sit along an alley. The focus of the design is on the pedestrian and making communities safe and accessible without requiring the use of an automobile.

Duany and Plater-Zyberk use the transect as the basis for the design of neighborhoods. A transect is a section along a linear path, capturing the typical relationship of different ecosystems along the line. In this case, Duany and Plater-Zyberk use it to look at the relationship of the urban density to that of the agricultural. Starting with the rural preserve, the transect makes its way through a series of six zones, finishing in the urban core (Aurbach, 2001; Duany Plater-Zyberk & Company, 2001). As shown in Figure 2.23, the first zone contains mostly open space and agricultural lands; this also includes areas that are typically not developed, such as dense forests, and the foothills of mountains. The second zone is the rural reserve. This zone keeps land as open space that contains highly productive agricultural lands. Next is the suburban zone, which contains low density and estate type housing, on larger lots, helping to preserve open space while

Figure 2.23 – The transect represents several scales and densities of development and how those densities should relate to one another and the Urban Core.
also beginning the movement towards a more intensive use. The fourth zone is the general urban zone, this zone starts to take on the strict form of the city. This is also the zone that begins the five-minute walk into the urban core. The urban center begins to mix uses, with housing occurring at a higher density and the introduction of some commercial. The final zone is the urban core, this is the highly intensive, mixed-use, high density center of the community. This area defines the fabric of the community and is the center of all urban life.

**Transit Oriented Development**

Similar in many ways to the TND, Transit Oriented Development (TOD) adds another dimension. Peter Calthorpe’s model for the TOD brings an element of public transportation to the New Urban community. His push to create communities that attach themselves to the larger central city via the mass transit line, created the TOD. Having many of the same characteristics of a TND, the TOD is located where access to a centralized transit stop is within a ten-minute walk of all housing (Calthorpe, 1993). Figure 2.24 illustrates Calthorpe’s basic structure for a TOD, surrounding the transit stop is a traditional town center with housing branching out from there. Although he does not refer to the development transect in his work, the TOD utilizes the urban core for the central transit stop, allowing passengers to wait in a pleasant atmosphere containing services, such as coffee shops, news stands, and other small shops, that provide interest for the passengers and business for the shop owners. Similar to the Garden City, the TOD relies on a city-wide mass-transit system that provides access for the residents directly to the urban core of a nearby larger city.

Figure 2.24 – Calthorpe’s basic concept for a Transit Oriented Development (TOD).
While Calthorpe prefers the introduction of light rail or a commuter rail system, this service is not always feasible in the larger metropolitan region. Many cities do not have the funding to supply the infrastructure, nor do they have the ridership to support the costs of operating a light rail system. In many new communities, the bus has become a very viable second choice for designers. Bus service to new developments on the outskirts of some cities is difficult to provide. The reason is that it is not economical to provide service to just a few people, so many TODs must wait for their surrounding properties to be developed to create the rider base to support the mass-transit. On the other hand, “New Urban projects built within established urban fabric seem to fare better, in part because service is more frequent” (Most new urban communities get bus service, 2002 p. 7) and access from the development area already exists.

**Infill Development / Urban Design**

Sprawl occurs because someone decides to move from one location, usually towards the inner-city, to another location further away. They move away from their old home and old neighborhood to someplace new and fresh. While an individual case of this is not bad, it is the mass-exodus from the city that we are experiencing that causes sprawl. This is an extraordinarily dangerous situation for the health and vitality of cities. Instead of remaining compact, concentrated, and centered, they are diluted across the countryside, taking valuable open space and agricultural lands with them. This practice was started by the wealthy, which left the city because they had the money to do so, but soon others joined the rich, all in an attempt to live the American Dream. So, the basic progression of movement is: the rich move out, the middle class move to where the rich once lived, and the lower class either stay where they are or move to where the middle class once occupied. This leaves places in limbo, unoccupied and allowed to become rundown.
Infill projects take on these left over spaces and turn them into vital places in the community, where both the rich and poor want or desire to live (Figure 2.25). The New Urbanism sees this and pushes for the reinvestment in our urban cores (Leccese & McCormick, 2000), but the “existing government and market forces…make it less profitable for developers to work in the city than on the rural ‘greenfield’ fringe” (Duany, Plater-Zyberk, & Speck, 2000, p. 145). New Urbanists are pushing developers to try to reverse this practice, encouraging them to redevelop inner-city properties, and invest their money in the vitality and life of the city. They are also pushing cities and municipalities to provide incentives and tax breaks to developers who put money into redeveloping blighted lands.

**Smart Growth**

As cities grow, managing that growth and controlling it to create consistency in development and patterns that are beneficial to the form of the city, has become known as smart growth. The theory of smart growth is simple; development is directed in a predetermined pattern, giving priority to places that are better suited for development, while other lands that should be retained as open space are encouraged to remain that way. This means infill development before outward expansion, growth along existing utility corridors instead of expanding the utilities to service new development, and contiguous growth versus leap frog development. Many municipalities, and
even states, have begun to adopt regulations that direct growth and control its form (Duany, Plater-Zyberk, & Speck, 2000; Dutton, 2000). There are many tools in existence that already help to control growth and fall into smart growth ideals. Things such as an urban growth boundary and development incentives for contiguous growth help encourage developers to develop close to the city.

The New Urbanism is a new tool that can help smart growth. Because of its mixture of uses, tight configurations, and concentration of housing into a smaller area, big growth takes place on a smaller scale, providing more housing and services in a smaller space, and conserving open space and agricultural lands. At a forum of designers discussing urban sprawl, Harry Dodson said, “As compared to the standard way of doing subdivisions neotraditional development preserves more open space because of its narrower streets and tighter relationships between buildings” (Thompson, 1998, p. 70). Between 1999 and 2001, more than 2,000 planning bills were introduced to state legislatures around the country, unfortunately only about twenty percent were approved. Many of these proposals addressed New Urbanism as a viable alternative to standard subdivision design, helping to make the process of approval easier. “While the quantity of proposals is encouraging, its not always easy to pin down their quality. ‘Planning reform’ does not necessarily imply that smart growth principles are central to legislation” (State planning reforms make gains, 2002, p. 1).

**Urban Growth Boundary**

Urban Growth Boundaries are an important tool used by cities and regions to define the edges of growth. Considered a key element in smart growth initiatives, they draw a line in the sand as to where growth should and should not occur. “An urban growth boundary establishes a clearer ‘urban edge’ than other forms of growth management” (Kelly, 1993, p. 54). Depending upon the
needs of the city, the urban growth boundary can be defined in many ways. In Boulder, Colorado, the boundary is a specific elevation, beyond which city services become extremely costly to provide, but it also keeps intact the backdrop of the Rocky Mountains to the west of the city. In Hawaii, the state utilizes urban growth boundaries in a similar manner to define the edges of metropolitan areas and preserve the beauty of the natural landscape. And in Portland, Oregon, the urban growth boundary is used to preserve the surrounding farmlands and open space, create economical expansion of services, and promote infill development (Kelly, 1993). The boundary encourages compact forms of development and discourages placeless sprawl.

**Planned Unit Development**

Planned Unit Developments (PUD) are an important tool for planners and designers of New Urban projects to utilize. As mentioned earlier, it is illegal, according to most zoning regulations, to develop the kinds of mixed-use, compact, high-density developments that the New Urbanism requires. PUDs allow for changes to be made to zoning laws, so the law can match the form of the development. If a property is zoned for single family residential housing, and is of a great enough size (typically ten to fifteen acres at a minimum), then the property can go through the process of becoming a PUD (Levy, 2000; Hall & Porterfield, 2001). Along with a PUD application and site plan, a series of new codes are created that specify how the development will be built. These codes can range from the simplest of changes, where the developer wants to incorporate commercial in a residential area or change the density of housing to allow for more homes in a smaller area, to highly complex sets of rules that describe setbacks, building heights, vegetation to be used, street widths, and the like. In the first instance, one or two simple changes are made to the zoning code as it applies to a particular site, while the remainder of the code remains intact as the governing rules over the property. In the later, many changes need to be made to the zoning code, to a point where a brand new code is written in its entirety to direct the
form of development for a particular piece of property. For a New Urban development, the ability to create a PUD allows the designer to integrate all of the necessary components, in the necessary densities, to create a complete neighborhood.

**Charrette**

Duany and Plater-Zyberk are intent on the participation of the public in creating designs. They feel it is important to get the public input early on in the design, so that those possible opponents of the design will understand the approach and objectives of the project. It also starts to create a dialogue between the developer, designer, and permitting agency to help the process move more rapidly through approval (Duany & Plater-Zyberk, 1993). The charrette is a “brief, intensive workshop in which the design team works together with municipal staff, city council members, the land owner, the developer, and all interested citizens (Figure 2.26) in order to produce a plan that addresses the needs of the community” (Hall & Porterfield, 2001, p. 51). By getting the members of the community involved early they begin to help the design take form. When they are able to give their personal input and help to create the design, the people take ownership in the project and are less likely to oppose its design when review goes before permitting agencies.

Beyond the community involvement, the charrette provides the architect and designer with “a crucial instrument of communication and edification and not merely a means of embodying popular consensus” (Dutton, 2001, p. 38). The charrette process allows the designers to present
their ideas for the community to the people involved; it then allows those people to voice their concerns or opinions about the presentation. Gathering information, dialogue, and ideas, the designer is then equipped with a stronger arsenal of information to begin to apply the principles of New Urbanism to the project. In the end, a community is created that follows the goals and principles of New Urbanism, while providing the sense of ownership necessary to create community pride among all the citizens.
Chapter 3

METHODOLOGY

The purpose of this study was to determine how closely typical New Urban developments are following selected principles in the *Charter of the New Urbanism*. Three different size developments were studied. The study focused on five principles at the scale of the Block, the Street, and the Building that fall into the category of physically prescriptive.

This study consists of two phases. The first phase identifies three communities, of various scales, that represent the majority of New Urban projects being designed and built. The communities will be recognized as communities designed with the intent to follow New Urban design principles. For the purpose of this study, it will be assumed that the original design of the community follows the principles of New Urbanism, as set forth in the *Charter of the New Urbanism*. The second phase of this study uses selected principles in the *Charter of the New Urbanism* to determine the success of a community as a New Urban project. The principles used will define quantifiable standards that allow the communities to be tested based on their physical relationships.

Community Selection

The selection of the communities to be used is a very important step in the process. It is important to use communities that represent the majority of the projects being built today, to get an understanding of how the principles are being applied to a typical project.
There are three basic levels of New Urban projects: prototypical, standard, and hybrid. The prototypical community is the community that was designed based on the principles, and follows them very strictly. These communities try to integrate all of the land uses that New Urbanists propose to mix, in a way that makes the community work as its own, self-supporting town. Places like Seaside, Florida and Laguna West in California (Figure 3.1) both have been designed to incorporate a mix of commercial, office, housing, open space, and civic uses into a complete, concentrated whole. The establishment of these communities has led to high acclamation for New Urbanism. Seaside is one of the most recognized and celebrated new communities in the United States, and the acclaim it is receiving “reminds us how miserably bereft of character most of our communities, particularly post-World War II suburban ones, seem by comparison” (Duany & Plater-Zyberk, 1991, p.9). These communities are successful because the developers were willing to allow the designers to impose a large amount of control over the project. More importantly, the designers and developers were able to work together to convince the local or regional government of the benefits of creating these communities.
The standard project is characterized by communities that reflect the general premises set out by New Urbanism, but may have a few things that don’t fit completely with the principles. One example is Kentlands, Maryland (Figure 3.2). As mentioned earlier, the developer wanted to include a regional shopping center in the overall master plan for the community. The community itself, the mix and design of houses, the location of civic and public spaces, the creation of parks and open space, the centralization of a town center, the relationships of buildings to streets and open space, and the interconnectivity of streets, drives, and lanes all follow the principles.

Although the shopping center later took on a contemporary design (Figures 3.3, 3.4, and 3.5), the street system of the rest of the community was extended into the shopping center, bringing a sense of connectivity and allowing for easier pedestrian access (Duany & Plater-Zyberk, 1991). The standard New Urban project embodies the intent of the principles of New Urbanism, but stretches them a little to allow for other, more contemporary planning practices to be involved when necessary.
The final type of development, the hybrid, is a mixture of planning strategies. “Projects which adopt some principles of New Urbanism but remain largely conventional in design are known as hybrids” (Steuteville, 2000). These typically occur in larger developments, where the intent for the development is to create an integrated whole community, but the market for the community demands a design that follows more contemporary standards. This may mean that several of the neighborhoods are the typical cul-de-sac neighborhoods that have become common in contemporary design, while other neighborhoods are designed following New Urban standards. One example of this is Oakleaf Plantation near Jacksonville, Florida. This is a development with over 15,000 new homes and living units planned for the future, many of those neighborhoods are being developed as contemporary neighborhoods, featuring larger lots, cul-de-sacs, and a lack of quality public open space. Other areas have been designed to promote connectivity and pedestrian traffic, by including a mix of uses, higher density housing, interconnected streets, and block dimensions that are manageable by pedestrians. Another community, East Riverside, near Toronto, Canada (Figure 3.6), was originally designed as a New Urban community. As the property changed ownership, went through the public process, was evaluated by several real estate experts, and began construction, the design morphed into a conventional design with a few New Urban characteristics (Caruso & Sands, 2001). Hybrid communities embrace the theories and practices of New Urbanism, but due to various reasons these communities are unable to implement the principles completely and must rely upon more contemporary planning practices to fill in the gaps. The widespread use of hybrids has become a nuisance for many New Urban purists, because of a concern over these

Figure 3.6 – Master Plan for East Riverside.
communities marketing themselves as New Urban communities while only helping “to confuse and misinform public officials” (Ehrenhalt, 1998). This confusion could lead to a negative attitude by municipal officials and the general public, causing New Urbanism to struggle to develop in many areas.

This study looked at the typical New Urban development to determine how the principles are being applied to different projects that are being built today. The goal was to select communities that fall under the standard project typology to get an understanding of how the typical project being built today, applies the principles. Using a prototypical community can skew the results of the study, because it does not represent a true cross section of the projects being built. Another reason is that many of these communities have created property values so outrageous, that the initial premise of mixing incomes and creating a diverse, authentic community, is not attainable (Florida Atlantic University’s Anthony James Catanese Center, 2002). The use of a community that has been designed as a hybrid would also skew the results of this study because the intent of the design is to provide a variety of neighborhood types for homeowners and renters, not to design according to the principles of the New Urbanism.

**Location**

Not only is it important to find communities that are typical of most communities being developed and constructed, it is also important to find them in an area that is rapidly growing and has produced a large number of New Urban neighborhoods. By using three communities that are located in the same area, it allows the research to look at an area where the demand for housing is constant, the median income is constant, and the market for new development, of any type, is constant. In October of 2001, there were over 300 New Urban developments either in planning, under construction, or completed. Of those, the state that has seen the greatest use of New
Urbanism in developments is Florida. At that time, there were 48 communities either in planning or under construction (New Urbanist Project Construction Starts Soar, 2001).

There are several hubs of development in the state of Florida where New Urbanism is starting to take a strong hold (Figure 3.7). Walton County in the Florida panhandle is host to four developments, including the highly publicized Seaside. There are eleven new developments in the Orange County / Orlando area that follow New Urban design principles. One of the most highly publicized and controversial New Urban developments, Celebration, is located here in central Florida. The largest hot-bed of New Urban development is south Florida, running along

Figure 3.7 – Map of the state of Florida with the location of New Urban projects under development.
the coastline from south Miami Dade County north to Jupiter, where there are twenty New Urban developments, including the 2,055 acre Abacoa.

**Size**

The primary purpose of this study is to look at the physical relationships of the elements within a development, and how those relate to specific principles. This process used three New Urban developments to determine how those relationships change from conceptual design to the built product. One of the byproducts of this study was the comparison of how the principles were applied to different sizes of projects, and to determine what role, if any, scale plays in the ability for a community to develop as envisioned. This study will utilize three communities at varying scales (small, medium, and large) to compare and contrast the differences that may occur between conceptualization and construction. The results of this study can be used to generate discussion concerning the role scale plays in a development reaching build-out as designed.

In 2001, the *New Urbanism and Traditional Neighborhood Development: Comprehensive Report and Best Practices Guide* reported that of the 517 New Urban developments, 382 developments were under 200 acres and 82 more were below 1000 acres. This leaves 53 developments that are greater than 1000 acres (New Urban News, 2001). For the purpose of this study, these groupings were used to select the different scales of projects. The large community was a development being created on more than 1000 acres. Next, properties that are between 200 and 1000 acres were studied as part of the medium sized developments, and, finally, small projects were those projects less than 200 acres.

After the communities were selected, the research commenced by doing internet searches for any aerial photography, site plans, and background information discussing the subject developments.
The aerials were used to conduct as-built research on the status and measurements relating to this study. A site visit to each site was used for further data collection, measurement, photography, and the gathering of any available marketing materials. This data was compiled and compared to fulfill the research criteria set out below for each principle studied.

**The Principles**

The *Charter of the New Urbanism* outlines twenty-seven principles that are policy based, characteristically prescriptive, and physically prescriptive. These principles define goals that communities, regions, and even states should adopt for future smart growth. This study is focused on looking at the physical relationships within a community that make a community work. While the largest scale defines the relationship that an individual community or neighborhood has with its surroundings, it is the smallest scale, the Block, Street, and Building, that defines how a community is perceived and used on a daily basis by its residents.

Of the twenty-seven principles in the charter, eight of the principles push for changes to the approach and policies of the states, regions, counties, and municipalities. These principles seek to create policies that are out of the control of the designers at the individual development scale. Ten other principles specify a desired character for the streetscape, the neighborhood, or other parts of the community, describing the physical appearance of the neighborhoods in ways that are less definitive and more subjective in nature. These eighteen principles will not be used for this study. The remaining nine principles discuss the relationships of the different parts of the community, and how these parts should be arranged to create a complete, integrated, whole community. This study will focus on five principles at the scale of the Block, Street, and Building that fall in the category of physically prescriptive. The principles are: nineteen – definition of streets, twenty – architectural continuity, twenty-two – accommodation of the
automobile, twenty-three – accommodation of the pedestrian, and twenty-five – location and design of civic buildings. Below is a description of the methods to be used to measure the effectiveness of these five principles in the three selected communities.

**Principle #19:** The key ingredient to defining streets as comfortable places is to create a sense of enclosure. This is accomplished by pulling the buildings out from behind parking lots and lining them up along the street. Lining the street with buildings isn’t the only answer, though, the distances that those buildings are from each other is what creates the comfortable space. “Confronted by repetitive subdivisions, tireless collector roads, and vast parking lots, the citizen finds few public spaces worth visiting” (Duany, Plater-Zyberk, & Speck, 2000, p. 41). A sense of enclosure creates a place where people feel safe and comfortable, this leads to pedestrian traffic (Figure 3.8). Also, because buildings are in such close proximity to each other (versus having two-hundred to three-hundred feet separating opposing suburban strip malls), people are more likely to park once and walk from destination to destination. Buildings also provide a tangible, definable edge to parks and open space, creating a sense of place within squares, plazas, and village greens.

This principle was measured for two separate types of spaces, one for streets and one for open space. The measurements were very similar for both, the first type of space, the street, was defined as those right-of-ways that are fronted on both sides by buildings, whether residential or commercial. The other type was the street right-of-way that was fronted by buildings on one side, either residential or commercial, and either a park or other open space on the other. Whether the
street is fronted by buildings or open space, the relationships of the buildings involved will be the same. A ratio of 6:1 is the maximum perceivable ratio to continue to get a sense of enclosure (Figure 3.9). This ratio means that for every one foot of vertical rise along the façade of the buildings, the maximum distance that separates buildings opposite each other is six feet (Duany Plater-Zyberk & Company, 2002). This measurement was applied to the typical street sections for the different street types within the neighborhood. The distance between buildings and the street widths within the study area should follow the ratio of 6:1 for thoroughfares. This same ratio was applied to parks and open space, but a ratio of 3:1 was used for the distance from the building façade to the centerline of the right-of-way.

The second level of this study was to look at the building type and the way each building fronts the street. In the urban condition, commercial buildings should have a setback of zero feet from the right-of-way line (Figure 3.10), allowing for an arcade to be used on the ground level for pedestrian traffic. Row-homes and apartment buildings should be set back off the street right-of-way far enough to allow for a stoop to have its first step on the right-of-way line (Figure 3.11). Single family units should set the front of the house back a maximum of fifteen feet, but these
homes should be allowed to encroach into this setback zone with a porch that is a minimum of eight feet deep (Figure 3.12). In a rural condition within the community, homes should be allowed to be set back from the street a greater distance. At no time should a parking lot or garage front onto the street right-of-way, garages should be set behind the home, a minimum of twenty feet behind the front façade of the house. (Duany Plater-Zyberk & Company, 2002)

Compliance with this principle was based upon studying each of the four street section types. The first street section was in the commercial core, where the building façades should be set along the property / right-of-way lines. These buildings should have zero setback from the street right-of-way. In some instances, variation from this may occur, but it should only occur along long, continuous commercial façades, where variation in the streetscape is created by recessing portions of the building front. These recessed areas should be
designed to allow for outdoor seating for restaurants or cafes, while utilizing fencing, or other barricades to define the zero foot setback line. In this situation, the end units of the long building should have a zero foot setback, with the majority of the remaining façade having the same zero foot setback. The final three cross-sections occur in residential areas. These sections were taken in a single-family block and a multi-family, townhome, or rowhouse block. Two of the cross-sections, one in each block type, were of a street that has residential units on both sides, the other of a block, from either category, that has open space on one side and residential on the other. In either case, the single-family homes should have a maximum building setback of fifteen feet from the right-of-way line. Likewise, the multi-family, townhomes, and rowhouses should have a setback that allows for the first step to be located within five feet of the right-of-way line. All four cross-sections were measured to determine the façade separation distance to building height ratio. This ratio should be a minimum of 6:1 for streets with buildings on both sides, and 3:1 for the street with open space on one side (measured from the centerline). Although this is the minimum, the ideal ratio would be 4:1 to 3:1 for double frontage, and 2:1 to 1.5:1 for the single sided street. No garages should front onto the street, or be located closer than twenty feet behind the front façade of the building it serves. For each portion of the study, three separate streets for each block type were studied, with the final calculation averaged to determine the community ratios and average community setbacks.

**Principle #20:** This principle was studied by using slightly more subjective means of measurement. There are two criteria that were followed to determine if this principle had been met in the design of the communities. These criteria were observed onsite for each of the communities. The first criteria looked at the style of the buildings within the development. Is there a clear and continuous style used on all buildings of the same type? Housing should appear different than commercial areas, but all should fit seamlessly into the same community. While
the commercial and residential areas may follow separate building styles, the styles should still relate to and communicate with one another (Figure 3.13).

The second part of this principle used for this study, was to determine if major civic and community buildings are given more importance within the community (Figure 3.14). Are the community buildings separated from the rest of the community through their architectural design? While it is important that these monumental buildings stand out from the rest of the community, it is also important that these buildings communicate with their surroundings. There should be a dominant architectural style for the community, but the way each type of building follows that style should be based on the importance of the building in the community. The monumental buildings should display elaborate detailing and lavish materials, while the background buildings should use a basic form of detailing, with materials that are more ordinary in nature (Figures 3.15 and 3.16). This study documented the different building types within a community using photographs. These photos were compared to determine if an overall design vernacular was used within the community, and if that vernacular was used to create a hierarchy.
among the different building types. The different types of buildings (residential, commercial, and civic) were also assessed on a scale of (1) to (10) for their use of architectural detailing. A building with a rating of (1) would have no detailing, with a rating of (10) being highly ornate. Housing and commercial buildings should rate between (4) and (7), while civic buildings should receive a (7) to (10) rating. A successful community will have both monumental and typical buildings, all constructed in a similar style but separated by the detailing and importance given to them in massing and appearance.

**Principles #22 and #23:** The twenty-second and twenty-third principles in the *Charter of the New Urbanism* are very similar in the relationships that they require the designer to create. These two principles both advocate the integration of pedestrian paths as a primary means of transportation, and the automobile as secondary. Because these two principles are so close in intent, they were measured together for this study. The combination of these two principles can be defined by the typical TND street section. Principle twenty-two deals with the vehicular aspect, while twenty-three covers the pedestrian. A successful design separates the pedestrian from the automobile, while integrating them into the same cross-section. The following sets of criteria were used to evaluate these principles: 1) do the street cross sections show a safety
element that separates vehicular from pedestrian traffic, 2) are the parking lots separated from the street by being located to the rear of the buildings, 3) do the pedestrian routes allow for access to the community center without any inconvenience, 4) do the public plazas support social gathering through design, and 5) do the curb radii support pedestrian crossing while keeping autos at an appropriate speed? Each of these will be addressed in further detail below. A successful community will provide a positive response to each of the five sets of criteria. This principle will utilize the same cross-sections already created for the study of principle nineteen.

The first set of criteria looks at the street section and what elements are included to create a safe and comfortable environment for the pedestrian. The street section should show four items, 1) street or lane widths, 2) provided on-street parking (where appropriate), 3) planting strips or beds, and 4) pedestrian passageways (Calthorpe, 1993; Duany Plater-Zyberk & Company, 2002). Each of these should be catered to the part of the community where they are found. In residential areas, the street section should show two eight- to ten-foot driving lanes, two eight-foot on-street parking lanes, a wide planting strip with regularly spaced shade trees, and a five-foot wide sidewalk (Figure 3.17). In the commercial areas the street

Figure 3.17 – Preferred TND residential street section from the centerline to the right-of-way.

Figure 3.18 – Preferred TND commercial street section from the centerline to the right-of-way.
section should look slightly different. The commercial section can take on many forms, depending upon the hierarchical position of the main street within the community. Regardless of the type of street the main street is, commercial streets should provide two to four eight- to ten-foot driving lanes, two on-street parking lanes, a narrow planter strip with regularly spaced street trees, and a wide sidewalk (Figure 3.18). The parking lanes can take on two different forms, either angled or parallel parking; the street section should reflect the appropriate dimension. The driving lanes provided can change depending upon the importance of the main street. When the main street traffic moves at a speed that is too great for on-street parking, it is appropriate for a secondary travel lane to be provided. This lane should be separated from the main travel lanes by an eight-foot wide landscape median. Regardless of whether the drive lane is on the main street or not, angled or parallel parking should be provided between the driving lane and the sidewalk. Between the sidewalk and the parking lanes, there should be a narrow planter with regularly spaced shade trees, or the trees should be placed within regularly spaced tree pits, covered by tree-grates. Finally, the sidewalk should be a minimum of six feet wide. The sidewalk can be open, using the street trees for shade, or can utilize an awning; canopy; colonnade and veranda; balcony; colonnade and terrace; colonnade and roof; arcade and space above; or jumba (Figure 3.19) (Leccese & McCormick, 2000, p. 149). For this study, the two street types were assessed by taking measurements on three separate typical streets for each street.
type. Wherever possible the three commercial streets studied occurred in different areas of the community. If there is only one or two commercial streets within a community (such was the case with the smallest scale of development studied), then only one section was taken for each continuous street condition. The three residential streets were likewise selected throughout the community. The sections were judged for compliance based on the above described lane, parking, planting bed, and sidewalk widths.

The second set of criteria deals with the location of parking lots in relation to the street. This means any lot for commercial uses, multi-family residential buildings, and even single family housing. All parking lots and off-street parking should be located at the rear of buildings or in the center of blocks (Figure 3.20). The view into these parking lots should be shielded by vegetation, where necessary, and the lots should remain relatively small and evenly dispersed throughout the area. Where possible, a twenty-five percent deduction should be negotiated for shared parking, if the mix of uses in the area includes uses that are used at night or during the day and during the week or on the weekend.

Pedestrian access to the core of the community is one of the most important aspects of New Urbanism. In contemporary designs, the residential uses are often isolated from commercial uses, and there is no pedestrian linkage provided between the two. The third set of criteria for this portion of the study looked at how this situation was avoided. No sidewalk or pedestrian corridor
should make a walk to the urban core inconvenient. Any walk should lead directly to the town core, or should be a short connector that leads to a direct connector to the town core. In New Urban neighborhoods, the street section has a pedestrian element built into it. Since wherever a street is located a sidewalk is located, this phase of the study used a connectivity ratio based on the street grid to determine the success of the design. This measurement system relies on the ratio created when comparing links to nodes. A node is any point within a street system where two or more streets come together. This also includes points where a street may come to a dead end in a cul-de-sac or make a sharp right run onto another, new street. A link is any link of road that connects two nodes. A link cannot be longer than the distance between the closest nodes it is connecting. The new development regulations for Brandon Main Street in Hillsborough County, Florida, utilized this ratio to create a network of walkable streets. According to Section 3.12.09, the ratio is computed by dividing the total number of links in a community by the total number of nodes (Hillsborough County, Florida, 2003). A true grid of streets varies in its ratio. Two intersecting streets create a situation where there are four links and one node, thus the ratio of connectivity is four divided by one, or four. Calculating this same ratio for more interconnecting streets drops the ratio exponentially down to around two. For example, thirty intersecting streets (fifteen running east and west and fifteen running north and south) has a connectivity ratio of two and thirteen one-hundredths (2.13).

Regardless of how many streets are used, a pure grid of streets will never have a ratio below two. Figure 3.21 gives an example of the difference between a grid street system and a conventional street system (left) has 8 links and 7 nodes, giving it a connectivity ratio of 1.1. The TND network of streets (right) provides 12 links and 4 nodes, giving it a connectivity ratio of 3.
street system. This study used the method of links divided by nodes to determine the connectivity ratio within in the community. To comply with this part of the study, a community should have a connectivity ratio of at least one and six-tenths (1.6), but anything over one and nine-tenths (1.9) is preferred.

Public plazas and squares play an important role in providing a place for the casual meeting of neighbors, as well as for community activities. The public plazas, squares, and open space should not be residual in nature. These areas should not be formed from left over pieces of property that are located in out of the way places, but should be an integral and integrated part of the overall design of the community. Plazas should supply a passive recreational setting where entertainment and other events may take place. When looking at this principle, a successful community provided open space that is part of or adjacent to the street right-of-way. The design provided an open green lawn or hardscaping with a focal feature such as a fountain or monument to help create a sense of importance within the open space. According to Peter Calthorpe, the total park area within a development should be between five and ten percent of the total area for the development, or there should be three and one-half acres devoted to parks for every one-thousand residents (Calthorpe, 1993). He goes on to discuss three different scales of parks, including the smallest scale, which is a one to four acre village park (Figure 3.22). According to Calthorpe, these parks should be located within two blocks of every residential unit, or approximately one-thousand, two-hundred feet (Figure 3.23). The mix of activities within this type of park can vary from simple gardens, plazas, picnic areas, and other passive uses, to the addition of small activities such as playgrounds, basketball,
tennis, and sand volleyball courts. For this study, a site plan of the community was used to determine the proximity of small, village parks to the residential units. Two circles, one with a one-thousand, eight-hundred foot radius, and the other with a one-thousand, two-hundred foot radius were drawn from the center of every park in the community. Although some parks were much larger than a village park, they still provided the amenities found in the smaller park. Every residential unit should be located within one-thousand, eight-hundred feet of a park at a maximum, with the one-thousand, two-hundred foot circle representing the ideal relationship. These village parks and plazas should also be located adjacent to the street right-of-ways, residential areas, and retail uses.

Finally, the fifth set of criteria studied the curb radii compared to what can reasonably and safely be maneuvered in a vehicle. Curb radii should be small enough that automobiles are forced to slow down entering a turn at an intersection, and the pedestrian is provided with a shorter, safer walking distance to cross the street. Within a residential area, the radius of the curb at an intersection should be between eight and fifteen feet (Figure 3.24). In a commercial area, the curb radius should become slightly smaller and should be between five and ten feet in radius (Figure 3.24). Finally, a rural condition should provide a slightly larger curb radius. The radius provided here should be between fifteen and twenty feet (Figure 3.24), and, depending upon the
situation, can get as large as thirty feet (Duany Plater-Zyberk & Company, 2002). This phase of the study measured the intersecting curb radii at three randomly selected street intersections for each condition. If a condition does not exist within the community, which was the case with the rural condition in the smallest scale of development, that portion of the study was not measured. Compliance with this portion of the study was based on an eight to fifteen foot curb radius in the residential areas, a five to ten foot radius in the commercial areas, and a fifteen to twenty-five foot radius in the rural condition.

Compliance with principles twenty-three and twenty-four was based upon the success of the neighborhood in fulfilling the above sets of criteria.

**Principle #25:** There are two sets of criteria by which this principle was studied. The civic sites provided should meet these two guidelines in order to successfully meet the requirements of this
principle. The first was the location of the buildings. Civic buildings should be located in conjunction with town or village centers (Figure 3.25). They should be located at the terminus of roads, on large areas of public open space, or where the buildings can be closely associated with the uses around them.

Buildings should also be associated in other parts of the neighborhood as part of parks or schools. The most desirable location for civic buildings is on larger lots, at a street terminus, centralized on a plaza, with a slight elevation difference from the surroundings. Major civic structures should be located in one of the centralized sites, as shown in the diagrams in Figure 3.26. Compliance with this portion of this principle should find major civic structures located on prominent sites throughout the community.

Figure 3.25 – Civic buildings, such as the tower in the background, should be associated with the commercial or urban cores.

Figure 3.26 – Civic buildings, such as the tower in the background, should be associated with the commercial or urban cores.

Figure 3.25 – Civic buildings, such as the tower in the background, should be associated with the commercial or urban cores.

Figure 3.26 – In order give the civic buildings more prominence in the community, they should be associated with the commercial core and placed on a community green in one of the above configurations.
The second set of criteria discussed the character and style of the architecture and the role it played in setting the tone for the rest of the community. The building should reflect its importance to the community through design, by being taller and having a larger, more articulated mass. Good quality materials, good details, and deliberateness in the design should be utilized wherever possible. The building should speak to the urban fabric, but should go above and beyond in all aspects. Civic buildings should have a sense of prominence, and they should not be “out architectured” by the other, more common buildings in the neighborhood or community (Figure 3.27). Studying this portion of the principle simply looked at the design of the civic structures to ensure that they were the most architecturally significant structures within the neighborhood, setting themselves apart from other structures through design and detail.

While each principle contributes to the overall sense of place created in a New Urban community, they all contribute in different ways and at different levels by community. In one case, a community may create a very strong sense of enclosure with its buildings, but the architectural detailing is a little weaker. In another community, there may be a very high level of detail found in the buildings, while the sense of enclosure created is slightly weaker. In the larger picture both communities embrace and emit an aura of New Urbanism, but their strengths and their characteristics are drastically different. After all of the research for each community was gathered and compiled, each community was looked at as a whole to determine its overall success as a New Urban project. This conclusion was based on the success of each community to follow
the different principles studied, but part of the conclusion was based on the comparison of each neighborhood to the other neighborhoods used for this study.
Florida is an fast-growing state. Everyday, one-thousand new residents call Florida home (Florida quick facts, 2005), and Orlando is the recipient of many of those new people. Not only is Orlando centrally located within the state, it can also be considered the tourism capital of the United States, with over 35-million visitors each year. Orlando is home to more than a dozen theme parks, including a host of Disney World venues, Universal Studios, and Sea World.

One of the most affected areas by the surge of growth is southeast of Orlando. In 1997, the City of Orlando hired a team of planners, led by Peter Calthorpe, to develop the Southeast Orlando Specific Plan (Figure 4.1). This plan was developed to direct future growth for the more than 21,000 acres of land that was projected to house more than 80,000 new residents. Located in the area surrounding the Orlando International Airport, the plan pin-points specific locations for town centers, village centers, and neighborhood centers. Each of these areas is further broken down to describe the mixture of residential blocks, civic blocks, commercial blocks, and mixed-use blocks. Each of these blocks was described in detail as to the form and relationships that should exist upon development (Calthorpe & Fulton, 2001).

Figure 4.1 – Southeast Orlando Specific Plan.
Orlando is a New Urban-friendly city; adopting strategies for smart growth and encouraging neighborhood scale and TND developments. According to the latest version of *A Guidebook to New Urbanism in Florida* (2005), there are eighteen listed projects in the immediate Orlando area, with at least another five to ten unlisted (Figure 4.2). The projects in the area range in scale from the 1,100 acre Baldwin Park to City View at Hughes Square, which rests on four acres.

The communities of Cagan Crossings, NorthLake Park at Lake Nona, and Avalon Park will be used for this study. They range in scale from a small, apartment community on approximately 80 acres (Cagan Crossings), to a large master planned community on close to 2,000 acres (Avalon Park). Figure 4.3 shows the location of these communities.

**Community Selection**

**Cagan Crossings**

The first community used in this study is Cagan Crossings. Located just north of the intersection of U.S. Highway 192 and U.S. Highway 27, it is an 80-acre portion of a larger 650 acre
development. The site is located approximately ten miles west of the Walt Disney World complex, in southeast Lake County. Phase one of the development, which encompasses the entire apartment complex area studied for this research, is complete, providing 994 dwelling units and two centralized amenity centers. Phase Two of the project is under construction and will consist of the town center that fronts on U.S. Highway 27, as well as several rows of townhome and rowhouse units. The entire 650 acre community will house 8,000 dwelling units and 500,000 square feet of commercial space when completed (Florida Atlantic…, 2002). The master plan for the community is illustrated in Figure 4.4.

The developer for Cagan Crossings is Jeff Cagan, of Cagan Management Group in Skokie, Illinois. The design team is made up of Duany Plater-Zyberk and Company, credited with the master plan, Charlan-Brock and Associates, the architects, and Knight, Kincaid, and Associates, the landscape architects. Planning and conceptualization of the project began in the mid to late 1990s. Following are the results of the studies conducted on Cagan Crossings:

**Principle 19:** As stated in Chapter 3, the primary focus of Principle 19 is creating safe and secure spaces for pedestrians. Part of creating a secure space is creating a space that is enclosed and comfortable. The primary method of measuring this is by measuring the distance between two opposing façades in a street section, this number is then divided by the height of the smaller of the two opposing buildings. The ratio produced should be less than 6:1 for a full street section or 3:1 for a street section with open space opposing the structure. Prior to the measurement for
this principle, the community was analyzed with a checklist of features. Throughout the development, wherever possible, the street edges have been defined by the façades of buildings (Figure 4.5). Although every street is not fronted by the façade of an apartment building, the primary and most of the secondary streets are. Areas where parking lots become more evident, and visually apparent, are primarily along tertiary streets, but even in these areas, the lots are partially blocked by placing garage structures along the street. All of the parking lot areas are located at the center of blocks and serviced by an alley, but because on-street parallel parking is provided throughout the community, the lots found in the center of blocks are fairly small.

At Cagan Crossings, the majority of the streets available for studying were residential. There are only two commercial streets available, so both were used for this study. As Table 4.1 shows, Avenida Tercera provides 65 feet of separation between building facades, with both buildings measuring approximately 18 feet in height. The resulting ratio is 3.61. Cagan Crossings Boulevard measured slightly larger between facades, having 84 feet of separation. While one side of the street is commercial frontage, the opposing side is a three-story apartment building. The height

<table>
<thead>
<tr>
<th>Street Name</th>
<th>Building Height A</th>
<th>Building Height B</th>
<th>Façade Separation</th>
<th>Ratio</th>
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<tr>
<td><strong>Commercial Requirements</strong></td>
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<td></td>
<td></td>
<td>6:1</td>
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<tr>
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<td>18</td>
<td>65</td>
<td>3.61</td>
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<td>Cagan Crossings Blvd.</td>
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<tr>
<td><strong>Residential Requirements</strong></td>
<td></td>
<td></td>
<td></td>
<td>6:1</td>
</tr>
<tr>
<td>Avenida Quinta</td>
<td>18</td>
<td>18</td>
<td>60</td>
<td>3.33</td>
</tr>
<tr>
<td>Libra Street</td>
<td>20</td>
<td>20</td>
<td>102</td>
<td>5.10</td>
</tr>
<tr>
<td>Avenida Cuarta</td>
<td>25</td>
<td>18</td>
<td>60</td>
<td>3.33</td>
</tr>
<tr>
<td>Avenida Cuarta</td>
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<td>1.93</td>
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<td><strong>Open-Space Requirements</strong></td>
<td></td>
<td></td>
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<tr>
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<td>29</td>
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<tr>
<td>Avenida Cuarta</td>
<td>18</td>
<td>n/a</td>
<td>25</td>
<td>1.39</td>
</tr>
</tbody>
</table>

Note: Ref. Appendix A-2 for street section diagrams
of the commercial façade is approximately 18 feet, while the height of the residential building is approximately 32 feet. The resulting ratio, using the shorter of the two building heights, is 4.67.

The remainder of the streets studied for this research fall under the residential category. As mentioned above, because this community consists only of apartment buildings, no single family streets were analyzed. There were two different styles of apartment buildings. The first building was a high-density three-story apartment building; the second was a less-dense, two-story courtyard apartment. Three street sections for each of these building types were analyzed. The results are displayed in Table 4.1 above. The first group of street sections are found in the lower density area of the development. Avenida Quinta (Figure 4.6) provides 60 feet of separation and two approximately 18 feet tall façades. The resulting ratio is 3.33. The second street, Libra Street, has a separation distance of 102 feet, with two 20 feet tall buildings fronting it, giving a ratio of 5.10. Finally, Avenida Cuarta has 60 feet of separation with a building that is 25 feet on one side and another that is 18 feet. This ratio is 3.33.

![Figure 4.6 – Avenida Quinta street section.](image)

The next set of street sections are located in the higher density portion of the community. All of the buildings fronting the three streets studied are approximately 30 feet tall. A section of
Avenida Cuarta near the center of the development was studied, another section of Avenida Cuarta near the edge was studied, and the final study looked at the street cross-section of Cagan Grove. The measured street widths are 61 feet, 58 feet, and 67 feet, respectively, with a ratio of 2.03, 1.93, and 2.23 respectively.

The final two street sections studied the relationship of buildings to open space. Due to the lack of actual park-like open space within the community, the active recreation areas where the pools and amenities are located were used instead. This study interpreted those spaces as open space. Both are located along Avenida Cuarta, with one fronted by a three-story, approximately 30 feet tall building. Provided with 29 feet of separation from the centerline of the road to the façade of the building, the resulting ratio is 1.03. The second (Figure 4.7) was fronted by the lower-density, two-story apartment building, with an approximate height of 18 feet. This street section provided 25 feet to the centerline, and a resulting ratio of 1.39.

Figure 4.7 – Avenida Cuarta street section.

The second part of this principle looked at the building setbacks from the right-of-way line and allowed encroachments into that setback. The same street sections as above were used for this
portion of the study. The street right-of-way was determined by measuring from the back of sidewalk to the back of sidewalk, unless a sidewalk was not provided. In this situation, it was assumed that the right-of-way went from building face to building face. The setback of the building was then measured from the assumed right-of-way line to the front façade of interior livable area, or the closest wall to the street that separates an interior space from the outside world. An encroachment into this was considered any balconies or porches that extended out from the front of the structure, and beyond the front wall, or any entries to apartment buildings that were closer to the street than the remainder of the building. The results of this study are displayed in Table 4.2.

Creating a sense of enclosure along the street is imperative to creating a sense of safety and security for pedestrians. It controls the speed of traffic, creates a safe place for children, and encourages pedestrian travel. The sense of enclosure that is created by the buildings in Cagan Crossings creates a safe and comfortable atmosphere. The measurements for this principle back up the sense of enclosure, proving from a design standpoint that this community is successful in providing safe, pedestrian friendly streets. All of the measured streets fall below the acceptable ratio of 6:1 (or 3:1 for streets fronting open space), and have acceptable setbacks from the street right of way. For complete results of this study, reference Appendix A-2, page 191.

**Principle 20:** The second principle studied is principle twenty; its primary goal is to create harmony throughout the community by establishing a consistent architectural pattern and a sense of hierarchy among all buildings. This means that not only are all the buildings designed to look
like they’re in the same community, they are designed to allow some buildings to be more important in the community than others. Cagan Crossings provides a strong sense of continuity in the style and design of the buildings throughout the community. This is partially due to the community being an apartment community, and all the buildings are the same, but the color choices for the exteriors of the buildings create enough variation so the community does not become boring. Because of the mass of the apartment buildings, they begin to become a dominant feature in the community, but due to their lack of a high level of detail, they may become a secondary or tertiary building type when other, more prominent, buildings are constructed, such as the future library. At the time of this study, the housing portion of Cagan Crossings was well under way, with the entire multi-family area completed and inhabited, but the commercial was just getting started. Also, other than the community amenity centers, the civic portion of the project did not exist.

The housing portion of the community is made up of two different types of buildings. Both consist of apartments, but the smaller structures are basically one and two story buildings, while the larger structures create more density with three stories. Each building type has a different style of architecture. The smaller buildings draw upon the Spanish Mission or Spanish Eclectic style of architecture, while the larger buildings follow the Colonial or Colonial Revival style. Both building styles work very well together because they both draw on influences from Caribbean style architecture. The smaller apartment buildings (Figure 4.8) convey the Spanish style through the use of arched doorways and entrances, while the structure creates smaller
courtyards with entries facing the court; buildings are finished in stucco. In the other section of the property, the large apartment buildings (Figure 4.9) provide a sense of Colonial architecture through their use of symmetry with large windows facing the street. Their overall structure is a fairly simple rectangle, with open end gables over the entry points into the building. Instead of the traditional clapboard siding, these buildings are finished with stucco as well. Both building types provide an exciting array of bright colors similar to those found in Caribbean styles of architecture. This display of color helps to draw the two architectural styles together to create a harmonious community. Overall, there is a lack of detail found on the residential buildings. The façades are fairly bland, but the lack of detail makes it possible for these buildings to define the background character of the community. On a scale of one to ten, with ten being highly decorative, the ornamentation found on the residential buildings ranks at a five.

The small existing commercial area of the development consists of a single, “L” shaped building that fronts on two separate streets. This structure currently serves as the main leasing office for the community, while also providing some retail, office, and service opportunities. The Florida branch office of Cagan Management Group, the developer of Cagan Crossings, is located here, along with an insurance company, a utility company, ice cream parlor, and several other small businesses. The architectural style of the building follows the Colonial or Colonial Revival vernacular (Figure 4.10). The building is a fairly simple form with windows placed...
symmetrically around each storefront. Porches and upper story balconies project away from the building, adding another level of detail to the design of the building. Once again, the clapboard siding has been replaced with a stucco finish. On a scale of one to ten, the commercial structure ranks at six for the amount of detail on the building.

At the time of the study, the only civic structures present in the community were the amenity centers where swimming pools and other community activities are located. The two amenity centers are almost identical, with the design of the pavilion structure being repeated at both locations. The primary location also provides a clubhouse structure with an interior, air conditioned space for meetings and a work-out facility. Colonial architecture is once again the dominant style, while also drawing influence from both the Spanish Eclectic and Caribbean vernaculars. Overall, the design of the structures is very similar to the design of the apartment buildings in the community, with the addition of drop-down shutters over the windows to dress up the design (Figure 4.11). On a scale of one to ten, the design ranks at six. In the big picture the design of the structures themselves is not enough to separate the buildings as a
prominent civic use within the community, but, as will be discussed below in principle twenty-five, the location of the buildings provide them with a greater sense of importance.

At Cagan Crossings there is a very strong, very clear sense of architectural cohesion found in the design of the structures throughout the community. Using a third architectural vernacular – Caribbean – to help tie the two predominant architectural vernaculars together; was very successful. On the other hand, there was a lack of detail found throughout the community. While the standards set in the Methodology chapter of this thesis were met for the commercial and residential detailing, the civic structures fell short. The civic structures, which should have been most architecturally predominant, appeared weaker and easily could have been considered background buildings. For complete analysis of the architectural styles at Cagan Crossings, reference Appendix A-2, page 198.

**Principles 22 and 23:** Cagan Crossings does not address the criteria for these principles very well because there is a lack of sidewalks in all of the street sections. The sidewalks are predominantly located in the area where the larger multi-family buildings exist. In the other multi-family area, connector walks lead from the units to the street, which creates a situation where the street is then the main pedestrian passage (Figure 4.12). Even the main north-south drive only has sidewalks at the south end, in the higher density area. The other
problem is a lack of quality open space provided throughout the community. For this study, the amenity centers were considered open space, but they take up the entire area assigned to them; otherwise, there are no green or passive park areas integral to the design of the community.

The first criteria for these principles was to measure and record the elements of the street sections in the community. This study utilizes some of the same street sections measured above for principle nineteen; there are two commercial streets and three residential streets. The measurements for the different elements are found in Table 4.3. Figure 4.13 illustrates the street section for Cagan Crossings Boulevard. This section also includes 6 feet of median space. While the results of this study show that the community meets the criteria illustrated in Figure 3.17 on page 77, it is important to note that the randomly selected street sections all happened to fall on

<table>
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<tr>
<th>Street Name</th>
<th>Sidewalk</th>
<th>Parking Strip</th>
<th>Drive Lane</th>
<th>Other / Median</th>
<th>Parking Strip</th>
<th>Planting Strip</th>
<th>Sidewalk</th>
<th>Right-of-way</th>
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<tr>
<td>Commercial Req'mnts</td>
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<td>4-5</td>
<td>8/18</td>
<td>8-10</td>
<td>opt. 8-10</td>
<td>8/18</td>
<td>8-10</td>
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<tr>
<td>Avenida Tercera</td>
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<td>0</td>
<td>18</td>
<td>12</td>
<td>0</td>
<td>12</td>
<td>7.5</td>
<td>5</td>
</tr>
<tr>
<td>Cagan Crossing Blvd</td>
<td>5</td>
<td>4</td>
<td>8</td>
<td>10</td>
<td>12</td>
<td>10</td>
<td>8</td>
<td>3.5</td>
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<tr>
<td>Residential Req'mnts</td>
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<td>8-10</td>
<td>n/a</td>
<td>8-10</td>
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<td>9</td>
<td>0</td>
<td>9</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Avenida Cuarta</td>
<td>5</td>
<td>0</td>
<td>8</td>
<td>10</td>
<td>0</td>
<td>10</td>
<td>8</td>
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<td>8</td>
<td>10</td>
<td>0</td>
<td>10</td>
<td>8</td>
<td>10</td>
</tr>
</tbody>
</table>

Note: Ref. Appendix A-2 for street section diagrams

Figure 4.13 – Street cross section of Cagan Crossings Boulevard.
streets with sidewalks. As mentioned above, Avenida Cuarta, which appears to be the major north-south drive and has both amenity centers terminating a view down the street, only provides sidewalks starting at Macon Street, the dividing street between the two building styles, and continuing to the south towards the town center.

The second part of principles twenty-two and twenty-three addressed parking within the community. This community was very successful in locating large areas of parking out of the general view of passersby, while also using on-street parking to separate the pedestrian from sidewalks. All of the necessary parking, beyond what could be provided on-street, was provided in parking areas behind the buildings it served. Whenever a parking lot was visible to the street, the visibility was cut off by a garage structure (Figure 4.14). This aspect of the design was a success throughout the Cagan Crossings development.

Part three of principles twenty-two and twenty-three studied the connectivity of the roads within...
the development. This was accomplished by looking at the network of streets and establishing links and nodes. Figure 4.15 shows the network of streets as nodes and links; nodes are blue dots and links are red lines. Overall, the connectivity within Cagan Crossings is very good; streets that lead to the town center area run through the entire community, and access to those streets is easily accomplished without being forced to go out of the way or go in the opposite direction first. This community provides 33 links and 19 nodes, the minimum links divided by nodes ratio is 1.6. Cagan Crossings has a connectivity ratio of 1.74.

The fourth part of these principles looks at the location and frequency of parks. Cagan Crossings struggles slightly with this because the community does not provide the typical green space for parks, but rather, they provide community amenity centers. These centers are centrally located and accessible by the residents, but they do not provide open, green space – as Peter Calthorpe suggests community parks should (Calthorpe, 1993). Instead, these parks are pool amenities, with hardscape, swimming pools, and a lack of trees or shade. There are three parks in the Cagan Crossings development, two of them are the centrally located amenity centers, while the third is an open pitch and putt three-hole golf course. The golf course is located on the edge of the development, and is not as integral to the overall design. The two amenity center parks are centrally located. Both sit on sites that are in the center of the street right of way, situated in a manner similar to the center island of a round about. An important aspect of this study is the

Figure 4.16 – All residential units fall within a 1,200 feet radius of a park.
distance the parks are from the dwelling units they serve. As Figure 4.16 shows, all dwelling units are located within 1,200 feet of an amenity center, providing them quick, walkable access. If you consider the amenity centers as parks, Cagan Crossings is very successful with this phase of the study, but if you consider that there really aren’t any plaza areas, passive parks, community green spaces, etc., the community does not meet these principles.

The final part of the study of these principles is to measure the curb radii within the community. This serves two purposes. First, a smaller curb radii means that the distance a pedestrian must travel to cross the street is as short as possible. Second, a small curb radii discourages speeding through a turn. Table 4.4 shows the curb radii as measured in the different parts of the community. This study can be considered slightly inconclusive because there were only two commercial radii actually measured. Should the rest of the commercial sections of the community build out and use smaller radii, the overall perception of the community’s radii would improve. As it stands now, the radii are too big, offering a sweeping curb that doesn’t help control traffic, but enables it to move quickly through the commercial corner.

This community does a very good job in addressing some of the tests that were used to study these principles, but fails with others. When comparing the measurements to observations, it’s very possible to come to two different conclusions. Is this community successful in addressing the requirements of principles twenty-two and twenty-three: yes and no. While the community clearly passed the first three tests, the last two were slightly less conclusive. Also of note is the

<table>
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<tr>
<th>Intersecting Streets</th>
<th>Corner Direction</th>
<th>Average Radius</th>
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<td>Residential Curb Radii Requirements</td>
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<td></td>
</tr>
<tr>
<td>Avenida Cuarta &amp; Macon Street</td>
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<td>12.5</td>
</tr>
<tr>
<td>Avenida Quinta &amp; Macon Street</td>
<td>8 8 n/a n/a</td>
<td>8</td>
</tr>
<tr>
<td>Avenida Cuarta &amp; Libra Street</td>
<td>10 10 10 10</td>
<td>10</td>
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<tr>
<td>Commercial Curb Radii Requirements</td>
<td></td>
<td>5-10</td>
</tr>
<tr>
<td>Avenida Tercera &amp; Cagan Crossings Blvd.</td>
<td>20 n/a 20 n/a</td>
<td>20</td>
</tr>
</tbody>
</table>

Note: Ref. Appendix A-2 for curb radii diagrams
observation made with the first test that the randomly selected street sections had sidewalks, while not all streets did, even some of the major drives. The study of the parks brings up the question, does a community have to provide a park of green space to provide parks, or can those parks be active parks with swimming pools? The success of this community in addressing these principles is inconclusive. For complete results of this study, reference Appendix A-2, page 201.

**Principle 25:** The final principle studied for this research is principle twenty-five. This principle focuses on the location and design of civic structures in the community. Civic structures are important buildings because they define the community, create an architectural theme, and provide a sense of civic pride. Cagan Crossings has future plans for civic structures, such as a library, but the community structures that are in place are the structures associated with the amenity centers. Part one of this study looks at the location of the civic structures to see if they are sited in prominent areas of the community. While one of the two amenity centers is located near the town center, the future library will be located adjacent to the major commercial core. This will provide access to the library by people who live within the community as well as those outsiders that come in to do their shopping. The two amenity centers are sited prominently in the middle of the street. Avenida Cuarta is the main north-south drive through the entire community. The northern half of the community is made up of the smaller apartment buildings, while the southern half is made up of the large buildings. Each half has an amenity center centrally located in the middle of their group of apartments. The amenity centers terminate the views down Avenida Cuarta by their location on an island in the middle of the street (Figure 4.17). This
location gives these structures a great deal of visibility and importance in the community. Both are sited on an “axial square” as defined by Andres Duany in the Charter of the New Urbanism (Leccese & McCormick, 2000).

Part two of principle twenty-five addressed the architectural style of the civic structures. Unfortunately, the design of the amenity buildings stopped at locating them at the terminus of a view corridor. There is a lack of detail and visual hierarchy given to the design of the buildings that would help separate them from the larger, surrounding apartment buildings. The materials used on the buildings, although different from the apartment buildings, do not give them a greater sense of detail or prominence within the community, they simply set the buildings apart as a different structure. If it were not for their location on axis with the road, the structures could easily get lost in the community.

The success of Cagan Crossings, based on this principle, is mixed. While the amenity centers are located in prominent locations, they are not set apart from their surroundings architecturally. If located in a different place, the prominence that is found in their siting would disappear, and they would become another ordinary building in the community, possibly getting lost in the mix. But, it is the location of the civic structures that makes them important in this situation, so while they lack in architectural detail, they still draw the eye and the curiosity of the observer. In the case of Cagan Crossings, it is the location of the buildings and not their design that gives these structures their status in the community. Complete results of the analysis of this principle can be found in Appendix A-2, page 211.

Of the five principles studied, Cagan Crossings completely met one of them, while it partially fulfilled the requirements of the other four. Cagan Crossings is very successful at creating a
sense of enclosure along the streets, providing the elements that should be found in a street section, locating off-street parking behind buildings, providing good connectivity throughout the community, and siting civic structures in prominent locations. On the other hand, the community only partially met the requirements for creating a hierarchy in the design of the buildings, providing a mix of parks, providing manageable curb return radii, and designing civic structures to have a greater sense of prominence in the community. The overall sense of Cagan Crossings as a New Urban community is successful because it creates a pedestrian friendly, integrated community, where access to the different parts of the neighborhood is easily attained by pedestrians.

**NorthLake Park at Lake Nona**

Started in 1998, NorthLake Park at Lake Nona is part of the Southeast Orlando Specific Plan. It is located south of Bee Line Expressway on Narcoossee Road at Dowden Road; the site is approximately two miles directly east of the Orlando International Airport. Developed by the Lake Nona Land Company, the project is adjacent to the prestigious Lake Nona Country Club, and sits on approximately 500 acres of land. The development is broken into four separate neighborhoods (Figure 4.18), with the centerpiece being the twenty-two acre combination YMCA, elementary school, and Orlando Regional Healthcare Systems site. Boasting a variety of parks, green spaces, and preserves, the community is made up primarily of single family and townhome units, with an
apartment complex that ties into the neighborhood near the town center (CNU-Florida, 2005).

The planning group was Glatting, Jackson, Kercher, Anglin, Lopez, Rinehart Inc. of Orlando.

With Neighborhoods 1, 2A, 2B, and 3A almost at build-out, construction has begun on the horizontals at Neighborhood 3B. The town center has yet to break ground.

**Principle 19:** With two of the four neighborhoods at NorthLake Park approaching ninety percent build-out, it is important to note that one of the two neighborhoods is distinctly New Urban in character, while the other is distinctly conventional. This is visible in the street section measurements (Table 4.5), where one measurement came from the conventional neighborhood and the other two from the TND portion of the project. The first two sections came from the TND area, with the first section providing a building separation of 78 feet and both opposing structures having a height of approximately 18 feet. The resulting building separation to height ratio is 4.33. The next street measured provided similar results, with two 20 foot tall buildings and 74 feet of separation. This street provides a ratio of 3.70. The third section was much higher. It came from the conventional neighborhood and had a separation of 101 feet, with one building being 18 feet tall and the opposing being 8 feet tall. This resulted in a ratio of 12.63.

The next area measured was in the multi-family section of the development. This area is located near the east entrance to the community off of Narcoossee Road, between Neighborhoods 3A and 3B. The first drive selected is mainly a garage access way, but due to the design of the

<table>
<thead>
<tr>
<th>Street Name</th>
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<td>78</td>
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<tr>
<td>Sweetleaf Street</td>
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<td>20</td>
<td>74</td>
</tr>
<tr>
<td>Leland Drive</td>
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<td>30</td>
<td>62</td>
</tr>
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<tr>
<td>Van Metre</td>
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<td>72</td>
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</tbody>
</table>

**Residential Requirements**

<table>
<thead>
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<th>Building Height</th>
<th>Façade Separation</th>
<th>Ratio</th>
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<tbody>
<tr>
<td>Lobolly Pine Circle</td>
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<tr>
<td>Northlake Parkway</td>
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<td>44</td>
</tr>
<tr>
<td>Silkbay Place</td>
<td>18</td>
<td>n/a</td>
<td>48</td>
</tr>
<tr>
<td>Poplar Place</td>
<td>18</td>
<td>n/a</td>
<td>45</td>
</tr>
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</table>

**Open Space Requirements**

Note: Ref. Appendix A-3 for street section diagrams

Table 4.5 - Façade Separation Ratio - NorthLake Park at Lake Nona
neighborhood, is also one of the main circulation routes through the community. This section provided a building to building separation of 62 feet, with building heights of 30 feet fronting the street. This gives a building separation to height ratio of 2.07. The next section is taken between two buildings along a garden walk (Figure 4.19). This was selected because the intent of the space is to provide pedestrian circulation using a courtyard to separate the front façades of the two buildings. The separation between the buildings is 32 feet, with a building height of 30 feet on both sides. This creates a ratio of 1.07. The final measurement was taken along the entry drive into the community. This provided a separation of 72 feet, with two buildings fronting the street with heights of 30 feet each. The separation ratio for this section of street is 2.40.

The last portion of this study was to look at the separation ratio for open space. In this case, four street sections were studied; three townhome sections and one single family section. The first street (Loblolly Pine Circle) was located in the single family section. The street is located around the central park in Neighborhood 2. The building height is 20 feet with 36 feet separating it from the centerline of the road. This provides a setback ratio of 1.80. The next street studied
(Northlake Parkway) was along the entry drive from the east entrance. This takes place where the road splits, creating a park in the middle of the road. The building height of these townhomes are 18 feet with 44 feet of separation to the centerline. This gives a ratio of 2.44. The final two sections take place in the TND portion of the site, along Silkbay Place and Poplar Place. Both buildings are 18 feet tall, but Silkbay Place is 48 feet wide, while Poplar Place is only 45. These provide ratios of 2.67 and 2.50 respectively.

The next segment of the study of principle nineteen looks at the building setbacks and allowable encroachments. The same streets as those listed above were used for this portion of the study. All of the setback measurements are recorded in Table 4.6.

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<thead>
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<th>Street Name</th>
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<td>Single-Family Req’mnts</td>
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<tr>
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</tr>
<tr>
<td>Sweetleaf Street</td>
<td>17.5</td>
<td>6.5</td>
</tr>
<tr>
<td>Leland Drive</td>
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<td>2</td>
</tr>
<tr>
<td>Loblolly Pine Circle</td>
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<td>6</td>
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<td>N/A</td>
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</tr>
<tr>
<td>Van Metre</td>
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<td>6</td>
</tr>
<tr>
<td>Northlake Parkway</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>Silkbay Place</td>
<td>18</td>
<td>6</td>
</tr>
<tr>
<td>Poplar Place</td>
<td>15</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: Ref. Appendix A-3 for street section diagrams

Does NorthLake Park at Lake Nona meet the requirements of principle nineteen? Yes and no. While most of the community is being constructed as a New Urban, TND project, there is one large neighborhood that is not. The New Urban areas meet the requirements of this principle, but conventional design falls well short, pulling the TND portions down when all are averaged together. What affect does this have on the overall community? It’s hard to say, the overall design of the community is such that the loss of the one neighborhood to conventional design doesn’t impact the other neighborhoods in a negative manner. The overall neighborhood design still adheres, roughly, to TND standards, with interconnecting streets and parks within walking distance. As far as this principle is concerned, the conventionally designed neighborhood does not have the desired sense of enclosure, while the rest of the community does. For complete results from this study, reference Appendix A-3, page 213.
**Principle 20:** When looking at the architectural styles found in NorthLake Park, it’s difficult to select a single style that has been adopted and adhered to throughout the development. Although it’s difficult to put a finger on the architectural vernacular, the style of the housing is very similar in the different areas of the community. The apartment complex has developed and sustained a very strong vernacular, while the townhomes follow another and the single family homes yet another. All of them work together, though, to create a strong sense of compatibility. The apartments have drawn upon a strong Federalist vernacular of architecture to create a strong sense of community (Figure 4.20). This design style contains symmetry of windows that line up in size both vertically and horizontally, while also providing dormers in the attic where other rooms are present. The entries are embellished with triangular or arched pediments to draw more attention to the entrance. This style is used throughout the apartment complex. The next set of residential units – the townhomes across the street from the apartment complex – also draws their inspiration from Federalist or Georgian architecture (Figure 4.21). They too, provide a strong sense of symmetry in the façades of the individual units, while utilizing triangular pediments to demarcate the entries to the homes. The final housing type, the single family house, follows two separate styles of architecture. As discussed above, Neighborhood 3A reverted to a conventional neighborhood.
design and the houses built also reverted to the contemporary garage door design (Figure 4.22). This means that sixty percent of the street frontage is basically garage, while the remaining forty percent is setback well beyond the face of the garage. This is the exact street frontage that New Urbanism hopes to eliminate. The remaining TND neighborhoods use an architectural vernacular along the lines of Colonial or Georgian architecture. While mainly being finished in stucco, the houses in the TND neighborhood provide open front porches, symmetry of windows, dormers, and heavy columns (Figure 4.23). This style of house is used consistently throughout Neighborhoods 1 and 2, even in the townhomes present in this area. The ornamentation while quite evident on many houses, is muted overall because the same level of detail is present on all of the units. On a scale of one to ten, with ten being the most ornate, these homes rank at a six.

The next area of emphasis for the architectural vernacular of the community is the civic centers. There are two predominant buildings that can be considered civic structures, the first is the elementary school that also serves as a neighborhood YMCA and Orlando Regional Healthcare
Center. This building, while prominent in the community through size and location, calls upon a completely new architectural vernacular. While all of the other buildings in the community use similar styles of architecture, this Contemporary building, with post modern interpretations of columns, doesn’t quite fit (Figure 4.24). Luckily, for the development, this building is located on a large tract of land and is separated enough from its surrounding buildings that it doesn’t juxtapose itself in an offensive manner. There is a lack of detail found in this structure, with the only real detail coming in the form of a diamond pattern created by replacing diagonal lines of reddish-orange bricks with red bricks. While the structure stands out as a civic building, it does not bond itself to the community in a meaningful or constructive way. The other civic structure is the clubhouse associated with the apartment complex. This structure strongly ties itself into the overall style of the community by employing a Federalist design vernacular to create a strongly Neoclassical building with Federalist details. The building sets itself up along the entry drive to the community and transitions itself very nicely from the background buildings that surround it. On a scale of one to ten, the level of detail that can be found in the civic structures is a seven. What the school, YMCA combination lacks in detail, the clubhouse has, but because of the difference in stature that each holds in the community, the score received is low.

Does NorthLake Park at Lake Nona provide a strong sense of community through the use of a consistent design vernacular? Again, the response is yes and no. Yes, the community provides a
very strong sense of continuity throughout seventy percent of units constructed, but the other thirty percent bring them down. The nice thing about this community is that they can turn a blind eye to Neighborhood 3-A because of the way it is separated from the rest of the community. Within Neighborhoods 1 and 2 there is a very strong sense of cohesion and community design, the same can be said for the apartment complex and the townhomes across the street, as well as the civic structures. The clubhouse for the apartment complex is closely associated with its surroundings, and ties into them with a strongly cohesive architectural vernacular. On the other hand, the architectural style found in the school does nothing to support or create an overall architectural theme or character for the community. From this standpoint, the school has failed this principle. For the complete analysis of the architecture at NorthLake Park, reference Appendix A-3, page 220.

**Principles 22 and 23:** For the most part, the streets within NorthLake Park are successful in accommodating the pedestrian, and protecting them from automobile traffic. All of the streets provide sidewalks and landscape medians, and they all allow for parking to take place on-street, although a dedicated parking lane is not provided. There is a very well designed series of parks that are found along several streets throughout the community and the large community park is centrally located in association with the school. Part one of the study of this principle only involved the measurement of three street sections, because the commercial has not yet broken ground. The results of this study are displayed in

<table>
<thead>
<tr>
<th>Street Name</th>
<th>Sidewalk</th>
<th>Parking Strip</th>
<th>Parking Strip</th>
<th>Drive Lane</th>
<th>Other Median</th>
<th>Drive Lane</th>
<th>Parking Strip</th>
<th>Parking Strip</th>
<th>Sidewalk</th>
<th>Right-of-way</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Req'mnts</td>
<td>5 8-10 8</td>
<td>8 8-10 n/a</td>
<td>8-10 8 8 5 54</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweetleaf Street</td>
<td>5 8 0 12 0</td>
<td>12 0 8 5</td>
<td>52</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweetleaf Street</td>
<td>5 8 0 12 0</td>
<td>12 0 8 5</td>
<td>54</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leland Drive</td>
<td>5 8 0 12 0</td>
<td>12 0 8 5</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Ref. Appendix A-3 for street section diagrams.
Table 4.7. Figure 4.25 shows a typical street in NorthLake Park. NorthLake Park is successful in providing street sections that handle the pedestrian safely and efficiently.

Figure 4.25 – Street section element measurements for Sweetleaf Street.

The second test of this principle looks at the location of off-street parking provided within the community. The school and YMCA provide the most obvious location where the parking has not been hidden from view behind a building or within the center of a block (Figure 4.26). Because this site is fairly separated from the rest of the community, it has to rely on providing all of its parking on-site. For the most part, the view into the parking areas is blocked by the use of grass berms along the street, but when there is a fairly substantial parking area to block from view, this is not enough. The parking areas for the multi-family units are partially blocked from view by their location behind the buildings. The majority of the buildings front onto NorthLake Parkway or Van Metre, but a few of the buildings are
located away from these two streets. In this situation, the parking and garages are provided on one side of the building, while the other side faces onto a narrow garden walk (Figure 4.27). While this doesn’t completely separate the parking areas from the main travel routes, it does successfully separate the pedestrian, while providing a pleasant place for the pedestrian to walk. Likewise, parking for single family homes should be accommodated on the back of the house, with access to the garage via an alley system. Obviously, as discussed above, this is not the case with Neighborhood 3A, as it reverted back to conventional neighborhood design and pushed the garage out as the main feature on the front of the house. Throughout the remainder of the community, though, the automobile is fairly successfully accommodated by an alley. The townhome units all provide access to their garages by an alley, and most of the single family homes in Neighborhoods 1 and 2 provide the same access. At issue is the outermost ring of housing in these neighborhoods. This is where a single-loaded alley is not economically feasible, so the lots and the lot depths are slightly larger to allow for a garage to successfully be attached to the house and accessed from the street. The problem is that most of the houses do not separate the face of the garage from the face of the house, or the setback is very minimal. To get a strong sense of separation, and to bring the attention of the house to the forefront, the garage needs to be setback at least 20 feet behind the façade of the house. This is not the case. Some houses do provide this level of separation, but the majority of the edge lots have the garage set flush or between 4 and 8 feet behind the face of the home. Where the proper attention was given to the design of the garages, the test of principles twenty-two and twenty-
three was very successful, but was not successful in the conventionally designed Neighborhood 3A and the edge lots in Neighborhoods 1 and 2.

Test four of these principles looks at the connectivity of the community. Throughout the community, there is a very good network of streets and pedestrian passageways available, providing access to the different parts of the community while also being careful to not inconvenience the pedestrian by making them go out of their way on the way to their final destination. This test looks at the connectivity ratio and the number of links and nodes found throughout the community. Within NorthLake Park, there are 82 links and 52 nodes (Figure 4.28). The resulting connectivity ratio is 1.58. While this is not successful in achieving the goal of a ratio greater than 1.6, it does not necessarily make the community unsuccessful. It is almost impossible to find a location in the community where the street network forces someone to travel in a direction opposite of their destination.

Figure 4.28 – 82 links and 52 nodes provides a connectivity ratio of 1.58.
NorthLake Park at Lake Nona provides a very strong, very cohesive series of parks throughout the community. Small pocket parks are spread throughout the community, offering a pleasant green getaway to every resident within a short walking distance.

There are 12 total parks in the development, with 10 of those parks considered as neighborhood or pocket parks. The design of each of these parks is different, but they all contain a large grassy lawn area, a pavilion, and community gardens (Figure 4.29). There is one medium sized park that is centrally located in Neighborhoods 1 and 2. This park is located in the large, open center ring and was used to help orient and design this portion of the community. The majority of this park is preserved wetlands, but some of the upland edge areas have been used to create lawn areas, playgrounds, and other spaces for active use. The final park is in direct association with the elementary school and YMCA. This park is a large community park that provides plenty of green, open space for various activities, as well as tennis courts, softball or baseball fields, soccer fields, and other sports related activities. The system of parks within NorthLake Park is very successful, providing 50 total acres of parks, and approximately 22.98 acres per 1,000 residents, which exceeds the standard 3.5 acres per 1,000 residents. Every residential unit is located within the measured standard of 1,200 feet of a park (Figure 4.30). For this phase of the study, NorthLake Park is very successful.

The fifth and final criteria studied for principles twenty-two and twenty-three looked at the curb radii provided within the community. All of the street intersections in the community, due to the
density of housing, can be considered residential, and should fall between 8 and 15 feet in radius.

NorthLake Park falls well short on the design of these curbs, as recorded in Table 4.8. The surprising measurement is that the smallest curb radius was found in Neighborhood 3A, where the developer reverted back to conventional neighborhood design. Not that the curb radius here falls into the acceptable category, but it is surprising that the smallest measurement is found here. Nevertheless, the development fails to meet the stated criteria for curb return radii.

Figure 4.30 – Parks are distributed so that each residence is within 1,200 feet of a park.

<table>
<thead>
<tr>
<th>Intersecting Streets</th>
<th>NE</th>
<th>NW</th>
<th>SE</th>
<th>SW</th>
<th>Average Radius</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8-15</td>
</tr>
<tr>
<td>Sweetleaf Street &amp; Sunbonnet Street</td>
<td>n/a</td>
<td>25</td>
<td>n/a</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Sweetleaf Street &amp; Bluestem Street</td>
<td>38</td>
<td>30</td>
<td>38</td>
<td>25</td>
<td>32.75</td>
</tr>
<tr>
<td>Leland Drive &amp; Green Dragon Street</td>
<td>n/a</td>
<td>20</td>
<td>n/a</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Van Metre at the 1st Intersection</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
</tbody>
</table>

Note: Ref. Appendix A-3 for curb radii diagrams
Overall, the twenty-second and twenty-third principles are only partially successful. While the street sections and parks offer quality, accessible spaces for pedestrians and are successful, the location of parking, size of curb radii, and overall community linkage are not. According to the principles, “…developments must adequately accommodate automobiles. It should do so in ways that respect the pedestrian…” (Leccese & McCormick, 2000, p. 141) and “Streets and squares should be safe, comfortable, and interesting to the pedestrian…” (Leccese & McCormick, 2000, p. 147). When studying these principles, and basing the conclusions of the study on those statements, this community partially fails. While the pedestrian is accommodated safely in the street section, the point where conflict can occur between pedestrian and automobile, the street corner, accommodates the automobile more than the pedestrian. Likewise, parking lots and garages have found their way to the front of some of the buildings, lowering the visibility of those houses to the street, and giving the street a lesser sense of security and safety. When someone knows they have to walk through a sea of parking to reach their final destination, they are more likely to drive. For complete results of the study of principles twenty-two and twenty-three, reference Appendix A-3, page 222.

**Principle 25:** The final principle studied at NorthLake Park looks at the location and architectural design of the civic structures. The first criteria looks at the location of these structures to determine if they have been sited in places that are prominent within the community. The two civic structures are the school, YMCA combination, and the clubhouse for the apartment community. Neither structure is located in association with the town center area of the development, but both are centrally located for the housing they serve. The location of the school is such that it falls on a large lot near the center of the development. At this location, it terminates a view from Neighborhoods 1 and 2, but does not terminate the view along the eastern entry drive to the community. It’s not until one drives around a curve in the road that the school appears, and
at that point the entrance to the site is just ahead. The problem with the termination of the view from Neighborhoods 1 and 2 is that it’s not accessible. The building is off in the distance and can not be accessed from the end of the street that the view terminates. On the other hand, the clubhouse for the apartment community is strategically sited at the end of the entry drive to the community. As soon as one turns into the community, the eye is drawn directly to the front façade of the building. In both situations, the building is sited on a modified form of the axial square. While there are no supporting structures at the school site, the road it sits along runs past the site, while another road runs directly into the center of it. Unfortunately, that road is redirected out of the way to go around the school, rather than turning and running along the edge of the “square.” The clubhouse is sited in a similar fashion. The entry drive runs directly into the center of the front building façade, and traffic is redirected to another street to go around the block. It rests on only half of an axial square because the site backs up to a pond. Northlake Park has provided fairly prominent locations for its civic structures, but the strength of the clubhouse in relation to the community it serves is much stronger than the school.

The second criteria for evaluating this principle looks at the architectural prominence given to the civic structures. As mentioned earlier, the school building is its own creature. It has an architectural style that stands out from and in no way relates to the rest of the community. While it does draw a great deal of attention to itself through its architecture, it doesn’t do a very good job of addressing the street. The location is not elevated, and is even blocked off by a berm, created to help conceal the view to the entrance of the school.
parking lot. As Figure 4.31 illustrates, the entrance to the structure is lost in the elevation of the berm and the sea of parking that clutters the view of the structure. While its mass and architecture help bring prominence to the building, its orientation detracts from the connection to the surrounding community. On the other hand, the clubhouse for the apartment community has a very strong sense of architectural appeal, and ties into its surroundings very nicely. As one enters the apartment complex, the view of the building is framed by two large apartment buildings (Figure 4.32). These buildings use a lower level of detail to become background buildings and allow the clubhouse to really pop in the viewer’s eye. The large columns and the more ornate design help give this structure a very strong sense importance in the community.

Overall, the measurement of this principle in NorthLake Park at Lake Nona is fairly successful, but the question arises about the location and architectural features of the school. While it is located to terminate views, access isn’t direct from the point where the view stops. Also, the architecture of the building isn’t oriented to be the terminus of the view corridor. On the other hand, the clubhouse structure is very successful in addressing this principle. Are the requirements of this principle met within design of the community? Yes and no, with a slight edge given to a positive response. For complete results of this test, reference Appendix A-3, page 231.

NorthLake Park at Lake Nona is a story of two neighborhoods. Neither the TND neighborhoods nor the conventional neighborhood completely meet the requirements of the five principles
studied, but the inclusion of Neighborhood 3-A in the average measurements, brings the averages even further away from meeting the desired criteria, and in some cases takes the community from attaining the desired measurements to not meeting them. Of the five principles studied, NorthLake Park at Lake Nona only partially meets the requirements of each principle. The community does meet or exceed the requirements of several of the sub-categories, it only fails to meet the requirements of one test. NorthLake Park is successful in providing the required street section components and a variety of evenly distributed parks. The community is partially successful in creating an enclosed street section, a strong hierarchy of building types, providing off-street parking behind buildings, meeting desired setbacks and encroachments, meeting the connectivity ratio, and providing the prominent location of civic buildings. The community did not meet the requirements for the curb return radii. The overall sense of NorthLake Park as a New Urban community is difficult to determine because of the difference in the neighborhoods. While some of the neighborhoods provide New Urban features, Neighborhood 3-A did not. Overall, much of the neighborhood felt like conventional neighborhood design dressed in New Urban clothes, with slightly deeper setbacks than desired, garages setback from the front of the house, but not deep enough to remove their impact on the street, and streets that, although interconnecting, were somewhat disorienting and difficult to traverse.

**Avalon Park**

The final community used for this study is Avalon Park, located to the east of the city of Orlando. The project has been through several redesigns and land ownerships since its original inception in the late 1980s. Originally designed by the firm of Duany Plater-Zyberk, the community consisted of nearly 10,000 acres of land. After the original design was completed for the Flag Development Company (Duany and Plater-Zyberk, 1991), the project went dormant until the mid-1990s, when the current developer, Beat Kahli, purchased the property (Florida Atlantic..., 2002). At that
time, the developer worked with the City of Orlando and the St. John’s River Water Management District to put together a large land transaction that gave the city and SJRWMD 8,000 acres of land to use as the Hal Scott Preserve. The current site is the northwestern most corner of the original development site. The current plan (Figure 4.33) was put together by Ross Halle, and provides for over 3,000 single family homes, 800 multi-family units, and 500,000 square feet of commercial, workspace, and civic sites on the remaining 1,860 acres.

Construction of the project began in 1999, with the opening of the first model homes, and has quickly continued to grow. Build-out of the single family homes is expected to be reached within the next two years, while the commercial centers should reach completion by 2010. Other features of the community include a variety of sizes and activities in parks sprinkled throughout the community, a high school and elementary school already open, and a future middle school.

**Principle 19:** The first principle studied at Avalon Park was principle nineteen, measuring the ratio of building separation to building height, as well as the average setback and encroachments.
The community of Avalon Park does a very good job of fronting the streets with buildings and creating an enclosed feeling along the street frontage. Buildings are set to be the prominent features of the community and parking areas are located to the rear or center of the blocks. For the most part, except for locations where the backs of lots are against the edge of the community, all of the lots for dwelling units are served by an alley.

The first three streets studied were in the commercial portion of Avalon Park. The central commercial core is designed so that large buildings front the street opposite a pedestrian park. Thus, the measurements taken reflect a street section that fronts onto open space. Table 4.9 shows the measurements of all streets discussed below. The first measurement was taken along Founder’s Square, the building here is approximately 25 feet tall and provides a 58’ separation from the open space opposite it. This yields a building separation to building height ratio of 2.32. The next street studied was Avalon Lake Drive.

### Table 4.9 - Façade Separation Ratio - Avalon Park

<table>
<thead>
<tr>
<th>Street Name</th>
<th>Building Height</th>
<th>Façade Separation</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Requirements (Open Space)</td>
<td>3:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Founder’s Square</td>
<td>25</td>
<td>n/a</td>
<td>58</td>
</tr>
<tr>
<td>Avalon Park East Blvd</td>
<td>42</td>
<td>n/a</td>
<td>54</td>
</tr>
<tr>
<td>Avalon Lake Drive</td>
<td>42</td>
<td>n/a</td>
<td>60</td>
</tr>
<tr>
<td>Residential Requirements</td>
<td>6:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ashmount Drive</td>
<td>16</td>
<td>16</td>
<td>76</td>
</tr>
<tr>
<td>Marsh Lily Drive</td>
<td>20</td>
<td>16</td>
<td>68</td>
</tr>
<tr>
<td>Flowering Dogwood Dr</td>
<td>24</td>
<td>24</td>
<td>70</td>
</tr>
<tr>
<td>Pepperdev Drive</td>
<td>18</td>
<td>18</td>
<td>80</td>
</tr>
<tr>
<td>n/a Courtyard</td>
<td>18</td>
<td>18</td>
<td>106</td>
</tr>
<tr>
<td>Open Space Requirements</td>
<td>3:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guiana Plum Drive</td>
<td>18</td>
<td>n/a</td>
<td>50</td>
</tr>
<tr>
<td>Anastasia Lane</td>
<td>14</td>
<td>n/a</td>
<td>50</td>
</tr>
<tr>
<td>Sharswood Circle</td>
<td>24</td>
<td>n/a</td>
<td>60</td>
</tr>
</tbody>
</table>

Note: Ref. Appendix A-4 for street section diagrams.

![Figure 4.34 – Commercial street section through Avalon Park East Boulevard.](image_url)
Park Boulevard (Figure 4.34), the buildings here had a height of approximately 42 feet, with a separation of 54 feet, giving a ratio of 1.29. The final commercial street was Avalon Lake Drive, which gave a height of 42 feet, a separation of 60 feet, and a ratio of 1.43.

The next group of street sections studied was found in the single family areas of the community. The first residential street studied, Ashmount Drive, provided a ratio of 4.75, with building heights of 16 feet and a separation of 76 feet. Marsh Lily Drive produced a slightly lower ratio, 4.25, with building heights of 20 feet and 16 feet separated by 68 feet. The final street, Flowering Dogwood Drive, separated two 24 feet buildings by 70 feet, giving a ratio of 2.92.

The third group of streets studied was multi-family or townhome streets. There was one street and one courtyard studied for this portion of the test. The street, Peppervine Drive, has two building heights of 18 feet with a separation of 80 feet. This produces a ratio of 4.44. The courtyard separates two 18 foot tall buildings with 106 feet of courtyard space (Figure 4.35). Also contained within this space is a pool area and small pavilion. The sense of enclosure created here is a ratio of 5.89.

The final segment of this study looks at single family homes in relation to open space. The first two streets studied, Guiana Plum Drive and Anastasia Lane, both provide a building separation of 50 feet, with building heights of 18 feet and 14 feet respectively. Their respective ratios are 2.78.
and 3.57. The final street was Sharswood Circle; this street provided a building height of 24 feet with a separation of 60 feet, giving a ratio of 2.50.

The next phase of this study looked at the setbacks and encroachments for the same street sections. Table 4.10 displays all of the setback and encroachment measurements taken onsite. The commercial and townhome streets meet the setback and encroachment requirements for this principle, but the single family homes are setback beyond the desired 15 feet.

<table>
<thead>
<tr>
<th>Street Name</th>
<th>Façade Setback</th>
<th>Porch Encroach.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Req’mnts</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Founder’s Square</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Avalon Park East Blvd</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Avalon Lake Drive</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Single-Family Req’mnts</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>Ashmount Drive</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>Marsh Lily Drive</td>
<td>19</td>
<td>8</td>
</tr>
<tr>
<td>Flowering Dogwood Dr</td>
<td>16</td>
<td>6</td>
</tr>
<tr>
<td>Guiana Plum Drive</td>
<td>18</td>
<td>8</td>
</tr>
<tr>
<td>Anastasia Lane</td>
<td>28</td>
<td>3</td>
</tr>
<tr>
<td>Sharswood Circle</td>
<td>18</td>
<td>0</td>
</tr>
<tr>
<td>Multi-Family Req’mnts</td>
<td>5-6</td>
<td>0</td>
</tr>
<tr>
<td>Peppervine Drive</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>n/a - courtyard</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Note: Ref. Appendix A-4 for street section diagrams

While the community has developed allowable encroachments into the setbacks, they do not bring the porch into close proximity of the street. It is still setback a considerable distance from the street in most cases, but this community is very successful in creating a sense of enclosure along the street. While the study shows that the community is fairly successful according to this principle, it is preferred that the setback encroachments bring the porch closer to the street to be completely successful. For complete results of the study of this principle, reference Appendix A-4, page 233.

**Principle 20:** The architecture of Avalon Park is a mixture of a variety of styles, but all of the styles tend to build upon the basic Georgian style of architecture so they all work well together. Each building type has a sense of design to it, but also a sense of place in the overall community. The housing, although somewhat detailed, takes a back seat to the commercial buildings, which take a back seat to the civic structures. There is a hierarchy of buildings at work in Avalon Park.
The styles primarily used in the housing portion of the project are based upon their typology. In the townhome portion of the community the Regency vernacular is used to build off of the Georgian vernacular by replacing the central upstairs window, with a smaller, round or octagonal window (Figure 4.36). Townhomes in other parts of the community use a combination of Georgian and Colonial architecture. The single family homes provide a much broader range of architectural styles. The architecture in the single family homes includes Southern Plantation, with its large porches, series of columns, and large windows, Colonial, Federal, Georgian, Neoclassical, and Regency (Figure 4.37). All of these styles work well together and present a very formal, symmetrical structure, with evenly spaced and sized windows. The differences come in the style of the roof, the treatment around the windows, and the projections away from the house. Finally, the lofts above the commercial buildings are designed with a combination of Neoclassical and Federal architecture. This combination provides a formal façade with evenly spaced and sized windows, while giving the roofline of the building variation, with both open end gables and decorative parapet walls (Figure 4.38). Overall the detail found in the residential structures is fairly mute as a whole, but on an individual house by house basis, is
enough to give each house a sense of design and a sense of uniqueness. Overall, the level of detail is a seven on a scale of one to ten, with ten being highly ornamental.

The commercial structures throughout the community fall into the same design vernacular as the lofts mentioned above. These buildings are designed to have commercial uses on the ground floor with lofts on the upper three floors (Figure 4.38). Again, these buildings are designed using a combination of Federal and Neoclassical architecture to present a unified yet varied façade. The roofline is varied to provide interest to the streetscape, and the colors used help to break the single façade into several smaller façades. A variety of styles and colors of awnings are used over the sidewalks to also help break up the monotony of a single style for the entire building. The level of detail found in the commercial buildings ranks at an eight.

The final set of buildings studied is the civic uses. Similar to NorthLake Park at Lake Nona, the school is a fairly boxy, fairly basic structure, utilizing variations in the color of the bricks to create interest and bring more attention to the structure. Overall, the building has a fairly formal appearance from the street, but is a little
confusing due to the busy façade (Figure 4.39). The vernacular of architecture used is Contemporary. On the other hand, the several community pavilions and clubhouses sprinkled in the parks and open space throughout the community reflect the design of the housing that surrounds them. They take up the Southern Plantation, Federal, Georgian, Colonial, Neoclassical, and Regency vernaculars, and use slightly more detail to give them a feeling of community. They help to establish an architectural theme throughout the community. On a scale of one to ten, the architecture of the civic structures in Avalon Park ranks at an eight.

Avalon Park, through its many styles and vernaculars of architecture, is successful in creating a hierarchy, because it was successful in bringing together many vernaculars that clearly relate to one another. The many different styles of architecture allow for a great deal of variation and uniqueness throughout the community, but each building type uses a similar level of detail to express that vernacular, allowing for the hierarchy to go from civic to commercial to housing, top 241, for complete analysis of architecture.

**Principles 22 and 23:** Avalon Park has a very thorough and complete system of streets, providing sidewalks throughout for pedestrians, while accommodating both the automobile and the pedestrian in the same street section. By utilizing narrow streets, and allowing for on-street parking, vehicular speeds are controlled through residential areas. The

<table>
<thead>
<tr>
<th>Street Name</th>
<th>Sidewalk</th>
<th>Parking Strip</th>
<th>Drive Lane</th>
<th>Other / Median</th>
<th>Parking Strip</th>
<th>Parking Strip</th>
<th>Sidewalk</th>
<th>Right-of-way</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Commercial Req'mnts</strong></td>
<td>8-10</td>
<td>4-5</td>
<td>8/18</td>
<td>8-10 opt.</td>
<td>8-10</td>
<td>8/18</td>
<td>4-5</td>
<td>8-10</td>
</tr>
<tr>
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<td>13</td>
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<td>13</td>
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<td>6</td>
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<tr>
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<td>7</td>
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<td>13</td>
<td>0</td>
<td>13</td>
<td>0</td>
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Note: Ref. Appendix A-4 for street section diagrams.
street system provides ease of access throughout the community, providing options for travel, while also providing quick access to the many parks and open spaces within the different neighborhoods. Part of the success of creating a good street, is providing a street section that accommodates the pedestrian successfully. Table 4.11 outlines the measurements gathered along six different streets within the development, three commercial and three residential. The commercial streets provide two driving lanes and two parking lanes, but because of the design of the commercial area, overlooking open space, one side of the street provides a wide sidewalk with planting pits, while the other has a wide pedestrian walkway with a planting strip (Figure 4.40).

![Figure 4.40 – Street section through Founder’s Square.](image)

![Figure 4.41 – Street section through Marsh Lily Drive.](image)
In the residential areas, the average sidewalk width is 4 feet on both sides of the street. Separating the sidewalk from the street is 7.33 feet of planting strip on either side of the road. The street itself is 26 feet wide with no dedicated parking lanes, but on-street parking is allowed, which narrows the effective driving width to between 10 and 18 feet (Figure 4.41).

The street sections in the commercial areas are very successful because they provide a sidewalk that is wide enough for several people to walk shoulder to shoulder. Pedestrians are protected from the moving traffic by regularly spaced planting pits and on-street parallel parking. In the same way, the residential streets are successful because they provide separation between the sidewalk and traffic by providing a wide planting strip between the two. The criteria of principles twenty-two and twenty-three are met successfully throughout Avalon Park.

The next criteria studied for principles twenty-two and twenty-three focused on the location and types of off-street parking provided. Avalon Park is very successful in meeting this criterion because it has located large parking lots behind the buildings they serve, while providing the majority of the parking on-street. This also allows those parking lots to be smaller and more efficient. While there are some places where it’s difficult to hide the parking behind buildings, the parking is shielded from view by landscaping or a solid wall. The areas where this occurs are mainly in association with structures that don’t have a high amount of pedestrian traffic, places such as the large grocery store and the convenience store. The design of
these structures ties into the community and the overall concept of new urbanism, but because they require more vehicular access, it’s difficult to hide the vehicular use area. In the case of the grocery store, parking is actually located behind a row of stores that front the street. This row helps to conceal the parking area from the main street. The success of addressing this continues with the location of single family and townhome garages. All of the dwelling units are served by an alley that allows for access to garages (Figure 4.42). This keeps vehicles from parking in a driveway and overhanging the sidewalk. In places where it’s not feasible to include an alley, the lots have a wider street frontage, which allows them to attach a garage to the house or to construct a driveway access to the rear of the house along the sideyard. In these cases, the front of the garage is set back beyond the front of the house by at least 20 feet.

The third criterion under these principles looks at the system of streets, measuring their connectivity through the use of the ratio of connectivity. Avalon Park has 347 links and 218 nodes (Figure 4.43). To calculate the connectivity ratio, the number of links is divided by the number of nodes. In this case, the connectivity ratio is 1.59. This is slightly below the preferred number of 1.6. There are many

Figure 4.43 – With 347 links and 218 nodes, Avalon Park has a connectivity ratio of 1.59.
reasons that this number could be low and some of these will be explored in the concluding chapter. Avalon Park’s success in addressing these criteria is mostly successful. The community provides a very good network of streets; all of the streets allow the pedestrian to find an unobstructed route to the town center or other destinations within the community. There are some situations where the route of travel may be slightly out of the way, but for the most part, these inconveniences are minor.

The fourth criteria for principles twenty-two and twenty-three is to measure the proximity of the available parks to the residences they serve. Avalon park provides 73.6 acres of parks, spread throughout the community in 31 small village or pocket parks, one medium sized neighborhood park, and two large community parks. With a projected population of 10,540, there are 6.99 acres of park provided for every 1,000 residents. All of the parks within the community are created in places where residents readily see them and can access them safely and in the open. These parks consist of community greens, plazas, pedestrian parks, passive parks, and active fields. Most of the parks are directly associated with the street right-of-way. Each residence within the community, as shown in Figure 4.44 is within

Figure 4.44 – The distribution and coverage of parks is very good throughout the community.
at least a 1,800 foot radius, with a majority of those falling within a 1,200 foot radius. The parks system also provides a variety of activities. While some parks are simply open lawns for allowing dogs and their owners to play, others are more elaborate, providing seating places and other amenities for passive recreation, still others double as amenity centers, with a portion of the park dedicated to a swimming pool and associated pavilion. The community parks provide large open fields, soccer fields, baseball or softball fields, and various court sports for the residents to enjoy. Avalon Park’s system of parks is very successful according to the prescribed criteria.

The final criterion for principles twenty-two and twenty-three is to study the curb radii found throughout the community. This study used three residential street intersections and two commercial street intersections. The results of the study are recorded in Table 4.12. The average residential street intersection was found to have a curb radius of 13.87 feet. This is well within the preferred range of eight to fifteen feet. On the other hand, the commercial curb radii average 14.66 feet in radius, which is too large for the preferred 5 feet to 10 feet range. In the case of the two commercial intersections, a case can be made for it being alright that the curb radii are slightly larger. In both cases, the intersections are controlled by a four-way stop sign, so drivers must stop at the intersection. Even though the curb radii in the commercial area are slightly large, this criteria has been successful in creating a standard that helps calm traffic, while providing a shorter distance for pedestrians to cross the street.

### Table 4.12 - Curb Radii - Avalon Park

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<th>Intersecting Streets</th>
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<th>NW</th>
<th>SE</th>
<th>SW</th>
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</tr>
<tr>
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<td>12</td>
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<td>12</td>
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<tr>
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<td>n/a</td>
<td>15</td>
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<td></td>
</tr>
<tr>
<td>Commercial Curb Radii Requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</table>

Note: Ref. Appendix A-4 for curb radii diagrams.
Overall Avalon Park is successful in fulfilling the requirements of this principle. It provides access the town center and other areas of the community through an interconnected network of streets, while providing safe street sections for pedestrians to follow. Even though the connectivity ratio is the slightest bit smaller than preferred, the community still provides a sense of connectivity. Parks, and the role they play in a community, are very important, and Avalon Park has created a series of parks that provide easy access to every resident of the community. For complete results, reference Appendix A-4, page 244.

**Principle 25:** The final principle studied at Avalon Park looks at the design and location of the civic structures within the community. For a larger development, Avalon Park does not provide some of the civic uses that are typically associated with the town center. Avalon Park has limited its civic structures to three schools and several small community pavilions throughout the town. A church is scheduled for future construction.

The civic structures found throughout Avalon Park, such as schools and community amenity center pavilions, are located on sites that give them more prominence. Located in association with the many small parks, the amenities use these locations to become prominent community structures within the neighborhoods (Figure 4.45). The school, though, is located along a street in a fairly non-distinct location. When siting these buildings throughout the community, several types of sites were used. Many of the community amenity centers are located on axial squares or double axial squares, or some variation of those.

![Figure 4.45 – The amenity centers at Avalon Park are well designed and are prominently located in park areas.](image-url)
This provides a sense of prominence, while also allowing the structure to terminate some views. The school is located along a street, and can be considered similar to an attached square, but the property is only fronted by a single street.

These public structures are slightly more prominent than the surrounding homes. As discussed above, there are a variety of architectural vernaculars at play within the community, but brought together as a whole, they all match and work together very nicely. The amenity centers for the community work with those same vernaculars to create a higher level of detail and design for the community structures. This higher level of detail allows these structures to have more prominence in the community. Likewise, the school has an architectural vernacular all its own within the community, but the way it addresses the street, and the way it opens its front doors to the community help to give the building more prominence within the community (Figure 4.46). This principle is successful because even though not all the buildings sit on the most prominent sites in the community, they are still in prominent locations. They successfully address the street and the views that they terminate. The school is successful because it is located in an accessible area of the neighborhood, and its mass helps to set it apart from the rest of the community. It also creates a great deal of importance for itself in the way that it addresses the street with its front door. Reference Appendix A-4, page 255 for complete results.
Of the five principles studied, Avalon Park successfully met the criteria of all of the principles. In fact, of the ten sets of criteria, Avalon Park had only one test where it partially met the criteria. The only place where Avalon Park fell short of receiving a perfect grade was with the connectivity ratio, where the interconnected system of wetlands made it difficult to access portions of the property with more than a single street. Avalon Park is a very good example of a large New Urban project. The sense of being in a community oriented neighborhood is embodied by the development, with a network of streets connecting to a strong commercial core. The study of these principles as they are addressed by all of the communities will be discussed in further detail in chapter five of this thesis.
Chapter 5

CONCLUSIONS

New Urbanism is more about creating a sense of place, than it is creating specific dimensions to create that place. The focus of the principles is not necessarily to write out specific guidelines that dictate every relationship within the community. Instead, they put together a system of guidelines that help to direct the form of development to create spaces that people want to be associated with, and places where people feel comfortable. Many New Urban designers, such as Andres Duany and Elizabeth Plater-Zyberk, found that the places in which people truly wanted to live were places that weren’t being built anymore. It had nothing to do with creating a sense of nostalgia, but had everything to do with creating the relationships between street and building that make old towns and old neighborhoods so popular. Duany and Plater-Zyberk started their quest for a better neighborhood by visiting places that had relationships between streets and buildings that made users comfortable and retained their desirability as places in which to live. None of those places were being built at that time, nor were they built in the forty years prior. Those places were the old cities of our country and the places that were built throughout history that have stood the test of time. They studied those places to gather a better understanding of the relationships that make them so successful, even today. Based on what they studied, they and their colleagues developed the concept for a new set of community design principles. Collectively known as New Urbanism, this concept was built around twenty-seven principles for the design of communities. This thesis studied three New Urban developments to determine how well they incorporated five of the principles related to the Block, the Street, and the Building in their communities.
Community Comparisons

Principle 19:

This principle addresses the relationship buildings have to the street. It is designed to stress development of enclosure defined by quality elements fronting it. If done well, it produces a sense of security and safety, because there are windows open to the street. That’s the reason New Urbanists push for garages to be in the back of houses. The ratio of 6:1 (horizontal space to building height) has as much to do with creating a sense of enclosure as it does having the façade close enough to the sidewalk for there to be a sense of visual supervision (Figure 5.1). If the house gets pushed too far back from the street, there is a sense that even if someone were watching, they’re too far away to really see what’s happening.

The same can be said for the measurement of the building setbacks and encroachments. Setting a building back a certain distance creates a unified street front. It creates a flat plane that helps define the sense of enclosure along the street (Figure 5.2). Allowing encroachments into this space for porches also creates an added sense of security along the

Figure 5.1 – A Traditional Neighborhood Street is fronted by porches, windows, and a sense of safety.

Figure 5.2 – A continuous flat façade helps create a sense of enclosure.
street. Instead of pushing the windows further from the street, the porch is allowed to come closer. Not only does this help build a stronger sense of security, but it also allows for closer contact with neighbors, neighbors that will help watch over the neighborhood and keep it safe. In the case of all three developments, they were all very successful at accomplishing a sense of enclosure by bringing the buildings near the street and providing a clean, garage-free façade fronting the street. The only development that did not meet the desired standards was the one conventionally designed neighborhood at NorthLake Park.

**Principle 20**

Principle twenty addresses the architectural vernacular of the community, and the way that vernacular is used to create a hierarchy of buildings. This principle is important because it creates a sense of character and place for the community. The architecture of a place defines the visual character of spaces. If there is a hodge-podge of structures that have little relation to each other in design, how can those structures be brought together to define edges and enclose spaces? They can’t. A clean, consistent style that is developed for specific building types, while giving a sense of hierarchy throughout the community, allows important buildings to stand out as important buildings.

The communities studied were fairly successful in developing a consistent architectural vernacular throughout the project (Figure 5.3). The problem that was found in the case of Cagan Crossings was that the civic buildings lacked the level of

![Figure 5.3 – Consistent housing along a street builds community character.](image)
detail that allowed them to separate themselves from their surroundings. The same can somewhat be said for NorthLake Park and Avalon Park, where the schools didn’t really relate architecturally to the remainder of the community. However, their locations were more secluded from the rest of the development, so it wasn’t as harsh of a transition from one building style to something completely unrelated.

**Principle 22 and 23**

Principles twenty-two and twenty-three discuss the relationship of the automobile and the pedestrian to each other. Twenty-two focuses on the treatment of the automobile in respect to the safety of pedestrians, while twenty-three discusses means to create safe spaces for pedestrian traffic. These principles used five criteria to assess how well they were addressed in each case study. These included the measurement of the street section elements, and continuing with the location of off-street parking, the connectivity ratio for the community, the location and frequency of parks, and finishing with the measurement of the curb radii. These dimensions determine whether or not a place feels safe and comfortable to a pedestrian. The study of the street sections allowed examination of the methods used to protect the pedestrian from the flow of traffic. In this case, all three developments did a fairly good job of providing sidewalks that were protected from the street with planting strips. Cagan Crossings, though, didn’t provide sidewalks everywhere; sidewalks exist mainly where the highest density of housing exists, and are connected to the town center. As mentioned in chapter four, one of the main north-south drives through Cagan Crossings only provided sidewalks along the southern half of the development. On the northern half people are forced to walk down the street to get to the amenity center and the community mailboxes. This is not safe. Of all the elements in the street section, the provision for a pedestrian sidewalk, whether three feet wide or eight feet wide, is an absolute. This principle requires separation of pedestrian and automobile traffic in the street section. Streets that do not
have this separation are a complete failure. Aside from this, all three communities did a very
good job of separating the pedestrian from moving traffic by using both on-street parking and a
fairly wide landscape strip.

The next criteria studied the relationship
between off-street parking to the buildings it
serves. Parking should be located behind
buildings. This allows the pedestrian more
ease in walking about, because they aren’t
forced to navigate through a hostile parking
lot. It also allows the visual clutter of a
parking area to be out of the view of the
community. New Urbanists push for on-street
parking for several reasons, one of which is
because if fifty cars can be accommodated on the street, that’s fifty fewer cars that need to be
parked in the parking lot (Figure 5.4). This allows the parking lots to be smaller and more
dispersed throughout the town center area. It also seems to help traffic in another way. One of
the goals of New Urbanism is to create pedestrian friendly, walkable neighborhoods. If a person
lives three blocks from the commercial core of a TND, and wants to take his or her kids to the ice
dream shop, they have two choices, either take the time to pack up the car and go, or walk. When
comparing conventional design to TND design, the conventional walk would be through a
parking lot, which with kids, is not safe. So the option used would probably be to drive, because
the person knows parking is readily available and it’s the safest method. In a TND, the most
visible parking is the parking on the street. If a person knows that there is a good chance all of
the on-street parking will be taken, they may decide to walk, versus drive. The time necessary to

Figure 5.4 – On-street parking not only helps the
sense of safety of pedestrians, it also eases the
need for providing large parking lots.
drive and find a place to park may be longer than actually walking to the destination. By walking, the experience of going to the ice cream shop starts when you walk out the front door, when driving, it starts when you park and unload the car. Both Cagan Crossings and Avalon Park were very successful in providing off-street parking in the center of blocks. NorthLake Park was also fairly successful in moving the parking out of the eye of the observer, but garages were still located even with the front façades of housing and parking lots were between the street and the building.

The third criteria for the study of these principles looked at the connectivity ratio for the communities. Cagan Crossings was very successful in providing a system of interconnected streets, throughout the community. Of the three communities, it was the only one that actually passed based on the measured quantity. The other two communities were just short of passing. But was the failure really all that bad? Looking at the overall design of the communities, both provide a very strong sense of connectivity throughout. Neither community has dead end streets. So, what would make both of them fail? The answer probably more accurately lies in the sites where the communities are developed. Cagan Crossings was constructed on a small site. The overall development is very compact and doesn’t have natural features that interrupt the street system. Those features were already taken into account and worked around prior to locating the project site. In the case of the larger communities, there are extensive networks of wetlands present that create an obstacle for a true network of streets to be blanket over the entire site. In many cases, there are several smaller neighborhoods within the overall development that are connected to the next neighborhood by a single road. Each individual neighborhood probably passes this test, but because they are only allowed a single link to the next neighborhood, the ratio of links to nodes drops. In the case of these two communities, it is safe to consider the network of streets as a success.
The fourth criteria for assessing these principles looked at the location and frequency of parks within the community. Both NorthLake Park and Avalon Park provided a good variety of parks throughout the community. While Avalon Park’s park system tended to have more open lawn space, NorthLake Park’s parks were more formal, with small gazebos, artwork, and gardens (Figure 5.5). Both park types are appropriate, as long as the parks are available.

In the case of Cagan Crossings, there is a distinct lack of parks. This study took into account the availability of the amenity centers as parks, but throughout the community there is a lack of open green space that invites the public. As mentioned in the study, there are a series of courtyards partially enclosed by some of the apartment buildings, while these offer public, open green space, the actual feeling is less inviting. If a resident of a different part of the community wanted to find a nice grassy place to sit and read a book, they would feel uncomfortable and out of place walking into one of these courtyards to do so. A park, by nature, should feel completely public and open to anyone wanting to use it. Parks may be one of the most important parts of a community, especially when that community relies on a higher density of housing. Parks allow the community to breathe and provide a larger area for home owners with smaller yards to have a large green space to play.

The final criteria of this principle was to study the curb radii found throughout the community. This study measured the radius of various curb returns to determine the safety that is provided for
a pedestrian. Curb returns provide a safe walkway for pedestrians in two ways. First, a small curb radius allows the entire radius to be completed before the sidewalk crossing. This means that the narrowest possible crossing is provided for the pedestrian. If a street width is twenty feet, and the curb return is finished before the sidewalk, the pedestrian only has to cross twenty feet of street. On the other hand, if a curb return has a much larger radius, and expands beyond the sidewalk crossing, that crossing distance can be increased by several feet. The longer a pedestrian is in the street, the better chance of a conflict occurring.

The second reason it is important to use small curb radii is that a car must slow down to make a sharper turn. With a long sweeping curb radius, a car can make the turn without slowing down at all. This creates a very dangerous situation for pedestrians.

It’s difficult to determine the success of this principle overall. While several of the curb returns that were studied did not fall into the acceptable range, their location brings into question the necessity for them to be smaller. In a few instances, the curb radii were slightly larger than allowed by this principle, but these occurred at four-way stop signs so the traffic calming device of the small radius is not necessary. NorthLake Park had some radii that were far too big, creating a very long walk for pedestrians. One of the problems that designers face is that fire engines determine the radius of the curb return. A fire engine has a turn radius of thirty to thirty-five feet, which means that to accommodate the truck the minimum curb return should be twenty-five or thirty feet. This provides a radius which is much too large for the vehicles that use the streets on a daily basis. One solution to this problem has been used successfully in many cases. That is to simply design the curb return with two radii. The first radius is the actual radius for the corner, typically ten or fifteen feet. The second radius is the effective radius, which allows for the larger vehicles to make the corner. The curb is built along the smaller radius, but instead of using
the typical “F” curb, a flattened “Miami” curb is used. Then the area between the back of this curb and the effective radius is filled with a different hardscape material than the street material. This allows a space for larger vehicles to roll over if necessary, while the every day traffic sees the “Miami” curb as their boundaries.

Although phase by phase, the communities failed in different areas of the design, the main consideration overall is whether the pedestrian is safely accommodated along the streets. In this case NorthLake Park and Avalon Park are successful in providing a safe passageway where both the automobile and the pedestrian are dealt with successfully in the same section. While Cagan Crossings provides the best network of streets and closest access to the town center, providing safe passage far outweighs these lesser details. So from that standpoint, Cagan Crossings fails the study of principles twenty-two and twenty-three.

**Principle 25**

The final principle studied for this thesis was principle twenty-five. It focuses on the location and design of the civic buildings throughout the communities. The importance in creating prominence with the civic structures is that these are the places where people go most often, and they are the structures that define the character of the community. They should be the largest, the most prominent, the best sited, and the most detailed buildings found anywhere in the community. They are landmarks, and places where people need to go on a fairly regular basis. For the study of these communities, civic structures also included the design of amenity center pavilions and structures. Even though they don’t have the functional importance of a town hall or library, they are the places where all residents have access and want to visit on a regular basis. They should have some sense of prominence to their design so they stand out and are easily located.
In all three communities, the majority of the civic structures were amenity buildings. In the cases of Avalon Park and NorthLake Park, the elementary school became the major civic structure in the community. In all cases though, the most prominently sited civic structures were the amenity buildings. These structures were located in parks or open space, often located within the street right of way. They terminated views and had a good sense of architectural detailing. On the other hand, the two school buildings, while separate from the rest of the community in architectural design, had little relationship to the street or community that allowed it to stand out as a prominent building. In both cases, the building relies upon its mass to give it prominence in the community. While Cagan Crossings is very successful in providing prominence for its civic structures, NorthLake Park and Avalon Park have placed the focus on the wrong civic structures. While both school sites are centrally located to the community, the architectural design and relationship to the rest of the community leave a lot to be desired.

**Research Questions**

The first question that this thesis asked was: are the three selected communities meeting the prescribed criteria specified in the selected principles? For the most part, the communities studied are being built according to the selected principles. None of the communities completely failed a set of tests for any of the principles, leading to results where every community at least partially met the requirements of the selected principles. One of the most important aspects of New Urban design appears to be the relationship of the building to the street and the safety of the pedestrian in the street cross section. Throughout all of three communities, there is a strong sense of enclosure along the street, this is intensified by the removal of garages and parking lots and moving them out of sight. Streets are more pedestrian friendly and the opportunities for conflict are decreased. On the other hand, one of the areas where more detail could have been focused
was on the location and prominence of civic structures, and creating a sense of hierarchy overall. While Avalon Park did a good job of creating hierarchy, it could have been better. In all three communities, they seemed to miss something. Whether it was the location of the civic structures, the architectural definition of important structures, or the hierarchy of archetypes, every community needed to improve the relationships of the different types of buildings to each other. In the overall functionality of the community and the sense of the place, though, it was the principles that were consistently met that play a more important role in the overall community aura, than the principles that were more consistently compromised.

The second question asked in the opening chapter of this thesis was: even though some of the principles have been compromised, can the community still be considered New Urban? This is a difficult question to answer. In the case of Cagan Crossings, the ambiance and character of the community is distinctly New Urban, the same can be said for Avalon Park. In many cases it is about the feeling that one gets while in a community that gives them a sense of New Urbanism, and not necessarily meeting all of the measurements. But to say that a community can skip over a few of the principles and still be considered New Urban is a dangerous proposition. Although NorthLake Park has some very New Urban features, there is a lack of connectivity between the different neighborhoods and there is not a central area where all of the streets lead. Avalon Park is spread out in a similar manner, but all of the streets funnel down to the commercial core, so it becomes the central focus of the development. At NorthLake Park, that central area is the location of the school, but this should not be a central gathering area. It does not provide the services or the destinations that draw people to it even though it is the most important civic structure within the development. NorthLake Park is a good example of a New Urban project that has been compromised. At one time, the design of the community was very New Urban, but as parts of the development passed to new hands, the community lost its style. Neighborhood 3A
developed as a conventional neighborhood, and the feel of walking along a street in this section is completely different than walking down a street in Neighborhoods 1 and 2.

**Limitations of this Research**

Every study has its limitations. No matter how thorough the investigation, there are always other criteria that are left out or missed. The research associated with this thesis is no different. From the beginning, this research limited itself to five of the twenty-seven principles and only three of the over four-hundred New Urban developments. Several limitations are apparent.

The first limitation is the selection of only five of the twenty-seven principles. According to New Urbanism, a New Urban project should successfully follow all of the principles to be a successful community. A study of the magnitude and scope necessary to make accurate conclusions based on all twenty-seven principles would be very difficult to accomplish. This study was intended to look at the physical relationships found within the Block, the Street, and the Building.

A second limitation is the availability and variation in opinions for creating good community design. While the criteria set up for the study of each principle is accurate, it is by no means law. Each designer develops their own criteria when designing a project, for the purpose of this study, the criteria used was based upon the research and experience of some of the most notable New Urban designers. But the criterion used was not comprehensive from the standpoint that within each principle a vastly more in-depth study could be pursued.

Thirdly, only three communities were studied. The three selected communities varied in size to get a feel for how the selected principles might be incorporated at different scales of development. While every effort was made to use communities that represent the majority of
New Urban developments currently under construction, generalities about all four-hundred-plus communities can not be made based upon the comparison of these three communities.

Finally, this study was limited by the phase of construction for each community. While parts of each development were completed, none of the developments were completely built-out. This means the study was limited to only one or two measurements for some of the tests, and those measurements may not accurately depict the future development of the community.

**Future Studies**

There are many opportunities to further this study with more research on New Urbanism. Most obvious is to continue to compare these three communities to the criteria of the other twenty-two principles. This is a large undertaking which should be pursued to come to a concrete conclusion on the successes and failures of these communities as New Urban communities. There are other research opportunities to support and further the study of this thesis.

With so many different designers and a growing list of second generation professionals, New Urbanism needs to develop standards beyond the stated relationships in the *Charter of the New Urbanism*. The Charter is currently composed of essays defining the intent of each principle, but does not quantitatively define parameters that should be followed when designing New Urban neighborhoods. Research needs to be completed to define checklists for each principle for designers to use while creating communities. This would help to alleviate the misinterpretation of the essays by designers who are not completely familiar with New Urbanism, leading to projects that are substandard.
Second, many projects undergo a complete redirection in the design of the community as construction begins. Depending upon phasing and the layout of the community, portions of a New Urban development can change and take on the character of a conventionally designed neighborhood, as was the case at NorthLake Park at Lake Nona. Research needs to be looked at to determine why this occurs. Is it the developer losing control of his development? Is it the regulating agency imposing control over the development? Is it the builders who have built conventionally designed housing for a career and see TND development as a risk? Who is at fault when New Urban communities change direction and revert back to conventional designs?

Finally, many states, counties, and municipalities are adopting TND standards based on New Urban principles. These standards are often strictly enforced by government agencies; which scares many developers into submitting their design as a planned unit development. Because the TND regulations are strictly enforced, and variance is rarely allowed, it is easier to create a PUD with its own regulations that relate better to the subject site and project. What about the standards set in TND regulations by counties? Are these criteria meeting the principles of New Urbanism? This could be studied by conducting similar tests, as used for this thesis, on government regulated TND zoning codes. This can gauge the role that government is playing in either encouraging or discouraging New Urban developments.
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APPENDIX A-1

CHARTER OF THE NEW URBANISM
Charter of the New Urbanism

The following is a more in-depth look at the Charter of the New Urbanism, it begins with the preamble and continues with twenty-seven principles for community design. The principles are discussed in more detail below:

The Preamble

The Congress for the New Urbanism 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.

We stand for the restoration of existing urban centers and towns within coherent metropolitan regions, the reconfiguration of sprawling suburbs into communities of real neighborhoods and diverse districts, the conservation of natural environments, and the preservation of our built legacy.

We recognize that physical solutions by themselves will not solve social and economic problems, but neither can economic vitality, community stability, and environmental health be sustained without a coherent and supportive physical framework.

We advocate the restructuring of public policy and development practices to support the following principles: neighborhoods should be diverse in use and population; communities should be designed for the pedestrian and transit as well as the car; cities and towns should be shaped by physically defined and universally accessible public spaces and community institutions; urban
places should be framed by architecture and landscape design that celebrate local history, climate, ecology, and building practice.

We represent a broad-based citizenry, composed of public and private sector leaders, community activists, and multidisciplinary professionals. We are committed to reestablishing the relationship between the art of building and the making of community, through citizen-based participatory planning and design.

We dedicate ourselves to reclaiming our homes, blocks, streets, parks, neighborhoods, districts, towns, cities, regions, and environment.

We assert the following principles to guide public policy, development practice, urban planning, and design:

**The Region: Metropolis, City, and Town**

**Principle #1:** “The metropolitan region is a fundamental economic unit of the contemporary world. Governmental cooperation, public policy, physical planning, and economic strategies must reflect this new reality” (Leccese & McCormick, 2000, p. 15). Metropolitan regions contain within themselves their own economy. Each of these regions is able to survive and grow, or struggle based upon their own economic welfare. Properly planned metropolises can assist in a region’s ability to effectively and prosperously grow. Planning is just a piece of the puzzle to creating a strong regional economy, but it is a piece that plays a very prominent role. Implementing regional strategies that involve governmental cooperation, public policy, physical planning, and economic strategies “can help reshape the quality of our communities, the health of our environment, and the vitality of our economy” (Leccese & McCormick, 2000, p. 16). This
principle looks at public policy on a regional level, discussing how policy can form a framework for future development.

**Principle #2:** “Metropolitan regions are finite places with geographic boundaries derived from topography, watersheds, coastlines, farmlands, regional parks, and river basins. The metropolis is made of multiple centers that are cities, towns, and villages, each with its own identifiable center and edges” (Leccese & McCormick, 2000, p. 23). Cities like Portland, Oregon (Figure A-1.1), and Boulder, Colorado (Figure A-1.2), have adopted an urban growth boundary. This is a line that defines the city’s limits, and the limits that the city is allowed to grow until reevaluated in the future. Growth within this boundary is strongly encouraged by the city because it preserves green space, protects watersheds and farmlands, invests in a more compact city form and transit system, and directs growth towards established areas (Leccese & McCormick, 2000). Boulder’s is defined by a specific elevation line, while Portland’s is based upon current growth trends and the projected population in 20 years. Healthy cities are not only healthy places for people to live, they are healthy for the environment as well. An urban growth boundary also helps to develop within. In many cities around the country, the move to the suburbs has left the
central city bare and lifeless. A growth boundary encourages infill projects to revitalize these lifeless areas, and to reestablish a strong city core.

**Principle #3:** “The metropolis has a necessary and fragile relationship to its agrarian hinterland and natural landscapes. The relationship is environmental, economic, and cultural. Farmland and nature are as important to the metropolis as the garden is to the house” (Leccese & McCormick, 2000, p. 29). Farms are often taken for granted, people see that there is an abundance of open land and have no remorse in using it for their own personal gain. The truth is that there is a limited amount of that open space that can be used effectively as farmlands, and most of the developable land fits into this category. Farming doesn’t only play a local role, supplying the citizens of this country with food, but it plays a significant role in the United States’ position

![Figure A-1.3 – The effects of uncontrolled sprawl.](image1)

![Figure A-1.4 – Smart growth results in the preservation of important farmlands.](image2)
within the world economy. Farms produce food that is shipped throughout the world. This principle advocates controlling growth so that these precious farmlands are not lost to future generations. Figure A-1.3 illustrates the damage that uncontrolled, sprawling development has on the city surroundings, while Figure A-1.4 shows how the same volume and area of building can be built in a high density, land saving manner. Saving farmland and other agricultural land remains crucial to the health of metropolitan communities (Leccese & McCormick, 2000).

**Principle #4:** “Development patterns should not blur or eradicate the edges of the metropolis. Infill development within existing areas conserves environmental resources, economic investment, and social fabric, while reclaiming marginal and abandoned areas. Metropolitan regions should develop strategies to encourage such infill development over peripheral expansion” (Leccese & McCormick, 2000, p. 35). This principle advocates the reuse of land within a city as infill development rather than peripheral expansion. The development doesn’t have to wipe the slate clean; it can refurbish and remodel existing structures to create a fresh, new community (Figures A-1.5 and A-1.6). Infill development is preferred over development that takes place at the edges of the metropolis. It is very important for a city to invest within the existing city, rather than expanding outward and using up valuable farmlands. Not only do these blighted areas often have people and residents who are willing to invest in the reestablishment of their neighborhoods, but it also allows for a new market of business and shop owners. These
locations may also be served by a local or regional mass-transit system that is already in place. In these situations, redevelopment and reinvestment is a very viable answer. Harvey Gantt’s essay in the *Charter of the New Urbanism* addresses this issue.

If the goal of the New Urbanism is to rekindle the American Dream by building settlements that encourage community, livability, convenience, decent housing, and preservation of the environment, then a significant thrust of this movement must focus on the existing city core. This especially means infill development of at-risk neighborhoods, whether in urban or first-ring suburban areas. (Leccese & McCormick, 2000, p. 41)

This principle urges cities to reuse inner city lands that have become blighted or abandoned, while conserving the important farmlands surrounding the edges of the city.

**Principle #5:** “Where appropriate, new development contiguous to urban boundaries should be organized as neighborhoods and districts, and be integrated with the existing urban pattern. Noncontiguous development should be organized as towns and villages with their own urban edges, and planned for a jobs / housing balance, not as bedroom suburbs” (Leccese & McCormick, 2000, p. 43). New development should not cause rifts in the fabric of the existing city. It should conform to the form of the city and respond to what exists (Figure A-1.7).

Unfortunately, most contemporary developments don’t utilize this idea, and instead of creating a well-planned community that is integrated with its surroundings, they close off any connectivity that might be possible, and funnel residents to just one or two entrances. New development
should be organized into neighborhoods and districts that can add efficiently and in a worthwhile manner to the form of the city. They should be seamlessly integrated into the city’s fabric. When necessary, development that is non-contiguous with the growth patterns of the city should be developed as new towns, having their own urban cores and providing a match of jobs to resident ratio (Leccese & McCormick, 2000). In theory, most, if not all, New Urban communities strive for a balance between housing and employment, but it is difficult to determine where people work without an extensive study. This principle presents a very difficult set of criteria to measure its effectiveness. In order for a community to act as its own, self-sufficient entity, it must provide for a range of housing and a range of jobs that cater to all income ranges. There must be a balance of high-income housing to high-income jobs, and low-income housing to lower income jobs, or the community cannot be self-sufficient without becoming a bedroom community to a neighboring city or metropolis.

**Principle #6**: “The development and redevelopment of towns and cities should respect historical patterns, precedents, and boundaries” (Leccese & McCormick, 2000, p. 49). While the ability to tie into an existing pattern of streets helps the ability of the residents to use the surrounding developments efficiently, not all developments have the ability to tie into an existing grid or framework. New developments located in inner-city, or redeveloped areas have the opportunity to tie into the surrounding neighborhoods, but new developments that are located near the urban edge have a more difficult time creating contiguous development when the neighbors are designed with a single entry point and follow contemporary theories of design. Development patterns should coincide and follow the existing patterns of development in a city. This means that new development should match the existing in character, style, and scale, tying into the
existing fabric and respecting the historic forms, patterns, precedents, and boundaries (Leccese & McCormick, 2000).

**Principle #7:** “Cities and towns should bring into proximity a broad spectrum of public and private uses to support a regional economy that benefits people of all incomes. Affordable housing should be distributed throughout the region to match job opportunities and to avoid concentrations of poverty” (Leccese & McCormick, 2000, p. 53). This principle looks at an overall idea of creating a mixture of income ranges and businesses that support a regional economy. This means that the development should attract businesses that supply jobs for both low and high-income levels, as well as housing for the workers. In most instances, affordable housing is isolated from other, more affluent neighborhoods. This isolation creates a separate problem for the poor because most of the jobs that cater to them are located in the more affluent neighborhoods, where those jobs do not match the necessary income levels for living there. This creates an additional strain on the poor because they are forced to commute to and from work, often at high expense. The integration of affordable housing into a neighborhood can help to decrease this need for a commute, while increasing the diversity of a neighborhood and offering an equal opportunity for the poor in schooling, amenities, and other activities. Affordable housing does not always need to look affordable; it can tie seamlessly into the streetscape, continuing the pattern and style of housing available. It can also come in the form of multi-dwelling unit homes, such as duplexes and triplexes, that blend with the surrounding single-family homes. Garage apartments like the

![Figure A-1.8 – Apartments above single family garages provide low-income housing, while also providing the home owner with added income.](image-url)
one in Figure A-1.8 offer another form of affordable housing that benefits both the low-income individual and the property owner (Leccese & McCormick, 2000).

**Principle #8:** “The physical organization of the region should be supported by a framework of transportation alternatives. Transit, pedestrian, and bicycle systems should maximize access and mobility throughout the region while reducing dependence on the automobile” (Leccese & McCormick, 2000, p. 59). This principle advocates a regional framework of transportation alternatives. Transportation, and the system of streets upon which it operates, poses a problem for communities. Transportation and street design is very automobile oriented, so very few streets consider how the pedestrian, cyclist, or transit system operates in conjunction with it. The key to a successful transportation system is to offer choices to the user. A system of grids allows the user to easily walk to nearby destinations while also allowing the automobile to disperse throughout the grid, lowering congestion. Mass transit, if done properly, allows people yet another option for travel, if a bus line is reliable, regular, and on-time, it can be used efficiently to decrease the traffic congestion along a street. “The New Urbanism is not anti-car, it is about civilizing our transportation systems by offering choices for getting around” (Leccese & McCormick, 2000, p. 59). The fact is: most of our roads today are not good for anything (Figure A-1.9). They are dangerous for pedestrians and bicyclists because they do not offer them space to operate, or safety features to separate them from traffic. Streets are unsafe for automobiles because they funnel all traffic down to a few roads, which increases...
the amount of vehicular traffic and the opportunity for accidents. Providing options for travel helps to divert much of the traffic to other roads, and lowers congestion on major thoroughfares.

**Principle #9:** “Revenues and resources can be shared more cooperatively among the municipalities and centers within regions to avoid destructive competition for tax base and to promote rational coordination of transportation, recreation, public services, housing, and community institutions” (Leccese & McCormick, 2000, p. 65). One of the biggest problems facing cities today is the separation of incomes. Not only does this isolate less affluent families from more affluent families, but it also affects the ability for those families to improve upon their situation. Schools and other publicly funded associations located in less affluent areas pull their funding from a much smaller tax base, while those in more affluent areas receive more funding to provide better teachers, books, facilities, and technology. Integrating all income levels allows an equal opportunity for all public entities to receive equal funding. “New Urbanists believe that public funding to support basic public services – including police and firefighters, local roads and sewers, parks, and especially local schools – should be equal throughout a metropolitan area” (Leccese & McCormick, 2000, p. 65). It is important to provide equally for all people, regardless of financial or economic background, especially when the high tax-base areas are providing more money for fewer people than the low tax-base areas.

**Neighborhood, District, and Corridor**

**Principle #10:** “The neighborhood, the district, and the corridor are the essential elements of development and redevelopment in the metropolis. They form identifiable areas that encourage citizens to take responsibility for their maintenance and evolution” (Leccese & McCormick, 2000, p. 73). This principle simply advocates the separation of new development and cities into distinct neighborhoods, districts, and corridors (Figure A-1.10). These areas can and should be
intermixed to create an integrated whole, offering a variety of identifiable areas for the members of the community. Neighborhoods are areas that are composed of a mixture of uses and densities. Residential, commercial, parks, civic, etc. all have a place in the neighborhood. “The New Urbanism reaffirms the neighborhood as the basic building block of all residential districts” (Leccese & McCormick, 2000, p. 74). Traditionally, districts have been an area dominated by a single use, but supported by a mixture of other uses within the district. For example, an entertainment district has a variety of theaters, but it also has a variety of restaurants, hotels, and shops that help that district to keep people in the area for longer than just the two hours required for their show or performance. As zoning became more dominant in planning, districts became singular, isolated uses. Finally, corridors are not just the major streets and thoroughfares that people use to get around; they also include the natural buffers and green spaces that connect neighborhoods on a slightly larger scale. While the neighborhood is the building block of the community and the district is the center of activity for the community, the corridor defines the boundaries and edges of communities and neighborhoods.

**Principle #11:** “Neighborhoods should be compact, pedestrian friendly, and mixed-use. Districts generally emphasize a special single use, and should follow the principles of
neighborhoods and districts; they range from boulevards and rail lines to rivers, and parkways” (Leccese & McCormick, 2000, p. 79). The tenth principle simply states that neighborhoods, districts, and corridors should exist within a community; while the eleventh principle goes into further detail about the character and role these parts of a community should play. This principle advocates neighborhoods as compact, pedestrian-friendly, mixed-use areas; districts as a primary use with mixed uses to support it; and corridors as connectors and dividers. While it is important for a new community to be divided into neighborhoods, districts, and corridors, according to New Urbanism, it is not necessary that all of them exist within a single development. The characteristics of New Urban neighborhoods share similar attributes with the 1929 New York Regional Plan: 1) the neighborhood has a center and an edge, 2) it has a balanced mix of activities: shopping, work, schools, recreation, and all housing, 3) the ideal size is one-quarter mile from center to edge, 4) neighborhood streets are detailed to provide equally for the pedestrian, the bicycle, and the automobile, and 5) the neighborhood gives priority to the creation of public space and to the appropriate location of civic buildings (Leccese & McCormick, 2000). According to Elizabeth Plater-Zyberk, “the district is an urbanized area with special functions, such as a theater district, capital area, or college campus,” but these singular uses cannot survive on their own, they should be supported by other uses, such as restaurants, hotels, apartments, and other supporting businesses (Leccese & McCormick, 2000, p. 81). Corridors are typically thought of as the thoroughfares that connect and supply transportation to specific uses. While this is true, a well-designed corridor creates a pleasant drive, lined with shops and pedestrian street life. Corridors can also be the green space and natural vegetative buffers that lie between and separate the neighborhoods and districts (Leccese & McCormick, 2000).
Principle #12: “Many activities of daily living should occur within walking distance, allowing independence to those who do not drive, especially the elderly and the young. Interconnected networks of streets should be designed to encourage walking, reduce the number and length of automobile trips, and conserve energy” (Leccese & McCormick, 2000, p. 83). Creating a walkable neighborhood does more than simply allow a resident to walk from point A to point B, it establishes a sense of neighborhood, creates opportunities for neighbors to meet and casually converse, and promotes a healthy lifestyle. The typical contemporary design is a series of curved streets, cul-de-sacs, and collector roads that funnel traffic from multiple points to a single exit point for the development. “The traffic of an entire community may rely on a single road, which, as a result, is generally congested during much of the day” (Duany, Plater-Zyberk, & Speck, 2000, p.23). While walking is possible, these designs separate uses and virtually force the residents to drive to their destinations. Two homes could be separated by only 300 feet, but because of the contemporary design, they are located on separate cul-de-sacs, and to get from one to the other could require driving one mile or more. “While many of the destinations of daily life are often next to each other, only rarely are they easy to reach directly” (Duany, Plater-Zyberk, & Speck, 2000, p. 25).

An interconnected system of streets provides the opportunity for these same two homes to sit along the same street, and to get to the destination, one needs only to walk out their front door and take a short stroll down the street. A street network also provides options
for travel. Since many trips have a destination that is close to home, or within the same
community, an interconnected network of streets allows for the destination to be reached without
being forced to leave the community, drive down the collector road, and reenter the community at
a different point. As is illustrated in Figure A-1.11, the New Urban model accommodates all the
same components as the suburban model, but they are organized as a web, a densely
interconnected system that reduces demand on the collector road (Duany, Plater-Zyberk, &
Speck, 2000). This principle advocates an interconnected network of streets that promote
walking and reduce the number and length of auto trips.

**Principle #13:** “Within neighborhoods, a broad range of housing types and price levels can bring
people of diverse ages, races, and incomes into daily interaction, strengthening the personal and
civic bonds essential to an authentic community” (Leccese & McCormick, 2000, p. 89). One
problem with many New Urban communities is that they struggle to include a mixture of price
ranges. Some developments do provide for granny flats, townhomes, and other apartments for
low or lower income families and individuals. “Ancillary units, or second units, create affordable
rental units without changing the character and quality of single-family areas” (Calthorpe, 1993,
p. 83). The purpose for this is to bring a mixture of incomes, races, and backgrounds into the
community, creating more of a melting pot, and exposing the citizens of the community to a
greater diversity of cultures. As mentioned earlier, part of the problem in some communities,
such as Seaside, Florida, is the concept for the community becomes so popular that the property
values and sale prices of the homes is much higher than many families can afford. Seaside has
become a resort community, most homes within the community are second homes for their
residents, and, other than the tourists who visit on day trips, the community lacks a strong full-
time resident presence. Figure A-1.12 shows how the use of a consistent design palette can create a unified street from a variety of housing types and price ranges.

Figure A-1.12 – A street with a variety of housing types can look unified when buildings are designed to appear similar.

**Principle #14:** “Transit corridors, when properly planned and coordinated, can help organize metropolitan structure and revitalize urban centers. In contrast, highway corridors should not displace investment from existing centers” (Leccese & McCormick, 2000, p. 97). This principle advocates the use of transit corridors to strengthen the urban centers and organize the metropolis. In Figure A-1.13, the red lines are transit corridors that have been used to help organize and locate new development. In order for a community to fully take advantage of this principle, it must be sited along a traffic corridor that supplies access to the urban core through means of mass transit. Without locating in this area, it becomes difficult to supply the community with all of the necessary components that make up an integrated neighborhood that is easily connected to its urban core. Properly designed and planned transit systems link the edges, and beyond, of the city to the central, urban core. When a transit system is properly planned, it can act as a backbone for the city to

Figure A-1.13 – New neighborhoods are organized around existing transit corridors.
develop around, with new neighborhoods and districts locating along these corridors near transit stations. On the other hand, these systems should not be designed and used to pull interest and investment away from the urban core (Leccese & McCormick, 2000).

**Principle #15:** “Appropriate building densities and land uses should be within walking distance of transit stops, permitting public transit to become a viable alternative to the automobile” (Leccese & McCormick, 2000, p. 101). This principle looks at Transit Oriented Developments (TODs), developments that are based around a mass transit stop that allows its riders to live within walking distance of a transit stop, and thus, walking distance of working in the urban core of a metropolitan area. This principle is reliant upon many things, but foremost is the ability of the existing transit network to be expanded to include the new development. Sometimes this is possible, in other situations it is not. The design of transit stops should consider the density of uses around the stations; likewise, a community that builds around a transit stop should consider the density of development adjacent to the station (Figure A-1.14). The areas immediately surrounding the transit stop should consist of commercial and office space, places where outside visitors are most likely to visit, or come to work. As one moves away from the stop, the uses should become less dense and begin to transition to residential uses. Keeping in mind that the highest density should be located nearest to the transit stop, it is also important to remember that most people will walk as much as one-quarter mile to catch a bus, but when the mode of mass transit is rail and the route is pleasant, people will walk as far as one-half mile. Too many transit stops are engulfed by parking lots and Figure A-1.14 – The highest density of uses should be located around transit
Principle #16: “Concentrations of civic, institutional, and commercial activity should be embedded in neighborhoods and districts, not isolated in remote, single-use complexes. Schools should be sized and located to enable children to walk or bicycle to them” (Leccese & McCormick, 2000, p. 105). Contemporary design and zoning have created real problems for civic, institutional, and commercial land uses. Because zoning strictly states the permitted land uses and densities for an area, it becomes impossible for different uses to be lumped into an integrated whole. Zoning is a problem for New Urbanism; it separates and divides the city into separate zones, each zone containing one specialized use. While this initially was intended to separate unhealthy uses from living spaces, it has now separated everything from everything else. There is little or no connection between a single family residential area zoned for three units per acre and a similar residential area zoned for five units per acre (Figure A-1.15). Likewise, there is no relationship between residential areas and commercial areas. The New Urbanism pushes to combine all of these, through responsible design, so that they can relate to each other and the automobile is less relied upon to travel between uses. It is also important to consider the location of civic, institutional, and other uses within the neighborhood, so that these uses become integral parts of the community and they receive prominent locations within the landscape. Schools and other institutions should be located within walking distance to reduce the strain of driving; instead of isolating them in areas that are...
undeveloped and difficult to access (Leccese & McCormick, 2000).

**Principle #17:** “The economic health and harmonious evolution of neighborhoods, districts, and corridors can be improved through graphic urban design codes that serve as predictable guides for change” (Leccese & McCormick, 2000, p. 109). Good communities are well designed and laid out, according to New Urbanism, great communities control development to bring about a sense of harmony and vocabulary in the architecture. New Urbanists believe this is not accomplished by zoning; in fact, it is accomplished by doing away with zoning. Current zoning codes only serve to separate uses, creating “bubbles” of similar development that are not connected, except by a connector or arterial road. “Duany and Plater-Zyberk set out to reform zoning to do the opposite – to connect, to aggregate, and to unify” (Duany & Plater-Zyberk, 1991, p. 96). An integrated, whole community is not created by segregating uses; it is created by including all of the parts in a compact mixed-use development. The New Urbanism stresses that it is important to consider the new development as a new town. In order for the project to work and to be built as a cohesive unit, building sizes and relationships must be regulated.

Unlike zoning issues or other governmental regulation to which the developer must react, the creation of private governance allows the developer to act proactively to achieve the potential of the master plan...Poorly drafted documents can fail to provide flexibility needed to deal with the community’s problems in the future and, as they require a super-majority vote, can be hard to amend. (Goldstein, 2001, p. 1, 3)

This principle pushes for the creation of development regulations rather than zoning (Figure A-1.16 and A-1.17). Rather than defining a bubble that contains the building and necessary parking – but later is designed by another entity – the regulations predetermine the location of buildings and their associated parking, selling the pad-sites to developers. This allows the master developer
ultimate control over the orientation and site layout of buildings, while providing the necessary space for the individual developer. These relationships are enacted through a set of plans: the Regulating Plan, the Urban Regulations, the Architectural Regulations, the Street Types, and the Landscape Regulations.

**Principle #18:** “A range of parks, from tot lots and village greens to ballfields and community gardens, should be distributed within neighborhoods. Conservation areas and open lands should be used to define and connect different neighborhoods and districts” (Leccese & McCormick, 2000, p. 113). There are two problems with the way parks have been developed in recent years, they are isolated from the people who need and use the parks and there is not enough diversity in size. “Too often, parks are aggregated for marginal

Figure A-1.16 – The zoning code for Seaside, Florida, graphically shows the relationships of different buildings to the street.

Figure A-1.17 – The Urban Regulations for Duany and Plater-Zyberk's design of Avalon Park show the proper relationships for building massing.
savings in maintenance costs, and become too remote to be safe for foot or bike access” (Calthorpe, 1993). Parks and open space are extraordinarily important to the physical and mental health of the residents of a community. They “are the places that support neighborhood life and its celebrations” (Leccese & McCormick, 2000). A higher density of housing often translates into a lack of green space or the improper dispersion of open space to make it useful by all of the residents. Parks can range in size and use from the small tot lots to ballfields to large regional parks. They can also occur in the form of small public squares, plazas, and village greens. No matter what the function or size of the park, the most important design consideration is to distribute the parks so they “help define and connect neighborhoods” (Leccese & McCormick, 2000).

All parks should be an integral part of neighborhoods, accessible by everyone (Figure A-1.18). According to Peter Calthorpe, parks “should be located next to public streets, residential areas, and retail uses” (Calthorpe, 1993). Likewise, parks should not be located in places where they are not useful or where they can not be an asset to the community. “Parks should not be formed from residual areas, used as buffers to surrounding developments, or used to separate buildings from streets” (Calthorpe, 1993).

**Block, Street, and Building**

**Principle #19:** “A primary task of all urban architecture and landscape design is the physical definition of streets and public spaces as places of shared use” (Leccese & McCormick, 2000, p. 123). In contemporary suburban design, new developments separate the buildings from the street...
by parking. Whether this occurs in a shopping center or along a residential street, the buildings are often set back away from the street, allowing room for the automobile to dominate the landscape. “The liberation of architecture and landscape from their traditional civic duties as the walls, portals, and passages of the public realm is a recent phenomenon that tends to displace what has stood as shared wisdom for millennia” (Leccese & McCormick, 2000). Streets are no longer comfortable for pedestrian travel. Walking along the street next to a strip mall means navigating between an arterial and a parking lot, with no sense of place, safety, or scale (Figure A-1.19). Residential streets are fronted by a string of garages, creating an impersonal, unwelcome environment for pedestrians. Again, homes are set back from the street, creating a placeless void in the street right-of-way. “An effective sense of place is created by the judicious assemblage of a set of interdependent elements. These include building type and function, private frontages, and public streetscapes” (Duany Plater-Zyberk & Company, 2002).

**Principle #20:** “Individual architectural projects should be seamlessly linked to their surroundings. This issue transcends style” (Leccese & McCormick, 2000, p. 127). Various reasons have led to the architectural styles of today. Some architects prefer the appearance of Romanesque architecture, and embellish their work with details reminiscent of this era. Others prefer a more modern look, or even the appearance of deconstruction, and design according to these principles. Others try to make every piece of architecture more memorable than the last, letting their ego interfere with better judgement (Figure A-1.20). Whatever the reason, the resulting community of buildings is often a hodge-podge of architecture styles, forms, and shapes
that struggle to create a continuous whole.

“Amerci ans may have the finest private realm in the
developed world, but our public realm is brutal”
(Duany, Plater-Zyberk, & Speck, 2000, p. 41). When
architects try to create a monumental structure with
every building they design, they add to the confusion
of the community, and help to destroy the hierarchy of
buildings that is necessary to help give the community
identity and a sense of pride.

In order to create a community, the pieces and parts must be consistent and share a common
vocabulary. “Architectural style still plays a key role, but in the opposite way: it is often the
consistent use of a single style that makes the
integration of different building types possible”
(Duany, Plater-Zyberk, & Speck, 2000, p. 49).
When all of the buildings in a row appear to have
a consistent form and style, they form a cohesive
unit, because they are not competing for the
attention of the viewer (Figure A-1.21). Buildings
that are similar in form, style, and type, but not
identical, help to form a background for life and the activities of the street. This also allows the
truly important buildings within the community, the civic buildings, schools, community centers,
and cultural institutions, to stand out as focal points, creating a sense of importance that separates
the monumental buildings from the space shaping buildings (Dutton, 2000; Calthorpe, 1993).
The idea of having a separation between typical buildings and monumental buildings is not new to the design profession. In the early 1900’s, the French and Italian new rationalists supported this same theory, displaying an interest in the city’s form and spaces, studying how these could be created absent of individuality in buildings, while speaking simply to the formal condition of the city (Dutton, 2000). Buildings and the street should not appear sterile and void of detail and life, they should embrace their surroundings and join together to form a cohesive unit that supports the architectural style and detailing of the monumental civic buildings.

**Principle #21:** “The revitalization of urban places depends on safety and security. The design of streets and buildings should reinforce safe environments, but not at the expense of accessibility and openness” (Leccese & McCormick, 2000, p. 133). This principle advocates the creation of safe and secure public places for people to use, but these places should not compromise design to create this environment, they should integrate the necessary elements to create a place where people want to be. It is often difficult to determine what makes people feel safe. While one individual may feel safe in a highly enclosed area, another may feel uncomfortable to be contained within such strong boundaries. “Safe places…are orderly, well-lit, and clean. Public spaces where we either see or feel others around us makes us feel secure” (Leccese & McCormick, 2000, p. 133). The return of life to places, or the creation of life in new places, depends on the security and safety of the place. The design of the streets and buildings should reinforce this sense. Buildings, whether residential or commercial, should present façades that have plenty of windows, Figure A-1.22 – Windows along a street help to create a sense of security and safety. They provide a sense of being watched over.
providing visibility to the street and a sense of being watched over while walking in the space (Figure A-1.22). In his essay in the *Charter of the New Urbanism*, Ray Gindroz outlines seven qualities that support a safe environment. Those qualities are 1) human presence, 2) congeniality or a comfortable scale and dimension for interaction, 3) humane protection (keeping cameras and security gates invisible), 4) visibility, light, and openness, 5) order, 6) connections, and 7) legibility (Leccese & McCormick, 2000).

**Principle #22:** “In contemporary metropolis, development must adequately accommodate automobiles. It should do so in ways that respect the pedestrian and the form of public space” (Leccese & McCormick, 2000, p. 141). The twenty-second principle advocates the use and accommodation of the automobile as a secondary mode of transportation, providing the necessary structure for the auto as secondary to pedestrian usage and the form of public space. “Parking lots are perhaps the major contributor to the visual chaos...accommodating the car has become the prime directive for most of our traffic engineers, municipal planners, and site-plan review personnel” (Hall & Porterfield, 2001, p. 107). Parking lots are one of the most hostile environments for pedestrians; the parking lot presents an uncomfortable environment along the street, while separating the pedestrian from their destination. “In the 1940’s, the designers of the time began to design solely for the automobile, what took place was the creation of a place where cars can travel anywhere and pedestrians cannot” (Leccese & McCormick, 2000).

One of the reasons for this is the adoption of codes that specify the amount of parking that is necessary for a development to support automobile traffic. These codes are often overblown because they are written to provide parking for peak usage, which is one week every year; the week prior to Christmas (Hall & Porterfield, 2001). Parking issues need to be approached
intelligently, keeping in mind the intended uses within a development. Is it really necessary to provide all of the parking necessary for every use within a development, when not all of the businesses have the same operating hours? One of the best ways to deal with parking is to break it up into several smaller, more manageable lots (Figure A-1.23), but this is the more costly method of supplying parking to the people who use the area. The cheapest and easiest way to build these lots is to create one large lot, but smaller, dispersed parking lots are more efficient, more aesthetically pleasing, and more pedestrian friendly (Hall & Porterfield, 2001). Parking should be located to the rear of buildings, screened from the view of the street. This brings the building façade to the street, and creates a sense of place. It also creates a sense of attachment to the street, so that the uncomfortable separation that is normally created by parking lots no longer exists. “Parking lots should not dominate the frontage of pedestrian oriented streets” (Calthorpe, 1993, p.110). “Traditional Neighborhood Developments (TND) mask parking behind buildings to enhance the pedestrian quality of the frontage” (Duany Plater-Zyberk & Company, 2002, p. F.5).

In the past, alleys provided an easy way to separate local traffic from through traffic. It created a street that was safer and more enjoyable for pedestrians. Local traffic could access their garages and parking areas by using the alleys, while the streetscape was fronted by pleasant, welcoming home-fronts, instead of two- and three-car garages. Garages fronting onto the street create an
impersonal, unwelcome environment, while living space fronting the street allows for windows, doors, and a softer, more approachable façade (Figures A-1.24 and A-1.25). “Alleys should be used in residential areas to move the garages to the back of the house and increase the pedestrian friendliness of the house fronts” (Calthorpe, 1993, p. 100).

Today’s street problems do not originate with the streets, or even with the engineers who design the streets. Today’s streets have been designed to handle the automobile very well; the only problem is the automobile is the only thing streets are being designed to support. “The problem with current street design standards is not that engineers have forgotten how to make streets feel safe but they don’t even try” (Duany, Plater-Zyberk, & Speck, 2000, p. 64). If engineers took the time to evaluate the street, and how the street can be safe for pedestrian usage, they could design some very good, usable streets. Unfortunately many engineers design according to a manual, and only design to control the projected automobile traffic, forgetting that there is another entity wanting to use the same transportation corridors: the pedestrian.
**Principle #23:** “Streets and squares should be safe, comfortable, and interesting to the pedestrian. Properly configured, they encourage walking and enable neighbors to know each other and protect their communities” (Leccese & McCormick, 2000, p. 147). Similar to the twenty-second principle, this principle advocates the incidental meeting of neighbors through the proper design of streets and squares for walkability. One of the places where providing a safe and comfortable environment for pedestrians is most important, is within the individual neighborhoods. The key to creating comfortable neighborhoods, where everyone gets along and knows each other, is creating comfortable spaces for people. This means providing safe, comfortable, and interesting streets for people to want to walk and use. Disney has made a fortune creating a place where people want to spend their time (Figure A-1.26).

According to one Disney architect, the average visitor spends only three percent of his time on rides or at shows. The remaining time is spent enjoying the precise commodity that people so sorely lack in their suburban hometowns: pleasant, pedestrian-friendly, public space and the sociability it engenders. (Duany, Plater-Zyberk, & Speck, 2000, p. 63)

People want to be in places with other people, but in order to attract people, these spaces must be safe and comfortable.
The senses of comfort and safety seem to be stressed in both principles twenty-two and twenty-three. This is because both of these principles look at creating spaces for people to use and conduct their lives. People don’t use places where they don’t feel safe. There is a fundamental human need for shelter, orientation, and territoriality (Duany, Plater-Zyberk, and Speck, 2000). One of the biggest contributing factors to creating this sense of safety is creating a sense of security and enclosure. “While many factors contribute to the comfort of a place, the most significant is probably its degree of architectural enclosure” (Duany, Plater-Zyberk, & Speck, 2000, p. 74). In order to create this sense of enclosure we must refer back to principle nineteen, where the relationships between opposing building façades are measured. This relationship becomes important to this principle as well. It is the sense of enclosure created in principle nineteen that helps contribute to creating a quality, usable space for pedestrians. A single, smooth façade helps to create this sense of enclosure (Figure A-1.27), there is a sense of separation between outside and inside as well as a sense of harmony. The quiet architecture creates variety among many instead of between singular houses (Duany, Plater-Zyberk, & Speck, 2000).

The pedestrian is the primary concern of this principle. The design of streets and right-of-ways should take into consideration the placement of sidewalks and places for pedestrians to meet, talk, and form relationships that lead to the safety of the neighborhood. Sidewalks provide an opportunity for casual meetings between neighbors, but more importantly, it is the relationship of
the buildings to the sidewalk that allows for casual passersby to meet people sitting on their porches. Sidewalks should not be isolated from the street, but they need to be adequately separated so pedestrians feel safe and comfortable walking along the street (Calthorpe, 1993). Street sections that include driving lanes separated from the sidewalks by planting strips and lanes for on-street parking create this safe environment (Figure A-1.28).

Other safety features should be designed into streets to create a more pedestrian friendly environment. Many times the radii at street intersections are large enough for an automobile to safely navigate the corner at a rate of speed equal to, or in some cases above, the posted speed limit. Not only does this allow for automobile traffic to speed through the corners at an unsafe speed; it also makes the distance across the street much longer at the point where pedestrians are forced to cross. “Corner curb radii should be minimized to make the distance of pedestrian crossing as short and comfortable as possible” (Calthorpe, 1993, p. 97).

**Principle #24:** “Architecture and landscape design should grow from local climate, topography, history, and building practice” (Leccese & McCormick, 2000, p. 155). Creating a principle that encourages the use of building styles that conform to the local climate and follow local building practices isn’t just a smart philosophy, its smart design. Building practices have been perfected, to a point, over the years. A home in the Midwest of the United States is much different than a home in the southeast, not just because of the traditional design, but also because of the climate
and elements that the building must withstand. Buildings in the south were traditionally designed to allow for maximum airflow, with a priority on allowing natural ventilation during the hot and humid summers (Figure A-1.29). In the Midwest, homes tended to be more closed, a little heavier in appearance, and more focused on providing comfort in the cold winter months. The design of buildings and the landscape should respect the site, its history, and what it has to offer for the future. The best and most responsible architecture is often the simplest, most thought out design. Designs that respect local building traditions, the topography of the site, the climate, and the local history are most likely to succeed in efficiently handling problems that might arise. These buildings are also the buildings that look and feel most natural and comfortable in their surroundings (Leccese & McCormick, 2000).

Principle #25: “Civic buildings and public gathering places require important sites to reinforce community identity and the culture of democracy. They deserve distinctive form, because their role is different from that of other buildings and places that constitute the fabric of the city” (Leccese & McCormick, 2000, p. 161). Community buildings are the icons of a community, they represent the people of the community, and should provide a sense of pride for the citizens. Because many architects prefer to boost their own egos by creating monumental buildings, regardless of what the building is to be used for, there is a lack of hierarchy in the realm of public buildings. Civic buildings and public gathering places should be at the top of the hierarchical chain. These buildings are the landmarks of a community and create the character, around which
the rest of the community should be based (Figure A-1.30). These buildings and places should be recognizable from afar and, therefore, should receive special treatment in their design (Leccese & McCormick, 2000). The community buildings create a character for the community, they should be the centerpiece, from which all of the other buildings pull their architectural style.

It’s not only important to create hierarchy in the design of the building, but also in the siting of the building. “Civic sites should be associated with honored locations at plazas or squares, or at the terminus of vistas. The existence of such sites, together with a dedicated revenue stream from the community council creates the potential for institutional development” (Duany Plater-Zyberk & Company, 2002). These sites bring particular importance to the civic building because they terminate vistas, where they are highly visible, or they are the only buildings that are important enough to be able to sit on a space intended to remain open. Civic buildings need to be treated as someplace where the community is able to gather and should be designed in a way that the members of the community take ownership in their building and have a sense of pride in what it represents (Figure A-1.31). “Major public buildings should have a civic presence enhanced by their height, mass, and materials. The architecture should
convey a sense of prominence and importance” (Duany, Plater-Zyberk, & Speck, 2000).

**Principle #26:** “All buildings should provide their inhabitants with a clear sense of location, weather, and time. Natural methods of heating and cooling can be more resource-efficient than mechanical systems” (Leccese & McCormick, 2000, p. 169). As the United States develops, many of the natural resources that help to provide energy to the country are slowly being depleted. The New Urbanism advocates the use of energy efficient, green building design to help to deter this from happening. Buildings not only should provide a clean and efficient use of energy, they should also supply places where people are comfortable conducting their daily lives. This means that all buildings, regardless of whether they are residential, commercial, or civic, should strive to provide a pleasant, energy efficient living environment. Buildings should provide their inhabitants a connection to the outside world, utilizing operable windows and outdoor seating areas for people to use to their benefit (Figure A-1.32). Buildings that do this offer a sense of time and location to their employees, while also providing a healthy workplace (Leccese & McCormick, 2000). Minimizing the use, cost, and consumption of natural resources means that buildings should take advantage of passive heating and cooling techniques.

![Figure A-1.32 – Porches and balconies allow for a comfortable outdoor space.](image-url)
Principle #27: “Preservation and renewal of historic buildings, districts, and landscapes affirm the continuity and evolution of urban society” (Leccese & McCormick, 2000, p. 173). As communities grow and evolve, their land uses change, where once a factory stood, now an office complex exists, where a golf course created the landscape, now a housing development stands. This is the development of a city. The New Urbanism prescribes that the structure of the city should not change. “New Urbanism reinforces the importance of being aware of and honoring the historic fabric of urban places and of designing New Urban places that will accommodate change over time” (Leccese & McCormick, 2000, p. 173). In a community where there is a tightly woven fabric of intersecting streets and buildings providing a sense of enclosure, this character should not be changed should redevelopment occur. New buildings should take on a similar form and character, so as to continue the sense of enclosure (Figure A-1.33). A community that breaks up a grid by combining several blocks into a super-block and developing a contemporary neighborhood breaks down the continuity of the street. A community that redevelops within the existing structure of the grid helps to reinforce the existing conditions and the continuity of the street. This relationship can, and should, be used for any type of development, be it commercial, residential, or even industrial, regardless of the land use that preceded it.
APPENDIX A-2

CAGAN CROSSINGS
"New Urbanism: Dream or Reality?"
Research Conducted by: Mark Klone
For the degree of: Master of Landscape Architecture
Major Professor: A. Tony Barnes
Kansas State University, College of Architecture, Planning, and Design
Department of Landscape Architecture, Regional and Community Planning
Date of Study: September 24, 2005

Community Name: Cagan Crossings
Community Location: Lake County / Orlando, Florida

**Principle # 19**
A primary task of all urban architecture and landscape design is the physical definition of streets and public spaces as places of shared use. (Leccese & McCormick, 2000, p.123)

Checklist:
Are the buildings fronting the street? Yes
Are there any places where a parking lot and a busy thoroughfare separate opposing structures? No
Is the provided parking located on the non-street side of the building? Yes
Are the residential blocks served by an alley? Yes
If not, are the garages located behind the street-fronting façade of the buildings? N/A

**Part 1 Test Measurements: Façade Separation to Building Height Ratio**

<table>
<thead>
<tr>
<th>Street Section</th>
<th>Approximate Building Height A (feet)</th>
<th>Approximate Building Height B (feet)</th>
<th>Building Separation Distance (feet)</th>
<th>Façade Separation to Building Height Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Street Section A (Avenida Tercera)</td>
<td>18</td>
<td>18</td>
<td>65</td>
<td>3.61</td>
</tr>
<tr>
<td>Commercial Street Section B (Cagan Crossings Boulevard)</td>
<td>18</td>
<td>32</td>
<td>84</td>
<td>4.67</td>
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</table>

**Average Commercial Street Section Building Separation to Building Height Ratio:** 4.14

<table>
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<tr>
<th>Street Section</th>
<th>Approximate Building Height A (feet)</th>
<th>Approximate Building Height B (feet)</th>
<th>Building Separation Distance (feet)</th>
<th>Façade Separation to Building Height Ratio</th>
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</thead>
<tbody>
<tr>
<td>Multi-Family / Townhome Residential Street Section A (Avenida Quinta)</td>
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<td>18</td>
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<td>Multi-Family / Townhome Residential Street Section B (Libra Street)</td>
<td>20</td>
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</table>

191
Façade Separation to Building Height Ratio

5.10

Multi-Family / Townhome Residential Street Section C (Avenida Cuarta)
Approximate Building Height A: 25 feet
Approximate Building Height B: 18 feet
Building Separation Distance: 60 feet
Façade Separation to Building Height Ratio 3.33

Average Multi-Family / Townhome Street Section Building Separation to Building Height Ratio: 3.92

Mulit-Family Street Section A (Avenida Cuarta)
Approximate Building Height A: 30 feet
Approximate Building Height B: 30 feet
Building Separation Distance: 61 feet
Façade Separation to Building Height Ratio 2.03

Mulit-Family Street Section B (Avenida Cuarta)
Approximate Building Height A: 30 feet
Approximate Building Height B: 30 feet
Building Separation Distance: 58 feet
Façade Separation to Building Height Ratio 1.93

Mulit-Family Street Section C (Cagan Grove)
Approximate Building Height A: 30 feet
Approximate Building Height B: 30 feet
Building Separation Distance: 67 feet
Façade Separation to Building Height Ratio 2.23

Average Multi-Family Street Section Building Separation to Building Height Ratio: 2.06

Open Space Street Section A (Avenida Cuarta)
Approximate Building Height A: 30 feet
Approximate Building Height B: N/A feet
Building Separation Distance: 29 feet
Façade Separation to Building Height Ratio 1.03

Open Space Street Section B (Avenida Cuarta)
Approximate Building Height A: 18 feet
Approximate Building Height B: N/A feet
Building Separation Distance: 25 feet
Façade Separation to Building Height Ratio 1.39

Average Open Space Residential Street Section Building Separation to Building Height Ratio: 1.21

Part 2 Test Measurements: Building Setbacks
Commercial Building Front Façade Setback Street A: 10 feet
Commercial Building Front Porch Encroachment Street A: 6 feet
<table>
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<tr>
<th>Building Type</th>
<th>Average Setback</th>
<th>Average Encroachment</th>
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</thead>
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<tr>
<td>Commercial Building</td>
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</tr>
<tr>
<td>Front Porch Average Encroachment Street B:</td>
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</tr>
<tr>
<td>Front Façade Average Setback Street B:</td>
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<tr>
<td>Commercial Building</td>
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</tr>
<tr>
<td>Front Façade Setback Street B:</td>
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<td>Front Porch Average Encroachment:</td>
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<tr>
<td>Front Porch Average Encroachment Street A:</td>
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<td></td>
</tr>
<tr>
<td>Front Façade Average Setback Street B:</td>
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</tr>
<tr>
<td>Front Porch Average Encroachment Street B:</td>
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</tr>
<tr>
<td>Front Façade Average Setback Street C:</td>
<td>0 feet</td>
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</tr>
<tr>
<td>Front Porch Average Encroachment Street C:</td>
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<tr>
<td>Multi-Family / TH / RH</td>
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<tr>
<td>Front Façade Average Setback Street A:</td>
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<tr>
<td>Front Façade Average Setback Street B:</td>
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<tr>
<td>Front Porch Average Encroachment Street B:</td>
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</tr>
<tr>
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<tr>
<td>Multi-Family / TH / RH</td>
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<td>Front Façade Average Setback Street A:</td>
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</tr>
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<td>Front Porch Average Encroachment Street A:</td>
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<tr>
<td>Front Façade Average Setback Street B:</td>
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Does Cagan Crossings’ measurements comply with Principle #19’s requirements?  

<table>
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<th>No</th>
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<tbody>
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193
Commercial Street A
Avenida Tercera
Ratio: 3.61

Commercial Street B
Cagan Crossings Boulevard
Ratio: 4.66
Multi-Family / Townhome Street A
Avenida Quinta
Ratio: 3.33

Multi-Family / Townhome Street B
Libra Street
Ratio: 5.10

Multi-Family / Townhome Street C
Avenida Cuarta
Ratio: 3.33

Principle #: 19
Research Conducted By: Mark Klone
Date of Study: September 24, 2005
Community Name: Cagan Crossings
Facade Separation to Building Height Ratio
Multi-Family / Townhome Streets
Principle #: 19
Research Conducted By: Mark Klone
Date of Study: September 24, 2005

Community Name: Cagan Crossings
Facade Separation to Building Height Ratio
Multi-Family Streets
Principle #: 19
Research Conducted By: Mark Klone
Date of Study: September 24, 2005
Community Name: Cagan Crossings
Facade Separation to Building Height Ratio
Multi-Family / Townhome / Open Space Streets
"New Urbanism: Dream or Reality?"

Research Conducted by: Mark Klone
For the degree of: Master of Landscape Architecture
Major Professor: A. Tony Barnes
Kansas State University, College of Architecture, Planning, and Design
Department of Landscape Architecture, Regional and Community Planning
Date of Study: September 24, 2005

Community Name: Cagan Crossings
Community Location: Lake County / Orlando, Florida

**Principle # 20**
Individual architectural projects should be seamlessly linked to their surroundings. This issue transcends style. (Leccese & McCormick, 2000, p. 127)

Checklist:
<table>
<thead>
<tr>
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<th>No</th>
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<td>X</td>
</tr>
<tr>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

What types of residential buildings are provided within the community?
- Multi-Family Apartment (high density)
- Multi-Family / Townhome (medium density)
- Future Townhomes (medium density)

What architectural styles are used for the housing within the community?
- Colonial or Colonial Revival with influence from Caribbean
- Spanish Eclectic or Spanish Mission with influence from Caribbean

Is there a consistent architectural style used throughout the residential areas?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

On a scale of 1 to 10, how ornate is the detailing found on the typical residential building?
- Little or no detail
- Highly decorative
What types of commercial uses are provided within the community?
- Leasing Office
- General Restaurant
- General Office
- Utilities Office
- General Service
- General Retail

What architectural styles are used for the commercial areas within the community?
- Colonial or Colonial Revival

Is there a consistent architectural style used throughout the commercial areas? [Yes] [No] [X]

On a scale of 1 to 10, how ornate is the detailing found on the typical residential building?
- Little or no detail
- Highly decorative

What types of civic are provided within the community?
- Community Clubhouse
- Future Library
- Community Pool Facilities

What architectural styles are used for the civic buildings within the community?
- Colonial or Colonial Revival with influences from both Spanish Eclectic and Caribbean
Is there a consistent architectural style used for all the civic buildings?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

On a scale of 1 to 10, how ornate is the detailing found on the typical residential building?

Little or no detail

Highly decorative

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
</table>

Does Cagan Crossings' building hierarchy and style comply with Principle #20's requirements?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

X
“New Urbanism: Dream or Reality?”
Research Conducted by: Mark Klone
For the degree of: Master of Landscape Architecture
Major Professor: A. Tony Barnes
Kansas State University, College of Architecture, Planning, and Design
Department of Landscape Architecture, Regional and Community Planning
Date of Study: September 24, 2005

Community Name: Cagan Crossings
Community Location: Lake County / Orlando, Florida

**Principle # 22**
In contemporary metropolis, development must adequately accommodate automobiles. It should do so in ways that respect the pedestrian and the form of public space. (Leccese & McCormick, 2000, p. 141)

**Principle # 23**
Streets and squares should be safe, comfortable, and interesting to the pedestrian. Properly configured, they encourage walking and enable neighbors to know each other and protect their communities. (Leccese & McCormick, 2000, p. 147)

Checklist:

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the pedestrian safely accommodated in the same street section as vehicular traffic?</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Is there an element provided that separates the pedestrian from vehicular travel lanes?</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Are the streets designed to encourage slower speeds of traffic?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do pedestrians have convenient access to the entire community from the commercial or civic core, while also providing options for travel?</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Is there quality open space provided throughout the community as an amenity to the residents?</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**Part 1 Test Measurements: Street Section Elements**

**Commercial Street A (Avenida Tercera)**
- Driving Lane Width: 24 feet
- Parking Lane Width: 18 / 0 feet
- Planting Strip Width: 0 / 7.5 feet
- Sidewalk Width: 0 / 5 feet
- Other Element Width: N/A feet
- Total Right of Way Width: 57 feet

**Commercial Street B (Cagan Crossings Boulevard)**
- Driving Lane Width: 20 feet
- Parking Lane Width: 8 / 8 feet
- Planting Strip Width: 4 / 3.5 feet
- Sidewalk Width: 5 / 5 feet
- Other Element Width (Median): 12 feet
- Other Element Width: N/A feet
- Total Right of Way Width: 72 feet
### Average Commercial Element Measurements

<table>
<thead>
<tr>
<th>Element Width</th>
<th>Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving Lane Width</td>
<td>22</td>
</tr>
<tr>
<td>Parking Lane Width</td>
<td>13</td>
</tr>
<tr>
<td>Planting Strip Width</td>
<td>4.37</td>
</tr>
<tr>
<td>Sidewalk Width</td>
<td>5</td>
</tr>
<tr>
<td>Other Element Width</td>
<td>6</td>
</tr>
<tr>
<td>Other Element Width</td>
<td>N/A</td>
</tr>
<tr>
<td>Total Right of Way Width</td>
<td>64.5</td>
</tr>
</tbody>
</table>

### Residential Street A (Cagan Grove)

<table>
<thead>
<tr>
<th>Element Width</th>
<th>Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving Lane Width</td>
<td>18</td>
</tr>
<tr>
<td>Parking Lane Width</td>
<td>8 / 8</td>
</tr>
<tr>
<td>Planting Strip Width</td>
<td>0 / 0</td>
</tr>
<tr>
<td>Sidewalk Width</td>
<td>5 / 5</td>
</tr>
<tr>
<td>Other Element Width</td>
<td>N/A</td>
</tr>
<tr>
<td>Other Element Width</td>
<td>N/A</td>
</tr>
<tr>
<td>Total Right of Way Width</td>
<td>44</td>
</tr>
</tbody>
</table>

### Residential Street B (Avenida Cuarta)

<table>
<thead>
<tr>
<th>Element Width</th>
<th>Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving Lane Width</td>
<td>20</td>
</tr>
<tr>
<td>Parking Lane Width</td>
<td>8 / 8</td>
</tr>
<tr>
<td>Planting Strip Width</td>
<td>0 / 0</td>
</tr>
<tr>
<td>Sidewalk Width</td>
<td>5 / 5</td>
</tr>
<tr>
<td>Other Element Width</td>
<td>N/A</td>
</tr>
<tr>
<td>Other Element Width</td>
<td>N/A</td>
</tr>
<tr>
<td>Total Right of Way Width</td>
<td>46</td>
</tr>
</tbody>
</table>

### Residential Street C (Libra Street)

<table>
<thead>
<tr>
<th>Element Width</th>
<th>Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving Lane Width</td>
<td>20</td>
</tr>
<tr>
<td>Parking Lane Width</td>
<td>8 / 8</td>
</tr>
<tr>
<td>Planting Strip Width</td>
<td>10 / 10</td>
</tr>
<tr>
<td>Sidewalk Width</td>
<td>5 / 5</td>
</tr>
<tr>
<td>Other Element Width</td>
<td>N/A</td>
</tr>
<tr>
<td>Other Element Width</td>
<td>N/A</td>
</tr>
<tr>
<td>Total Right of Way Width</td>
<td>72</td>
</tr>
</tbody>
</table>

### Average Residential Element Measurements

<table>
<thead>
<tr>
<th>Element Width</th>
<th>Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving Lane Width</td>
<td>21.33</td>
</tr>
<tr>
<td>Parking Lane Width</td>
<td>8</td>
</tr>
<tr>
<td>Planting Strip Width</td>
<td>3.33</td>
</tr>
<tr>
<td>Sidewalk Width</td>
<td>5</td>
</tr>
<tr>
<td>Other Element Width</td>
<td>N/A</td>
</tr>
<tr>
<td>Other Element Width</td>
<td>N/A</td>
</tr>
<tr>
<td>Total Right of Way Width</td>
<td>54</td>
</tr>
</tbody>
</table>

Does this community meet the criteria requirements of this part of the study?  

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
### Part 2 Test Measurements: Off-Street Parking Location

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are the parking lots for the commercial core located on the non-street side of buildings?</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Are several, small, evenly dispersed parking lots used to service the commercial core when necessary?</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>When it is not feasible to contain the parking behind a building, is a wall or dense vegetation used to screen the view of the parking area from the street?</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Are parking lots for multi-family residential buildings located on the non-street side of the buildings they serve?</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Are single-family residential garages located at the rear of individual lots, with access to the garage provided by an alley?</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Where an alley is not feasible, are the garages accessed by a narrow driveway and set back at least 20 feet behind the front façade of the home?</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Does this community meet the criteria requirements of this part of the study?

### Part 3 Test Measurements: Connectivity Ratio

Connectivity Ratio Calculation  
Connectivity Ratio = Links / Nodes  
Node: Any place within the community where 2 or more roads intersect  
Links: The short pieces of road that connect nodes  
Number of Links in the Community: 33  
Number of Nodes in the Community: 19  
Connectivity Ratio: 1.74

Is the Connectivity Ratio above 1.6?

Does this community meet the criteria requirements of this part of the study?

### Part 4 Test Measurements: Location and Frequency of Parks

<table>
<thead>
<tr>
<th>Site Recreation Information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of small village parks</td>
<td>3</td>
</tr>
<tr>
<td>Number of medium sized (5 - 10 acre) parks</td>
<td>0</td>
</tr>
<tr>
<td>Number of community parks</td>
<td>0</td>
</tr>
<tr>
<td>Total Number of Parks</td>
<td>3</td>
</tr>
<tr>
<td>----------------------</td>
<td>---</td>
</tr>
<tr>
<td>Total Acreage of Parks</td>
<td>1.95</td>
</tr>
<tr>
<td>Total Projected Community Residents</td>
<td>2,819</td>
</tr>
<tr>
<td>(Number of dwelling units multiplied by 2.62*)</td>
<td></td>
</tr>
<tr>
<td>Total acreage of parks per 1,000 residents</td>
<td>0.69</td>
</tr>
</tbody>
</table>

* According to the Population Profile of the United States: 2000, from the U.S. Census Bureau, there are 2.62 people living in the average dwelling unit (U.S. Census Bureau, 2000)

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Are the public parks and plazas located in places that are integral to the design of the neighborhood (not created out of residual or left-over space)?

Is the park adjacent to or part of the road right-of-way?

Are all residential units located within a 1,200 to 1,800 feet radius of a park?

Does the plaza or village park provide for a casual, passive setting?

Is there a mix of uses throughout the different small parks (so that some of the parks are more passive, while others are more active)?

Does the park provide plaza or green space for outdoor, passive activities, and does that area have a focal point associated with it?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Does this community meet the criteria requirements of this part of the study?

**Part 5 Test Measurements: Curb Radii**

| Residential Curb Radii at intersection of Avenida Cuarta & Macon Street: | 12.5 feet |
| Residential Curb Radii at intersection of Avenida Quinta & Macon Street: | 8 feet |
| Residential Curb Radii at intersection of Avenida Cuarta & Libra Street: | 10 feet |
| Average Residential Curb Radii: | 10.6 feet |
| Comm. Curb Radii at inter. of Avenida Tercera & Cagan Crossings Blvd: | 20 feet |
| Average Commercial Curb Radii: | 20 feet |

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Do the curb radii in residential areas fall between 8 and 15 feet?

Are the curb radii in commercial areas between 5 and 10 feet?

Does this community meet the criteria requirements of this part of the study?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Does the integration of the vehicular use areas and the pedestrian areas in the same cross section of Cagan Crossings comply with the requirements of Principles 22 and 23?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
Residential Street A
Cagan Grove

Residential Street B
Avenida Cuarta

Residential Street C
Libra Street

Principle #s: 22 & 23
Research Conducted By: Mark Klone
Date of Study: September 24, 2005
Principle #s: 22 & 23
Research Conducted By: Mark Klone
Date of Study: September 24, 2005

Cagan Crossings
Connectivity Ratio
Links: 33
Nodes: 19
Ratio: 1.74
Principle #s: 22 & 23
Research Conducted By: Mark Klone
Date of Study: September 24, 2005

Cagan Crossings
Parks
Total Parks: 3
Total Acres: 1.95
Potential Residents: 2,819
Acres / 1,000 Residents: 0.69
Residential Intersection A
Avenida Cuarta & Macon Street

Residential Intersection B
Avenida Quinta & Macon Street

Residential Intersection C
Avenida Cuarta & Libra Street

Principle #s: 22 & 23
Research Conducted By: Mark Klone
Date of Study: September 24, 2005
Community Name: Avalon Park
Curb Radii at Street Intersections
Residential Streets
Principle #s: 22 & 23
Research Conducted By: Mark Klone
Date of Study: September 24, 2005

Community Name: Avalon Park
Curb Radii at Street Intersections
Residential Streets
**Principle # 25**

Civic buildings and public gathering places require important sites to reinforce community identity and the culture of democracy. They deserve distinctive form, because their role is different from that of other buildings and places that constitute the fabric of the city. (Leccese & McCormick, 2000, p. 127)

**Part 1 Checklist: Location of Civic Buildings**

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are important civic buildings located in association with town or village centers?</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Do they terminate view corridors or vistas?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Are they sited on large areas of public open space?</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Are civic buildings closely associated with the surrounding land uses?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Are civic buildings associated with schools or parks?</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Does the site provide a slight elevation change, where the civic building carries more prominence by being sited slightly above the surrounding buildings?</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Which locational techniques were used to site the different civic buildings in the community (reference diagrams from text)?

<table>
<thead>
<tr>
<th>Siting Technique</th>
<th>Buildings sited according to diagrams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Square</td>
<td></td>
</tr>
<tr>
<td>Attached Square</td>
<td></td>
</tr>
<tr>
<td>Axial Square</td>
<td>Clubhouses / Pool Amenity Centers</td>
</tr>
<tr>
<td>Double Axial Square</td>
<td></td>
</tr>
</tbody>
</table>

**Part 2 Checklist: Design of Civic Buildings**

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the building reflect its importance to the community through its design, by being taller and having a larger, more articulated massing?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Are top-of-the-line materials used in greater quantities to bring more prominence and a greater sense of detail to the design of the building?</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Are there other, more prominent non-civic buildings in the community?</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Are the civic buildings of the community the most recognizable structures within the community?</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**Do Cagan Crossings’ measurements comply with Principle #25’s requirements?**

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Principle # 19
A primary task of all urban architecture and landscape design is the physical definition of streets and public spaces as places of shared use. (Leccese & McCormick, 2000, p.123)

Checklist:
<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are the buildings fronting the street?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Are there any places where a parking lot and a busy thoroughfare separate opposing structures?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Is the provided parking located on the non-street side of the building?</td>
<td>X X</td>
<td></td>
</tr>
<tr>
<td>Are the residential blocks served by an alley?</td>
<td>X X</td>
<td></td>
</tr>
<tr>
<td>If not, are the garages located behind the street-fronting façade of the buildings?</td>
<td>X X</td>
<td></td>
</tr>
</tbody>
</table>

Part 1 Test Measurements: Façade Separation to Building Height Ratio

<table>
<thead>
<tr>
<th>Section</th>
<th>Building Height A:</th>
<th>Building Height B:</th>
<th>Building Separation Distance:</th>
<th>Façade Separation to Building Height Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Residential Street Section A (Sweetleaf Street)</td>
<td>18 feet</td>
<td>18 feet</td>
<td>78 feet</td>
<td>4.33</td>
</tr>
<tr>
<td>Single Family Residential Street Section B (Sweetleaf Street)</td>
<td>20 feet</td>
<td>20 feet</td>
<td>74 feet</td>
<td>3.70</td>
</tr>
<tr>
<td>Single Family Residential Street Section C (Leland Drive)</td>
<td>8 feet</td>
<td>18 feet</td>
<td>101 feet</td>
<td>12.63</td>
</tr>
</tbody>
</table>

Average Single Family Street Section Building Separation to Building Height Ratio: 6.89

Mulit-Family / Townhouse / Rowhouse Street Section A (No Street Name)
<table>
<thead>
<tr>
<th>Building Height A:</th>
<th>Building Height B:</th>
<th>Building Separation Distance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 feet</td>
<td>30 feet</td>
<td>62 feet</td>
</tr>
<tr>
<td>Façade Separation to Building Height Ratio</td>
<td>2.07</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td><strong>Mulit-Family / Townhouse / Rowhouse Street Section B (No Street Name)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approximate Building Height A:</td>
<td>30 feet</td>
<td></td>
</tr>
<tr>
<td>Approximate Building Height B:</td>
<td>30 feet</td>
<td></td>
</tr>
<tr>
<td>Building Separation Distance:</td>
<td>72 feet</td>
<td></td>
</tr>
<tr>
<td>Façade Separation to Building Height Ratio</td>
<td>1.07</td>
<td></td>
</tr>
<tr>
<td><strong>Mulit-Family / Townhouse / Rowhouse Street Section C (Van Metre)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approximate Building Height A:</td>
<td>30 feet</td>
<td></td>
</tr>
<tr>
<td>Approximate Building Height B:</td>
<td>30 feet</td>
<td></td>
</tr>
<tr>
<td>Building Separation Distance:</td>
<td>72 feet</td>
<td></td>
</tr>
<tr>
<td>Façade Separation to Building Height Ratio</td>
<td>2.40</td>
<td></td>
</tr>
<tr>
<td><strong>Average Multi-Family / Townhouse / Rowhouse Street Section</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Building Separation to Building Height Ratio:</strong></td>
<td>1.85</td>
<td></td>
</tr>
<tr>
<td><strong>Open Space Street Section A (Loblolly Pine Circle)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approximate Building Height A:</td>
<td>20 feet</td>
<td></td>
</tr>
<tr>
<td>Approximate Building Height B:</td>
<td>N/A feet</td>
<td></td>
</tr>
<tr>
<td>Building Separation Distance:</td>
<td>36 feet</td>
<td></td>
</tr>
<tr>
<td>Façade Separation to Building Height Ratio</td>
<td>1.80</td>
<td></td>
</tr>
<tr>
<td><strong>Open Space Street Section B (Northlake Parkway)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approximate Building Height A:</td>
<td>18 feet</td>
<td></td>
</tr>
<tr>
<td>Approximate Building Height B:</td>
<td>N/A feet</td>
<td></td>
</tr>
<tr>
<td>Building Separation Distance:</td>
<td>44 feet</td>
<td></td>
</tr>
<tr>
<td>Façade Separation to Building Height Ratio</td>
<td>2.44</td>
<td></td>
</tr>
<tr>
<td><strong>Open Space Street Section C (Silkbay Place)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approximate Building Height A:</td>
<td>18 feet</td>
<td></td>
</tr>
<tr>
<td>Approximate Building Height B:</td>
<td>N/A feet</td>
<td></td>
</tr>
<tr>
<td>Building Separation Distance:</td>
<td>48 feet</td>
<td></td>
</tr>
<tr>
<td>Façade Separation to Building Height Ratio</td>
<td>2.67</td>
<td></td>
</tr>
<tr>
<td><strong>Open Space Street Section D (Poplar Place)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approximate Building Height A:</td>
<td>18 feet</td>
<td></td>
</tr>
<tr>
<td>Approximate Building Height B:</td>
<td>N/A feet</td>
<td></td>
</tr>
<tr>
<td>Building Separation Distance:</td>
<td>45 feet</td>
<td></td>
</tr>
<tr>
<td>Façade Separation to Building Height Ratio</td>
<td>2.50</td>
<td></td>
</tr>
<tr>
<td><strong>Average Open Space Residential Street Section Building Separation to Building Height Ratio:</strong></td>
<td>2.35</td>
<td></td>
</tr>
<tr>
<td><strong>Part 2 Test Measurements: Building Setbacks</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Family House Front Façade Setback Street A:</td>
<td>20 feet</td>
<td></td>
</tr>
<tr>
<td>Single Family House Front Porch Encroachment Street A:</td>
<td>8 feet</td>
<td></td>
</tr>
<tr>
<td>Single Family House Front Façade Setback Street B:</td>
<td>17.5 feet</td>
<td></td>
</tr>
<tr>
<td>Single Family House Front Porch Encroachment Street B:</td>
<td>6.5 feet</td>
<td></td>
</tr>
<tr>
<td>Building Type</td>
<td>Street</td>
<td>Façade Setback</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------</td>
<td>----------------</td>
</tr>
<tr>
<td>Single Family House</td>
<td>C</td>
<td>27.5 feet</td>
</tr>
<tr>
<td>Multi-Family / TH / RH</td>
<td>A</td>
<td>0 feet</td>
</tr>
<tr>
<td>Multi-Family / TH / RH</td>
<td>B</td>
<td>0 feet</td>
</tr>
<tr>
<td>Multi-Family / TH / RH</td>
<td>C</td>
<td>12 feet</td>
</tr>
<tr>
<td>Open Space</td>
<td>A</td>
<td>16 feet</td>
</tr>
<tr>
<td>Open Space</td>
<td>B</td>
<td>15 feet</td>
</tr>
<tr>
<td>Open Space</td>
<td>C</td>
<td>15 feet</td>
</tr>
<tr>
<td>Open Space</td>
<td>D</td>
<td>15 feet</td>
</tr>
</tbody>
</table>

Does NorthLake Park at Lake Nona's measurement comply with Principle #19’s requirements? Yes | No |
Single-Family Street A
Sweetleaf Street
Ratio: 4.33

Single-Family Street B
Sweetleaf Street
Ratio: 3.70

Single-Family Street C
Leland Drive
Ratio: 12.63
Multi-Family Street A
N/A
Ratio: 2.07

Multi-Family Street B
N/A
Ratio: 1.07

Multi-Family Street C
Van Metre
Ratio: 2.40

Principle #: 19
Research Conducted By: Mark Klone
Date of Study: September 24, 2005

Community Name: NorthLake Park at Lake Nona
Facade Separation to Building Height Ratio
Multi-Family Streets
Principle #: 19
Research Conducted By: Mark Klone
Date of Study: September 24, 2005
Community Name: NorthLake Park at Lake Nona
Facade Separation to Building Height Ratio
Single-Family / Open Space Streets

Single-Family / Open Space Street A
Loblolly Pine Circle
Ratio: 1.80

Single-Family / Open Space Street B
Silkbay Place
Ratio: 2.67
Multi-Family / Open Space Street A
Northlake Parkway
Ratio: 2.44

Multi-Family / Open Space Street B
Poplar Place
Ratio: 2.50
"New Urbanism: Dream or Reality?"
Research Conducted by: Mark Kline
For the degree of: Master of Landscape Architecture
Major Professor: A. Tony Barnes
Kansas State University, College of Architecture, Planning, and Design
Department of Landscape Architecture, Regional and Community Planning
Date of Study: September 24, 2005

Community Name: NorthLake Park at Lake Nona
Community Location: Orange County / Orlando, Florida

**Principle # 20**
Individual architectural projects should be seamlessly linked to their surroundings. This issue transcends style. (Leccese & McCormick, 2000, p. 127)

Checklist:

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there a continuous style throughout all of the buildings of the community?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Is there a clear and continuous style for each type of building?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Does the style of housing act as a background, with all housing retaining a similar level of detail so that no homes stand out as being more important than the rest?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Do the commercial buildings have one harmonious style?</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Are the community and civic buildings separated from the rest of the buildings by giving them more prominence in their architectural design?</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

What types of residential buildings are provided within the community?
- Apartments
- Townhome
- Single Family

What architectural styles are used for the housing within the community?
- Federalist
- Federalist or Georgian
- Colonial or Georgian, Garage House

Is there a consistent architectural style used throughout the residential areas?

On a scale of 1 to 10, how ornate is the detailing found on the typical residential building?
- Little or no detail
- Highly decorative
What types of civic are provided within the community?
- School / YMCA / Orlando Regional Healthcare System
- Clubhouse

What architectural styles are used for the civic buildings within the community?
- Contemporary (school)
- Neoclassical with Federalist features

Is there a consistent architectural style used for all the civic buildings?
Yes ❌ No

On a scale of 1 to 10, how ornate is the detailing found on the typical residential building?
- Little or no detail
- Highly decorative
  1 2 3 4 5 6 7 8 9 10

Does NorthLake Park at Lake Nona’s building hierarchy and style comply with Principle #20’s requirements?
Yes ❌ No
“New Urbanism: Dream or Reality?”
Research Conducted by: Mark Klone
For the degree of: Master of Landscape Architecture
Major Professor: A. Tony Barnes
Kansas State University, College of Architecture, Planning, and Design
Department of Landscape Architecture, Regional and Community Planning
Date of Study: September 24, 2005

Community Name: NorthLake Park at Lake Nona
Community Location: Orange County / Orlando, Florida

**Principle # 22**
In contemporary metropolis, development must adequately accommodate automobiles. It should do so in ways that respect the pedestrian and the form of public space. (Leccese & McCormick, 2000, p. 141)

**Principle # 23**
Streets and squares should be safe, comfortable, and interesting to the pedestrian. Properly configured, they encourage walking and enable neighbors to know each other and protect their communities. (Leccese & McCormick, 2000, p. 147)

**Checklist:**

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the pedestrian safely accommodated in the same street section as vehicular traffic?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Is there an element provided that separates the pedestrian from vehicular travel lanes?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Are the streets designed to encourage slower speeds of traffic?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Do pedestrians have convenient access to the entire community from the commercial or civic core, while also providing options for travel?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Is there quality open space provided throughout the community as an amenity to the residents?</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**Part 1 Test Measurements: Street Section Elements**

<table>
<thead>
<tr>
<th>Residential Street A (Sweetleaf Street)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving Lane Width</td>
<td>24</td>
<td>feet</td>
</tr>
<tr>
<td>Parking Lane Width</td>
<td>0 / 0</td>
<td>feet</td>
</tr>
<tr>
<td>Planting Strip Width</td>
<td>8 / 8</td>
<td>feet</td>
</tr>
<tr>
<td>Sidewalk Width</td>
<td>5 / 5</td>
<td>feet</td>
</tr>
<tr>
<td>Other Element Width</td>
<td>N/A</td>
<td>feet</td>
</tr>
<tr>
<td>Other Element Width</td>
<td>N/A</td>
<td>feet</td>
</tr>
<tr>
<td>Total Right of Way Width</td>
<td>N/A</td>
<td>feet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Residential Street B (Sweetleaf Street)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving Lane Width</td>
<td>24</td>
<td>feet</td>
</tr>
<tr>
<td>Parking Lane Width</td>
<td>0 / 0</td>
<td>feet</td>
</tr>
<tr>
<td>Planting Strip Width</td>
<td>8 / 8</td>
<td>feet</td>
</tr>
<tr>
<td>Sidewalk Width</td>
<td>5 / 5</td>
<td>feet</td>
</tr>
<tr>
<td>Other Element Width</td>
<td>N/A</td>
<td>feet</td>
</tr>
<tr>
<td>Other Element Width</td>
<td>N/A</td>
<td>feet</td>
</tr>
<tr>
<td>Total Right of Way Width</td>
<td>52</td>
<td>feet</td>
</tr>
</tbody>
</table>
Residential Street C (Leland Drive)

<table>
<thead>
<tr>
<th>Element</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving Lane Width</td>
<td>24 feet</td>
</tr>
<tr>
<td>Parking Lane Width</td>
<td>0 / 0</td>
</tr>
<tr>
<td>Planting Strip Width</td>
<td>8 / 8</td>
</tr>
<tr>
<td>Sidewalk Width</td>
<td>5 / 5</td>
</tr>
<tr>
<td>Other Element Width</td>
<td>N/A</td>
</tr>
<tr>
<td>Other Element Width</td>
<td>N/A</td>
</tr>
<tr>
<td>Total Right of Way Width</td>
<td>52 feet</td>
</tr>
</tbody>
</table>

Average Residential Element Measurements

<table>
<thead>
<tr>
<th>Element</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving Lane Width</td>
<td>24 feet</td>
</tr>
<tr>
<td>Parking Lane Width</td>
<td>0</td>
</tr>
<tr>
<td>Planting Strip Width</td>
<td>8</td>
</tr>
<tr>
<td>Sidewalk Width</td>
<td>5</td>
</tr>
<tr>
<td>Other Element Width</td>
<td>N/A</td>
</tr>
<tr>
<td>Other Element Width</td>
<td>N/A</td>
</tr>
<tr>
<td>Total Right of Way Width</td>
<td>52 feet</td>
</tr>
</tbody>
</table>

Does this community meet the criteria requirements of this part of the study?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

Part 2 Test Measurements: Off-Street Parking Location

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are the parking lots for the commercial core located on the non-street side of buildings?</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Are several, small, evenly dispersed parking lots used to service the commercial core when necessary?</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>When it is not feasible to contain the parking behind a building, is a wall or dense vegetation used to screen the view of the parking area from the street?</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Are parking lots for multi-family residential buildings located on the non-street side of the buildings they serve?</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Are single-family residential garages located at the rear of individual lots, with access to the garage provided by an alley?</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Where an alley is not feasible, are the garages accessed by a narrow driveway and set back at least 20 feet behind the front façade of the home?</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

Does this community meet the criteria requirements of this part of the study?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

Part 3 Test Measurements: Connectivity Ratio

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are pedestrians inconvenienced by being forced to travel down an indirect route to the town core, instead of being provided direct access?</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>In situations where a sidewalk is not able to be directly linked to the center, is there a short connector sidewalk that provides access to a direct connection</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
to the town center? | X |

Connectivity Ratio Calculation
Connectivity Ratio = Links / Nodes
Node: Any place within the community where 2 or more roads intersect
Links: The short pieces of road that connect nodes
Number of Links in the Community | 82 |
Number of Nodes in the Community | 52 |
Connectivity Ratio | 1.58 |

Is the Connectivity Ratio above 1.6? | Yes | No | X |

Does this community meet the criteria requirements of this part of the study? | X | X |

Part 4 Test Measurements: Location and Frequency of Parks

Site Recreation Information

| Number of small village parks | 10 |
| Number of medium sized (5 - 10 acre) parks | 1 |
| Number of community parks | 1 |
| Total Number of Parks | 12 |
| Total Acreage of Parks | 50 |
| Total Projected Community Residents | 2,159 |
| (Number of dwelling units multiplied by 2.62*) |
| Total acreage of parks per 1,000 residents | 22.98 |

* According to the Population Profile of the United States: 2000, from the U.S. Census Bureau, there are 2.62 people living in the average dwelling unit (U.S. Census Bureau, 2000)

Are the public parks and plazas located in places that are integral to the design of the neighborhood (not created out of residual or left-over space)? | Yes | No | X |
| Is the park adjacent to or part of the road right-of-way? | X |
| Are all residential units located within a 1,200 to 1,800 feet radius of a park? | X |
| Does the plaza or village park provide for a casual, passive setting? | X |
| Is there a mix of uses throughout the different small parks (so that some of the parks are more passive, while others are more active)? | X |
| Does the park provide plaza or green space for outdoor, passive activities, and does that area have a focal point associated with it? | X |

Does this community meet the criteria requirements of this part of the study? | Yes | No | X |
Part 5 Test Measurements: Curb Radii

Res. Curb Radii at intersection of Sweetleaf Street & Sunbonnet Street: 25 feet
Res. Curb Radii at intersection of Sweetleaf Street & Bluestem Street: 32.75 feet
Res. Curb Radii at intersection of Leland Drive and Green Dragon Street: 20 feet
Res. Curb Radii at intersection of Van Metre at the 1st Intersection: 25 feet
Average Residential Curb Radii: 26.75 feet

Do the curb radii in residential areas fall between 8 and 15 feet? 
Are the curb radii in commercial areas between 5 and 10 feet?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Does this community meet the criteria requirements of this part of the study?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Does the integration of the vehicular use areas and the pedestrian areas in the same cross section of NorthLake Park at Lake Nona comply with the requirements of Principles 22 and 23?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Principle #s: 22 & 23
Research Conducted By: Mark Klone
Date of Study: September 24, 2005

Community Name: NorthLake Park at Lake Nona
Street Section Components
Single-Family Streets
Principle #s: 22 & 23
Research Conducted By: Mark Klone
Date of Study: September 24, 2005

NorthLake Park at Lake Nona
Connectivity Ratio
Links: 82
Nodes: 52
Ratio: 1.58
Principle #s: 22 & 23
Research Conducted By: Mark Klone
Date of Study: September 24, 2005

NorthLake Park at Lake Nona
Parks
Total Parks: 12
Total Acres: 50
Potential Residents: 2,159
Acres / 1,000 Residents: 22.98
Residential Intersections:

- Residential Intersection A: Sweetleaf Street & Sunbonnet Street
- Residential Intersection B: Sweetleaf Street & Bluestem Street
- Residential Intersection C: Leland Drive & Green Dragon Street

Principle #s: 22 & 23
Research Conducted By: Mark Klone
Date of Study: September 24, 2005

Community Name: NorthLake Park at Lake Nona
Curb Radii at Street Intersections
Residential Streets
Principle #s: 22 & 23
Research Conducted By: Mark Klone
Date of Study: September 24, 2005

Community Name: NorthLake Park at Lake Nona
Curb Radii at Street Intersections
Multi-Family Streets
“New Urbanism: Dream or Reality?”
Research Conducted by: Mark Klone
For the degree of: Master of Landscape Architecture
Major Professor: A. Tony Barnes
Kansas State University, College of Architecture, Planning, and Design
Department of Landscape Architecture, Regional and Community Planning
Date of Study: September 24, 2005

Community Name: NorthLake Park at Lake Nona
Community Location: Orange County / Orlando, Florida

**Principle # 25**
Civic buildings and public gathering places require important sites to reinforce community identity and the culture of democracy. They deserve distinctive form, because their role is different from that of other buildings and places that constitute the fabric of the city. (Leccese & McCormick, 2000, p. 127)

**Part 1 Checklist: Location of Civic Buildings**

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are important civic buildings located in association with town or village centers?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do they terminate view corridors or vistas?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Are they sited on large areas of public open space?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are civic buildings closely associated with the surrounding land uses?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Are civic buildings associated with schools or parks?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the site provide a slight elevation change, where the civic building carries more prominence by being sited slightly above the surrounding buildings?</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Which locational techniques were used to site the different civic buildings in the community (reference diagrams from text)?

<table>
<thead>
<tr>
<th>Siting Technique</th>
<th>Buildings sited according to diagrams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Square</td>
<td></td>
</tr>
<tr>
<td>Attached Square</td>
<td></td>
</tr>
<tr>
<td>Axial Square</td>
<td>School Located on Modified Axial Square; Clubhouse</td>
</tr>
<tr>
<td>Double Axial Square</td>
<td></td>
</tr>
</tbody>
</table>

**Part 2 Checklist: Design of Civic Buildings**

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the building reflect its importance to the community through its design, by being taller and having a larger, more articulated massing?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are top-of-the-line materials used in greater quantities to bring more prominence and a greater sense of detail to the design of the building?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are there other, more prominent non-civic buildings in the community?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are the civic buildings of the community the most recognizable structures within the community?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Do NorthLake Park at Lake Nona’s measurements comply with Principle #25’s requirements?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
APPENDIX A-4

AVALON PARK
"New Urbanism: Dream or Reality?"
Research Conducted by: Mark Klone
For the degree of: Master of Landscape Architecture
Major Professor: A. Tony Barnes
Kansas State University, College of Architecture, Planning, and Design
Department of Landscape Architecture, Regional and Community Planning
Date of Study: September 24, 2005

Community Name: Avalon Park
Community Location: Orange County / Orlando, Florida

Principle # 19
A primary task of all urban architecture and landscape design is the physical definition of streets and public spaces as places of shared use. (Leccese & McCormick, 2000, p.123)

Checklist:

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are the buildings fronting the street?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Are there any places where a parking lot and a busy thoroughfare separate opposing structures?</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Is the provided parking located on the non-street side of the building?</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Are the residential blocks served by an alley?</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>If not, are the garages located behind the street-facing façade of the buildings?</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Part 1 Test Measurements: Façade Separation to Building Height Ratio

| Commercial Street Section A (Founder’s Square) | Approximate Building Height A: 25 feet |
|                                               | Approximate Building Height B: N/A feet |
|                                               | Building Separation Distance: 58 feet |
|                                               | Façade Separation to Building Height Ratio: 2.32 |

| Commercial Street Section B (Avalon Park East Boulevard) | Approximate Building Height A: 42 feet |
|                                                         | Approximate Building Height B: N/A feet |
|                                                         | Building Separation Distance: 54 feet |
|                                                         | Façade Separation to Building Height Ratio: 1.29 |

| Commercial Street Section C (Avalon Lake Drive) | Approximate Building Height A: 42 feet |
|                                               | Approximate Building Height B: N/A feet |
|                                               | Building Separation Distance: 60 feet |
|                                               | Façade Separation to Building Height Ratio: 1.43 |

Average Commercial Street Section Building Separation to Building Height Ratio: 1.68

| Single Family Residential Street Section A (Ashmount Drive) | Approximate Building Height A: 16 feet |
|                                                           | Approximate Building Height B: 16 feet |
|                                                           | Building Separation Distance: 76 feet |
Façade Separation to Building Height Ratio

<table>
<thead>
<tr>
<th>Street Section</th>
<th>Approximate Building Height A</th>
<th>Approximate Building Height B</th>
<th>Building Separation Distance</th>
<th>Façade Separation to Building Height Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Space Street Section C (Sharswood Circle)</td>
<td>24 feet</td>
<td>N/A feet</td>
<td>68 feet</td>
<td>2.50</td>
</tr>
<tr>
<td>Single Family Residential Street Section B (Marsh Lily Drive)</td>
<td>16 feet</td>
<td>24 feet</td>
<td>50 feet</td>
<td>2.92</td>
</tr>
<tr>
<td>Single Family Residential Street Section C (Flowering Dogwood Drive)</td>
<td>14 feet</td>
<td>24 feet</td>
<td>68 feet</td>
<td>3.57</td>
</tr>
<tr>
<td>Single Family Residential Street Section A (Guiana Plum Drive)</td>
<td>20 feet</td>
<td>24 feet</td>
<td>50 feet</td>
<td>4.25</td>
</tr>
<tr>
<td>Average Single Family Street Section Building Separation to Building Height Ratio:</td>
<td></td>
<td></td>
<td></td>
<td>3.97</td>
</tr>
<tr>
<td>Mulit-Family / Townhouse / Rowhouse Street Section A (Peppervine Drive)</td>
<td>18 feet</td>
<td>18 feet</td>
<td>80 feet</td>
<td>5.17</td>
</tr>
<tr>
<td>Mulit-Family / Townhouse / Rowhouse Street Section B (N/A - Garden Walk / Courtyard)</td>
<td>18 feet</td>
<td>18 feet</td>
<td>106 feet</td>
<td>5.89</td>
</tr>
<tr>
<td>Average Multi-Family / Townhouse / Rowhouse Street Section Building Separation to Building Height Ratio:</td>
<td></td>
<td></td>
<td></td>
<td>5.17</td>
</tr>
<tr>
<td>Open Space Street Section A (Guiana Plum Drive)</td>
<td>18 feet</td>
<td>N/A feet</td>
<td>50 feet</td>
<td>2.78</td>
</tr>
<tr>
<td>Open Space Street Section B (Anastasia Lane)</td>
<td>14 feet</td>
<td>N/A feet</td>
<td>50 feet</td>
<td>3.57</td>
</tr>
<tr>
<td>Open Space Street Section C (Sharswood Circle)</td>
<td>24 feet</td>
<td>N/A feet</td>
<td>60 feet</td>
<td>2.50</td>
</tr>
</tbody>
</table>
### Average Open Space Residential Street Section Building Separation to Building Height Ratio:

**2.95**

#### Part 2 Test Measurements: Building Setbacks

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Front Façade Average Setback</th>
<th>Front Porch Average Encroachment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Building</td>
<td><strong>2.66</strong> feet</td>
<td>8 feet</td>
</tr>
<tr>
<td>Single Family House</td>
<td><strong>16.66</strong> feet</td>
<td>15 feet</td>
</tr>
<tr>
<td>Multi-Family / TH / RH</td>
<td><strong>3.5</strong> feet</td>
<td>7 feet</td>
</tr>
<tr>
<td>Open Space</td>
<td><strong>21.33</strong> feet</td>
<td>18 feet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Front Façade Setback Street A</th>
<th>Front Porch Encroachment Street A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Building</td>
<td>8 feet</td>
<td>8 feet</td>
</tr>
<tr>
<td>Single Family House</td>
<td>15 feet</td>
<td>2 feet</td>
</tr>
<tr>
<td>Multi-Family / TH / RH</td>
<td>7 feet</td>
<td>0 feet</td>
</tr>
<tr>
<td>Open Space</td>
<td>18 feet</td>
<td>8 feet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Front Façade Setback Street B</th>
<th>Front Porch Encroachment Street B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Building</td>
<td>0 feet</td>
<td>0 feet</td>
</tr>
<tr>
<td>Single Family House</td>
<td>19 feet</td>
<td>8 feet</td>
</tr>
<tr>
<td>Multi-Family / TH / RH</td>
<td>0 feet</td>
<td>0 feet</td>
</tr>
<tr>
<td>Open Space</td>
<td>28 feet</td>
<td>3 feet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Front Façade Setback Street C</th>
<th>Front Porch Encroachment Street C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Building</td>
<td>0 feet</td>
<td>0 feet</td>
</tr>
<tr>
<td>Single Family House</td>
<td>16 feet</td>
<td>6 feet</td>
</tr>
<tr>
<td>Multi-Family / TH / RH</td>
<td>0 feet</td>
<td>0 feet</td>
</tr>
<tr>
<td>Open Space</td>
<td>18 feet</td>
<td>0 feet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Front Façade Average Setback</th>
<th>Front Porch Average Encroachment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Building</td>
<td><strong>2.66</strong> feet</td>
<td>8 feet</td>
</tr>
<tr>
<td>Single Family House</td>
<td><strong>16.66</strong> feet</td>
<td>15 feet</td>
</tr>
<tr>
<td>Multi-Family / TH / RH</td>
<td><strong>3.5</strong> feet</td>
<td>7 feet</td>
</tr>
<tr>
<td>Open Space</td>
<td><strong>21.33</strong> feet</td>
<td>18 feet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Front Façade Setback Street A</th>
<th>Front Porch Encroachment Street A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Building</td>
<td>8 feet</td>
<td>8 feet</td>
</tr>
<tr>
<td>Single Family House</td>
<td>15 feet</td>
<td>2 feet</td>
</tr>
<tr>
<td>Multi-Family / TH / RH</td>
<td>7 feet</td>
<td>0 feet</td>
</tr>
<tr>
<td>Open Space</td>
<td>18 feet</td>
<td>8 feet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Front Façade Setback Street B</th>
<th>Front Porch Encroachment Street B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Building</td>
<td>0 feet</td>
<td>0 feet</td>
</tr>
<tr>
<td>Single Family House</td>
<td>19 feet</td>
<td>8 feet</td>
</tr>
<tr>
<td>Multi-Family / TH / RH</td>
<td>0 feet</td>
<td>0 feet</td>
</tr>
<tr>
<td>Open Space</td>
<td>28 feet</td>
<td>3 feet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Front Façade Setback Street C</th>
<th>Front Porch Encroachment Street C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Building</td>
<td>0 feet</td>
<td>0 feet</td>
</tr>
<tr>
<td>Single Family House</td>
<td>16 feet</td>
<td>6 feet</td>
</tr>
<tr>
<td>Multi-Family / TH / RH</td>
<td>0 feet</td>
<td>0 feet</td>
</tr>
<tr>
<td>Open Space</td>
<td>18 feet</td>
<td>0 feet</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>----</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Does Avalon Park’s measurement comply with Principle #19’s requirements?
Principle #: 19
Research Conducted By: Mark Klone
Date of Study: September 24, 2005

Community Name: Avalon Park
Facade Separation to Building Height Ratio
Commercial Streets

Commercial Street A
Founder's Square
Ratio: 2.32

Commercial Street B
Avalon Park East Blvd.
Ratio: 1.29

Commercial Street C
Avalon Lake Drive
Ratio: 1.43
Single-Family Street A
Ashmount Drive
Ratio: 4.75

Single-Family Street B
Marsh Lily Drive
Ratio: 4.25

Single-Family Street C
Flowering Dogwood Drive
Ratio: 2.92

Principle #: 19
Research Conducted By: Mark Klone
Date of Study: September 24, 2005

Community Name: Avalon Park
Facade Separation to Building Height Ratio
Single-Family Streets

238
Multi-Family Street A
Peppervine Drive
Ratio: 4.44

Multi-Family Street B
(Garden Walk / Courtyard)
Ratio: 5.89
Community Name: Avalon Park
Facade Separation to Building Height Ratio
Single-Family / Open Space Streets

Principle #: 19
Research Conducted By: Mark Klone
Date of Study: September 24, 2005
"New Urbanism: Dream or Reality?"
Research Conducted by: Mark Klone
For the degree of: Master of Landscape Architecture
Major Professor: A. Tony Barnes
Kansas State University, College of Architecture, Planning, and Design
Department of Landscape Architecture, Regional and Community Planning
Date of Study: September 24, 2005

Community Name: Avalon Park
Community Location: Orange County / Orlando, Florida

**Principle # 20**
Individual architectural projects should be seamlessly linked to their surroundings. This issue transcends style. (Leccese & McCormick, 2000, p. 127)

Checklist:

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there a continuous style throughout all of the buildings of the community?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Is there a clear and continuous style for each type of building?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the style of housing act as a background, with all housing retaining a similar level of detail so that no homes stand out as being more important than the rest?</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Do the commercial buildings have one harmonious style?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Are the community and civic buildings separated from the rest of the buildings by giving them more prominence in their architectural design?</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

What types of residential buildings are provided within the community?
- Townhome
- Single Family
- Loft / Flats
- Apartments

What architectural styles are used for the housing within the community?
- Regency or Georgian
- Southern Plantation, Colonial, Federal, Neoclassical, Georgian, Regency
- Combination Neoclassical and Federal
- n/a

Is there a consistent architectural style used throughout the residential areas?
<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

On a scale of 1 to 10, how ornate is the detailing found on the typical residential building?
- Little or no detail
- Highly decorative
What types of commercial uses are provided within the community?
- Retail
- Restaurant
- Service
- Office
- Convenience

What architectural styles are used for the commercial areas within the community?
- Combination Neoclassical and Federal

Is there a consistent architectural style used throughout the commercial areas?
[X] Yes  [ ] No

On a scale of 1 to 10, how ornate is the detailing found on the typical residential building?
- 1 Little or no detail
- 2
- 3
- 4
- 5
- 6
- 7
- 8 [ ]
- 9
- 10 Highly decorative

What types of civic are provided within the community?
- Elementary School
- Pool Shelters

What architectural styles are used for the civic buildings within the community?
- Contemporary
- Southern Plantation, Colonial, Federal, Neoclassical, Georgian,
- Regency
Is there a consistent architectural style used for all the civic buildings?  

Yes  No

X

On a scale of 1 to 10, how ornate is the detailing found on the typical residential building?  

Little or no detail  
Highly decorative

1  2  3  4  5  6  7  8  9  10

Does Avalon Park’s building hierarchy and style comply with Principle #20’s requirements?  

Yes  No

X
"New Urbanism: Dream or Reality?"
Research Conducted by: Mark Klone
For the degree of: Master of Landscape Architecture
Major Professor: A. Tony Barnes
Kansas State University, College of Architecture, Planning, and Design
Department of Landscape Architecture, Regional and Community Planning
Date of Study: September 24, 2005

Community Name: Avalon Park
Community Location: Orange County / Orlando, Florida

Principle # 22
In contemporary metropolis, development must adequately accommodate automobiles. It should do so in ways that respect the pedestrian and the form of public space. (Leccese & McCormick, 2000, p. 141)

Principle # 23
Streets and squares should be safe, comfortable, and interesting to the pedestrian. Properly configured, they encourage walking and enable neighbors to know each other and protect their communities. (Leccese & McCormick, 2000, p. 147)

Checklist:
<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the pedestrian safely accommodated in the same street section as vehicular traffic?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Is there an element provided that separates the pedestrian from vehicular travel lanes?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Are the streets designed to encourage slower speeds of traffic?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Do pedestrians have convenient access to the entire community from the commercial or civic core, while also providing options for travel?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Is there quality open space provided throughout the community as an amenity to the residents?</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Part 1 Test Measurements: Street Section Elements

**Commercial Street A (Founder's Square)**

<table>
<thead>
<tr>
<th>Element</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving Lane Width</td>
<td>22 feet</td>
</tr>
<tr>
<td>Parking Lane Width</td>
<td>8 / 8 feet</td>
</tr>
<tr>
<td>Planting Strip Width</td>
<td>3.5 / 0 feet</td>
</tr>
<tr>
<td>Sidewalk Width</td>
<td>5 / 8 feet</td>
</tr>
<tr>
<td>Total Right of Way Width</td>
<td>50 feet</td>
</tr>
</tbody>
</table>

**Commercial Street B (Avalon Park East Boulevard)**

<table>
<thead>
<tr>
<th>Element</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving Lane Width</td>
<td>21 feet</td>
</tr>
<tr>
<td>Parking Lane Width</td>
<td>8 / 8 feet</td>
</tr>
<tr>
<td>Planting Strip Width</td>
<td>4 / 3 feet</td>
</tr>
<tr>
<td>Sidewalk Width</td>
<td>9 / 10 feet</td>
</tr>
<tr>
<td>Total Right of Way Width</td>
<td>54 feet</td>
</tr>
<tr>
<td>Street Name</td>
<td>Driving Lane Width</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Commercial Street C (Avalon Lake Drive)</td>
<td>24 feet</td>
</tr>
<tr>
<td>Average Commercial Element Measurements</td>
<td>22.33 feet</td>
</tr>
<tr>
<td>Residential Street A (Ashmount Drive)</td>
<td>26 feet</td>
</tr>
<tr>
<td>Residential Street B (Marsh Lily Drive)</td>
<td>26 feet</td>
</tr>
<tr>
<td>Residential Street C (Flowering Dogwood Drive)</td>
<td>26 feet</td>
</tr>
<tr>
<td>Average Residential Element Measurements</td>
<td>26 feet</td>
</tr>
</tbody>
</table>
Does this community meet the criteria requirements of this part of the study?

Part 2 Test Measurements: Off-Street Parking Location

Are the parking lots for the commercial core located on the non-street side of buildings?
Yes | No
--- | ---
X

Are several, small, evenly dispersed parking lots used to service the commercial core when necessary?
Yes | No
--- | ---
X

When it is not feasible to contain the parking behind a building, is a wall or dense vegetation used to screen the view of the parking area from the street?
Yes | No
--- | ---
X | X

Are parking lots for multi-family residential buildings located on the non-street side of the buildings they serve?
Yes | No
--- | ---
X

Are single-family residential garages located at the rear of individual lots, with access to the garage provided by an alley?
Yes | No
--- | ---
X

Where an alley is not feasible, are the garages accessed by a narrow driveway and set back at least 20 feet behind the front façade of the home?
Yes | No
--- | ---
X

Does this community meet the criteria requirements of this part of the study?

Part 3 Test Measurements: Connectivity Ratio for Pedestrian Access to the Community

Are pedestrians inconvenienced by being forced to travel down an indirect route to the town core, instead of being provided direct access?
Yes | No
--- | ---
X | X

In situations where a sidewalk is not able to be directly linked to the center, is there a short connector sidewalk that provides access to a direct connection to the town center?
Yes | No
--- | ---
X

Connectivity Ratio Calculation

Connectivity Ratio = Links / Nodes

Node: Any place within the community where 2 or more roads intersect

Links: The short pieces of road that connect nodes

| Number of Links in the Community | 347 |
| Number of Nodes in the Community  | 218 |

Connectivity Ratio

1.59

Is the Connectivity Ratio above 1.6?

Yes | No
--- | ---
X
Does this community meet the criteria requirements of this part of the study? | Yes | No |
---|---|---|
| X | X |

### Part 4 Test Measurements: Location and Frequency of Parks

<table>
<thead>
<tr>
<th>Site Recreation Information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of small village parks</td>
<td>33</td>
</tr>
<tr>
<td>Number of medium sized (5 - 10 acre) parks</td>
<td>1</td>
</tr>
<tr>
<td>Number of community parks</td>
<td>2</td>
</tr>
<tr>
<td>Total Number of Parks</td>
<td>34</td>
</tr>
<tr>
<td>Total Acreage of Parks</td>
<td>73.63</td>
</tr>
<tr>
<td>Total Projected Community Residents</td>
<td>10,540</td>
</tr>
<tr>
<td>(Number of dwelling units multiplied by 2.62*)</td>
<td></td>
</tr>
<tr>
<td>Total acreage of parks per 1,000 residents</td>
<td>6.99</td>
</tr>
</tbody>
</table>

* According to the Population Profile of the United States: 2000, from the U.S. Census Bureau, there are 2.62 people living in the average dwelling unit (U.S. Census Bureau, 2000)

Are the public parks and plazas located in places that are integral to the design of the neighborhood (not created out of residual or left-over space)? | Yes | No |
---|---|---|
| X | X |

Is the park adjacent to or part of the road right-of-way? | Yes | No |
---|---|---|
| X | X |

Are all residential units located within a 1,200 to 1,800 feet radius of a park? | Yes | No |
---|---|---|
| X | X |

Does the plaza or village park provide for a casual, passive setting? | Yes | No |
---|---|---|
| X | X |

Is there a mix of uses throughout the different small parks (so that some of the parks are more passive, while others are more active)? | Yes | No |
---|---|---|
| X | X |

Does the park provide plaza or green space for outdoor, passive activities, and does that area have a focal point associated with it? | Yes | No |
---|---|---|
| X | X |

### Part 5 Test Measurements: Curb Radii

<table>
<thead>
<tr>
<th>Residential Curb Radii at intersection of Cassia Drive &amp; Ashmount Drive:</th>
<th>15 feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Curb Radii at intersection of Marsh Fern Drive, Marsh Lily Drive, &amp; Sharswood Circle:</td>
<td>12.75 feet</td>
</tr>
<tr>
<td>Res. Curb Radii at inter. of Tanja King Blvd &amp; Flowering Dogwood Dr:</td>
<td>15 feet</td>
</tr>
<tr>
<td>Average Residential Curb Radii:</td>
<td>13.87 feet</td>
</tr>
<tr>
<td>Comm. Curb Radii at inter. of Founder’s Sq &amp; Avalon Park East Blvd:</td>
<td>15 feet</td>
</tr>
<tr>
<td>Comm. Curb Radii at inter. of Avalon Lake Dr &amp; Avalon Park East Blvd:</td>
<td>14.5 feet</td>
</tr>
<tr>
<td>Average Commercial Curb Radii:</td>
<td>14.66 feet</td>
</tr>
</tbody>
</table>

Do the curb radii in residential areas fall between 8 and 15 feet? | Yes | No |
---|---|---|
| X | X |

Are the curb radii in commercial areas between 5 and 10 feet? | Yes | No |
---|---|---|
| X | X |
Does this community meet the criteria requirements of this part of the study? | Yes | No | X

Does the integration of the vehicular use areas and the pedestrian areas in the same cross section of Avalon Park comply with the requirements of Principles 22 and 23? | Yes | No | X
Commercial Street A
Founder's Square

Commercial Street B
Avalon Park East Blvd.

Commercial Street C
Avalon Lake Drive

Principle #s: 22 & 23
Research Conducted By: Mark Klone
Date of Study: September 24, 2005

Community Name: Avalon Park
Street Section Components
Commercial Streets
Principle #s: 22 & 23
Research Conducted By: Mark Klone
Date of Study: September 24, 2005

Connectivity Ratio
Links: 347
Nodes: 218
Ratio: 1.59
Principle #s: 22 & 23
Research Conducted By: Mark Klone
Date of Study: September 24, 2005

Parks
Total Parks: 33
Total Acres: 73.63
Potential Residents: 10,540
Acres / 1,000 Residents: 6.99
Principle #s: 22 & 23
Research Conducted By: Mark Klone
Date of Study: September 24, 2005

Community Name: Avalon Park
Curb Radii at Street Intersections
Residential Streets
Principle #s: 22 & 23
Research Conducted By: Mark Klone
Date of Study: September 24, 2005

Community Name: Avalon Park
Curb Radii at Street Intersections
Commercial Streets
"New Urbanism: Dream or Reality?"
Research Conducted by: Mark Klone
For the degree of: Master of Landscape Architecture
Major Professor: A. Tony Barnes
Kansas State University, College of Architecture, Planning, and Design
Department of Landscape Architecture, Regional and Community Planning
Date of Study: September 24, 2005

Community Name: Avalon Park
Community Location: Orange County / Orlando, Florida

Principle # 25
Civic buildings and public gathering places require important sites to reinforce community
identity and the culture of democracy. They deserve distinctive form, because their role
is different from that of other buildings and places that constitute the fabric of the city.
(Leccese & McCormick, 2000, p. 127)

Part 1 Checklist: Location of Civic Buildings

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are important civic buildings located in association with town or village centers?</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Do they terminate view corridors or vistas?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Are they sited on large areas of public open space?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Are civic buildings closely associated with the surrounding land uses?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Are civic buildings associated with schools or parks?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Does the site provide a slight elevation change, where the civic building carries more prominence by being sited slightly above the surrounding buildings?</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Which locational techniques were used to site the different civic buildings in the community (reference diagrams from text)?

<table>
<thead>
<tr>
<th>Siting Technique</th>
<th>Buildings sited according to diagrams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Square</td>
<td></td>
</tr>
<tr>
<td>Attached Square</td>
<td>School sites</td>
</tr>
<tr>
<td>Axial Square</td>
<td>Pools / Amenities</td>
</tr>
<tr>
<td>Double Axial Square</td>
<td>Pools / Amenities</td>
</tr>
</tbody>
</table>

Part 2 Checklist: Design of Civic Buildings

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the building reflect its importance to the community through its design, by being taller and having a larger, more articulated massing?</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Are top-of-the-line materials used in greater quantities to bring more prominence and a greater sense of detail to the design of the building?</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Are there other, more prominent non-civic buildings in the community?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Are the civic buildings of the community the most recognizable structures within the community?</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Do Avalon Park’s measurements comply with Principle #25’s requirements?  X