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ABSTRACT

A CRITICAL ANALYSIS OF THE NEW URBANISM

by

Metin Cihan Yıldırım

After suburbia, the new urbanism offers a fresh start to designing human settlements in North America. The movement returns to the traditional American models of human settlements to design the suburbs, to create new communities. The new urbanism seems to use the traditional town model without questioning any of its potentially negative aspects.

In this thesis, the author questions several aspects of the new urbanism movement. The criticism focuses on town location and town pattern. Some influential examples of automobile-age U.S. suburbs, which the movement ignores, are analyzed with new urbanist examples to point out that there may be better ways to shape the suburbs than the traditional American town model.

As a conclusion of this thesis, an alternative proposal is presented for Kentlands, Maryland, a mostly completed example of the movement. Unlike the new urbanist developments, this proposal is developed within a regional strategy.

A CRITICAL ANALYSIS OF THE NEW URBANISM

**by
Metin Cihan Yıldırım**

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To my beloved wife
and family

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CHAPTER 1

INTRODUCTION

The new urbanism movement returns to the traditional American town model to design contemporary suburbs as livable, sustainable and healthy developments that would capture a feeling of “community”. It is an attempt to revive the public sphere in the American suburbs, which has been neglected in the typical post-war suburbs. While turning back, the movement ignores the history and heritage of all influential automobile-age examples of communities in the U.S. The new urbanism seems to use the traditional town model without questioning any of its potentially negative aspects. The traditional American town model may not be the only way to achieve a livable, sustainable, healthy and marketable development for the 21st Century. Also, the traditional American town model may not be the only way, or the best way, to create an architecture of community.

The intention of this thesis is to find and examine influential examples of town patterns, and from them, design principles that could enable us to shape the suburban environment in more efficient, more ecological and more humane ways. The analysis of such patterns and principles is the focus of this thesis; and prototypical development of alternative patterns is the conclusion of this thesis.

After this introductory chapter, the second chapter will present the new urbanism movement. The history of suburbs in the U.S. will be briefly reviewed to understand the context from which the movement emerged. The roots, intentions and design principles of the movement as well as the characteristic urban pattern that it proposes for new towns in the U.S. will be described with examples.

The third chapter will be a thorough critique of the movement in two sections: town location and town pattern. The town location section will focus on sites of new urbanist developments. The town pattern section will focus on both physical design issues and their social consequences. Several influential automobile-age U.S. suburbs will be examined to discover some valuable ideas, relationships and patterns. This chapter will include a comparative analysis of new urbanist examples and other influential examples of suburbs. The comparison will be on town pattern, streets, blocks and town centers and nodes. The author will point out first that the new urbanism movement does not and can not meet its stated intentions primarily because of the town pattern that has been adopted from the past, and second that most of the early examples have a lot to offer in terms of design principles, and should not be neglected. The author will suggest how the new urbanist pattern and physical environment affect the sense of community. This chapter will constitute the basis for a new design proposal.

In the fourth chapter, the author will develop alternative design principles and an urban pattern that could be more efficient and sustainable while preserving the intentions of the new urbanism movement. The proposal will be a re-design of the development of Kentlands, Maryland, a mostly completed example of the new urbanism movement. The intention of the alternative proposal is close to the ideology of the new urbanism movement in attempting to recapture a sense of “place” and “community” in the suburbs. The author will also focus on issues of public spaces, public life, town centers, street design, efficiency in suburban infrastructure, sustainability of the town pattern and proper utilization of resources.

The intention of this thesis is not to underestimate the advantages of the new urbanism model over the typical sprawl pattern that has dominated the recent growth of human settlements in the U.S. After all, it is a serious attempt to reclaim the public sphere in the American suburbs; it is a serious attempt to design the suburbs as *towns* instead of endless subdivisions. Most of the weaknesses that the author identifies may be the result of being employed by developers in the housing market that is so competitive and so demanding in terms of expectations, standards and requirements. The real intention is to acknowledge the achievements of the movement and search for some other ways to shape our built environment to make it healthier, more sustainable and efficient.

CHAPTER 2

THE NEW URBANISM MOVEMENT

Analysis of the movement and its intentions is valid only if the historical context is taken into consideration. A brief history of U.S. suburbs will give the context and circumstances from which the new urbanism emerged.

2.1. An Instant History of U.S. Suburbs

Although the existence of the suburbs in North America can be traced back to the beginning of the 18th century, the popular appearance of suburbs as a form of human habitation in the American scene comes with the industrialization of American cities in the 19th century. According to Stern (1981), industrialization contributed in four different ways to the development of the suburbs. First, it increased the prosperity of many residents; second, it developed the technology for public transportation, giving city residents different choices of where to live; third, it led to environmental and moral problems in cities, which later became disruptive to the urban core; and fourth, in the minds of some, cities became damaging to family values and spiritual life. Suburbs were perceived as healthier places to raise a family than the polluted and morally corrupted cities.

The first suburbs emerged on the outskirts of cities with the help of the connections provided by public transportation such as the streetcar,

trolley, rail line, omnibus and steam ferry. Brooklyn and New Jersey suburbs first emerged as steam ferry suburbs of Manhattan, and developments such as Llewellyn Park, New Jersey (1853), Riverside, Illinois (1869) and Garden City, Long Island (1869) were along railroad lines. Prospect Park South, Brooklyn (1899), Forest Hills Gardens, Queens (1912) and Sunnyside Gardens, Queens (1924) are among the examples that developed along streetcar or subway lines. The common characteristics of these suburbs were exactly the opposite of the cities since the idea was to create an alternative habitat for people to crowded and polluted cities. Most of the suburbs were planned in park-like settings, a romantic return to mother nature, with large lots along curved and lavishly planted streets. Low density, integration with nature, large expanses of private and public green space and a rural setting were to provide a healthier habitat for humans than the late 19th century decaying industrial city.

This characteristic pattern continued until the automobile was transformed from a recreation vehicle to a commuter vehicle after World War II. Increased prosperity also increased the ownership of cars among middle class families and enabled them to use the car on a daily basis. Easterling (1993) cites that the number of registered private automobiles rose to over 40,000,000 in 1950 from approximately 24,000,000 in 1945. Infrastructure decisions were made to promote the usage of the private

car; highways were built using federal funds, instead of public transportation systems. Residential development was no longer dependent on public transportation lines but spread out along the roads and highways radiating from the city. Since the car could reach any point on the land, development sprawled in nearly all directions around the city.

The new highways enabled private cars to reach even further locations within a reasonable time to commute, so the sprawl expanded, and new highways and roads were built to handle the traffic, and sprawl expanded again, forming a cycle. With the help of government policies and programs, automobile suburbs became the prevalent settlement pattern all over the U.S. after World War II. As seen in Figure 1, by 1970 people living in suburbs outnumbered people living in rural areas and cities (Adler, 1995). It is expected that by the year 2000, the people residing in suburbs will be half of the total population of the U.S., mainly because of the suburbanization of the rural areas and the decay of cities.

In *Crabgrass Frontier* (1995), historian Kenneth Jackson describes the characteristics of such post-war suburban developments as:

- Peripheral location
- Low density
- Easy availability (economic appropriateness of units)
- Architectural similarity (of the housing units and environments)
- Racial and economic homogeneity.

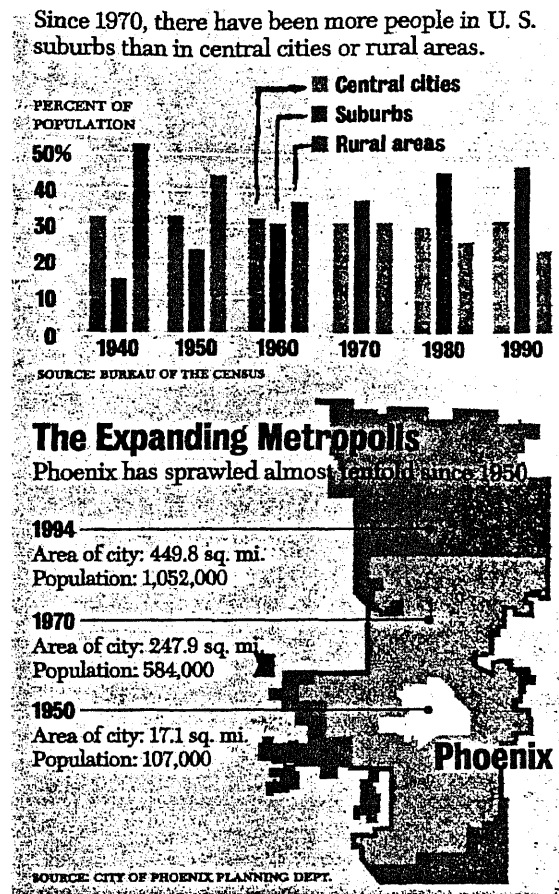


Figure 1. Population distribution of U.S. cities and expansion of Phoenix by years (Adler, 1995)

Strict zoning, single-use neighborhoods and detached houses on large lots with ornamental lawns were the other characteristics of suburbia. Because of these characteristics, and the rigorous separation of uses in land use planning, the suburbs became reachable only by private

vehicles. Public transportation was no longer favored; it proved to be inefficient and inconvenient because of the low density.

The post-war developments established a new suburban pattern: the subdivision. The subdivision is a housing development on the outer fringes of the city where one developer single-handedly develops a large piece of land with its own street pattern, independent of the adjacent street patterns, isolating the piece of land from the surrounding land. The first example of such a subdivision is Levittown, Long Island, built by a single developer, Levitt & Sons. Designed in 1945, built from 1947 to 1955, Levittown consisted of 17,450 single-family detached houses, housing 75,000 people.

The subdivision pattern consists of private lots on streets that are linked to connector roads that are linked to highways, providing no other way in or out of the subdivision other than the connector road. Nearly all of the public domain of the suburb is allocated to vehicular traffic. Other public spaces, such as the public green, usually are places on leftover land on the outer edges of the development. Figures 3 and 4 are examples of such patterns built by different developers. The street patterns change from one development to another; grids, curves and cul-de-sacs are utilized by different developers. Therefore the town pattern turns into discontinuous and unrelated patches of streets.

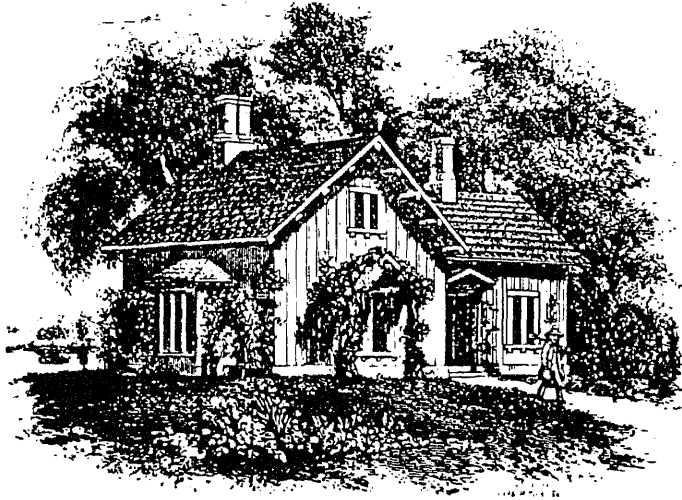


Figure 2. The suburban dream (Stern, 1981)

Figure 3. ...and reality (Southworth and Ben-Joseph, 1996)

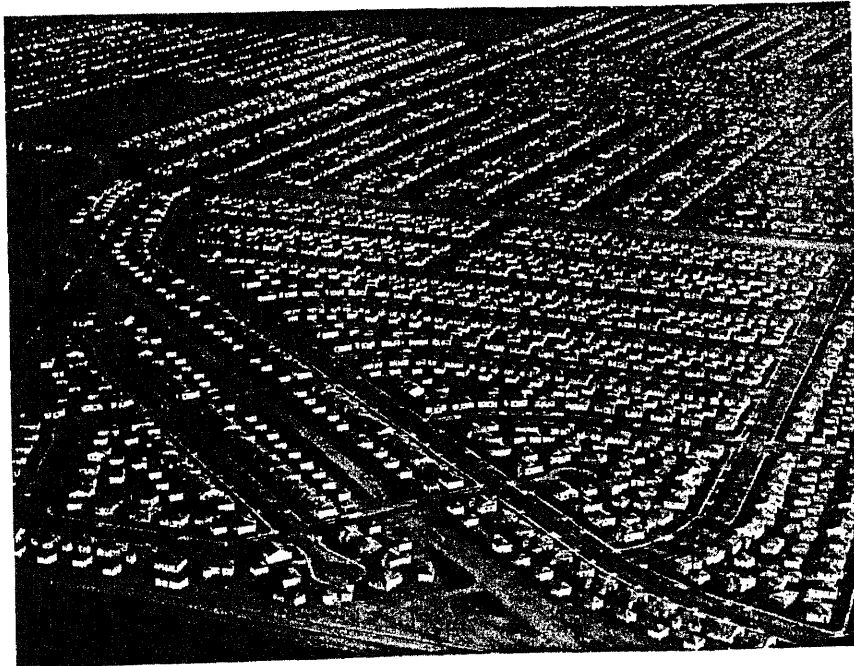




Figure 4. An example of a curved street pattern employed by the developer, differing --and disconnecting-- the development from the surroundings. Note the grid of streets that starts at the top of the development. (Southworth and Ben-Joseph, 1996)

In the post-war suburbs producing space for vehicles became more important than producing space for humans. Calthorpe (1993) notes that free flow of traffic, parking in large quantities, cars ahead of pedestrians, private before public and isolation of functions became the goals of suburban subdivisions rather than public space, human scale and

harmonious unity of a diversity of functions. The planning and design of these subdivisions were left to traffic engineers and speculative developers more than to architects or planners. Vehicular traffic became the unavoidable experience of life. As one L.A. student observes, "Americans are not really at home in any place; neither at home, nor at work, nor at the club or the shopping mall. They are truly at home only when moving from one place to another" (Duany and Plater-Zyberk, 1991).

The cycle of building highways and developing along them continued in waves: 1920's residential flow was followed by 1950's residential flocking of the suburbs. In the late 1950's shopping centers appeared on the suburban pattern and in the 1960's, major commercial establishments started relocating from downtowns to suburban malls. Commerce was followed by industry, as in the 1970's corporate headquarters and industrial parks arrived in the suburban pattern. In the 1980's; offices relocated to suburban office parks, completing the formation of the type of development that Joel Garreau (1991) names "edge city". Relocation of residents, business and commerce led to further decay of inner cities. The cycle also led to the destruction of prime farmlands and other natural resources. This pattern has become more and more demanding in terms of land, infrastructure, resources, economy, money and time needed for commuting, to a point where we should recognize that this pattern of development is no longer sustainable.

2.2. A History of the New Urbanism

Starting in the 1950's there have been many criticisms and proposals directed toward the development of the suburbs. But it was not until the 1980's that a brief turn to the past was proposed. A group of designers thought that the traditional American town has some physical characteristics that could help make current suburbs better communities. The grid streets that divide the town into small well-connected blocks (Figure 5); the New England Common that becomes the common ground of the community surrounding it (Figure 6); the Main Street that is the primary marketplace and business center of the town (Figure 7); narrow residential streets lined with trees and houses that are placed close to the street with porches facing the street. Having a place in America's memories, these images would not only make the suburbs more livable environments, but also would make the development more marketable.

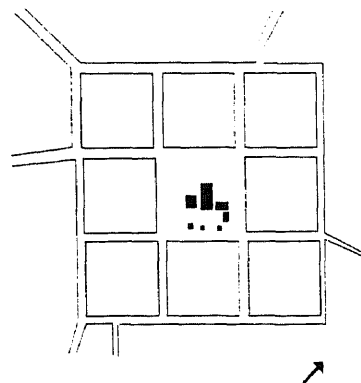


Figure 5. Plan of New Haven, CT (Easterling, 1993)

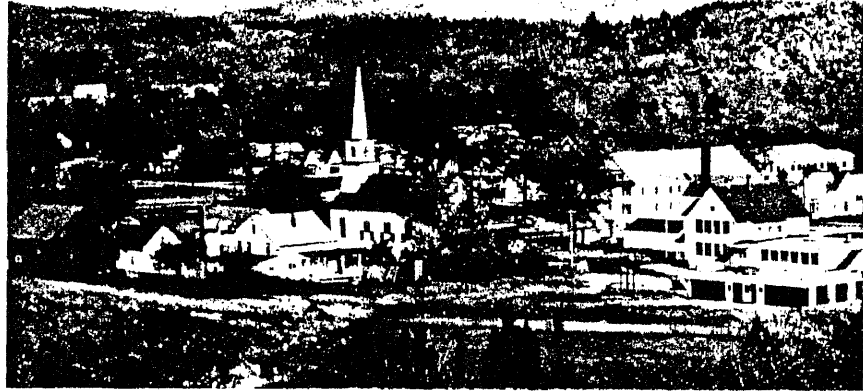


Figure 6. View of New England Common, Lyndon, Vermont (Meinig, 1979)



Figure 7. View of the Main Street, Bath, New York (Meinig, 1979)

In 1983 the first project using a traditional way of planning for a town was designed by the DPZ group (architects Andres Duany and Elizabeth Plater-Zyberk) for the resort town of Seaside, Florida (Figure 8). Developed by Robert Davis, this is considered to be the first example of the new urbanism movement. The town pattern is a traditional grid, and special importance was given to public spaces, streets, plazas, alleys, parks and pavilions. The town center develops around a park modeled on the traditional New England common, surrounded by mixed-use buildings--office, commercial, communal and residential-- unlike the typical suburban separated land uses. Important nodes of the town are linked with avenues and a grid street pattern connects town nodes and neighborhoods.

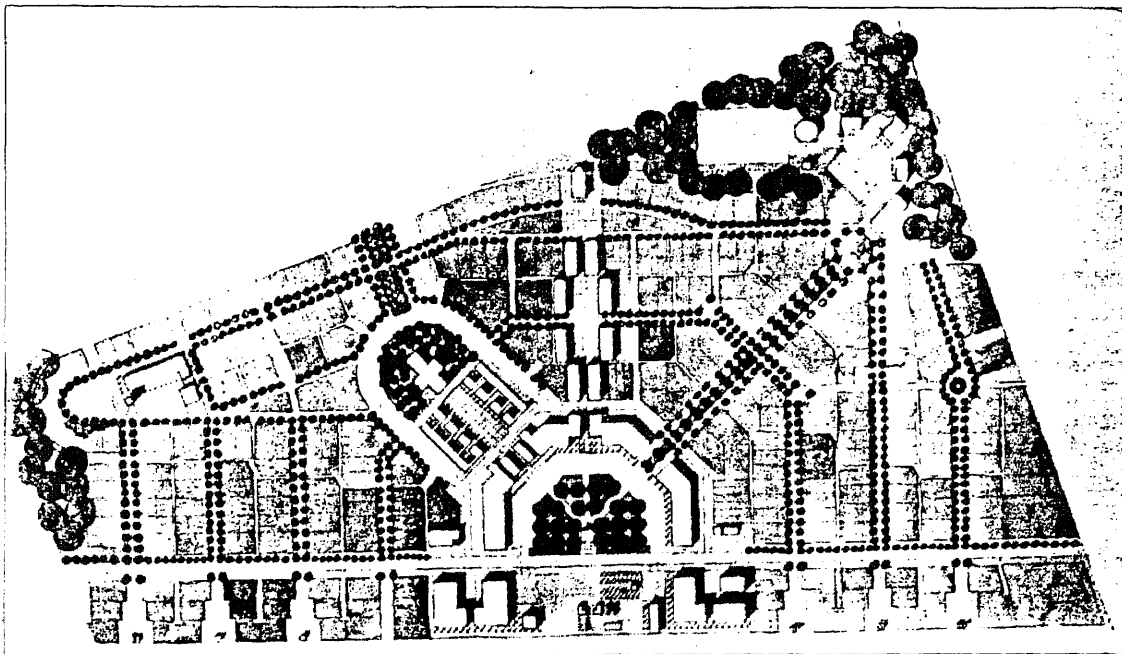


Figure 8. Plan of Seaside, FL by DPZ Group. (Katz, 1993)



Figure 9. A view from Seaside, FL: a residential street with porches and picket fences, by DPZ Group. (Katz, 1993)

To recreate the traditional building forms and spatial qualities, special attention was given to town codes. As seen in Figure 10, the town code of Seaside specifies every lot and building type to be developed to attain an architecturally unified town as an end product. This architectural unity would establish a sense of a unified and closely related community. The styles of buildings are specifically prescribed to fit within a traditional American style: houses having porches facing the street-side, yards enclosed with white picket fences, narrow streets with rows of trees on the sidewalks, commercial buildings having arcades and stylistic architectural details.

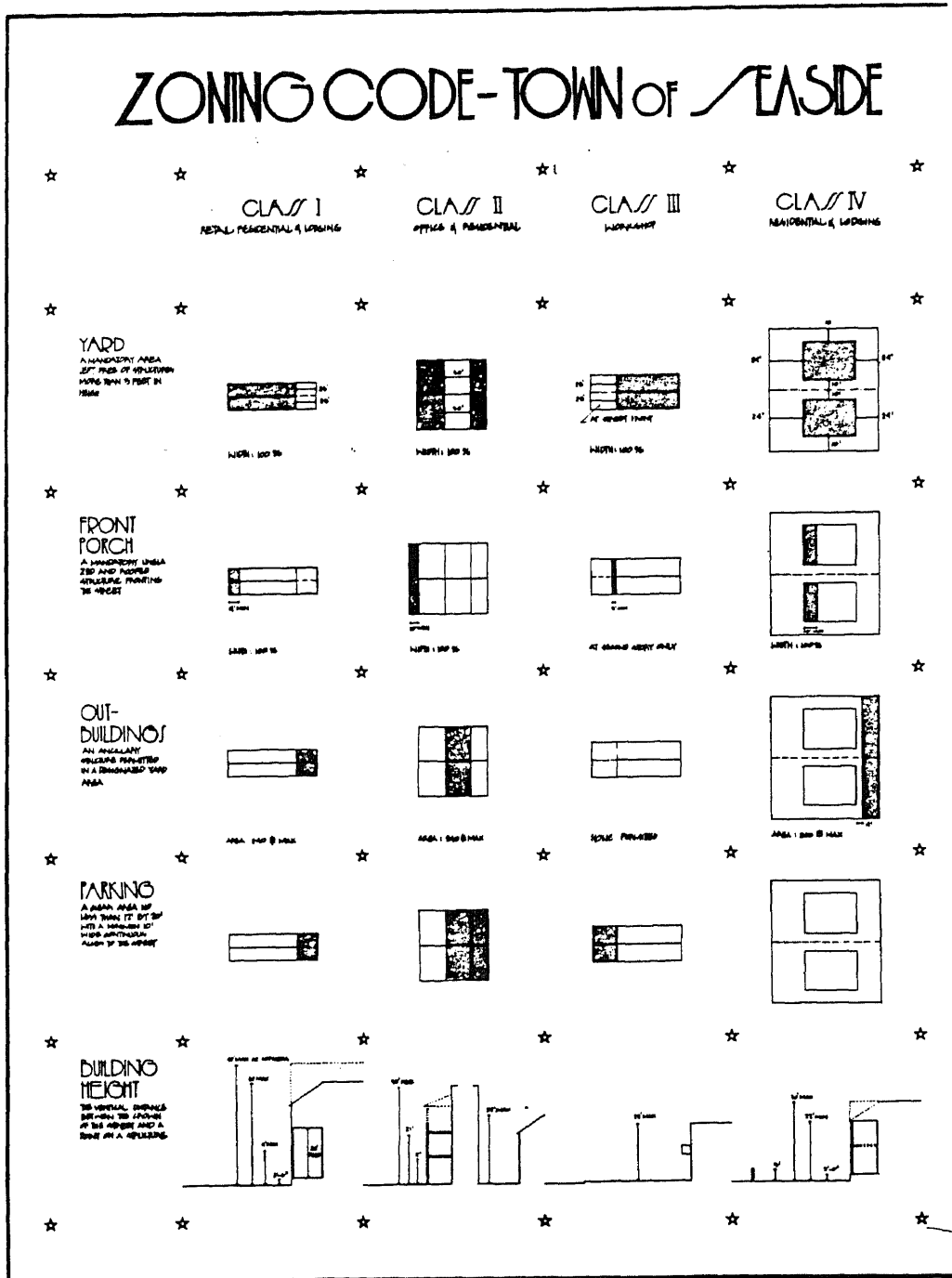


Figure 10. Town codes of Seaside, FL by DPZ Group. (Duany and Plater-Zyberk, 1991)

At the time Seaside was planned, designer Peter Calthorpe was concerned with environmental issues and pedestrian life in the suburbs as his books suggest (*Sustainable Communities* with Sim Van Der Ryn in 1986 and *Pedestrian Pockets* with Douglas Kelbaugh in 1989). In *Sustainable Communities*, the alternatives to suburban development were not based on historical precedents. Instead technology was employed to develop ecological, healthy, sustainable and efficient suburban developments. The concern was not the appearance or architectural qualities of buildings or to bring back the traditional American town model. Again, in *Pedestrian Pockets*, historical forms were not utilized. Public transportation, pedestrian life and the pedestrian sphere of the town were all exploited. Issues of ecology, health, sustainability were tackled with different design alternatives involving public transportation links, pedestrian streets and pedestrianized cores.

However, in the late 1980's, as Calthorpe began to design some suburban communities, such as Laguna West and Dry Creek Ranch in California, the influence of the traditional American town model can be seen in his work. As Calthorpe and the DPZ group continued the search for alternative settlement patterns to the suburban sprawl, they became close enough to be classified within the same movement. However, the two groups had their differences. Unlike the DPZ Group, much less architectural control and historicism in forms is seen in Calthorpe's

designs. Also, Calthorpe addresses issues like ecology, sustainability and public transportation while the DPZ Group focuses on re-interpretation of historic forms to re-generate the lost communal values.

Influenced by the European counterparts of neo-rationalism or the neo-traditional movement, especially Leon Krier, the movement looked for design principles, guidelines and solutions in traditional U.S. town patterns. The principles, as well as the physical entities (like the porch, the arcade, the commons, the size of the block) were to be borrowed, and if needed modified to suit the needs of 21st Century settlements. In the 1990's, working with developers -and with the market- the new urbanists managed to design a number of middle and upper income suburbs in a traditional way. Some examples are: Seaside, Florida, Kentlands, Maryland, Windsor, Florida by Andres Duany and Elizabeth Plater-Zyberk; Laguna West, California, Rio Vista West, California, South Brentwood Village, California by Peter Calthorpe; Playa Vista, California by Elizabeth Moule and Stefanos Polyzoides; Communications Hill, California by Daniel Solomon and Kathryn Clarke. Other participants in the Congress for the New Urbanism include: Steven Peterson, Barbara Littenberg, Mark Schimmenti Eric Valle, Vincent Scully, Victor Dover, Joseph Kohl, Geoffrey Ferrell and Jaime Correa.

2.2. Intentions and Design Principles

Planning human settlements --planning in the broadest sense, including policy, physical and technical planning-- became the primary goal of the new urbanism movement. With a sensitive new approach to planning human settlements, living patterns could be altered in a positive way. For the new urbanists, planning could prevent the U.S. from turning into a huge New York-Los Angeles megalopolis, losing all the natural habitat, farmlands and rural areas to suburban sprawl. Planning could enable us to design and build healthy, efficient and sustainable communities instead of the suburban sprawl. To produce viable alternatives to the suburban sprawl and to "redefine the American Dream" (Calthorpe, 1993) became the intentions of the movement. The new urbanists focused on the redefinition of settlement and development patterns, thinking that the redefinition of settlement patterns would eventually lead to different living patterns and conditions of human beings. This redefinition included a reconsideration of development, growth, ecology, pollution, sprawl, density, transportation, community and public space. Eventually, this redefinition will lead to a new development pattern for the U.S. suburbs, called by the new urbanists "the architecture of community" (Katz, 1993).

The designers found a viable alternative and a rational redefinition of the American dream in an old concept: what Kenneth Jackson describes as the walking city. The walking city was the pre-industrial city,

where the easiest, cheapest and the most common way of getting around was on foot. Reintroducing walking into suburban developments not only would offer solutions to traffic and pollution, but also would help to produce communities instead of subdivisions. The basic characteristics of the pre-industrial walking city (Jackson, 1985) were:

- Density
- Boundary, a clear distinction between town and country
- Mixture of functions
- Compact form, short distances
- Town center as the most important and respectable place in town

The walking city model is totally ignored in the design of the "driving" suburbs where an individual is expected to drive and consume gasoline to meet every need or desire. Walking is ridiculous on the winding streets that lead nowhere. To create a walkable and driveable city for the 21st Century became another intention of the new urbanism movement.

The new urbanists are well aware that even though a walking city can be designed, most people will not be able to reach their places of work without commuting. The intention is to create alternatives to commuting by car rather than replacing it. The alternatives may reduce the average number of car trips a family makes in two different ways. First they may reduce the work commute, which consists of 30% of all the

vehicles on the road, by replacing it with public transportation. Second, alternatives may reduce the recreational commute which is responsible for the other 70% of the traffic on the roads by replacing it with walking or public transportation. Residents would consider walking to a market for bread and a newspaper, or walking to a recreation center if there is one nearby. In a dense, mixed-use and pedestrian-oriented town center, the average number of car trips could be reduced significantly as a pedestrian would be able to reach a bank, a restaurant, a market and an office from the same parking lot. It is quite difficult to picture that situation in a typical suburban development consisting of separated office parks, shopping strips and drive-through banks and restaurants.

Some other intentions are to re-introduce affordable housing into the town pattern as ancillary units or granny flats and to scatter them within the pattern, mixing the income levels of the town residents. These ancillary units will increase density within the town. While providing low-income rental units within the town, these units will decrease the financial burden on the family by providing extra income for the owners, or by using it as an in-law apartment.

Last but not least, to work with the market is another key intention. Working directly with real estate developers who shape the suburban landscape is the key that can transform a traditional town ideal into a modern suburban reality. To be attractive enough to developers, the end-

product --the house-- should be marketable economically and visually, and the environment should provide the necessary comfort and services (privacy, security, open spaces, urban services). A “traditional” looking house is more marketable than a contemporary one, but it is important for the new urbanists to make the traditional-looking house marketable in a denser, traditional-looking town. To offset the density disadvantage, the new urbanists use urban codes. These codes ensure a unique and historic look to the town, unifying it architecturally. In commercial and office developments, the necessary services (parking space, easy access, etc) are to be provided to meet market demands. Providing less parking space than the demand, even with the reason that public transportation is provided, could result in a failure of the commercial or office development.

With these intentions in mind, the new urbanists set some practical design principles for themselves to redefine the American dream: to replace the meaningless pattern dominated by the automobile with the “architecture of community”.

2.3.1. Design and Development Guidelines

Certain development principles and ordinances are adopted to design healthy, sustainable, efficient and marketable communities. For Calthorpe (1993), the principles for creating sustainable developments for the 21st Century are:

- To organize growth on a regional level to be compact and transit supportive.
- To minimize the negative effects of suburbanization on the environment, community and the individual.
- To create mixed-use, diverse communities instead of isolated subdivisions.
- To re-invent the public sphere in the North American towns.
- To preserve sensitive habitats, riparian zones and high quality open spaces.

Meanwhile for Duany and Plater-Zyberk the most important design principle is to develop mixed-use neighborhoods with a sense of community, instead of subdivisions. For them, the basic unit of human settlement is the neighborhood. Duany and Plater-Zyberk (1991) describe the neighborhood as “a balanced mix of human activity” that contains residential, commercial, recreational and civic activities. With this basic unit, a variety of settlements can be formed. Several neighborhoods form

a village; several villages form a town. By making these units dense and mixed-use, a sense of community can be promoted via the physical environment. Duany and Plater-Zyberk (1991) propose the Traditional Neighborhood Development Ordinance as follows:

- The neighborhood area is limited in size, with clear edges and a focused center (edges within 1/4 miles radius of the town center).
- Shops, workplaces, schools, and residences for all income groups are located in close proximity.
- Streets are sized and detailed to serve equitably the needs of the automobile and the pedestrian.
- Building size and character are regulated to spatially define streets and squares.
- Squares and parks are distributed and designed as specialized places for social activity and recreation.
- Well-placed civic buildings act as symbols of the community's identity and provide places for purposeful assembly.

Duany and Plater-Zyberk produced clear and well-established physical design ordinances as development principles. Size, use, proximity and placement of physical elements in the town pattern are addressed. For the designers, these physical conventions address certain social objectives:

- The compact organization reduces the requirements for infrastructure, automobile use and pollution and facilitates public transit.
- The full range of housing types and workplaces helps to integrate all age groups and economic classes.
- The provision of comfortable public places allows residents to come to know each other and watch over their collective society.
- The provision of most of the necessities of daily life within walking distance allow the elderly and the young to gain independence of movement.
- Suitable civic buildings are intended to encourage democratic initiatives and the balanced evolution of society.

In this pattern of development, neighborhoods of special use are named "districts" (office district, commercial district, civic district, etc.) and these districts are to be provided when the demand can not be matched within unspecialized neighborhoods. Connectors and separators of neighborhoods and districts are named "corridors". The corridors could be green belts, roads, and public transportation lines. These corridors allow a number of public and private transportation alternatives between the neighborhood units like driving, park-and-ride and walk-and-ride. With these principles, and making these neighborhoods transit-oriented, walking could be recovered as means of transportation within the city.

2.4. Characteristic Urban Morphology

For the new urbanists the traditional American town seemed to create desirable communities, so the translation of their intentions into reality required recovering the physical planning principles of the traditional American town model: a dense and mixed-use pattern, consisting of small blocks with a gridiron network of streets with a common space in the center. The traditional pattern enabled a walking city with a meaningful open space network consisting of squares, courts, commons and plazas that are linked by boulevards, avenues, streets and alleys. Utilizing mixed-use streets, vehicular traffic could also be accommodated within the walking city, as every street would accommodate pedestrians as well as vehicles.

For Moule and Polyzoides (1993) traditionally the grid signifies the first presence of an urban fabric in the American landscape. The grid is the basic form-giver to traditional American towns. It was the optimum way to divide the land into equal and similar pieces in colonial times. The new urbanists adopted the grid street network as the basic morphological element of their generic pattern. As seen in Figure 11, the grid certainly offers a more organized, comprehensible and rational town pattern than the typical suburban maze that is shaped by every developer individually.

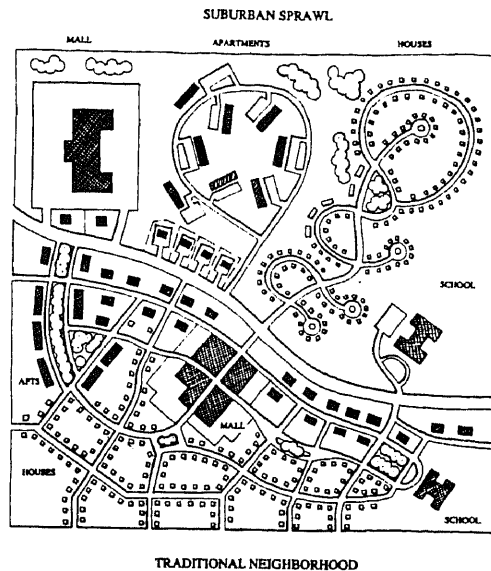


Figure 11. Comparative plan of new urbanist development and typical suburban sprawl. (Adler, 1995)

The grid provides straight walking destinations for pedestrians, unlike the streets of the current suburbs, which are usually winding, discontinuous and lead nowhere. The grid plan has small blocks, no longer than 600 feet, to keep the traveling distance for pedestrians reasonable and to provide all the lots with adequate street frontage. This system also provides a choice of routes to vehicular transportation, not limiting the vehicles to collector streets which end up being congested. The town center is differentiated from the fabric surrounding it. It is traditionally located at the center of the town, within walking distance of

the edges. The town center is mixed-use in character, providing residential, commercial, recreational and working activities. The civic buildings are located at the town center or neighborhood center; each is defined by a plaza, park or public space, differentiating it from the fabric. In Wellington, Florida, (seen in Figure 12) each neighborhood has its own meeting hall that is marked with a plaza. The town center consists of a plaza at the intersection of the main arteries of the town.

Another important function of the center is to provide links to other places within the region. Public transportation provided to and from the town center will enhance the center and pedestrian life in the town. Walk-and-ride can become a viable alternative to park-and-ride and driving. This center provides a meeting place, a common ground for the residents of the town; it will be the center of civic life. As seen in Figure 12, a public green is located close to the center; in some cases like Seaside, Florida, it is the center, similar to the New England Common. The public green is used as an important visual element of the center, although not always utilitarian. For Adler (1995), the malls and parks located at the edge of the development, on leftover parcels (as seen in suburbia) are poor substitutions for real civic spaces.

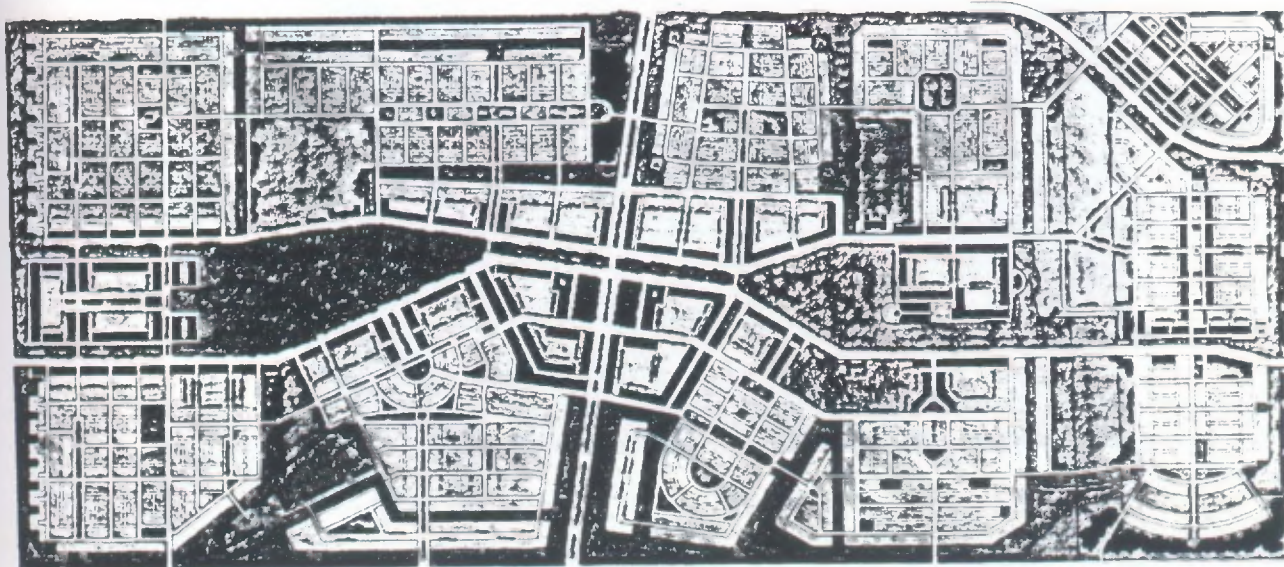


Figure 12. Plan of Wellington, Florida by DPZ Group (Duany and Plater-Zyberk, 1991)

Special attention is given to the design and coding of streets in the new urbanism movement. For Calthorpe (1993), people and traffic belong together on the street. For him, the efforts to segregate vehicular and pedestrian traffic result in single-use, monotonous streets that do not contribute to urban life and the public realm. They form a threat to urban continuity as the streets become solely for vehicular access, separating the blocks from each other, separating the pieces of the town from each

other. Therefore mixed-use streets are always favored, mixed-use in both ways: cars, pedestrians, as well as different activities. Different activities placed on a street enhance the civic life on the street as well as the safety of the street, as in South Brentwood Village (Figure 13) by Calthorpe Associates.

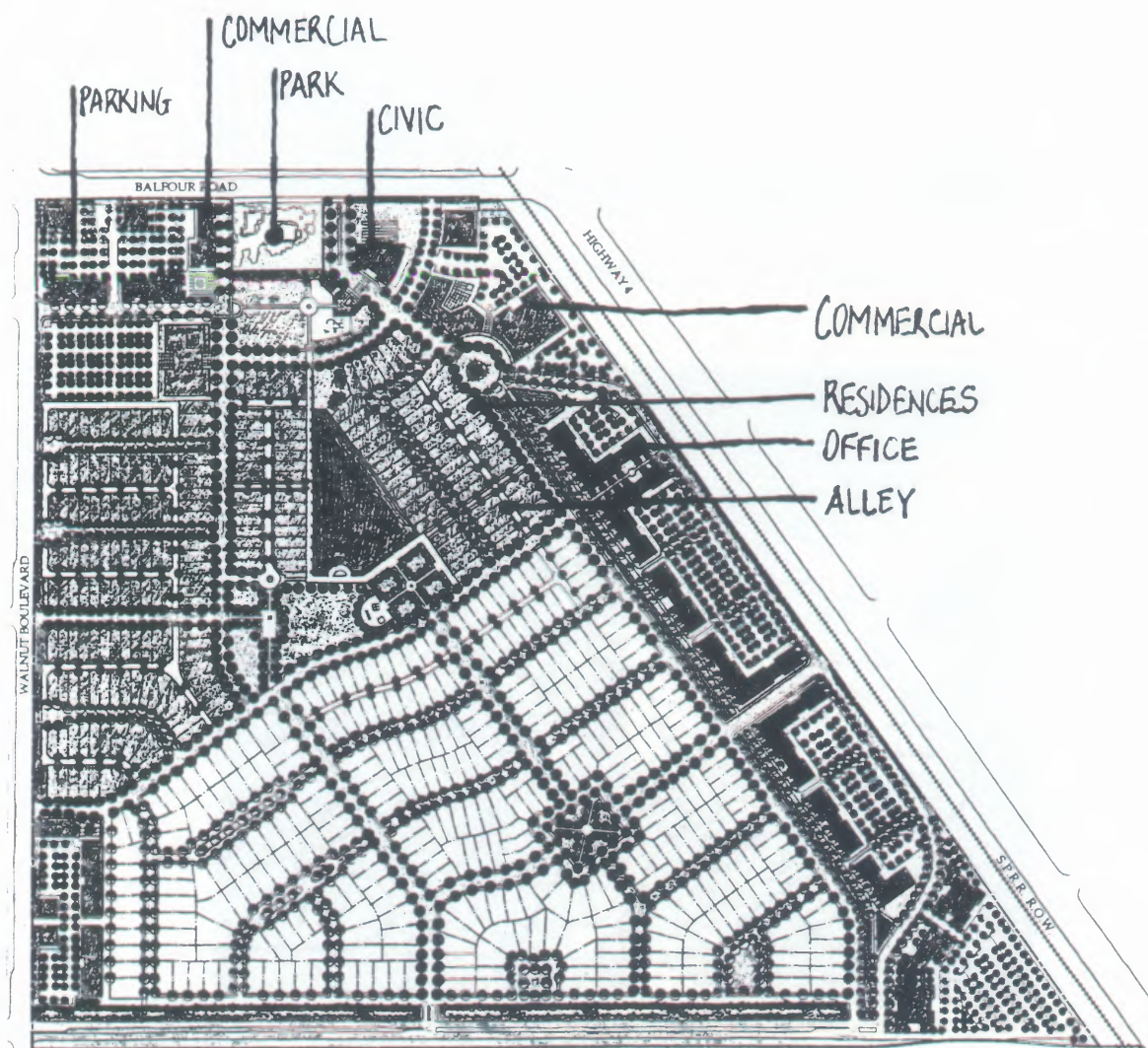


Figure 13. Plan of South Brentwood Village, California by Calthorpe Associates (Calthorpe, 1993)

Definition of the street space is also different from typical wide suburban streets. Relatively narrow, bordered with sidewalks and planting strips and houses with shallow setbacks create a historic image. Streets, either residential or commercial, are defined by placing the buildings closer to the street. On residential streets, placing the buildings closer to the street has social implications. Replacing the ornamental front yard with porches and terraces creates a welcoming space in front of the house, enhancing the sense of community within the town. Parking is provided either at the curbside, protecting the pedestrians from passing traffic, or at the back of the lots, access provided from the alleys in the middle of the blocks. These alleys could also serve as playgrounds and enable town services (like garbage collecting) to reach the houses without creating a disturbance on the street (see Figure 13). Another advantage of the alleys is that the garage will disappear from the front facade and will be located towards the rear of the lot.

In commercial districts and town centers, the traditional main street will replace the highway strip, regaining its role and place in the urban morphology. The building setbacks will be shallow, enclosing the streets. This will provide pedestrians a well-defined space to stroll and view the shop windows. Large parking lots and big-box stores will disappear; street-side parking and parking structures will be introduced to the pattern. A well-assembled line of mixed-use buildings with a meaningful

public space for the pedestrians in front will form the new pattern. Parking can be placed at the streetside and at the back of the buildings. The mixed-use main street model will provide a lively atmosphere for the town center, day, night and weekends.

The new urbanists try to establish a sense of community within a town by utilizing a traditional grid town pattern, traditional mixed-use buildings and streets and traditional-looking houses. For them, the physical closeness of the house to the street will bring the neighbors together. For them, the porches on the street facades of the houses will make people go out and participate in civic life, enhancing the sense of community. Different pieces of a community will come together in a town; different services will be provided to the community within the town. The new urbanist physical ordinances will enable a type of architecture that creates and houses a community, in other words, "the architecture of community".

CHAPTER 3

CRITICAL ANALYSIS

To provide an optimum solution to the human settlement problem in the suburbs, the new urbanists developed a number of social, economic and ecological intentions as described in Chapter 2. This chapter will be a critical analysis of how these intentions are reflected in the new urbanist projects. Based on case studies and examples, planning and design principles will be examined. How these principles accomplish, or how they contradict, the stated intentions will be analyzed. Better ways to accomplish the intentions will be reviewed, again based on case studies and examples. The analysis will be developed in two parts: town location and town pattern.

3.1. Town Location

Having observed the crisis of growth that American cities have experienced, the new urbanists support the concept of an urban growth boundary to avoid uncontrolled and unplanned development that result in sprawl. Calthorpe (1993) states that the new urbanist intention is to limit growth and accommodate it in infill and redevelopment locations rather than in new town or suburbs. Infill and redevelopment will enable the optimum utilization of existing infrastructure. New towns can be built only if the growth is too much to accommodate in infill locations and redevelopment projects.

However, their practice contradicts the written intentions of the movement. Nearly all of the new urbanist projects are located at the fringe of cities, exemplifying the destruction of valuable farmland or open space to develop suburban residential, office and commercial spaces. Laguna West by Calthorpe, shown in Figure 14, located 10 miles south of Sacramento, California presents a typical location for new urbanist developments. The new urbanists have been criticized for this aspect of their developments, as they produce more and more large scale suburban developments, showing little interest in suburban infill and urban renewal and infill projects.

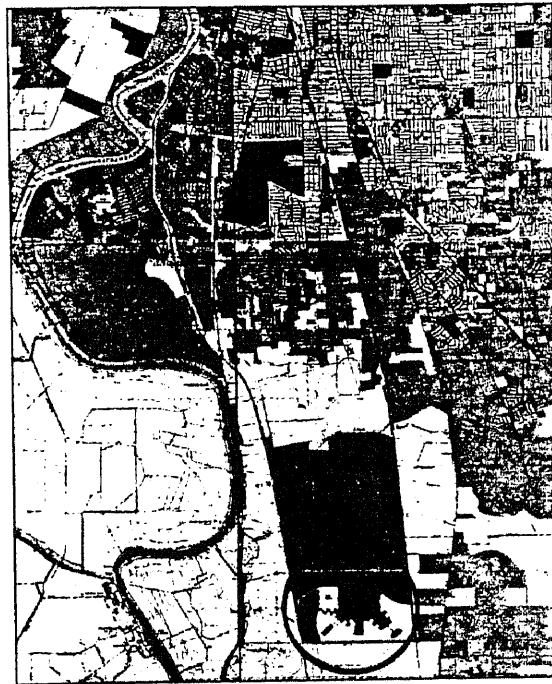


Figure 14. Location of Laguna West, CA by Calthorpe Assoc. (Calthorpe, 1993). Laguna West, shown in the circle, is located on the fringe of development. Downtown Sacramento is further north.

The town of Avalon, Florida, shown in Figure 15, has been criticized by Wallis (1991), because of its location, situated just beyond the urban service boundary of Orlando. He accuses the new urbanists of developing neo-traditional sprawl instead of proposing a solution to the problem of sprawl. Recommending Portland's adoption of an urban growth boundary (Figure 16) as a model for all American metropolitan areas and then defying the urban service boundary drawn by Orlando is one example of the contradiction between the written intentions of the new urbanism and the projects that come to life. The new urbanists still perceive land as a resource to consume, and not even worth recycling.

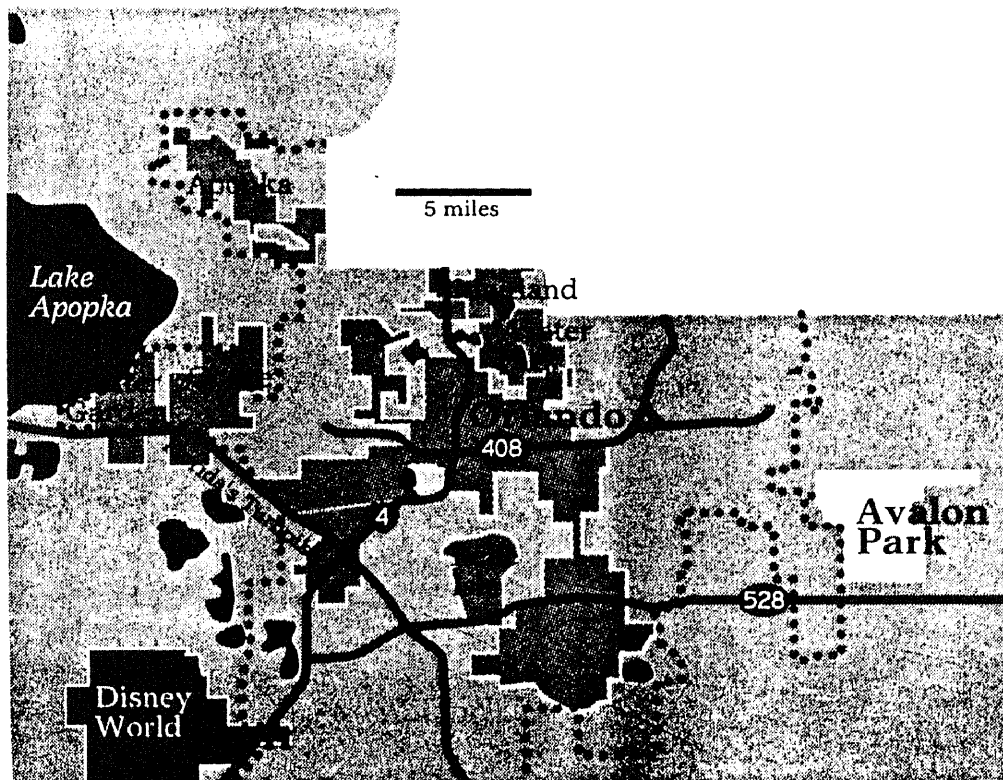


Figure 15. Location of Avalon Park, FL by DPZ Group. (Wallis, 1991). The dotted line represents Orlando's urban service boundary.

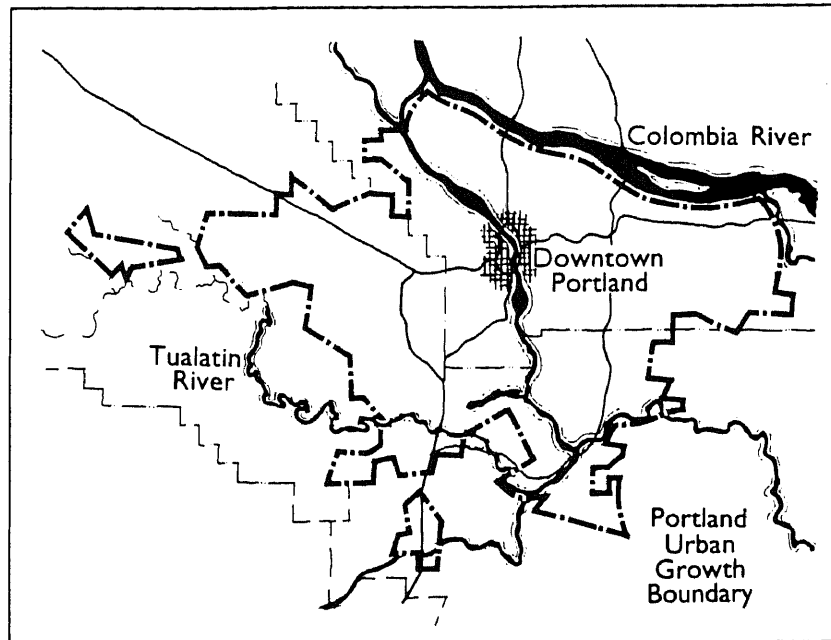


Figure 16. Urban growth boundary of Portland, OR (Calthorpe, 1993).

Benzing (1994) notes that the movement works on developing individual local patterns that do not add up to a comprehensive regional strategy. The routine of expanding the cities with the development of unplanned speculative subdivisions has not changed. Only the form of it has changed; now subdivisions will look like the traditional American town. The physical pattern of the development is the traditional American town, but the social pattern is hardly different from suburbia. Part of this is because the town is not planned as a whole. Similar to the subdivisions, the new urbanists mostly develop only a piece of a town, independent from the rest of the town. The town is not treated as a whole, but rather as chunks of developable land. A comprehensive regional planning strategy is still the missing piece in the suburban scene.

Designed as a subdivision within the town of Gaithersburg, Maryland, Kentlands by DPZ group is an example of this condition (see Figure 17). Within the boundaries of the town, Kentlands has been developed independently from the surrounding lots, having no connection to them. Nearly all of the subdivision's residents are employed elsewhere, as the development consists of middle to upper income housing and local employment is restricted to minimum salary retail jobs. Affordable housing and low-income housing are not included in the pattern, which turns out to be a fashionable traditional development. The town hall and most of the town's other civic activities are located outside the subdivision, with no pedestrian access from Kentlands. There is a commercial district within the subdivision but it is deliberately separated from the residential district. Also the civic activities are separated from the commercial zones, developed independently, as in typical subdivisions. All this eliminates walking as a mode of transportation from home to shopping within the town. The commercial district is occupied by chain stores, eliminating the possibility of stores owned and operated by residents.

Although Muschamp (1996) reports that at the 1996 meeting of the Congress for New Urbanism, participants opposed the disinvestment in central cities and proposed restoration of existing town centers, he is skeptical that the movement will live up to its name by promoting urbanism in the U.S. instead of the ongoing suburban development. One of the

author's fellow students asks the question "New urbanism: is it new or is it urbanism?" *New suburbanism* might be a more appropriate title for the movement.

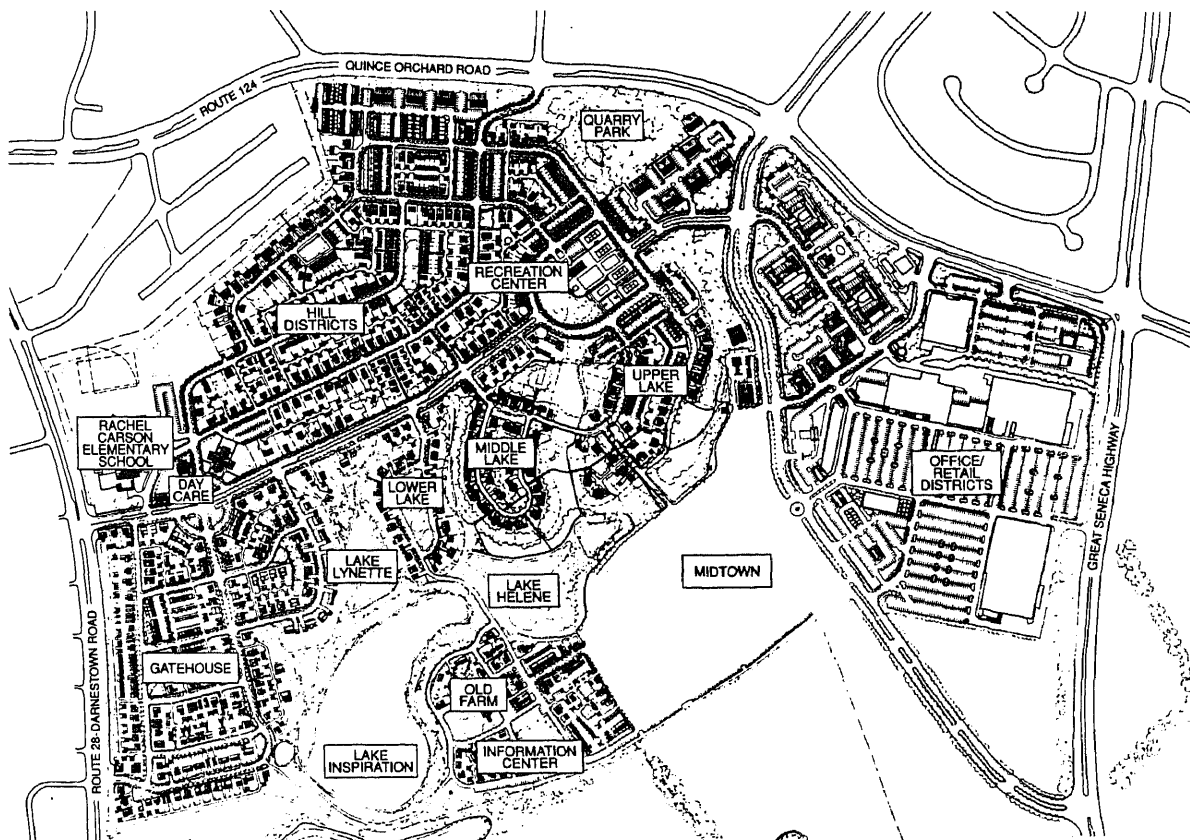


Figure 17. Plan of Kentlands, MD by DPZ Group (Duany and Plater-Zyberk, 1991).

3.2. Town Pattern

Responding primarily to the sprawl created by post World War II suburbs, the new urbanism movement offers the traditional American town model as a solution. The new urbanists turn to earlier traditions as a source of values and design principles for future suburbs, ignoring any positive aspects of modern suburbs. The United States has a rich history of modern suburbs that

includes examples other than the typical sprawl pattern. Some of these suburbs themselves offer alternatives to the sprawl, even better alternatives than the traditional American town model. Yet other suburbs offer some useful pieces of solutions, guidelines and design alternatives. The rich history of the modern tradition offers different solutions to achieve the social, economic and ecological goals of the new urbanists, spelled out in Chapter 2.

In most of these early suburbs, the intentions of the new urbanism movement are met in ways that avoid the negative consequences of the new urbanist examples. The innovative town patterns utilized in the early suburbs are the primary reason for this. This part of Chapter 3 will contain a comparative analysis of these modern suburban examples and new urbanist case studies. The cases included are Reston, VA, Radburn, NJ, Baldwin Hills, CA, Five Oaks, Dayton, OH. Comparisons will be on the grid pattern, size and use of streets, size and use of blocks, town centers and nodes. This will not be a comparison between entire towns and town patterns as a whole. Rather, design principles, partial patterns and details of towns, and what they bring into the towns will be analyzed.

3.2.1. Grid

The new urbanism movement proposes a dense grid of streets for new suburban developments because the grid represents the presence of a town in the American landscape. Also the new urbanists suggest that the grid

provides good connections for pedestrians and vehicles between neighborhoods and town nodes. For vehicular traffic, it provides alternative routes to eliminate congestion as opposed to the single neighborhood connector that can easily become congested. A typical example of the grid pattern is Avalon Park, Florida, designed by DPZ group, seen in Figure 18.

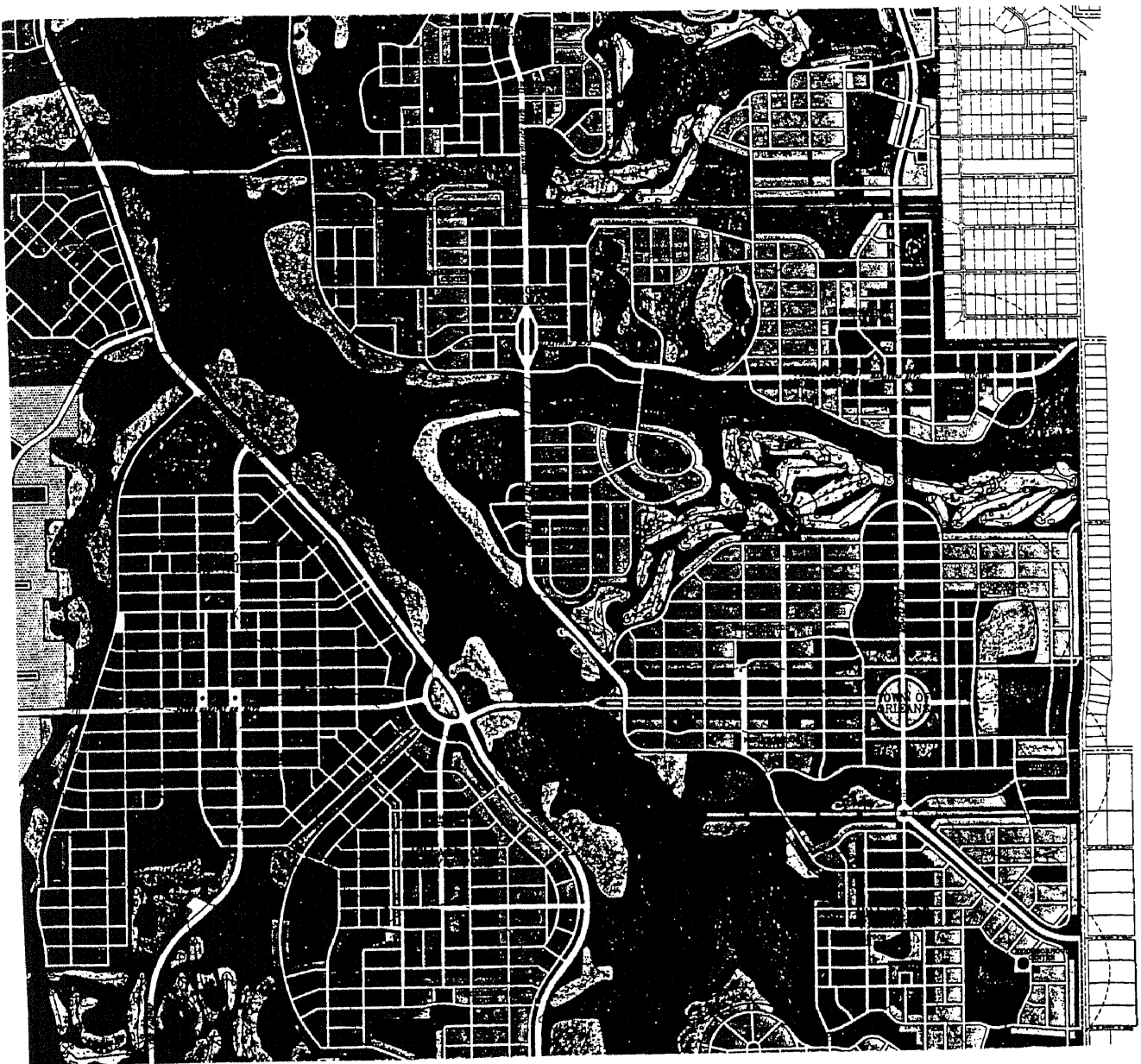


Figure 18. Plan of Avalon Park, FL. (Duany and Plater-Zyberk, 1991)
Avalon Park shown in black, adjacent developments in white.

There are some negative aspects of the grid system: the first being the increased number of intersections, second the inefficient and wasteful infrastructure layout and land use patterns, and finally the lost privacy of a residential street. According to Southworth and Ben-Joseph (1996), there are one third more intersections in neo-traditional developments than in traditional post-war suburbs. This can be seen in Figures 19 and 20. Every added intersection gives the town:

- More traffic lights or stop signs, leading to a less fluid circulation pattern for vehicles. This means more time spent in the vehicle for the drivers and more toxic gas emission within the boundaries of the town.
- While trying to prevent congestion by creating alternative routes, with so many intersections, the new urbanist grid has the potential to create congestion on every alternative route provided. This type of congestion is currently observed in downtowns, known as grid lock.
- More intersections mean more confrontations between vehicles and pedestrians and more chance of collisions within the town. All pedestrian routes within the town are frequently interrupted by intersections, making them dangerous, unpleasant and undesirable routes for pedestrians.
- The need for crossing guards at school openings and closings, and so an increase in the cost of maintenance. If fully completed, Radburn might have been the only town in the US that did not require a school bus or a crossing guard for children.

	ELMWOOD (1905)	KENTLANDS (1989)	LAGUNA WEST (1990s)
Street Patterns			
Intersections			
Lineal Feet of Streets	18,000	24,000 (alleys 7,000)	19,000
Number of Blocks	23	24 (w.o. alleys 14)	16
Number of Intersections	20	41 (with alleys)	20
Number of Access Points	17	22	14
Number of Loops & Cul-de-sacs	1	10	15

Figure 19. Comparative analysis of traditional and neo-traditional street patterns (Southworth and Ben-Joseph, 1996)

Figure 20. Comparative analysis of suburban street patterns (Southworth and Ben-Joseph, 1996)

	Gridiron (c. 1900)	Fragmented Parallel (c. 1950)	Warped Parallel (c. 1960)	Loops and Lollipops (c. 1970)	Lollipops on a Stick (c. 1980)
Street Patterns					
Intersections					
Lineal Feet of Streets	20,800	19,000	16,500	15,300	15,600
# of Blocks	28	19	14	12	8
# of Intersections	26	22	14	12	8
# of Access Points	19	10	7	6	4
# of Loops & Cul-de-Sacs	0	1	2	8	24

The first studies on residential street safety, conducted in Los Angeles between 1951 and 1956 concluded that accident rates for the grid pattern are substantially higher than for a curvilinear pattern by a ratio of 8 to 1 (cited by Southworth and Ben-Joseph, 1996). The study also showed that T-junctions were found to be fourteen times safer than the four-leg intersections of the grid pattern.

As shown in Figure 19, there is quite a difference in town patterns among the new urbanist examples. Kentlands is an example of the grid pattern with small blocks. Meanwhile, the street pattern of Laguna West, California (shown in Figure 21) by Calthorpe, comparable to the late 20th century suburbs, is a combination of curvilinear, grid and cul-de-sac patterns. Historicism in town patterns is far less rigidly employed in Calthorpe's town patterns than in rigid historic patterns developed by DPZ.

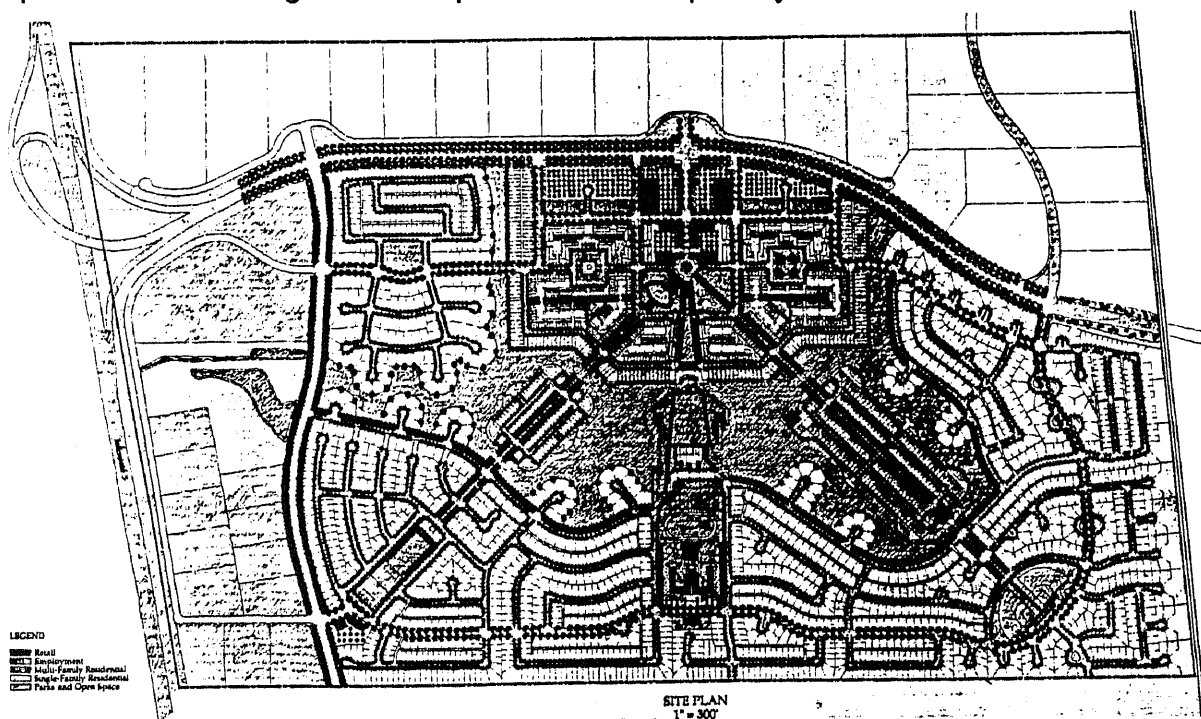


Figure 21. Plan of Laguna West, CA by Calthorpe Assoc. (Calthorpe, 1993)

The other negative aspect of the grid system that can be observed in Figures 19 and 20 is the increase in the length of streets and the increase in the total percentage of developed land occupied by asphalt. In a typical post-war suburb, approximately 35 percent of total land is allocated to streets. In neo-traditional examples, streets and alleys occupy up to 40 percent of the total land developed. In Radburn, New Jersey, seen in Figure 22, this figure is only 21 percent. Built in the 1920's as a middle income commuter suburb of New York City, the primary intention of planners Stein and Wright was to minimize the vehicular domain and maximize the pedestrian domain of the town. The planners used superblocks and cul-de-sacs to realize this intention.

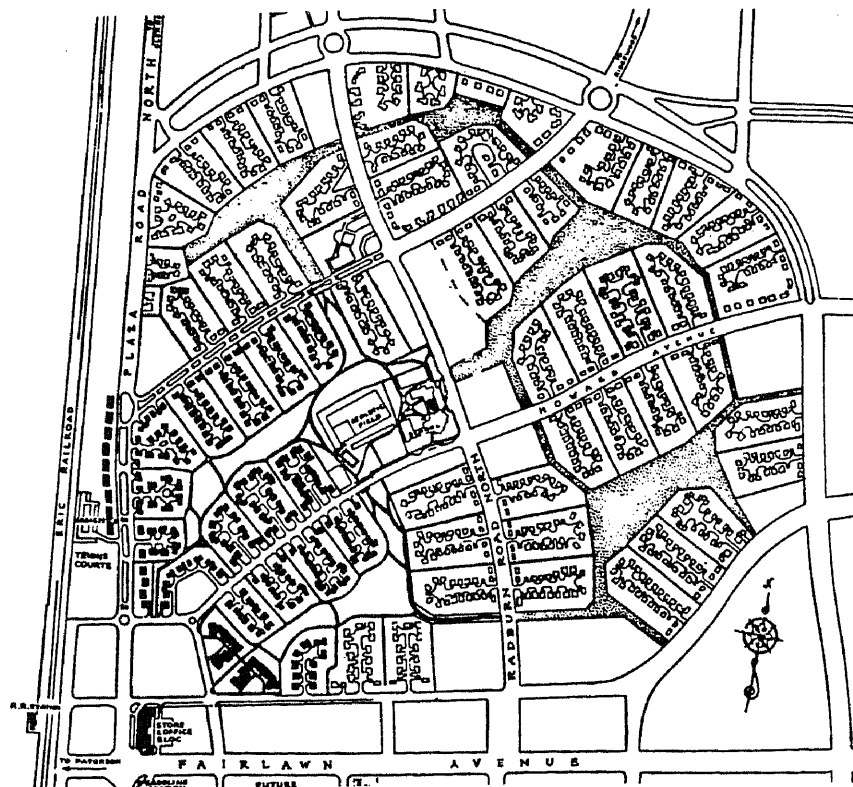


Figure 22. Original plan of Radburn (Stein, 1957). Only the two blocks on the lower left corner were built.

According to Southworth and Ben-Joseph (1996) there is 50 percent more street miles as well as 73 percent more acres of right-of-way in neo-traditional developments than in typical suburban developments. This can be observed in Figure 18, comparing the adjacent developments on the right to the new urbanist development of Avalon Park. The adjacent developments uses fewer streets to gain access to the same amount of land, while Avalon Park uses more streets, and additional alleys to service the same amount of land.

In new urbanist towns the initial infrastructure costs of streets, sidewalks and traffic lights will not enable any savings from the typical sprawl pattern, neither will the maintenance costs through the years to come. Although the new urbanist examples are denser than the typical suburbs, the potential of the land can not be utilized properly. The land that is saved by narrowing the streets and lots does not return to the community as meaningful public spaces like parks, but rather is used for additional streets.

A recent study by Rutgers University (cited by Lejeune, 1994) comparing compact development to sprawl indicated that \$1.38 billion could have been saved in roads, infrastructure and school construction in New Jersey over the last 20 years, if compact development had been utilized as a development principle instead of the typical suburban sprawl. Also, it was found that use of the automobile and air pollution would have been significantly less and 30000 acres of farmland could have been saved in the

state of New Jersey alone. Considering new urbanist development as a form of compact development (since one of their intentions is to develop in compact units), one could expect all these benefits to be provided by the new urbanist models. But because of the town plan adopted the number of streets increases and the cost of infrastructure does not differ from the sprawl pattern; also the air pollution will not be significantly reduced.

The grid system proves to be inefficient in terms of infrastructure, land allocation and vehicular circulation. Also, the grid decreases the privacy of the residential streets, creating negative effects on the community and the social pattern; this will be further explained in the following section. Having a town pattern that has so many stops for vehicular circulation also proves to be anti-ecological. The traffic pattern that the grid assembles does not help to reduce 7.5 billion gallons of wasted gasoline that congestion will be responsible for by the year 2000 (Ansari and Santos, 1996). All these points demonstrate that the grid street pattern utilized for the neo-traditional developments does not help to achieve some of the stated intentions of the movement. On the contrary, it may make some intentions harder to attain.

3.2.2. Streets

Unlike the suburban vehicular street, the grid of streets is considered to be the primary public space of the new urbanist towns, housing pedestrians and vehicles together and linking town center, town nodes and neighborhoods. Having good connectivity, the grid pattern of streets is expected to encourage public life to expand into the outdoors, thus transforming the deserted suburban street into a lively neighborhood street. With some physical ordinances like placing the house closer to the street and attaching a porch to the front facade instead of a garage, the streets will be restored as the public realm of the neighborhood. The streets will be more pedestrian friendly, neighbor friendly and community friendly, therefore they will full of people and activity (as depicted in Figure 23).



Figure 23. Conceptual perspective of a street by Calthorpe (Katz, 1993)

However, reconstructing walking as a mode of transportation and reconstructing streets as settings for the conduct of daily life cannot be accomplished solely with romantic physical ordinances. A streetscape can be created by using architectural control and historic references, but the physical appearance of streets is not enough to determine or dictate their *use*. The community living on the street should claim the street space for their activities. People living on the street should feel comfortable while using the street for their activities. However, nearly all the streets being a thoroughfare because of the grid pattern does not encourage people to claim the street, or perform any activity on the street. Also, as in suburbia, the streets hardly lead to walkable destinations within the town, discouraging walking and decreasing the vitality of the street. This was explained in the town location section of this Chapter. The porches are hardly used, as they only offer a view to the through traffic on the street. People on the same street share nothing but the zip code, and this does not encourage any activity either. Therefore, much like suburbia, the porches are empty and the streets are deserted in Kentlands as seen in Figure 24, unlike the depicted streets full of activity and people.



Figure 24. View of an empty street of Kentlands, MD

A criticism of the thorough streets of the grid pattern comes from Oscar Newman. According to him, the grid pattern can lead to a loss of privacy and sense of community on residential streets because of the openness and good connections to surrounding areas. The use of street is directly related to the privacy, security and comfort of the street. In a particular project in Five Oaks, Dayton, Ohio, shown in Figures 25, 26 and 27, he proposes to break down the grid into small cul-de-sacs to form mini-neighborhoods.

Five Oaks is an old suburban residential community located one mile north of downtown Dayton, OH. After World War II, like other U.S. cities Dayton experienced a rapid suburban expansion. As Dayton expanded outwards in all directions, Five Oaks got stuck in between the northern suburbs and the downtown. As the arterials leading to northern suburbs

became congested, the grid streets of Five Oaks became the thoroughfare for the commuters. The heavy through traffic had negative consequences for the community such as rising crime, violence, prostitution and drug traffic. The streets were not safe any more to be used as children's playgrounds. The streets were not enjoyable any more for walking or strolling. The streets were not desirable any more to live on. The streets no longer belonged to the community, but rather to dealers, pimps and prostitutes.

To give the streets back to the community, Newman proposed to cut the grid into smaller pieces by blocking some streets, as seen in Figures 25 and 26. Instead of a through street, a cul-de-sac is a preferable pattern to develop healthy neighborhoods. The grid was cut from several points to create mini neighborhoods around cul-de-sacs. There is a single point of entry for each neighborhood for vehicles. The obstruction of the grid drove out the through traffic from the streets of Five Oaks: traffic was reduced by 36 percent. With the appropriate closure of streets, the neighbors got to know each other and their territory, thus the closures provided an eye on the street against crime. Overall, crime was reduced 26 percent, violent crime 50 percent. In this case, breaking down the grid into smaller cul-de-sacs restored the sense of community in Five Oaks. These smaller cul-de-sacs provided much needed privacy, security and comfort to the residents. As seen in Figure 27, the streets were claimed by residents for a number of uses.

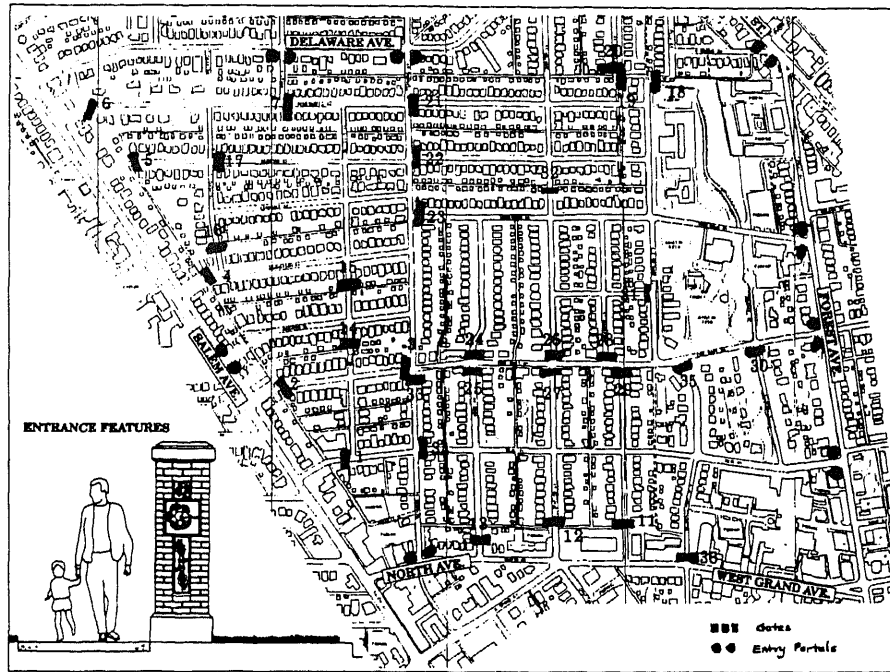


Figure 25. Plan of Five Oaks, Dayton, Ohio (Newman, 1996)

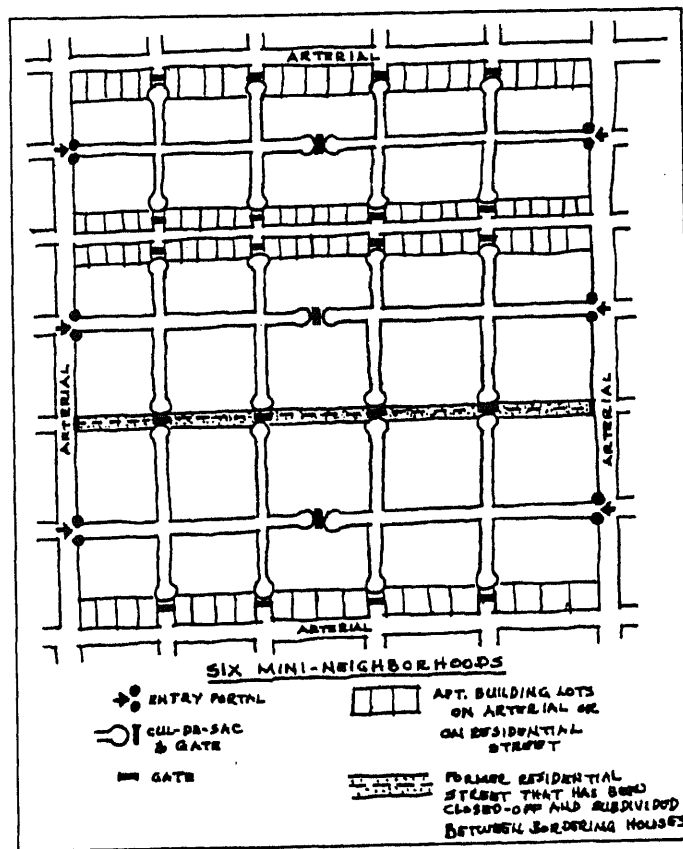


Figure 26. Schematic design of mini-neighborhoods (Newman, 1996)



Figure 27. View of a lively street in Dayton, OH (Newman, 1996)

Unlike the limited vocabulary of highways, connectors and residential streets in typical suburbs, there is a variety of street types in the new urbanist developments,. Boulevard, main street, residential streets and narrow alleys are all seen in the town pattern.

The mixed-use main street of a traditional American town is an element that replaces the mall in the new urbanist town pattern. Evoking a romantic image from the past, the main street will be a street to stroll on, connecting different pieces of the town. But Benzing (1994) questions the new urbanist proposals for the revitalization of the main street in their developments. He questions the necessity and meaning of main street in a

suburban environment when there are hundreds of examples of declining main streets losing ground to the malls and office parks. The actual use of main street is not thought out by the new urbanists. Once the physical appearance of the traditional main street is replicated, the functions are expected to arrive automatically.

The one-way street and the pedestrian street and their potential are not exploited in the new urbanist towns. One-way streets can eliminate congestion and simplify intersections for vehicular and pedestrian traffic, making confrontations between vehicles and pedestrians to be less dangerous. Also, by using one-way streets, the width of the streets could be decreased and therefore infrastructure costs could be decreased. The percentage of land allocated to streets would also improve, enabling more efficient infrastructure, land-use and vehicular circulation.

3.2.3. Blocks

For the new urbanist designers Moule and Polyzoides (pg. xxii, Katz, 1993), "Blocks are the field on which unfolds both the building fabric and the public realm of the city. A versatile, ancient instrument, the traditional block allows a mutually beneficial relationship between people and vehicles in urban space." With a dense grid pattern of streets, urban blocks tend to be small. In the "Traditional Neighborhood Ordinance" Duany gives the size of a block as 250 to 600 ft. each side. This size enables the pedestrians to reach the end of the

block quickly, and reach their destination via the shortest route, unlike the winding oblong blocks of typical suburbs. This will promote walking within the town.

But these small blocks can be problematic in town centers. As seen in Figure 28, the town center of New Village in Kendall, Florida, is composed of small blocks. Small blocks produce many intersections and during peak hours, the town center has the potential to become congested by vehicles. This vehicular congestion will also affect pedestrian life in the commercial district, as getting to another block will mean confrontation with vehicles. Because of the congestion, the town center will be less preferred by the residents and visitors which means the business in the center will decline. Also the demand for the upper floor residential units will decline, resulting in a decline of overall value of the town.

In most new urbanist projects, the public green is developed as an individual small block towards the center of the town pattern, as seen in Seaside and in New Village (Figure 28). Since it is developed as an individual small block, the use becomes limited: small parks cannot enable active recreation (sports and games). Also, being a separate block, it is surrounded with a strip of asphalt, which makes it harder for children who are not allowed to cross the streets to reach the park. Modeled after the New England Common as a central form giver to the town, it is difficult to imagine that the

public green used in the new urbanist town pattern will actually function as the common, especially with the vehicular traffic around it.

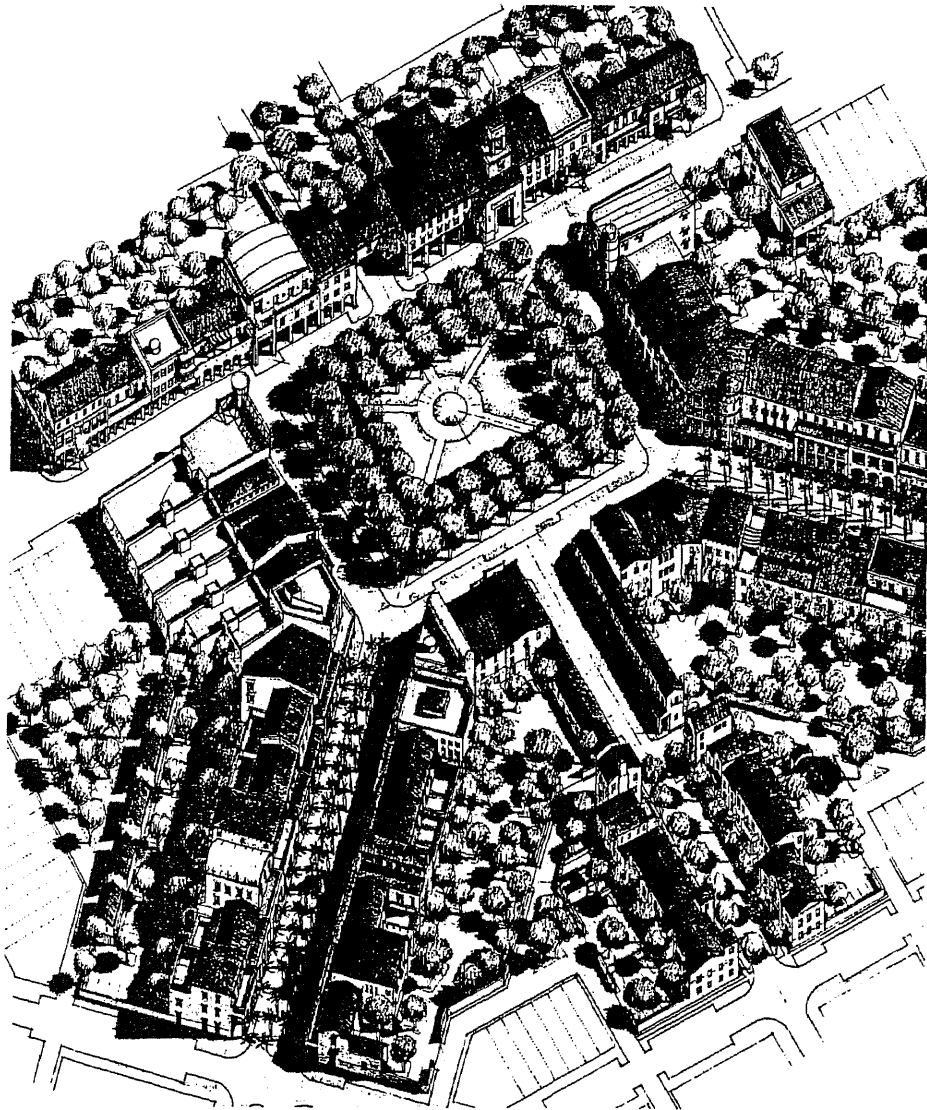


Figure 28. View of New Village, FL by Dover, Kohl & Partners (Katz, 1993)

The use of small blocks in the town pattern is also questioned by Stein (1957). Baldwin Hills, California, shown in Figures 29 and 30, is a residential development that also includes a clubhouse and a small amount of office and commercial space. Stein utilized a superblock to contain all the development instead of spreading it into small blocks. For him there were several advantages of the superblock over the conventional small block. First, it saved on infrastructure costs, minimizing the street surface; second, it enabled efficient land-use; and these enabled the creation of a public green in the middle of the block for no extra cost for the residents. This central green space serves multiple uses: as a safe playground for children, as an open space for the residents, as a pedestrian axis within the neighborhood and finally as a public realm that could bring the community closer. This central green space is actually closer in terms of use to the New England Common than the new urbanist public green.

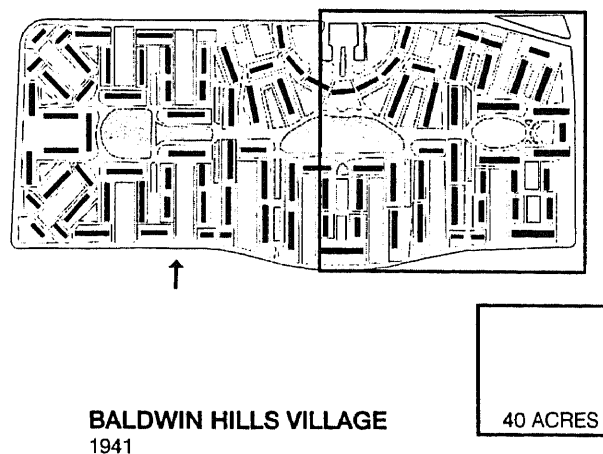


Figure 29. Plan of Baldwin Hills CA (Stein, 1957)



Figure 30. Aerial view of Baldwin Hills, CA, and the surrounding speculative development. The surrounding development may be compared to a new urbanist block. Note the difference in the amount of street surface among the two developments (Stein, 1957)

In most new urbanist examples residential blocks are further divided by alleys in the middle. Alleys have mainly three functions: to keep the street fronts clean, aesthetic and public. Alleys would take functions like garbage collection off the streets to keep streets clean and more humane. Alleys would create an alternative space for vehicular circulation in the middle of the blocks and connect garages of the houses to the alleys. The huge bulk of garage would disappear from the facade of the houses, allowing better street facades, again trying to keep streets more humane in terms of scale and enclosure. The garage out of the front facade would make room for a porch that could enhance street life with activity. As seen in Calthorpe's (1993) illustration, Figure 31, the alley will provide an entrance to the garage, an entrance to the accessory units above the garage and an alternative space for children to play and people to interact.



Figure 31. Conceptual perspective of an alley by Calthorpe (1993)

There are some examples of alleys that fit and function well in the town pattern in U.S. but it is arguable that there is a need for alleys in the suburbs. The streets in suburbs are already under-utilized, and taking away more of their functions will tend to decrease the activity level and vitality of the street. Also an alley adds to the infrastructure and maintenance costs, which will be reflected in price of homes and property taxes. As seen in Figure 19, the lineal feet of streets will increase up to 35%. Figures 32 and 33 show the plan and the actual view of an alley in Kentlands, Maryland. The actual view is quite different from the depiction seen in Figure 31. The middle of the block is sacrificed in order to make the block seem clean and public from the outside. What is created is a vehicular domain in the middle of the block as well as a vehicular domain surrounding the block.

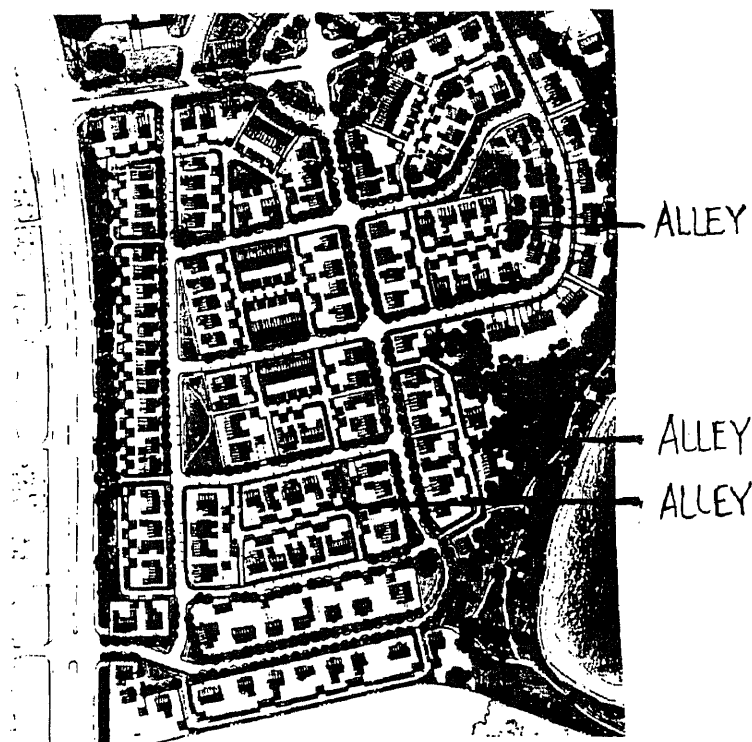


Figure 32. Partial plan of Kentlands, MD (Duany and Plater-Zyberk, 1991)



Figure 33. View of an alley in Kentlands, MD

This pattern was quite different in Radburn, New Jersey, which was a residential community designed by Stein and Wright and developed in 1928. Shown in Figures 34 and 35, the main idea in Radburn was to minimize the vehicular domain and maximize the pedestrian domain of the town. The houses are served with a vehicular cul-de-sac and a pedestrian passage which can be called a pedestrian alley. The vehicle domain is around the block and penetrates into the block without cutting it in two. The pedestrian alleys open up to a central green space that forms the spine of the development. Radburn utilizes a superblock scheme for the vehicular traffic

but this turns into small blocks in the park at pedestrian scale with the help of pedestrian alleys, whereas the new urbanism proposes small blocks for people and pedestrians.

In Radburn, the middle of the block provides a green space that all the houses are exposed to. This green also ties the neighboring blocks with an underpass, creating a landscaped pedestrian spine in the town. Meanwhile, the new urbanists' alley creates another vehicular spine that turns out to be quite an unpleasant space for pedestrians. Also alleys bring an added complexity to the street system, increasing the number of intersections. More efficient solutions to eliminate the garage from the front facade and gain access to the accessory units can be developed without using the alley,

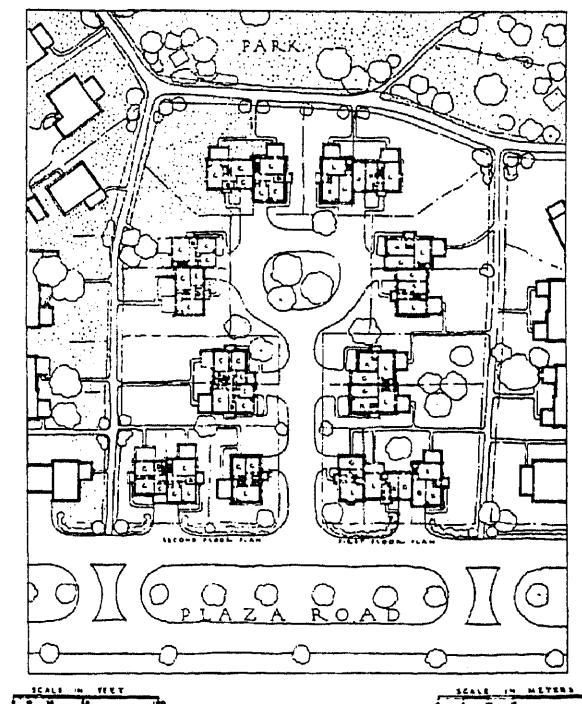


Figure 34. Partial plan of Radburn, NJ, by Stein and Wright (Stein, 1957)

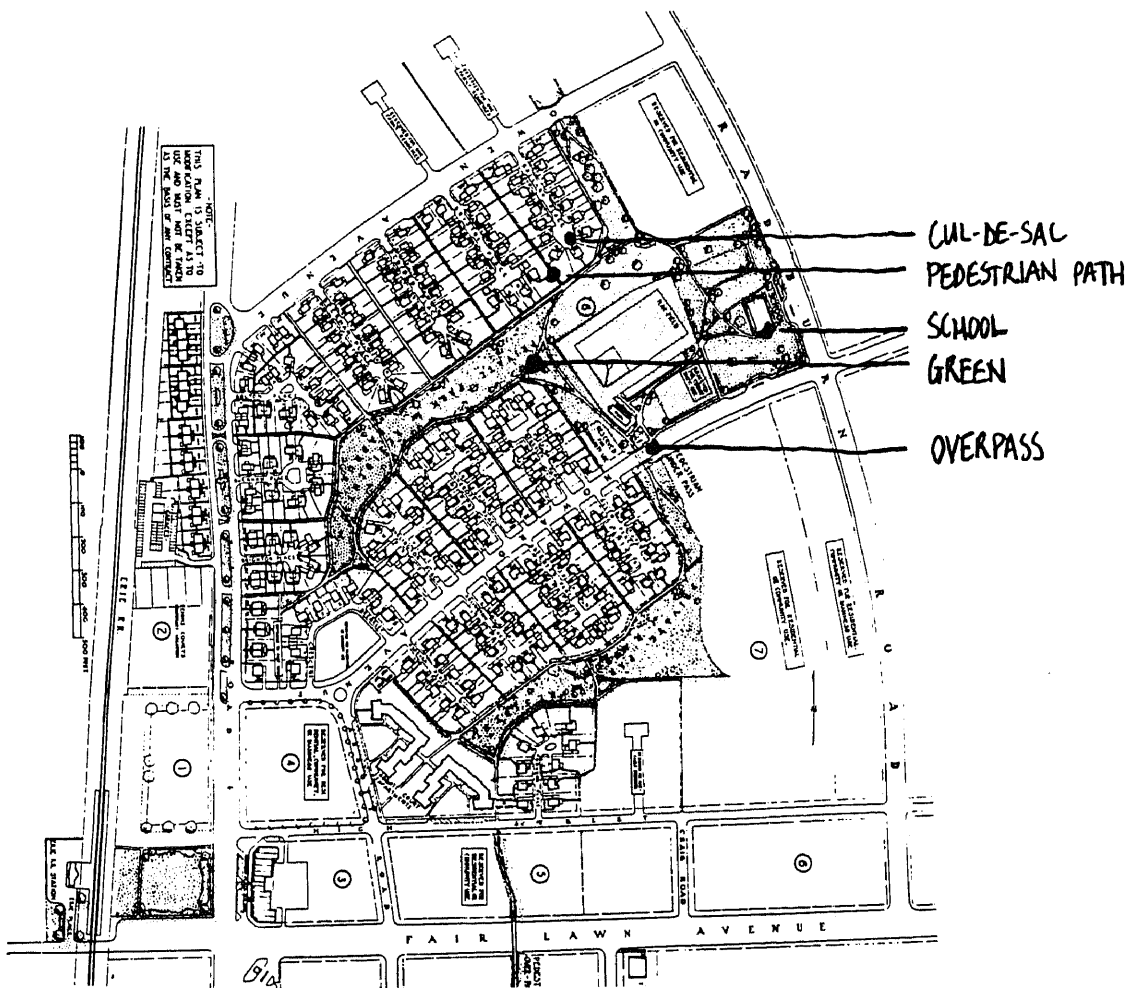


Figure 35. Plan of Radburn, NJ, by Stein and Wright (Stein, 1957)
 Note the pattern of pathways and streets penetrating the block: one pedestrian path, one vehicular street. In new urbanism, this pattern is one vehicular street and another vehicular alley.

3.2.4. Town Center and Nodes

In the new urbanism, special attention is given to creating town centers and town nodes. Usually the commercial center becomes the town center which includes commercial and office activities. Within the neighborhoods some other sub-centers or town nodes are developed. These sub-centers include recreational activities, small scale commercial activities, neighborhood civic activities like the church, the school, the library, or other public facilities.

The new urbanists define town nodes as intersections of main streets or important avenues. For example in Kentlands, Maryland, the school, daycare center and the church are placed on opposite corners of an intersection of the main avenue and a street (shown in Figure 36). The recreation center is also a node on the main avenue, created by the intersection of four streets with a main avenue. The main avenue splits into two, marking the ground of the public recreation center in between. The other church and the town center lie on the boulevard, at the intersections with other avenues.

The square that the church, the daycare center and the school face is an important node in the town of Kentlands. This node lies at the intersection of the Tsciffely Avenue, which is the main avenue and Kent Oaks Way, a residential street. To accentuate the importance of this node, designers chose to enclose the intersection with two circular rows of trees. Further implying the importance, a circular roadway that accommodates some

parking spots is inserted between the rows of trees. In the end, the node turned into five different vehicular intersections, instead of one, confusing the motorist and the pedestrian. Students need to cross more streets to get to the school, just as other pedestrians do trying to reach their destinations. The only positive goal achieved is scenographic --the perception of a place from the car. At a pedestrian scale, this town node turns out to be too wide, too dispersed to be considered a place.

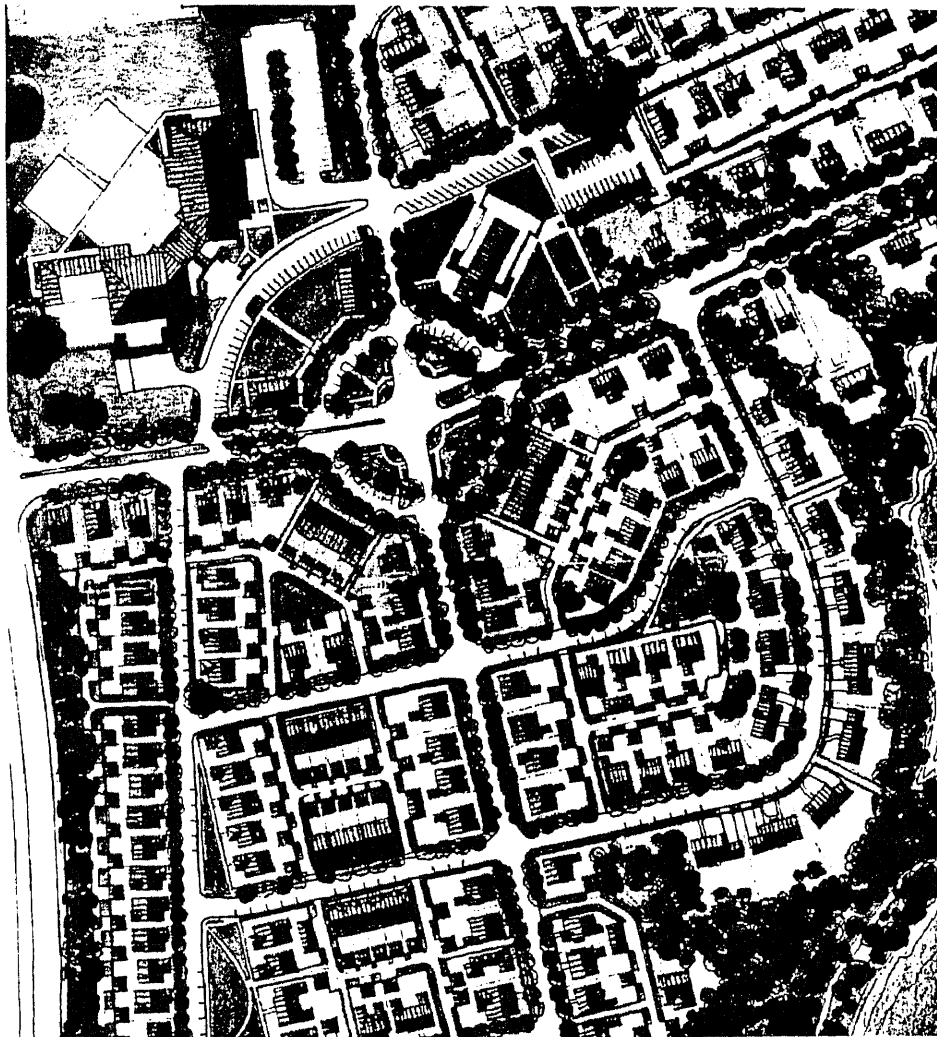


Figure 36. Partial Plan of Kentlands, MD (Duany and Plater-Zyberk, 1991)

An alternative approach to design the same node (seen in Figure 37) could be re-routing one of the streets to simplify the vehicular intersection and moving the surrounding buildings closer together to define the space better at a pedestrian scale. At the node, the pavement would differ from the avenue to slow down motorists and enhance the safety of pedestrians. With the same pavement, a lane will run around the green to service the buildings but major parking will be provided behind the buildings. The middle row of trees on the avenue will be discontinued to support the unity of the place.

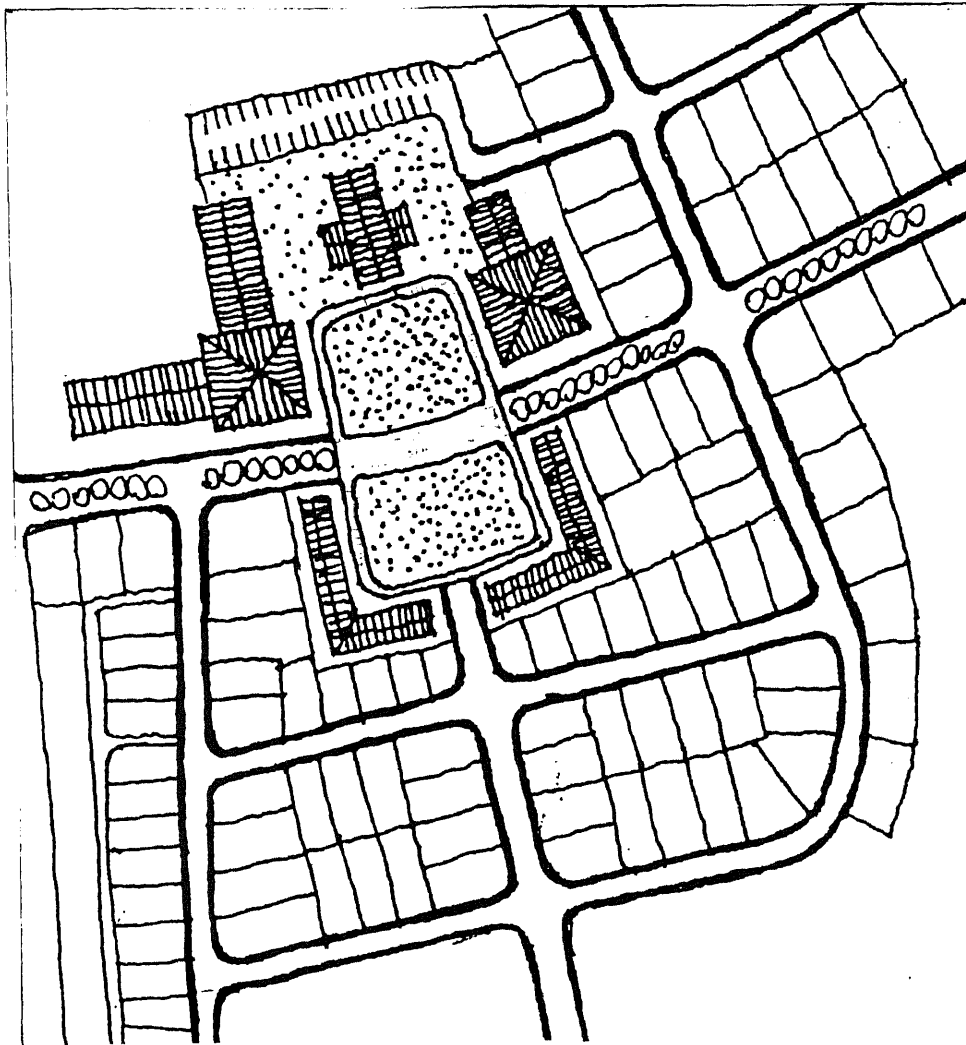


Figure 37. Alternative Proposal for Kentlands, MD

Placing town centers at intersections directs both vehicles and pedestrians to the center, and this will create problems for pedestrians getting to the node. As seen in Figure 38, the Laguna West town center implies a gathering of people as well as a gathering of cars, as it is placed at an intersection of two avenues: one coming directly from the highway, the other connecting the center with surrounding neighborhoods. Pedestrians trying to get to the town center will have to cope with multiple lanes of traffic. Coming by car proves to be as painful, because a gathering of cars may lead to congestion during peak hours.

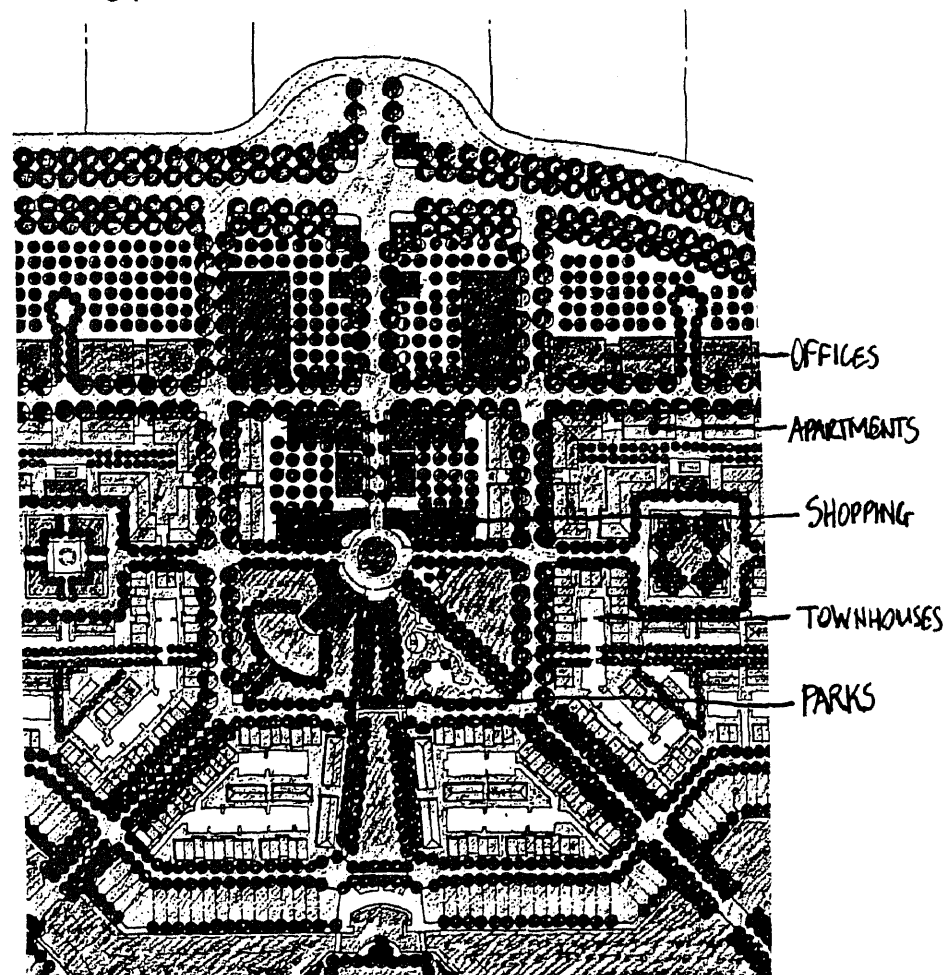
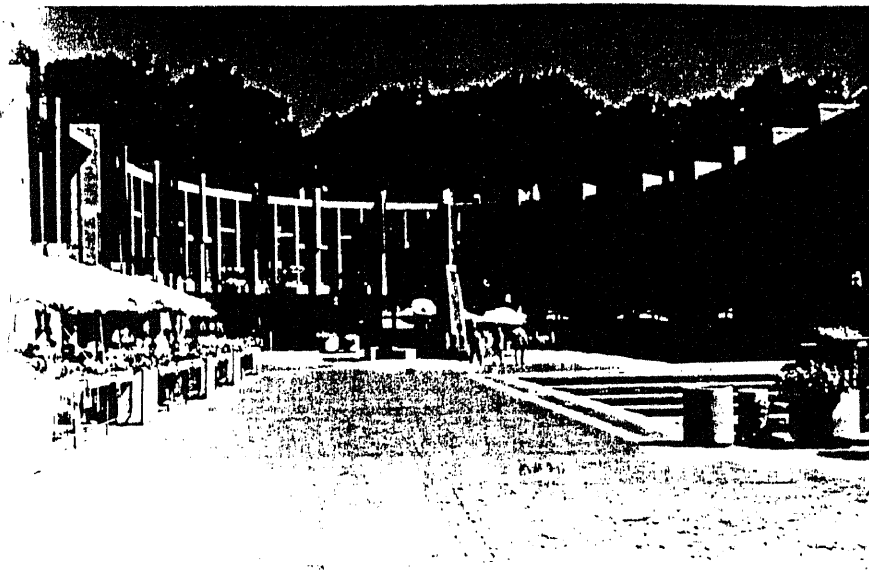
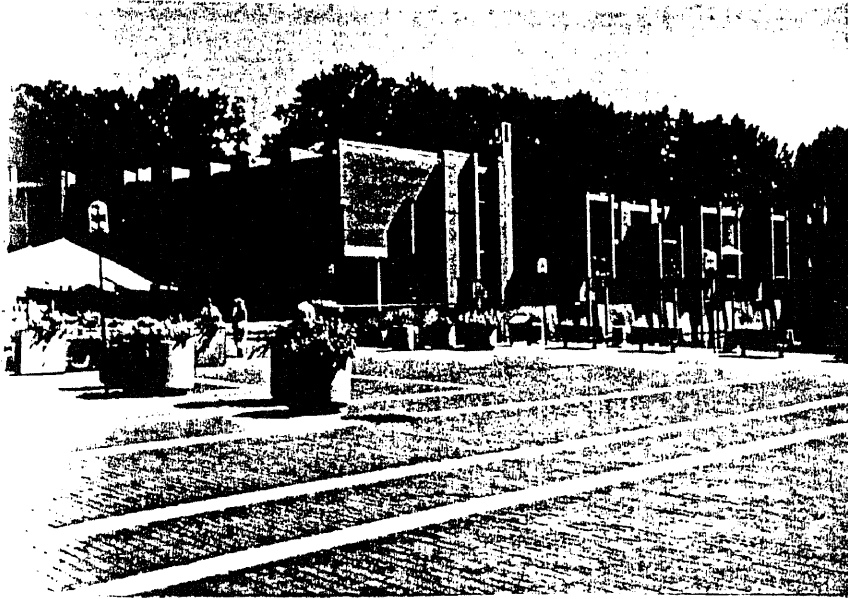


Figure 38. Partial plan of Laguna West, CA by Calthorpe (Calthorpe, 1993)

At Laguna West, traveling along the main avenue, one actually observes one's destination from the car, for example the corner store, but in order to get there, the car needs to be parked way in back of the store. The image of the store is perceived from the boulevard, but to actually get there, as a pedestrian, you do not have to travel on the boulevard, you will go through the back door of the store facing the parking lot. This takes a variety of activities, especially pedestrian activities off of the main avenue.

In Reston, Virginia, the same situation is addressed with a different design alternative. The gathering of pedestrians and the gathering of cars is differentiated spatially in the Lake Anne Village center (see Figures 39 and 40). The gathering of pedestrians is encouraged by a pedestrian plaza and several pedestrian routes that emerge from the plaza. Two of these pedestrian routes lead to the parking lots placed at the back of the buildings, and the other two lead to the housing areas. The residential zones are dense around the center, with high-rise apartments and condominiums developed as part of the center. Since half of the population of the village lives within just a 5 minute walk away from the center, pedestrian activity is always present and the center is lively most of the day.



Figures 39., 40. Views of Lake Anne Village Center, Reston, VA.

CHAPTER 4

ALTERNATIVE PROPOSAL FOR KENTLANDS

An alternative proposal for an existing new urbanist development will help clarify the criticisms made in Chapter 3. Kentlands, Maryland is chosen as the site for an alternative proposal because it incorporates the typical characteristics of the new urbanism town model. The project consists of residential, recreational, commercial and office developments. The town pattern is the grid street pattern with small blocks, a main street, narrow residential streets and alleys. The town is 80% finished, and mostly occupied. Construction is ongoing; a small office and residential portion of the project remain unbuilt. A town pattern --physical and social-- has been established at the location and it is ready for a survey.

4.1 A Brief Analysis of Kentlands, MD

Kentlands is 13 miles northwest of Washington D.C., within the boundaries of the town of Gaithersburg. The 352-acre site was originally the farm of Kentlands. As the Washington metropolitan area sprawled in all directions, the farm, located close to the I-270 known as the "Technology Corridor", became a favorable location for development. In this respect, the site is a typical location for suburban sprawl, exemplifying the destruction of valuable farmland on the fringe of a metropolitan area for developing suburban residential, office and commercial space.

As Kentlands is not a complete town by itself, it does not contain the complete line of civic, commercial and recreational activities of a town. The town hall of Gaithersburg, on the opposite side of the I-270 shown in Figures 41 and 42, cannot be reached from Kentlands without a car. The business district of Gaithersburg, composed of suburban office parks, also cannot be reached without a car.

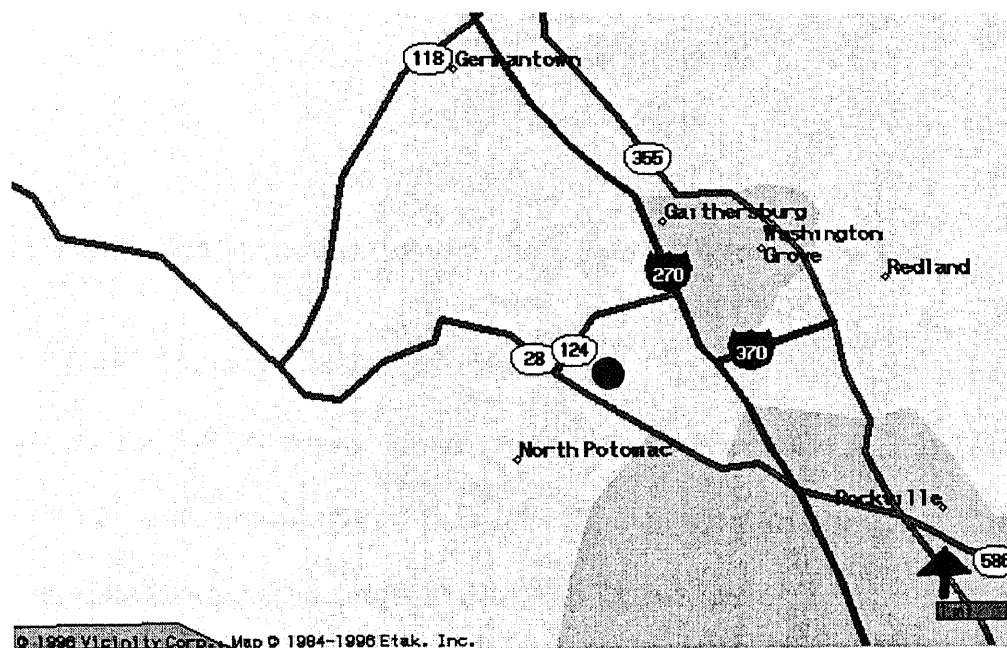


Figure 41. Location of Kentlands, Maryland. The black dot shows the site of Kentlands. Washington D.C. is towards the lower left corner of the figure. Town Hall of Gaithersburg (marked with a small circle) and office development within Gaithersburg is on the opposite side of I-270 from Kentlands.

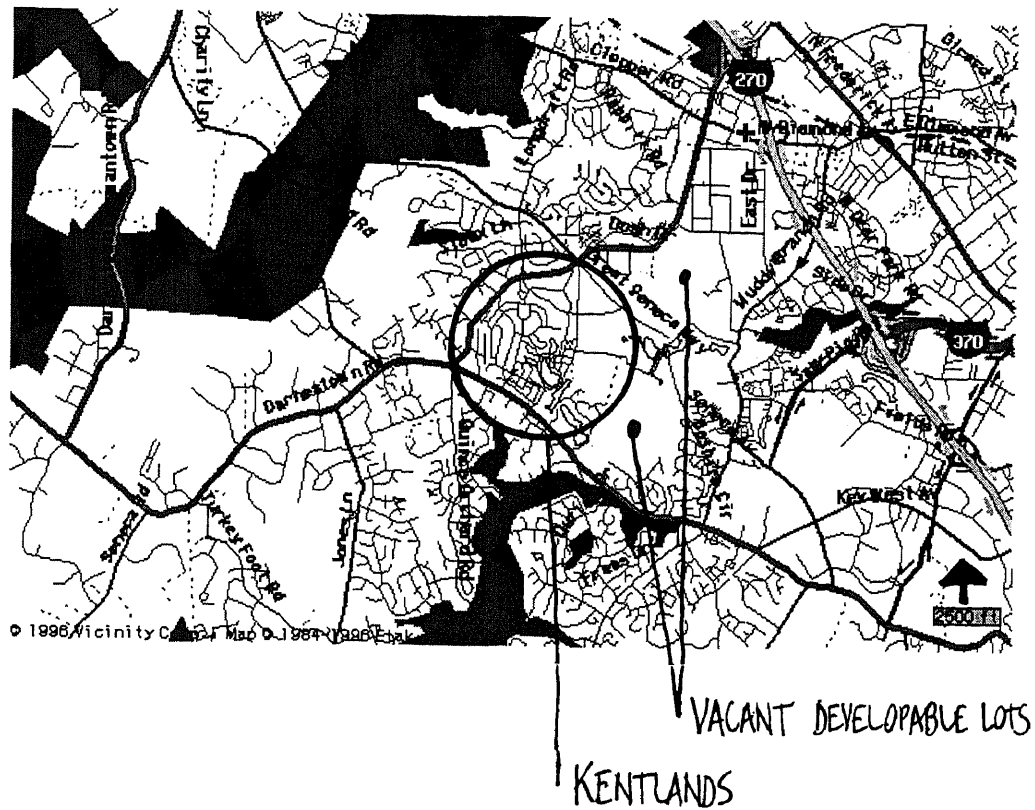


Figure 42. Location of Kentlands, the circle represents the site.

The 352-acre site of Kentlands, surrounded by residential subdivisions, office parks, commercial strips and vacant lots (shown in Figure 42), was zoned mixed-use with the intention of providing a regional commercial center. The original program consisted of:

- 1600 dwelling units of a variety of types
- 1 million sf. office
- 1.2 million sf. commercial
- One elementary school

- One library
- One child-care facility
- Two places to worship
- One meeting house
- One recreational club house

In the original proposal, shown in Figure 43, the site is developed into two districts: a commercial and office district towards the east and north of the wetlands and a residential district towards the west and south of wetlands. Commercial and office sections are proposed around a boulevard that runs between the two highways along the site. Offices are along the boulevard and the commercial buildings are placed on three streets that extend from the boulevard to the highway. Each of the streets terminates with an anchor store.

In the original proposal, the residential area is developed along a central avenue and is shaped by a grid pattern of narrow streets. The recreation center and the school and church plaza are placed on the avenue, forming urban nodes in the residential district. A variety of housing types is proposed: single-family detached units, attached units, townhouses, apartments and condos. At nearly 10 units per acre, the density of the residential district is higher than the typical suburban development.

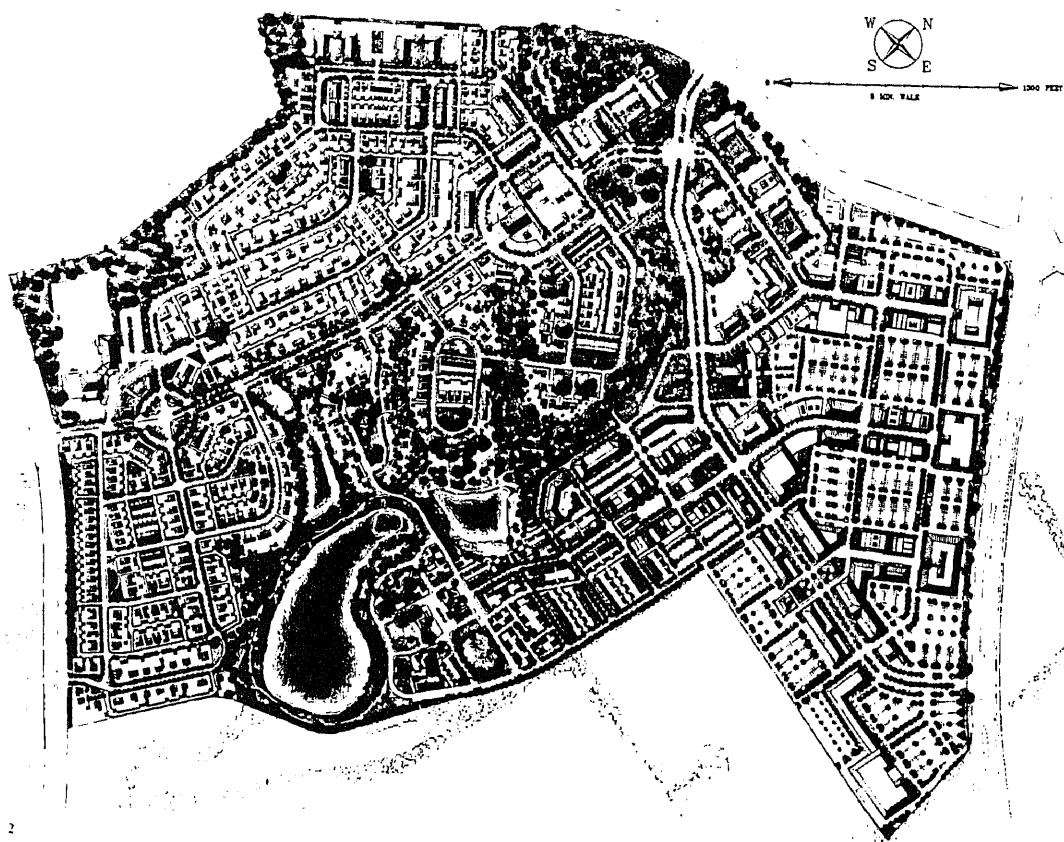


Figure 43. Proposed plan of Kentlands, MD.

In the final plan that is being built, as shown in Figure 44, the housing section is virtually unchanged. The commercial and office district, however, has changed vastly. The size of commercial and office development has been reduced by half (1,000,000 sf. total), reducing its status from a regional center to a mere suburban strip. Most of the reduction is in office space; currently there are no office developments on the site other than a few banks and real estate sales offices. The nature of

the commercial district has also been changed: the big-box stores are now even bigger boxes and smaller shops (that could be owner-operated) are almost completely eliminated from the district, leaving nothing but chain stores. The primary reason for this drastic change is the marketplace. Probably it is easier to get families to buy a traditional-looking house in a traditional-looking neighborhood than it is to get businesses to invest in a traditional-looking shop on a main street.

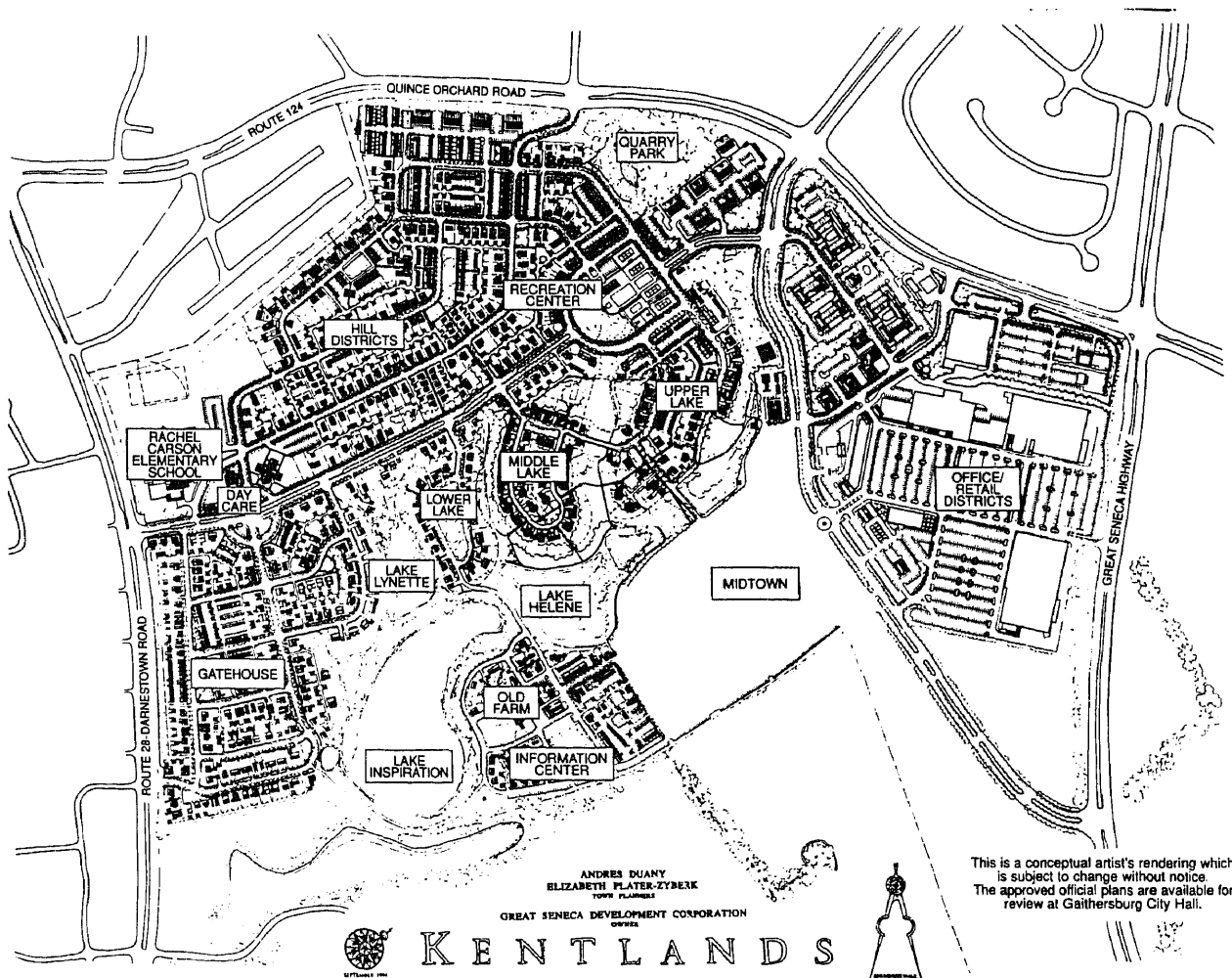


Figure 44. Final Plan of Kentlands, MD (as built)

Currently, the total number of residential units planned for Kentlands is 1507, of which 467 are single-family units, 508 are townhouse units, 292 condominium units and 240 apartments. Although a variety of housing types is offered, neither affordable housing nor low-income housing is included in the development. The houses appeal mostly to middle or upper income families. The single-family houses range from \$240,000 to \$1,000,000; townhouses range from \$235,000 to \$260,000; and rental apartments range from \$850 to \$1400 per month. The new urbanists are criticized for working solely, or mostly, on middle and upper income suburbs. They use the traditional American town as a formal model to shape chic and trendy suburbs.

The drastic reduction in office space in Kentlands leaves low-paying commercial jobs as Kentlands's primary form of employment. In the middle and upper-income residential area, the jobs created will be unfit for the residents, eliminating the possibility of living and working in Kentlands. With a distinct separation between the residential and commercial districts by the wetlands, the possibility of walking to shopping is significantly reduced. These factors, and the fact that the site does not retain good connections with surrounding sites, make Kentlands an example of nobody-is-walking-anywhere kind of suburban subdivision--just the opposite of the stated intentions of the new urbanists!

4.2. Intentions for Alternative Proposal

The main intention behind this alternative proposal is to adopt a *regional* strategy that would enable sustainable development on both the site and the surrounding undeveloped sites. To the northeast of the Kentlands site, just across the Great Seneca Highway, there is approximately 500 acres of undeveloped land (Shown in Figure 45). The northern side is mostly developed but large pieces of vacant land are available for infill. To the northwest of the site is a residential subdivision with no room for further development.

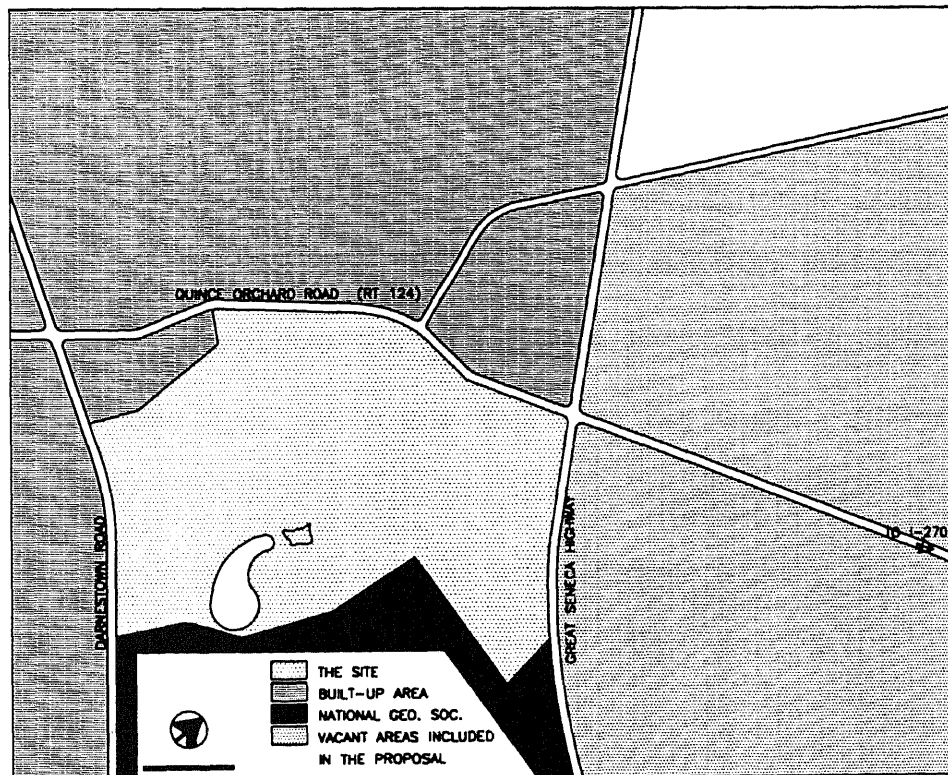


Figure 45. The site of Kentlands and its surroundings

All this available land, in the middle of a mostly developed suburb along the I-270 technology corridor, provides the opportunity for developing a mixed-use regional center, instead of another suburban subdivision. Redirecting a region's growth into centers will enable delivery of the largest number and greatest diversity of opportunities to the largest number and greatest diversity of people (Yaro and Hiss, 1996). Besides this, other advantages of developing a regional center are listed below:

- With the generation of a dense and mixed-use center, the Washington D.C. regional public transportation system can be extended towards Gaithersburg. Other towns in between (Rockville, Randolph Hills, Bethesda and Chevy Chase) will also benefit from this public transportation link, shown in Figure 46.
- Concentrating growth in a regional center will take pressure off the surrounding areas, enabling the preservation of valuable farmland, nature and irreplaceable open space and improving the region's environmental conditions.
- A dense and mixed-use center will promote walking as a way to commute within the town.
- A dense and mixed-use center will be more efficient in terms of land use and infrastructure compared to sprawl. Together with public

transportation and walking, the development will also optimize the use of energy.

A dense town center could absorb future commercial and office demand of the corridor and be developed piece by piece, following demand. This town center would be surrounded by a variety of residential areas, that will be well connected to the center. The connections will be established with streets as well as a public greenway that becomes the pedestrian spine of the town. This greenways, shown as pedestrian routes in Figure 47, will be bordered by public buildings, community buildings and dense residential units. Residential neighborhoods will be developed along extensions of the greenway so it will become an element that ties the residents to town life.

The development of a vibrant town center should be encouraged by incentives such as cheap public transportation and placing public services and amenities to the town center. Additional development along the corridor should be discouraged until the town center has reached its potential. This center would contain a variety of activities including office, commerce, recreation, arts, cultural and civic activities. This variety of activities will give the development the characteristics of a true center, or what Yaro and Hiss (1996) describe as “24-hour-a-day” community. Even though it will not reach to 24-hours-a-day, the activity level of the town center will be higher than typical suburban centers; activity will not stop

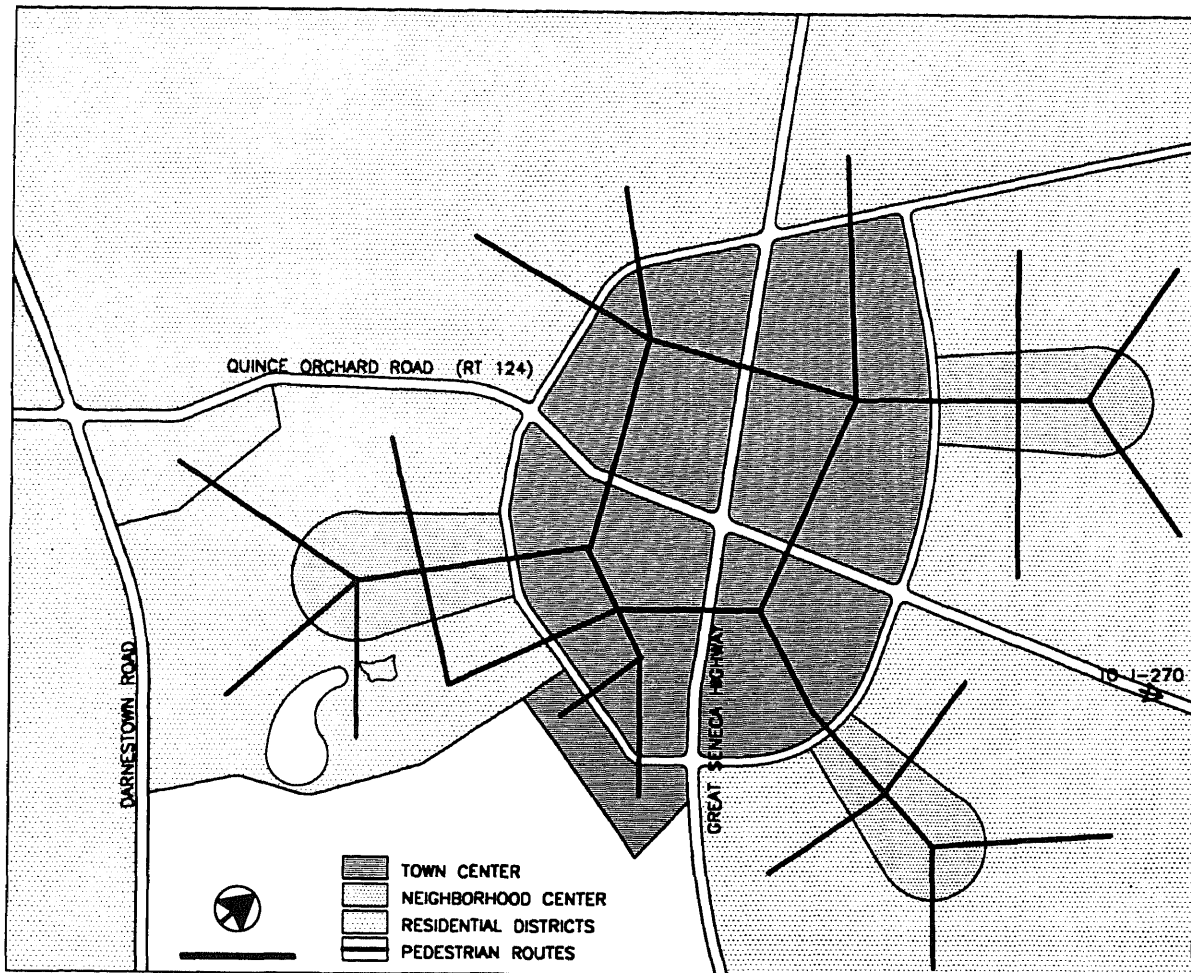


Figure 47. Proposed regional center

The variety of residential units offered in the proposal include:

- Large-lot detached single-family units
- Small-lot cluster detached single-family units
- Zero-lot-line detached affordable single family units
- Attached affordable single-family units

- Multi-family townhouses
- Garden apartments abutting the greenway
- Lofts and studios on the boulevard

The total numbers of residential units in Kentlands and in the alternative proposal are:

	Kentlands	Proposal
Single-family	467	500
Town houses	508	550
Condominiums	292	450
Apartments	240	400
Total:	1507	1900

A dense development will produce lower land and infrastructure costs, allowing such things as affordable housing and elderly housing within the pattern. The garden apartments abutting the greenway have the advantages of opening up to a green space, closeness to the town center and its activities and proximity to public transportation. Affordable housing is also proposed as town-house neighborhoods close to the center and close to affordable transportation.

4.2.1. Design Principles for Alternative Proposal

■ Simple and efficient street network

A simple and efficient street network will minimize the infrastructure costs, therefore making more funds available for other public amenities. The proposal is to use large blocks and minimize the number of streets. These large blocks will be further divided with pedestrian walkways to ensure good connectivity within the development. Large blocks will reduce the total area allocated to streets, thus, enabling denser development and lower lot prices per residential units. The proposal consists of one boulevard, one central loop street, six neighborhood streets and two connectors to the surrounding roads.

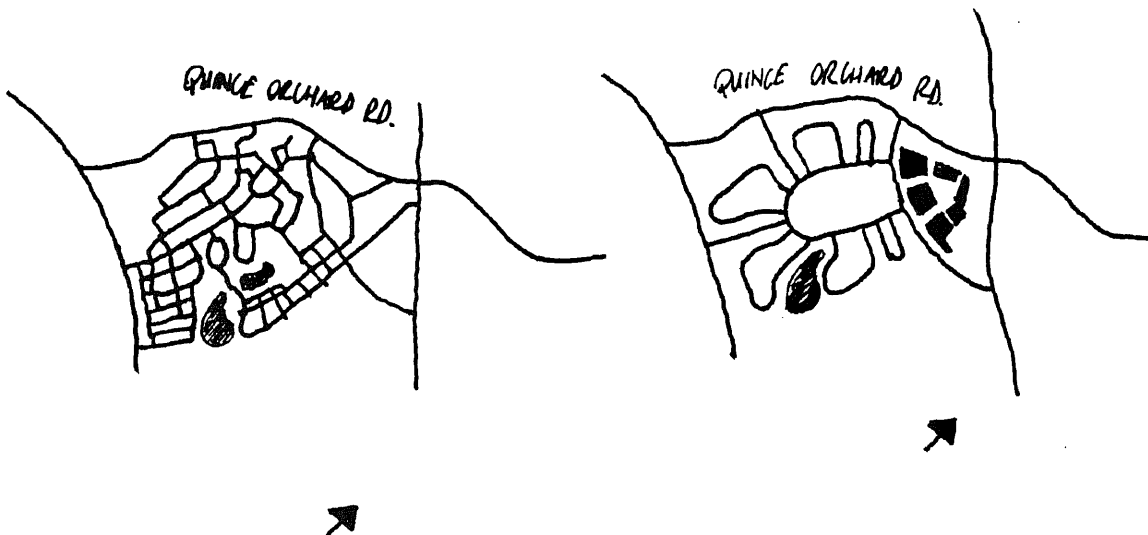


Figure 48. Comparative diagram of new urbanist street network and the author's proposal. New urbanist scheme to the left.

■ Public Green as a spine of the development

The proposal is to develop a green spine that will link the residences to the town center. This spine will also accommodate the church, the daycare, the school, the town club as well as other active and passive open space uses, and apartment buildings with shops on the ground floor. A public green provides good connection (and in some cases separation) between residences, town nodes and the town center. Placing public, communal and recreational buildings on this spine will increase vitality and usage of the spine.

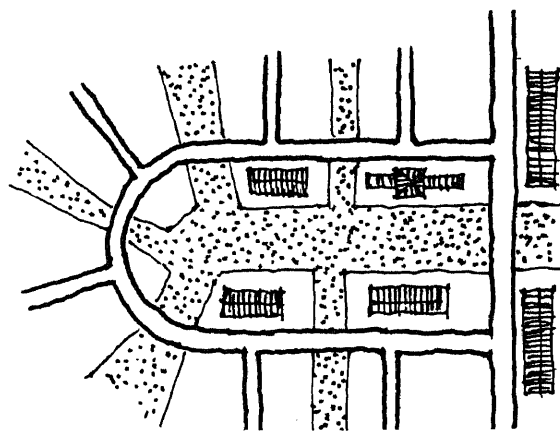
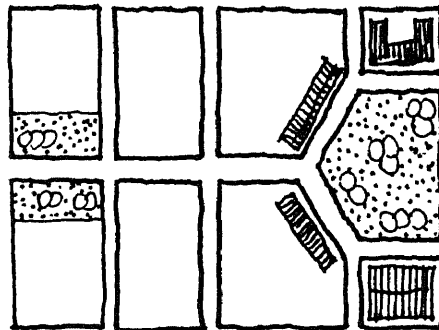


Figure 49. Comparative diagram of new urbanist public green and the author's proposal. New urbanist scheme on top.

■ Gathering of people instead of gathering of cars in town nodes

Instead of a town center that is an intersection of two avenues within the town, proposed by the new urbanists, the alternative would be a central pedestrian plaza. The plaza will be the primary location of civic activities and will be surrounded with a variety of activities to ensure its vitality. The vitality will be further promoted when it becomes the hub of public transportation of the development. This will reduce congestion during peak hours and encourage people to walk.

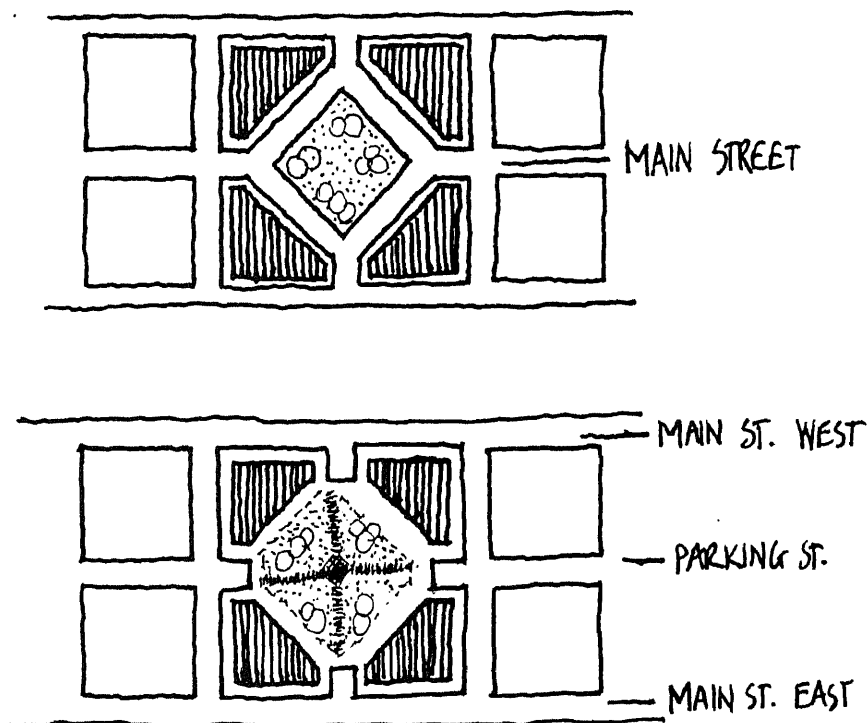


Figure 50. Comparative diagram of new urbanist town center and the author's proposal. New urbanist scheme on top.

■ Central Boulevard defined with mixed-use buildings.

Unlike the suburban strip mall or the office park, mixed-use buildings will provide continuous activity for the town center. The residential units on the upper floors offer flexible studios or lofts for different demands. Meanwhile, the ground floor will be occupied by commercial activities such as stores, restaurants and bars adding a variety of activities to the development.

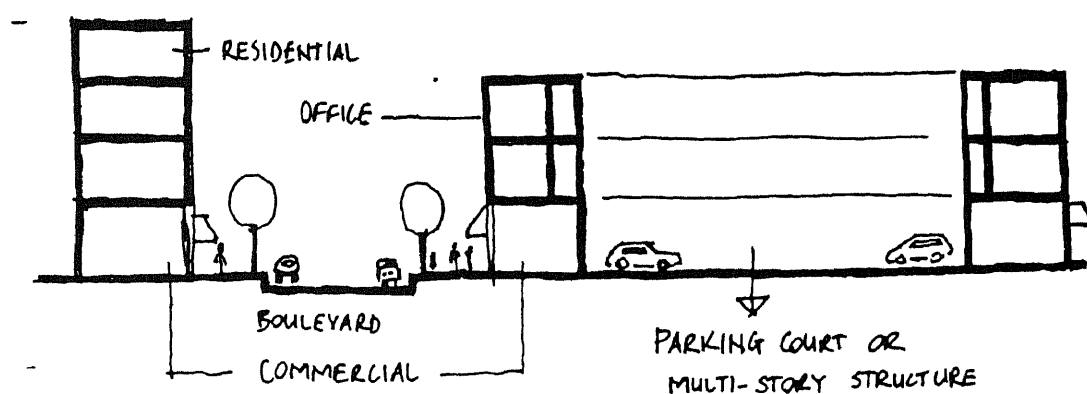


Figure 51. Proposal for a dense and mixed-use boulevard.

■ Parking lot and structures enclosed by buildings

A parking court or parking structure in the middle of the block, enclosed by buildings, will provide the necessary amount of parking for the offices and reduce the ocean of cars within the development. Together with pedestrian streets in the town center, enclosed parking will also encourage office employees to walk within the town for shopping or lunch, instead of taking the car.

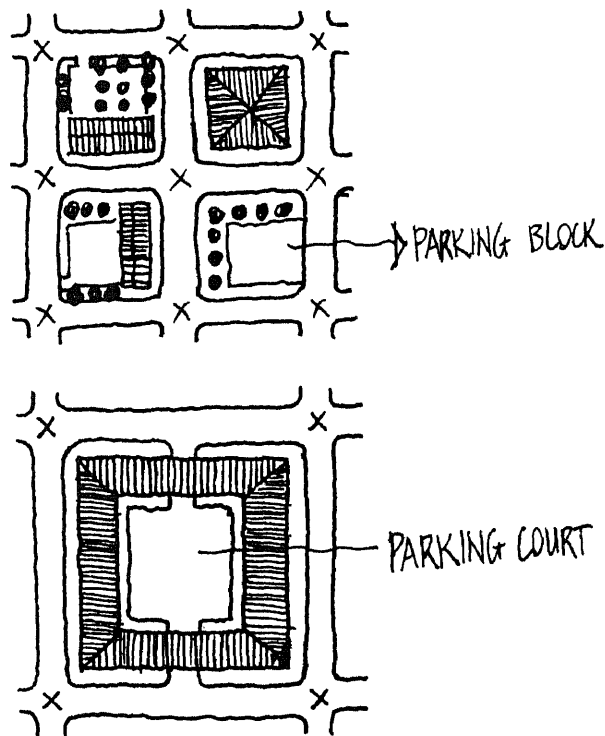


Figure 52. Comparative diagram of new urbanist traffic and parking pattern and the author's proposal. New urbanist scheme on top.

■ Shared Driveways instead of alleys.

Shared driveways will reduce infrastructure costs as the linear miles of streets will be reduced. This will enable fewer streets to serve bigger lots, more housing units and more people, eventually, making the streets livelier.

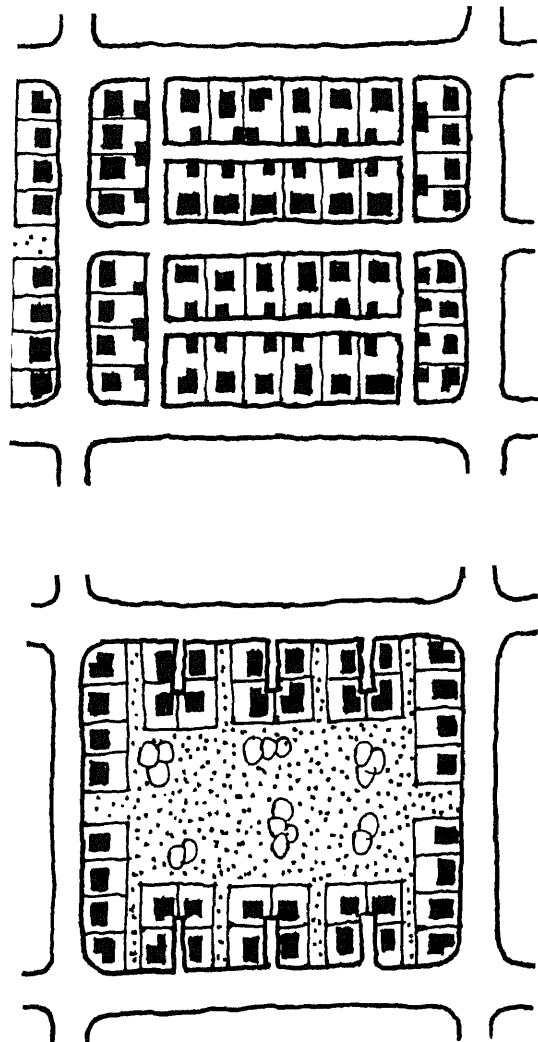


Figure 53. Comparative diagram of new urbanist alleys and the author's proposal for shared driveways. New urbanist scheme on top.

4.3. Alternative Proposal

The alternative proposal for a new pattern is basically shaped around two distinct public spaces: A pedestrian plaza in the town center and a common green space in the residential district. The green space becomes the spine of the community as it contains public buildings like the school, the daycare center, the church and the club. This spine will also accommodate some garden apartments and some shops on the ground floor. The spine will provide multiple uses for public activities within the town: formal green space for gathering, informal green space for recreation, sports fields and playgrounds. This green spine is linked to the neighborhoods via greenways, which lead to smaller common greens in each neighborhood. Unlike the grid, in the proposal neighborhoods are developed around a single loop street and a common green space within the loop.

The town center is developed focusing on a pedestrian plaza and some pedestrian streets leading to it. Big-box stores within the center are surrounded with small stores facing the pedestrian streets to avoid blank wall on the streets. Parking for the offices is provided within the office buildings, so that an ocean of cars is not visible within the town. Parking for commercial and civic facilities within the town center is provided beneath the highways surrounding the site, so that commercial traffic will not become through traffic within the town.

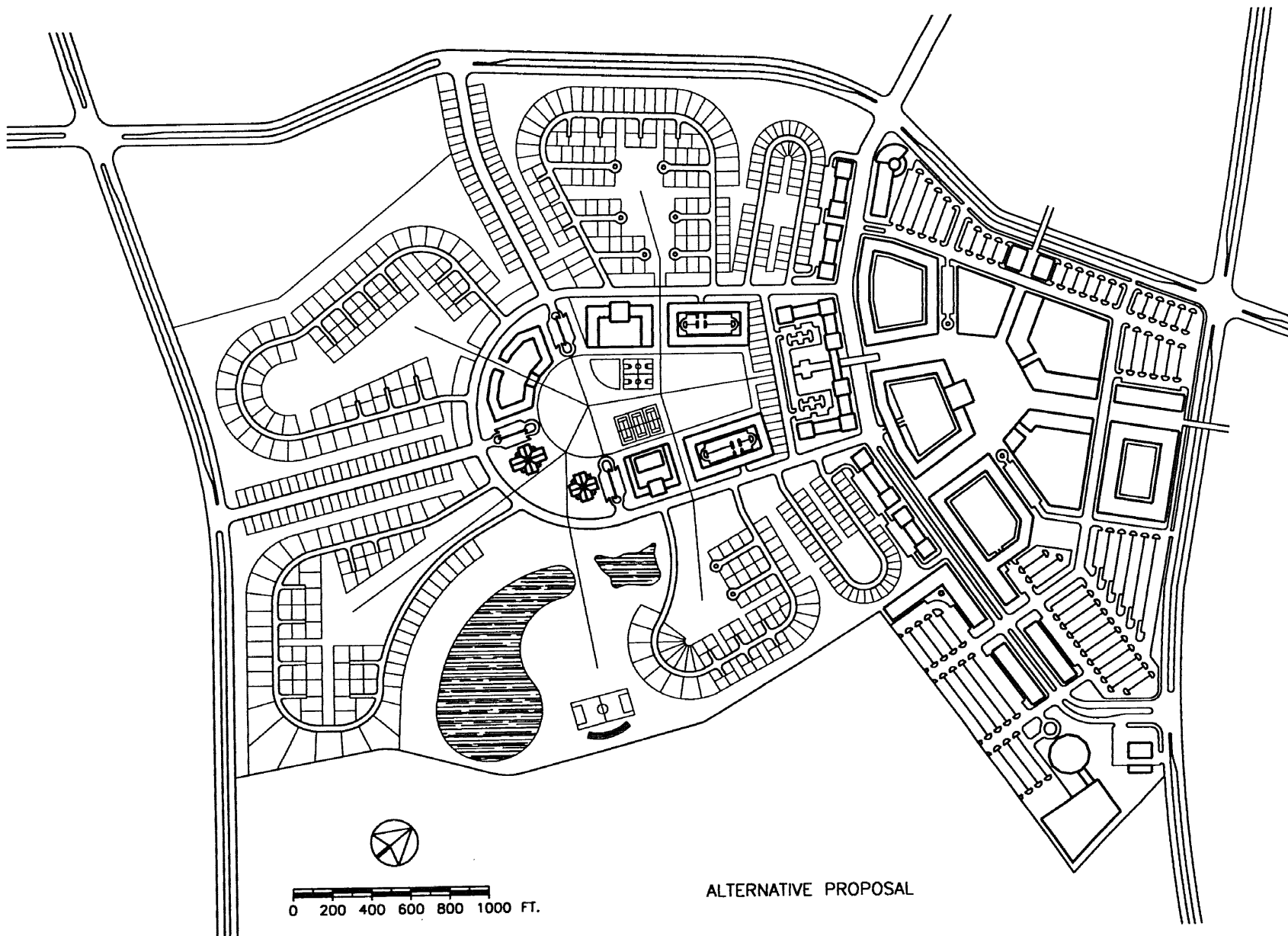


Figure 54. Alternative proposal.

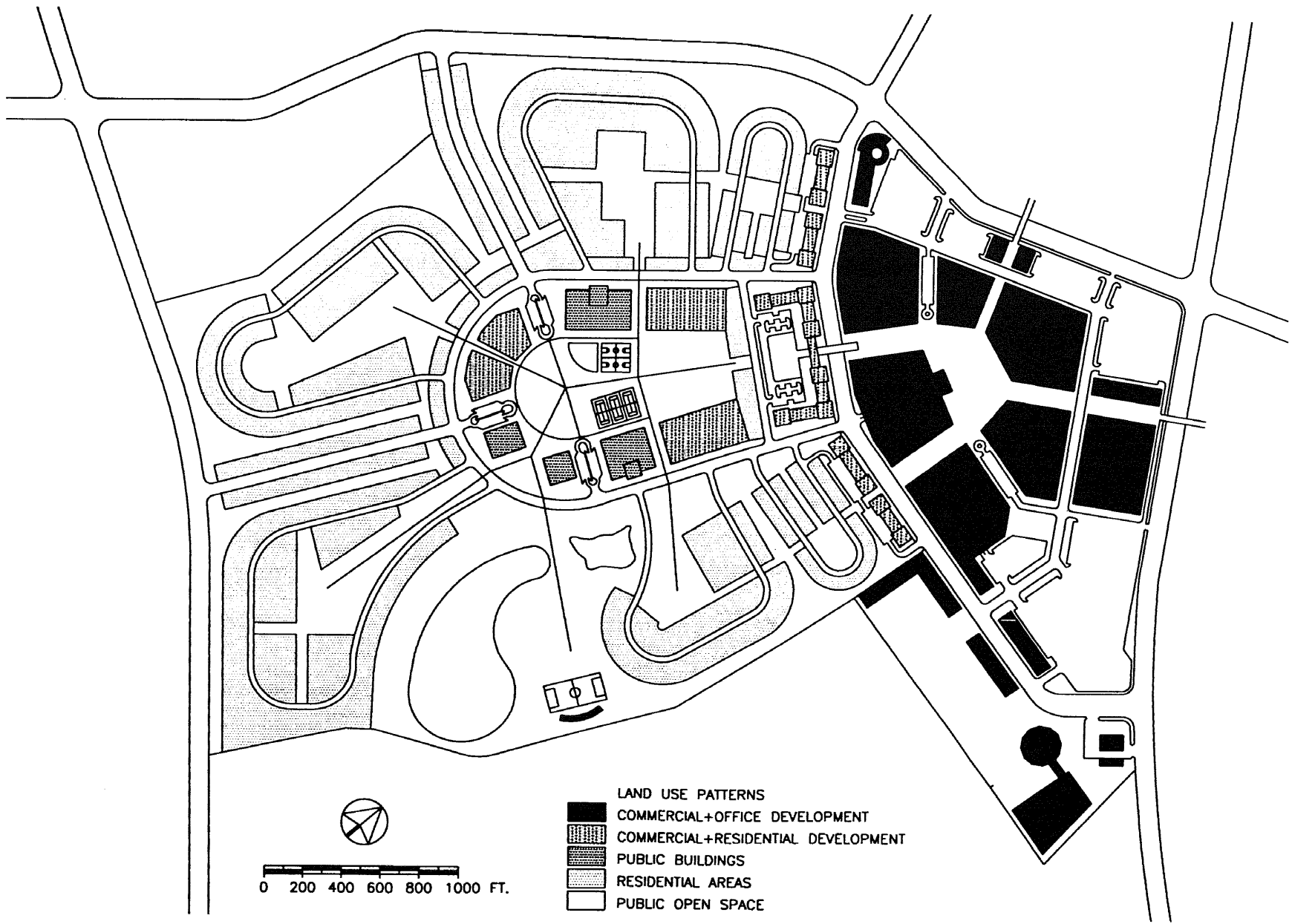


Figure 55. Land use pattern.

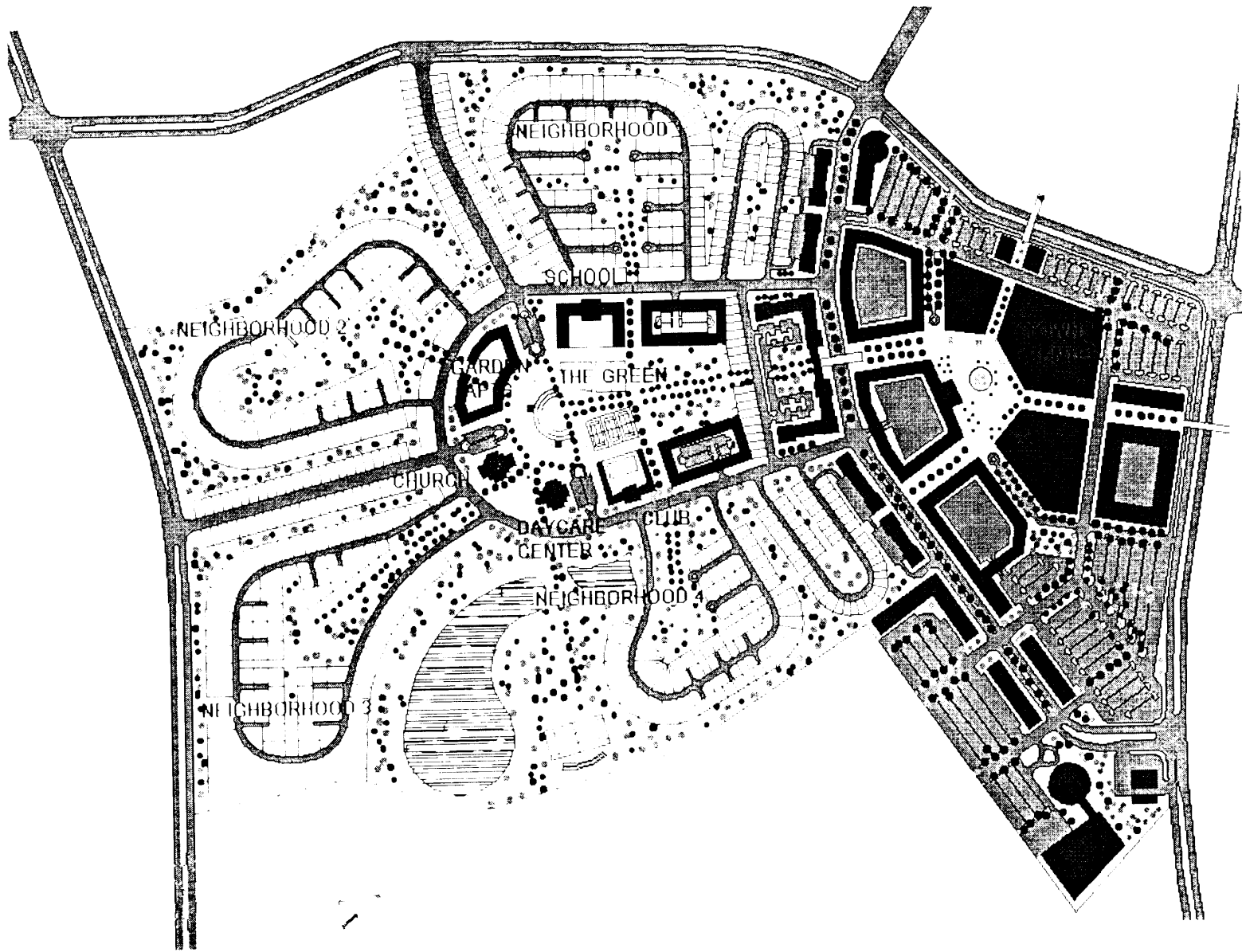


Figure 56. Neighborhoods and districts

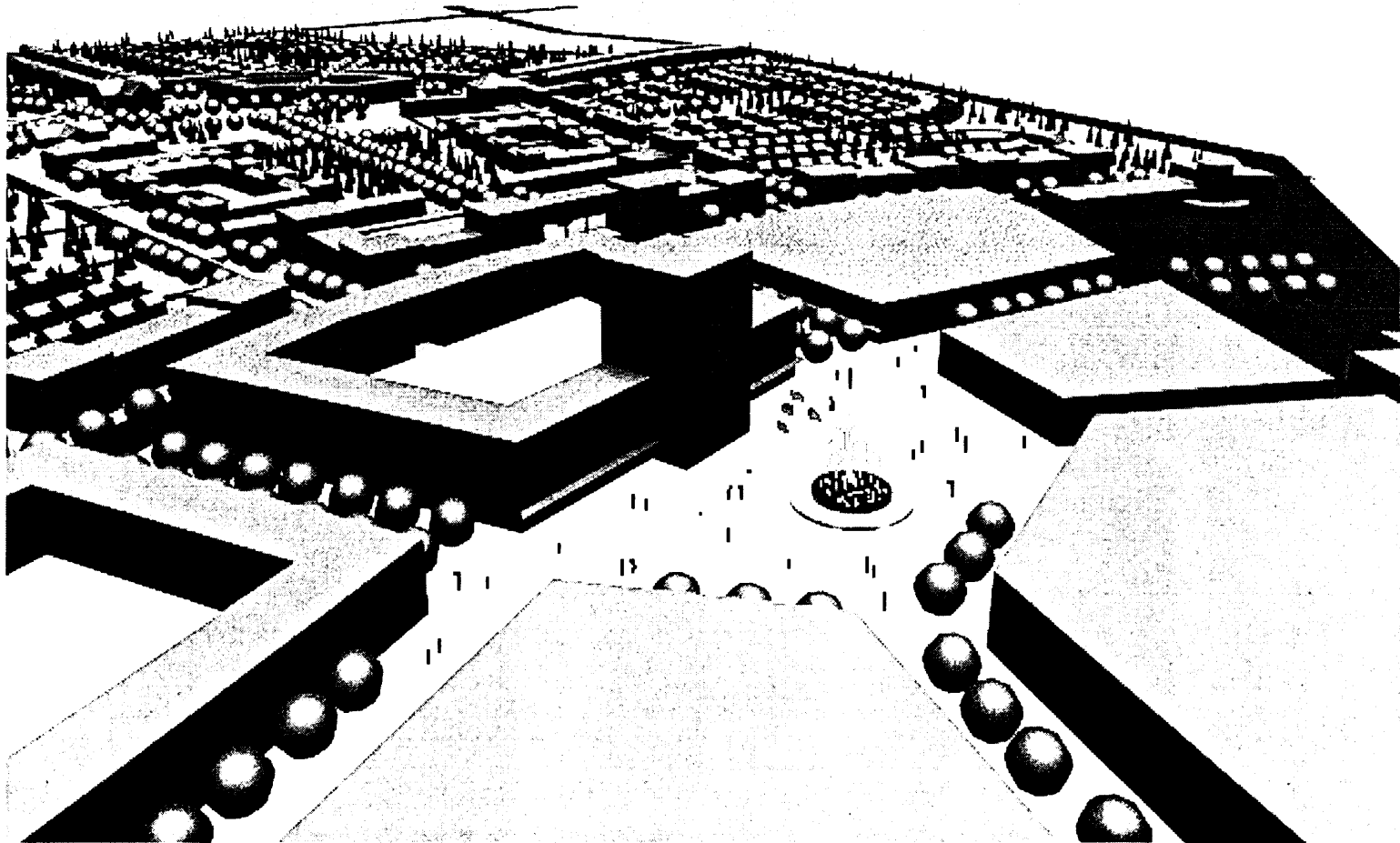


Figure 57. A view of the town center.

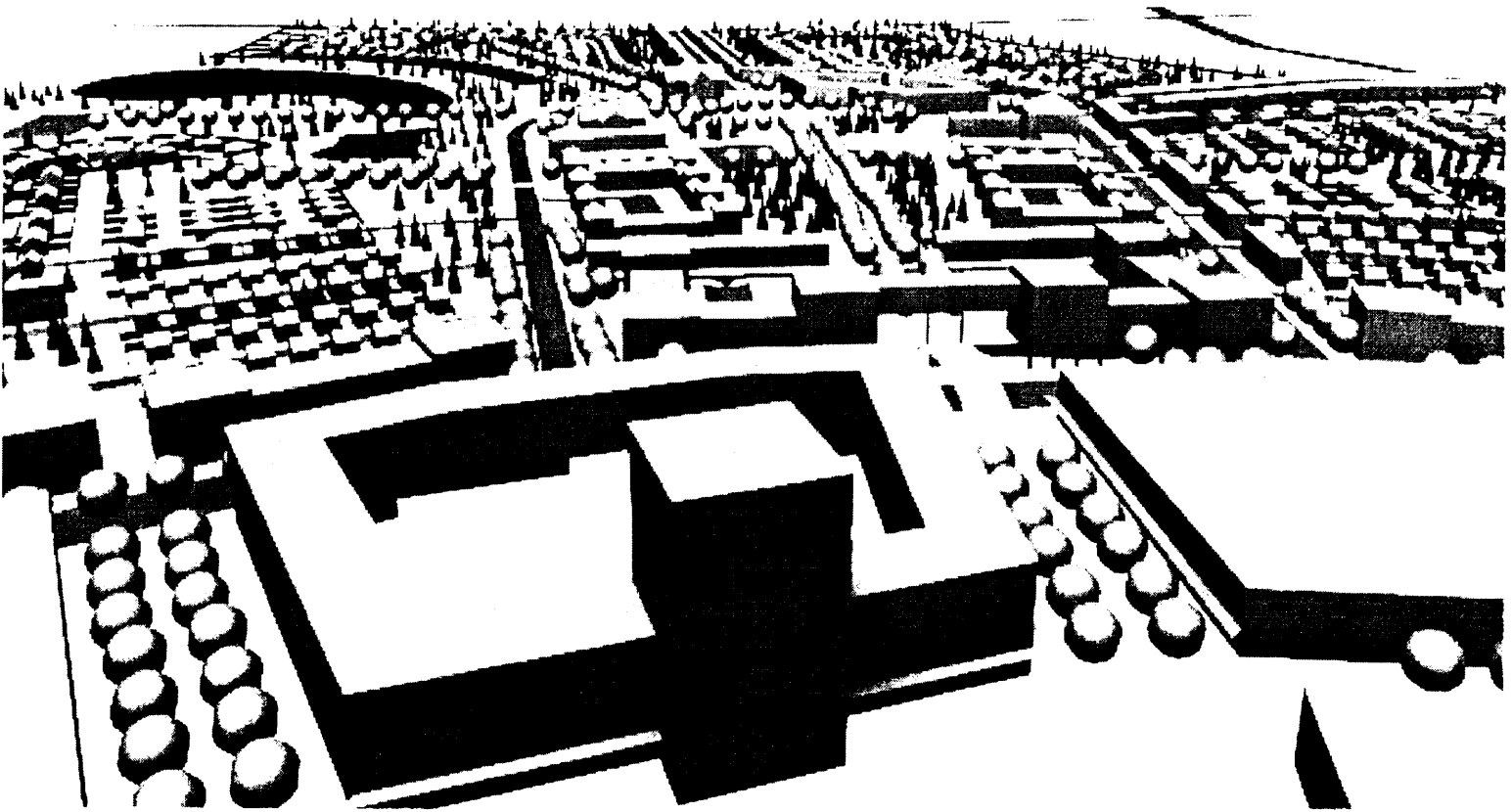


Figure 58. A view of town center and boulevard

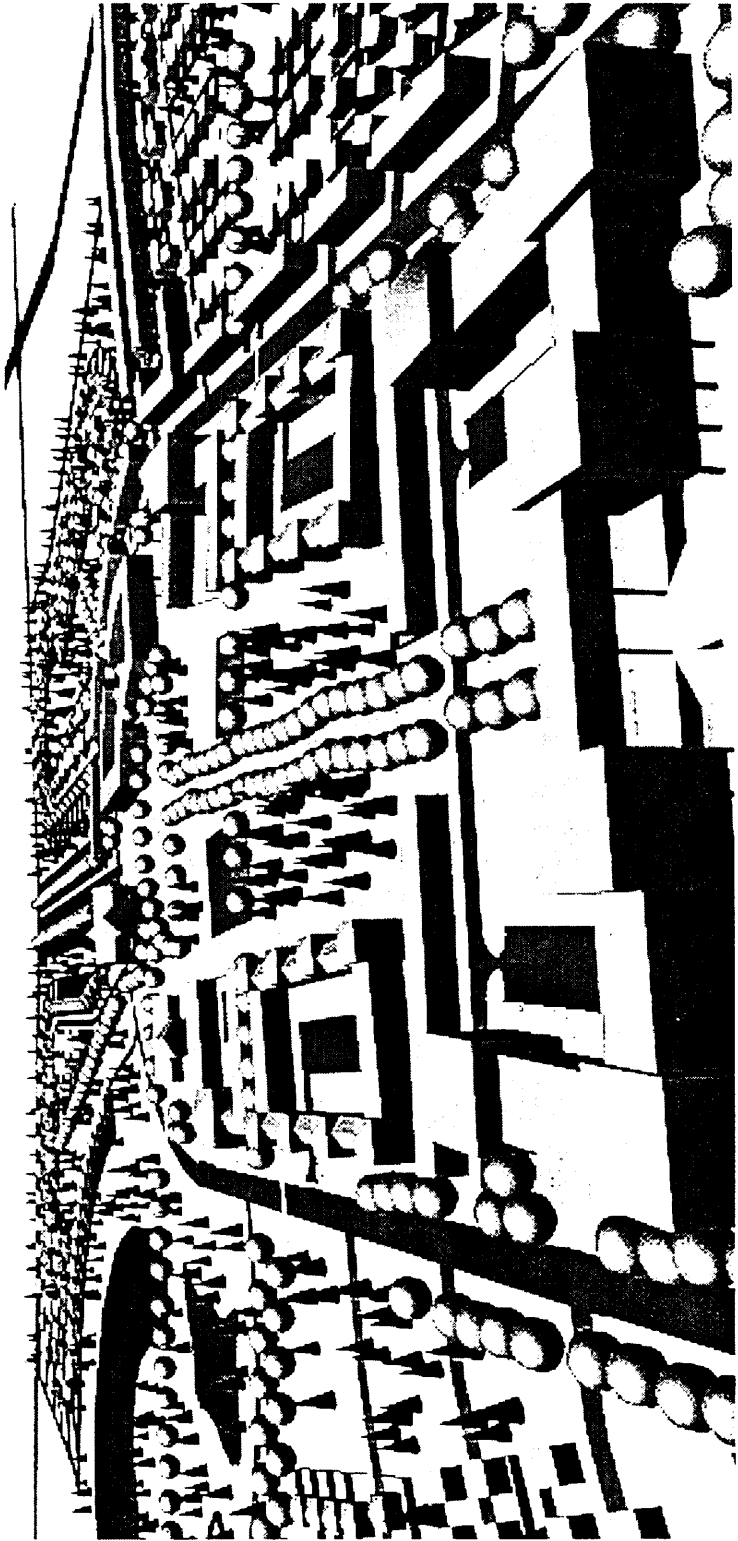


Figure 59. A view of central green.

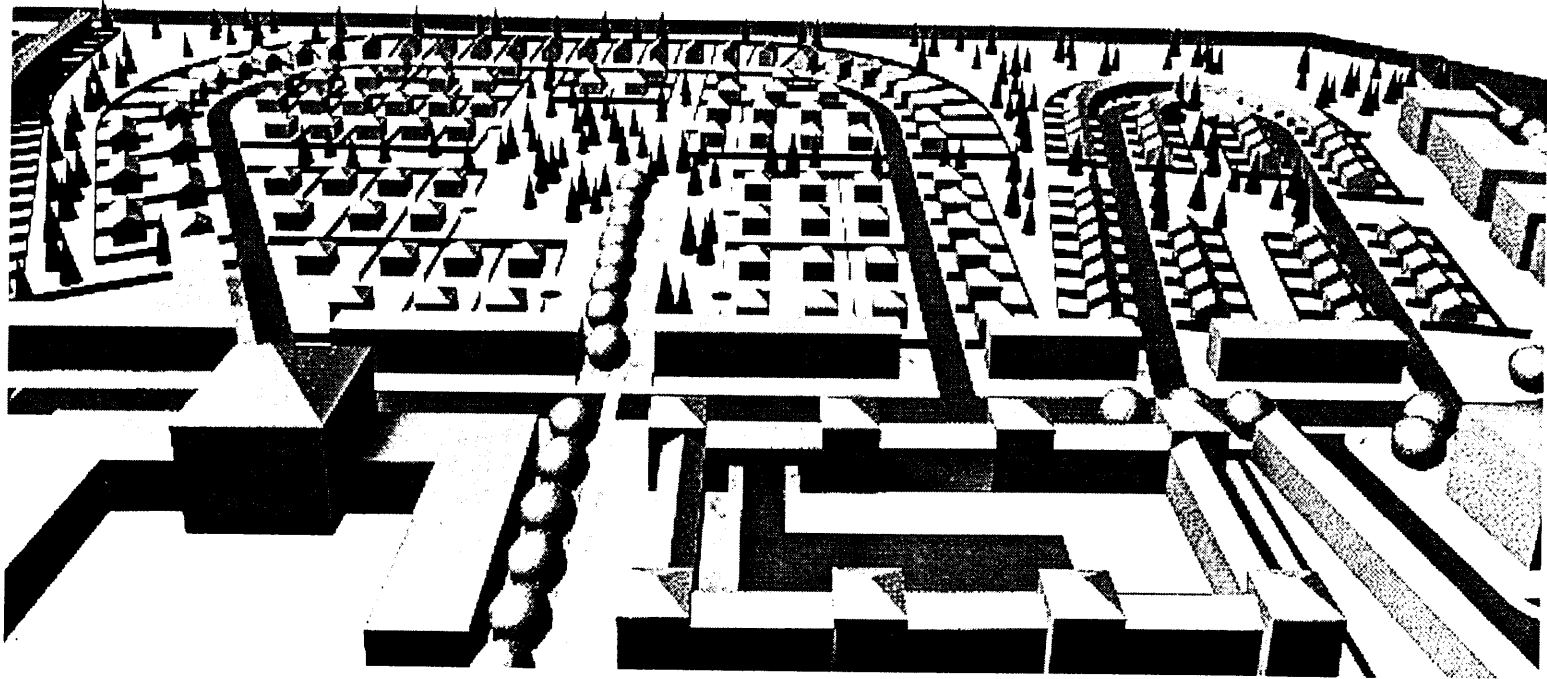


Figure 60. A view of Neighborhood 1.

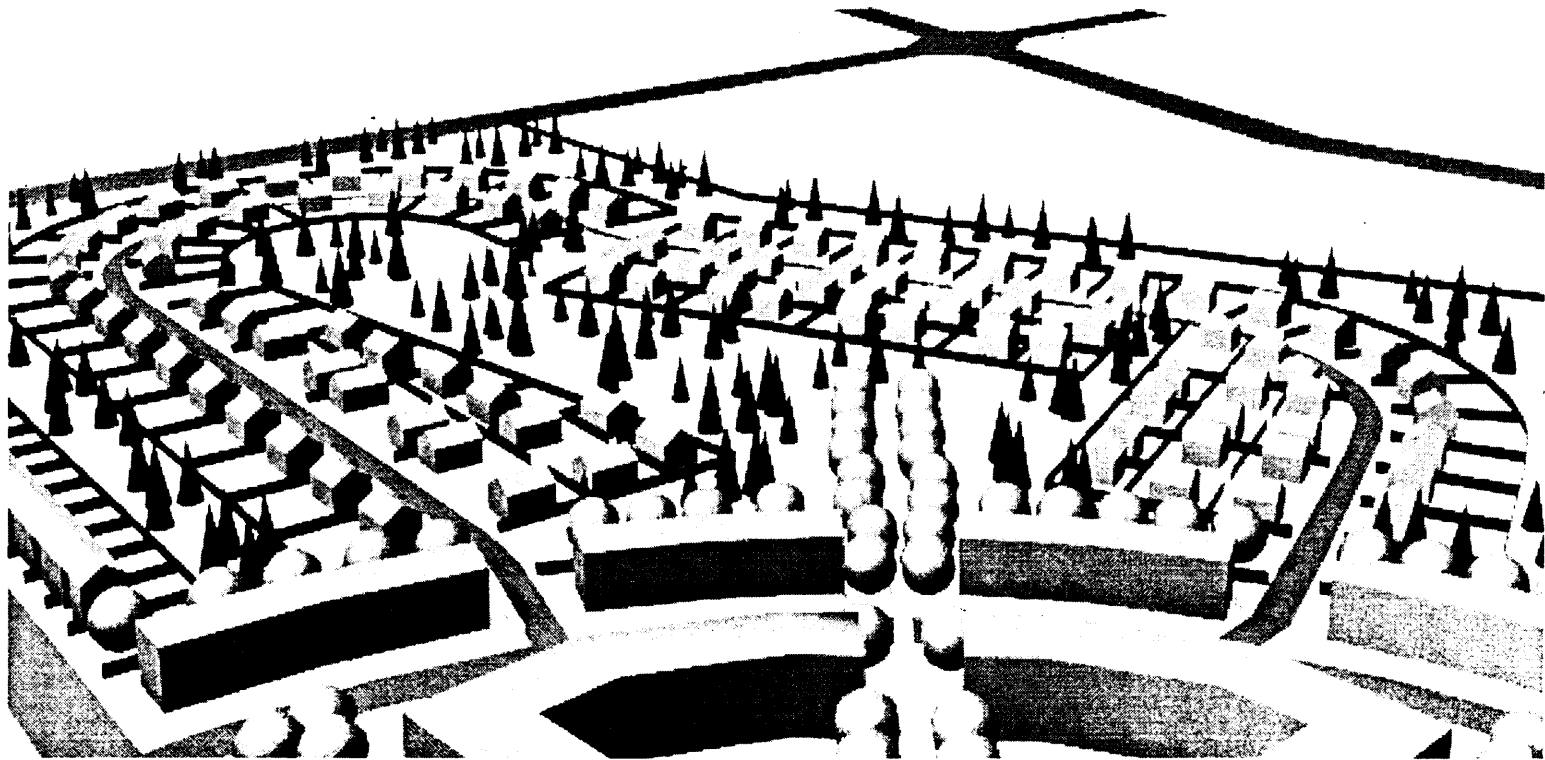


Figure 61. A view of Neighborhood 2.

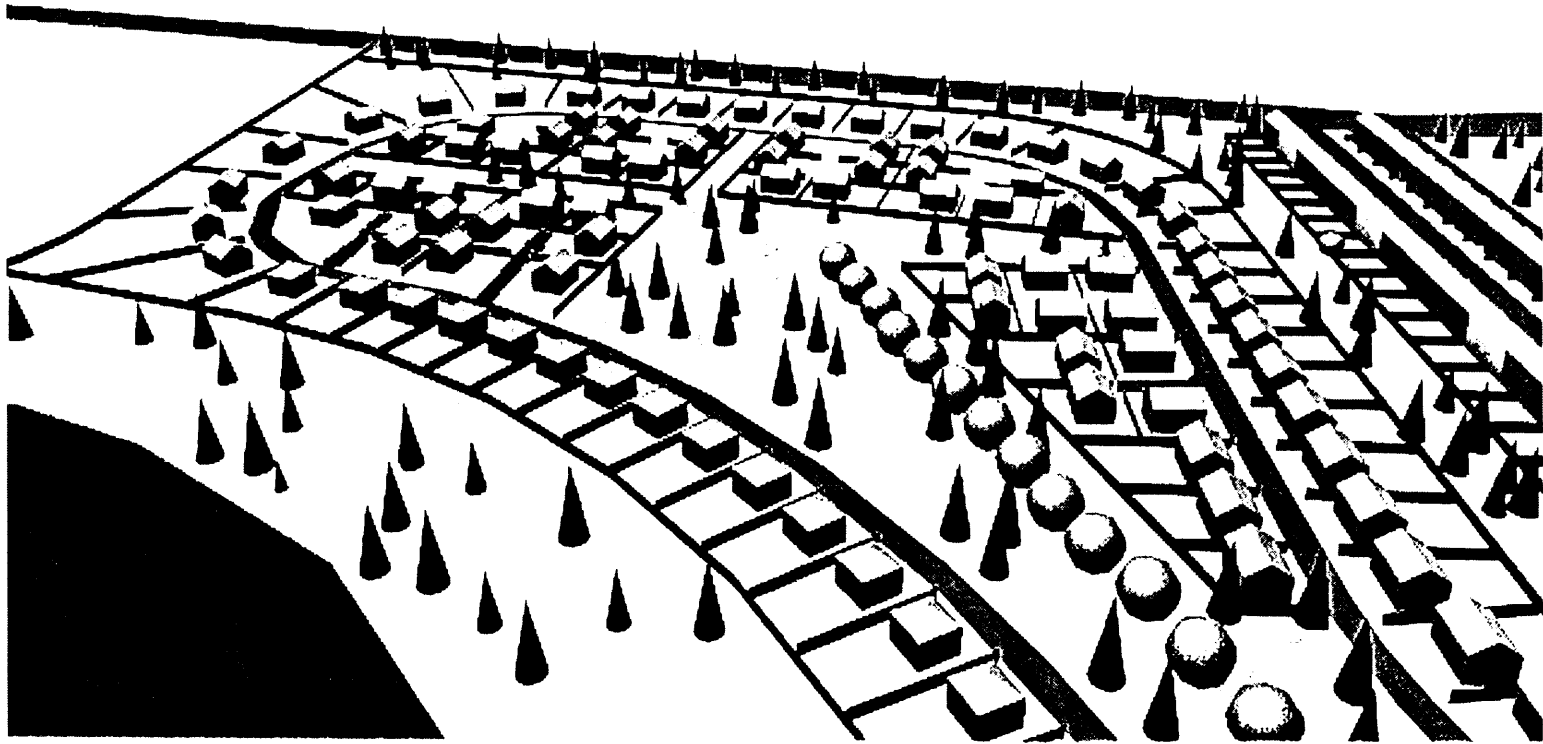


Figure 62. A view of Neighborhood 3

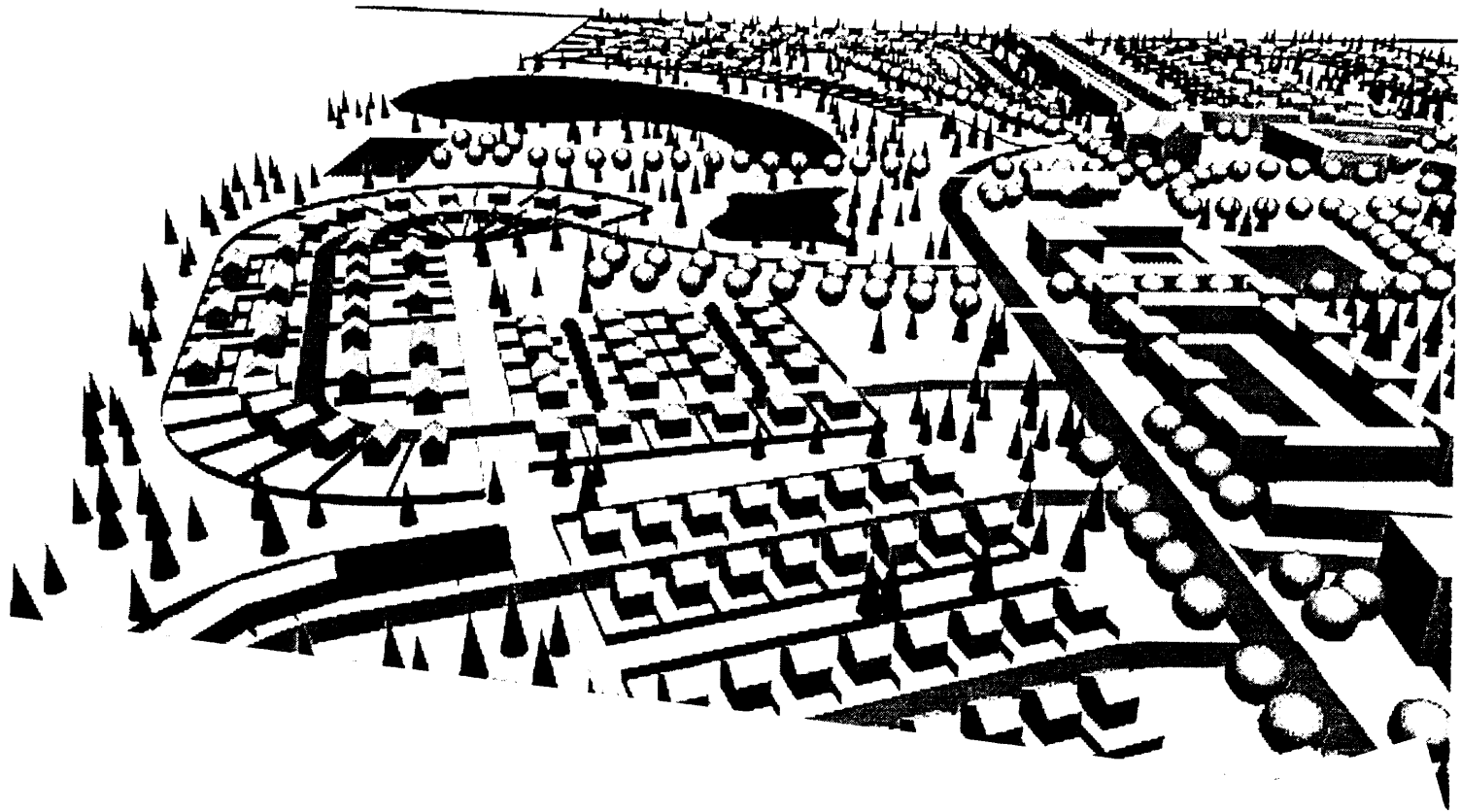


Figure 63. A view of Neighborhood 4

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