A SURVEY OF DESIGN CODES WITH SPECIFIC REFERENCE TO CONTEMPORARY SUBURBAN HOUSING

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...to my beloved parents

ABSTRACT

The appearance of the contemporary suburb is one of its most criticized and problematic features. Architects find themselves challenged by its increasing size and complicated planning issues. These challenges are compounded because traditional methods of control do not specifically confront these issues. A less comprehensive method of control, design codes, has recently emerged to address some of the limitations associated with traditional forms of control. This thesis is a survey of five design codes used in contemporary suburbs. Specific focus is given to examining the organization and objectives of design codes, and what architectural elements are regulated. The survey suggests that the most noticeable features of design codes is that they are specific to a project and site, address unique objectives of a particular community, and specifically address suburban design problems. This underlines the essential role design codes have in reshaping and ultimately improving the diminished appearance of the contemporary suburb.

RESUME

L'apparance de la banlieue contemporaine est l'une de ses caractéristiques les plus problématiques et critiquées les architectes se trouvent éprouvés par la taille croissante et la complexité des problèmes de planification des banlieues. Ces défis sont acrus parce que les méthodes traditionelles de contrôle ne traitent pas spécifiquement ces problèmes. Une méthode moins élaborée le code de design, a récemment fait surface pour combler les lacunes des méthodes de contrôle traditionelles. Cette thèse est une étude de cing codes utilisés dans des banlieues contemporaines. Une attention particulière est jetée sur l'organization et les objectifs du code, et quels éléments architecturaux sont règlementés. L'étude suggère que les éléments les plus remarquables du code de design sont sa spécificité au projet et au site, qu'il rencontre les objectifs d'une communauté particulière, et qu'il s'acharne spécifiquement aux problèmes de design des banlieues. Ceci souligne le rôle essentiel que les codes de design onts dans la transformation, et ultimement dans l'amélioration, de l'apparence des banlieues contemporaines.

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GLOSSARY OF TERMS

Architectural Controls:

Architectural controls refer to five *primary* types of developmental control utilized by *architects*: building codes, deed restrictions, design review, design guidelines, and design codes. Additional forms of control exists such as sub-division regulations, condo agreements, easements, and right-of-ways, and are similar to or fall under one of the primary types of controls.

Architectural Expression:

The term architectural expression is used synonymously with the term architectural style.

Architectural Review Committee (Design Review Committee):

A group of individuals, usually appointed or elected for varying term lengths by a board of directors of a community association or a municipality, to administer and enforce deed restrictions and/or design codes for all new construction and building modifications within a given community.

Architectural Standards:

Architectural standards refer to guidelines in a code which address building materials, landscape requirements and construction techniques and pertain to architectural elements associated with an individual house such as porches, fences and windows.

Building Agreement:

An early form of deed restriction which included provisions attached to the deed of sale to insure a minimum quality of construction and to determine exterior design. Building agreements often included provisions which restricted parapet levels, floor-to-floor heights, window heights, and fencing heights, and were enforced between buyer and seller. See definition for Deed Restrictions.

Building Code:

An ordinance or set of legally binding regulations which address structural as well as the mechanical aspects of a building in relation to public health safety and welfare.

Charleston Single House (side-lot):

The Charleston single house is a particular building design inspired by the side-yard houses found in Charleston, South Carolina. It is characterized by a long, narrow "L" shaped floor plan, with the foot of the "L" housing a garage. The longer leg of the "L" has a blank wall facing the neighbor. A private side yard is located fully towards one side of the house, hidden behind the garage, and accessed by a loggia located along the length of the plan.

Community Association:

A group of homeowners within a designated area which are given authority by election or appointment through provisions in deed restrictions to enforce the deed restrictions and to also monitor adherence to community rules. Membership in community associations can be either voluntary or mandatory depending on the community.

Community Standards:

Community standards refer to those guidelines in a code which address requirements regarding building use, square footage, placement (setbacks), heights, and also refer to site

requirements such as street dimensions, configurations, and parking. Community standards pertain to elements typically regulated by zoning and relate to planning issues.

Contemporary:
The term contemporary broadly refers to post-World War II suburbs; more specifically in Chapter 3, contemporary describes recent suburbs (1970's-present). The term modern is used interchangeably with the term contemporary.

Covenant:
A clause(s) placed in a deed of sale limiting or restricting the use of the property.

Deed Restrictions:
Covenants or other provisions in a deed of sale which legally bind the holder to certain requirements which may restrict future use or modification of land or property by the buyer.

Design Code:
A legally binding form of architectural control which is a synthesis of currently existing forms of control such as building codes, zoning, deed restrictions, design review, and design guidelines. It is intended to explicitly address design issues affecting the physical environment and is directly concerned with issues of external appearance and architectural style.

Design Guideline:
A non-binding form of architectural control which addresses the quality of housing environments from a primarily aesthetic perspective.

Design Review:
A form of architectural control used to monitor the overall design process by administering, guiding, advising, and approving designs.

Edge City:
A term describing newer districts within an urban region—typically mislabeled as suburbs—which develop around highways and airports.

English Bond:
A type of brick bonding pattern which alternates courses of headers and stretchers.

Espalier:
A trellis or framework on which fruit trees or shrubs are trained to grow flat.

Federal Housing Administration (FHA):
A government agency founded in 1934 by Congress to administer the housing insurance program with an ultimate goal of promoting homeownership.

Flemish Bond:
A type of brick bond where each course consists of headers and stretchers laid alternately.

Floor Area Ratio (F.A.R.):
A numerical formula used by zoning ordinances to regulate the density of development. FAR is calculated by the ratio of the gross floor area of a building to the area of the lot.

Individual Guideline:
A term which refers to specific statements within a design code or design guideline.

Mediterranean and Mission/Spanish Colonial Style:
"A Spanish colonial sub-style with arcaded loggias extending along one or two walls to make an entrance (often with a round-headed arch) into the backyard or garage, much more emphatic color and sophisticated play upon arches inside and out." (Sayegh, *Housing: A Multidisciplinary Dictionary* 320)

New England Style:
An historic regional style found in New England States dating from the 17th to the early 19th centuries. The floor plan is tightly organized around a central chimney core, and the exterior is characteristically finished in clapboards or shingles. The salt-box and Cape Code cottage are typical of this style.

Outbuilding:
A building or auxiliary structure located within a designated yard area that is related to, but separate from, the main house. Examples include, but are not limited to the following: carport, shed, studio, greenhouse, gazebo, and inlaw apartment (granny flat).

Paseo:
A public place or path designed for walking; the term can be used interchangeably with the term footpath.

Pedestrian Pocket:
A multi-use community composed of housing, retail space, and offices all located within a quarter-mile walking radius of a light rail system.

Planned Unit Development (PUD):
A type of residential grouping in which subdivision and zoning regulations apply to the project as a whole, rather to individual lots. PUDs seek a more flexible approach to design by combining building types and uses in ways which would be prohibited by typical zoning regulations.

Prescriptive:
A statement which says—word for word, what ought to happen or what ought to be done.

Primary Dwelling/Structure:
The main house, main living or activity space, and/or largest structure on a designated lot.

Proscriptive:
A statement which says what ought not to happen or what ought not to be done.

R-1 zoning district:
A district zoned for single-family housing with conventional suburban subdivision sized lots (approximately 60' x 100').

Streetscape:
The planning of the street scene; building articulation (porches, balconies, fences), street landscaping and street furniture, with the objective of achieving overall, aesthetically pleasing

relationships. See definition for townscape.

Stylistic Qualities:

Qualities which are important in prescribing an architectural style such as window proportions, roof pitches, and exterior cladding. See also the definition for urban qualities.

Sub-style:

A secondary style which is part of but contains slight variations from a primary style. For example, the Cape-code styled cottage is a sub-style of the broader category New England architecture.

Suburb:

A residential community or district composed primarily of single-family housing. *Please note*: This definition is limited to the communities selected for the survey in Chapter 3.

Townscape:

The planning of the overall appearance of a town; the total of everything that makes a town picture or scene. This includes not only the architecture of individual buildings, but more especially what they look like when seen together, ie., in relation to each other and to the spaces in between them. Particular importance is placed on the planning and construction of buildings with various textures, colors, and shapes with the objective of achieving overall, aesthetically pleasing relationships.

Traditional Neighborhood Development (TND):

A prototypical zoning ordinance, created by Andres Duany and Elizabeth Plater-Zyberk, to replace singe-use PUDs with mixed-use developments designed as small towns. The ordinance is a one-page document which creates new developments based on traditional patterns and addresses planning and design from an aesthetic perspective.

Urban Qualities:

Qualities which are essential for the civic/social functioning of a town, and are related to urban planning issues and the public realm. Such elements may include, but are not limited to, requirements for front porches and pedestrian-scaled streets, along with provisions for creating a commercial downtown and/or town square.

Zoning/Zoning Ordinance:

An ordinance, enacted and enforced by a municipality, which regulates how parcels of land in a specific municipality can be used and for what purposes, with the ultimate goal of protecting public life, safety and welfare. Zoning generally governs land use and the location, height, and land coverage of buildings, restrict adjacent properties and protects them against aesthetic nuisances or incompatibilities of uses.

CHAPTER 1
INTRODUCTION

1.1 BACKGROUND

The suburban housing form is not a twentieth century development. It is rooted in the Garden City Movement of the last century which began in England during the mid-1800s, and then spread to the United States at the turn of the century. The movement grew primarily as a backlash to the environmentally poor conditions associated with urban life. These conditions were attributed to the combination of uncontrolled industrialization and rapid population influxes to the city as factory labor.[1] With city life becoming increasingly dense, unhealthy, and dismal, planners sought refuge in the surrounding countryside establishing the idea of the "garden city" or suburb. The ideals fostered by Ebenezer Howard's, *Garden Cities of Tomorrow*, led this movement which would become worldwide and have long lasting effects not only on architecture and town planning, but also on the contemporary suburban landscape.

Howard was primarily concerned with the relationship between people and the natural environment but also with how social concerns in planning could solve problems associated with the poor environmental and housing conditions that the industrial city had produced. He felt that both the city and the country lacked the qualities which were essential to create a balanced community; and he attempted to develop an ideal which combined the best features of both, basically marrying town and country into the garden city model (fig.1.1).[2] The Garden City Movement also firmly established the picturesque and pastoral tradition within the American suburb; this has distinguished it from English suburban developments.[3] Such suburbs as Forest Hills Gardens located in Queens, New York, and Roland Park, in Baltimore, Maryland, clearly illustrate this tradition that unified architectural beauty with the beauty of the landscape.[4]

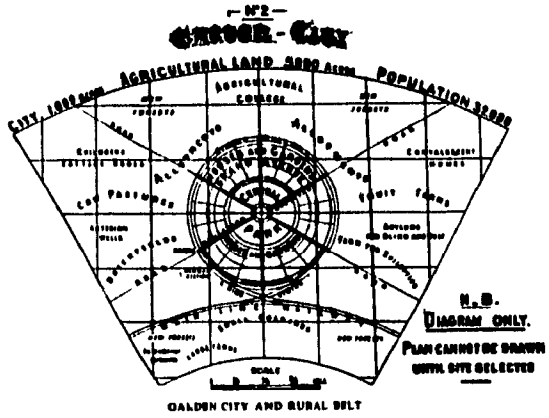

Fig.1.1. Diagram of Garden City and Rural Belt (Howard, *Garden Cities of Tomorrow*)

One of the most important developments of the early twentieth century suburbs was the opportunity it gave planners for innovation and experimentation with the design of new towns. As a result of a steadily growing economy and a lack of suitable housing for industrial workers during World War I, planners such as John Nolan had the opportunity to develop low-cost housing schemes using the garden suburb model as a framework. A fine example of a 'company town' designed by Nolan is Union Park Gardens, located in Wilmington, Deleware. Drawing on Howards' ideas and the tradition of the New England town, John Nolan firmly established the importance of planning in the United States.[5] Although the depression of the 1930s curtailed the construction of numerous projects, Nolan's influence on the design of new towns continued to be felt, even in the planned suburbs of the 1950s.

The suburban environment went through its greatest growth period during the 1950s, because of the need to house returning veterans from World War II. The government encouraged veterans to enter into the home ownership market by sponsoring mortgage insurance programs. Simultaneously, the automobile industry grew considerably, making cars more affordable for most American families. These factors made the development of cheap land surrounding metropolitan areas more accessible to a larger group of potential homebuyers. Communities like Levittown became typical of housing during the post-World War period, and have influenced the image of the modern day suburb (fig.1.2). Characteristics such as home ownership, large sized lots, single-family detached housing at very low densities, and a homogeneous community of people sharing similar attitudes, wealth, and status, have come to be associated with suburban living.[6]

Fig.1.2. Typical One-and-a-Half Story Levittown Cape (Hayden, *Redesigning the American Dream*)

Contemporary suburbs differ from those developed during the early-twentieth century primarily because the reliance on the automobile as the main means of transportation has allowed the modern suburb to exist independently of the city: This was not the case in the pre-World War II suburbs. As a result, densities in contemporary suburbs are much lower, averaging about 5 units/acre [12 units/hectare], as compared to 16

units/acre [40 units/hectare] in Union Park Gardens.[7]

Since the 1950s, the contemporary suburban house has come to represent the most prominent housing form in the United States. Almost three-quarters of the entire housing stock in the United States has been built since 1940, and according to the 1980 census, nearly two-thirds (or 53.9 million housing units) are single family detached houses.[8] In addition, one-hundred million people or forty percent of the population live in the suburbs which is higher than the percentage for either rural or urban centers.[9]

It is interesting to note that although the suburban house is obviously a dominant image in our society and represents important traditions and aspirations in the American culture, it is often ignored as an architectural type worthy of serious study.[10] Whereas critical research relating to the suburbs is rare, general and often contradictory criticisms are commonplace. It wasn't until the 1950s, that the suburban ideal and form began to be studied.[11] This lateness could be attributed firstly to the Modernist Movement, whose theorists, historians, and architects were highly critical of the traditional notions which were typified by suburban communities.[12] Consequently, they chose to overlook the social or design relevance of suburbs. Secondly, laws that were adopted in the 1950s and 1960s have allowed the design and construction of residential buildings without an architect.[13] This practice has caused the development of post-World War II suburbs outside the mainstream of the architectural profession. Thirdly, the suburb may be ignored because architects and planners themselves are disturbed by its aesthetics, images, and the dominance of the automobile within its communities.[14]

1.2 GENERAL CRITICISMS OF THE MODERN SUBURB

Although the majority of Americans desire to live in suburbs rather than either the city or country and prefer the single-family detached home above other forms of housing, the suburbs are never-the-less the focus of much debate and controversy. A recent article published in *Time* touches upon many of the criticisms surrounding this debate firstly pointing out that "[s]uburbanites will soon be the American majority...yet as America's cities and villages have dissolved into vast suburban nebulas, no one seems entirely happy with the results."[15] The article is highly critical of the suburban environment describing it as an overall disappointment if not an outright failure stating as examples of this failure traffic jams and waste problems which are just as bad or even worse than the city, ill defined boundaries, and nonexistent town centers which are common in modern suburbs.[16] Such criticisms are typical and this example illustrates that criticisms of the contemporary suburb encompass social and environmental concerns as well as economical and architectural concerns.

Socially, suburban communities are frequently characterized as homogenous, white

collar, and upper middle class in composition. However, the existence of low-income suburban housing such as the industrial-garden suburbs of the 1920s, attest to the fact that the suburban form is not necessarily a middle class development.[a] Suburbs are also commonly criticized for not being conducive to walking and lacking a sense of community—or town center, due to their low density and associated sprawl. Single-use zoning practices are felt to contribute to this problem because they dictate separate zones for different types of housing, creating a socially sterile environment. Recently, the changes in the composition of the family have led many critics to question whether the traditional three bedroom suburban house and associated environment which caters more to the conventional family structure of the 1950s, can accommodate the needs of a much less homogeneous group of homebuyers in the 1990s.[b]

The suburb is often blamed as contributing to our environmental problems primarily because of the low density at which these communities are built and because of the size of the typical suburban house. The low density associated with this housing type is costly because it uses an excessive amount of land for housing lots, streets, and infrastructure, depleting our useable land, energy and natural resources. The automobile has become a necessary form of transportation in suburban life because the communities are often too large and dispersed making them not conducive to walking. Air pollution, unsightly amounts of blacktopped roads, and the over-utilization of land and resources in an inefficient manner, are the result of an over reliance on the automobile as the primary form of transportation. The large size of the typical suburban house, which has nearly doubled from the 1950s, requires more labor and materials to construct.[c] The house uses more energy to heat and cool because of its size and also because unlike, for example, a townhouse which shares two walls with its neighbor, the suburban house is detached and freestanding with all exterior walls exposed.

In addition, planning tools such as the Federal Housing Authority (FHA) subdivision standards adopted during the post World War II era and Planned Unit Developments (PUD's) popularized in the early 1960's have proved insufficient in successfully regulating the present development of expanding edge communities.[17] These planning strategies have been criticized for essentially two reasons: 1)FHA subdivision standards have concentrated primarily on

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[a]Robert Stern has been able to compile fifty examples (from 1795 to the present) of suburban housing, the majority of which were built for middle-or lower-class residents. See Stern, *The Anglo American Suburb.*

[b]The traditional nuclear family composed of mother and father married with two children of their own, once defined a majority of families in the United States and Canada, but now describes less than one-third of all households. (Rybczynski, "Living Smaller," 67)

[c]The history of the typical single-family house shows a steady increase in its size since the early 1950s. The model Levittown house of 1949 was only 750 sq. ft. [69.7 sq. m.], and is quite modest compared to the contemporary house of the 1990s which averages about 2000 sq. ft. [186 sq. m.]. (See Rybczynski, "Living Smaller.")

establishing minimum construction and design standards for *individual* houses, and have therefore been unable to insure at a broad level a sense of community created by the *relationship existing between housing* , and 2) PUD's have proved problematic because although they have allowed architects and planners more freedom to develop master plans for entire communities rather than simply focusing on the design of individual dwelling units in isolation, they have become overly rigid and prescriptive and function only within the bounds of conventional zoning controls.

The economic costs of the suburban house and community are intertwined with many of its environmental costs. The suburban house, as previously mentioned, uses a large amount of energy for heating and cooling, translating into higher costs for the homeowner. Larger houses cost more to construct because more material and labor is needed. Larger lots are also needed to accommodate the larger house, and this makes land more expensive because overall there is less land available. The result increases the cost of individual housing lots. This is clearly evident with the increase in the cost of land as a percentage of the final selling price of a home, from 11% in 1949, to 25% in 1988.[18] The final result is that owning a suburban home is now increasingly more difficult for many Americans.[a]

1.3 ARCHITECTURAL CRITICISMS OF THE MODERN SUBURB

Most critics of the suburb clearly acknowledge its social short-comings and its environmental and economic costs, however criticisms of the appearance of the suburban environment are not as carefully articulated and are often inseparable from the underlying personal contempt that some architects and planners have for this form of housing. The architecture of the suburb is thought to be by some, almost oxymoronic and not given much inquiry. Others simply overlook its appearance, claiming that we can do little to ameliorate the condition of "what it looks like."[b] Criticisms surrounding the architectural appearance of the suburbs are often times vague and overly general. Although it is difficult to pin down specifically what critics find disturbing about the appearance of the suburbs, criticisms seem to fall into three general categories: the suburban environment which includes the community and neighborhood, the suburban street, and the suburban house.

Criticisms surrounding the suburban environment address a number of issues: the lack of overall physical unity, the segregation of functions and repetitiveness of the environment, and the blurred distinction between country and city.[19] The lack of physical unity is related to the

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[a]The cost of housing has steadily been increasing since the 1950s, but in 1980s the cost more than doubled and tripled in simply one decade. Incomes did not keep up with this pace creating an affordability gap and decreasing the number of Americans who could become homeowners.

[b]Of course, there are a few exceptions such as *Making a Middle Landscape* by Peter G. Rowe which is devoted to examining the physical character of American suburban developments.

inability to organize space and to effectively deal with the relationships which exist between the suburban landscape, streets, and houses. As a result, the suburbs are often characterized as scattered, jumbled and featureless, where, as quoted from the previously mentioned *Time* article, "too often, there's no there there."[20] Its visual disunity is attributed to the extremely low densities at which many modern suburbs are built making it difficult to intentionally define space because everything is so spread out. The sheer size of many subdivisions also contributes to this sense of disunity. Furthermore, elements which combine to form the environment cannot be easily planned and designed in a way so that each relates to the other. Houses are most often planned as individual units, detached from one another and pushed back from the street by large front yards. The public realm is isolated from the private realm of the suburban home with little or no transition between the two realms. The manner in which subdivisions are laid out also contributes

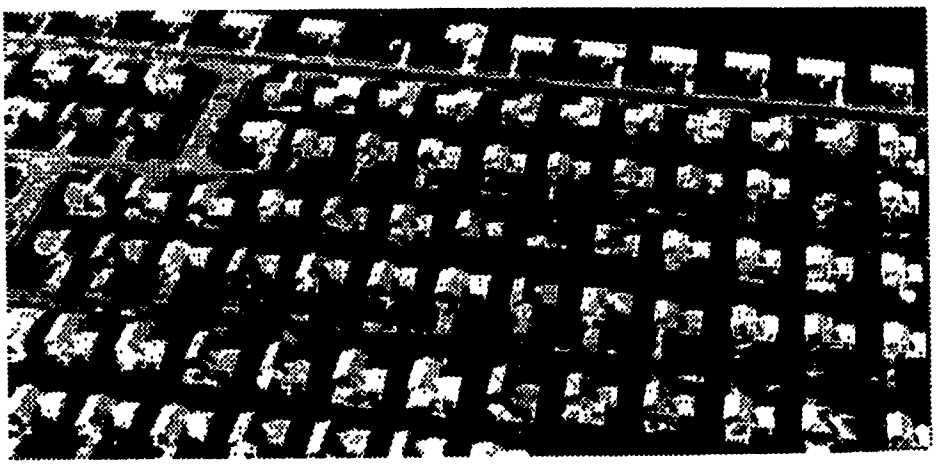

Fig.1.3. A Tract of Single-Family Houses, 1970s
(Hayden, *Redesigning the American Dream*)

to this problem of unity since one enclave is planned with little or no thought to its relationship to the adjacent subdivision or least still the larger community. The overall beauty and coherency of the entire community is not considered, making it impossible to develop a sense of townscape.

Suburban subdivisions are often planned at very large scales and this coupled with single-use zoning practices, results in vast areas of strictly residential buildings which are indistinguishable in appearance from other areas. Edges between subdivisions or parts of subdivisions are not well defined, and there exists no community/neighborhood focus or hierarchy of space; for example, from a public green to a small shared neighborhood garden. With little or no visual relief provided in the environment, the repetitiveness of forms and functions results in monotony—a term characteristically used to describe the suburbs (fig.1.3). Although on one hand there exists a degree of uniformity in the suburban environment because areas are

of similar forms and functions, on the other hand though, there exists a sense of overall disunity because elements which seem so similar are intentionally planned with little thought as to how they might relate to one another and to a larger community. This dialectic between disunity and uniformity is the main cause of visual uneasiness in the appearance of the contemporary suburb.

Finally, the suburban environment suffers from its very definition; the marriage of country and city derived from Howard's diagram titled The Three Magnets (fig.1.4). Questions of whether or not the suburbs have any meaning without clearly defined urban and rural areas are understandable, and it is part of the struggle to define the suburb based on its contemporary condition rather than on an idealized vision from the past.[21] In a classic design guide developed for Essex County in England, the appearance of the suburb is explained by a settlement pattern diagram which illustrates the two traditional ways of defining space; the rural system and the urban system (fig.1.5). The rural system is defined as the "landscape containing buildings" while the urban system is defined as "buildings containing space." 'Unsatisfactory suburbia,' located in the middle of the spectrum, is described as a place "where there are too many buildings for the landscape to dominate and yet the buildings are too loosely grouped or of insufficient height to enclose space."[22] This is thought to be the fundamental reason for the visual failure of the suburb.

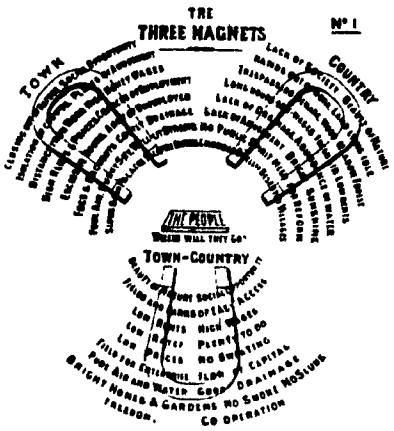

Fig.1.4. The Three Magnets (Howard, *Garden Cities of Tomorrow*)

Criticisms of the suburban street address the relationship between a number of factors such as its quantity, configuration, and dimensions, and the affect of these factors on the appear ance of the environment. The broadest criticism of the suburban street is that there are too many of them. The appearance of the suburb is dominated by great expanses of roads and arterials (neighborhood streets, subdivision collectors, and community highways) all needed to support a transportation system based solely on the automobile. This dismal vision of paved paradise has provoked opponents such as Lewis

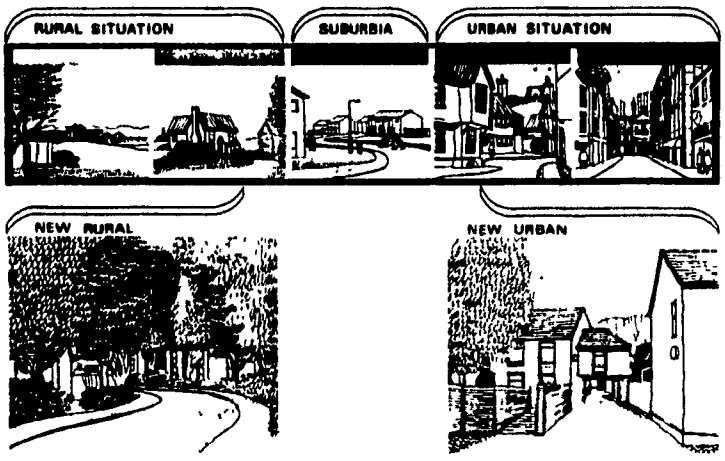

Fig.1.5. The Visual Spectrum of Settlement Patterns (*A Design Guide for Residential Areas*, County Council of Essex)

Mumford to proclaim in his classic *The City in History*, "[i]nstead of having buildings set in a park, we now have buildings set in a parking lot."[23] Accordingly, the scale of the suburb is sized for the car not the pedestrian and once the pedestrian scale of the suburb disappears, as Mumford suggests, the suburb ceases to be a neighborhood unit."[24]

The over reliance on the automobile has also encouraged a design philosophy in which the efficient movement of the automobile has become the number one priority. One result is that streets are not configured for the pedestrian. Rarely are sidewalks installed in residential areas and when they do occur in commercial areas, the radius of the curb at corners is so large in order to accommodate the comfortable turning of a car, it makes crossings at intersections dangerous for pedestrians.[a] Another consequence is that buildings located at corner lots are setback at greater distances because of the turning radius, and they can not adequately define space at the intersection.[25]

In addition to criticisms regarding the quantity of streets in the suburb, criticisms concerning their configuration and dimensions are also commonplace. Streets in suburban subdivisions are typically curvilinear and are designed in this manner to slow down traffic or simply to be ornamental. The difficulty with this configuration is that views are never intentionally terminated with a built element. Given the length of streets and the size of many subdivisions, the streetscape becomes repetitive and disorienting because there are no clear landmarks to position ones self within the neighborhood.[26]

Finally, suburban streets are criticized as being too wide. Andres Duany explains that the ratio of street width—face of house to face of house—to building height is so great in the contemporary American suburb, that it makes the definition of street space unperceptible (fig.1.6). He points to European cities as examples such as Paris where the ratio is 1:1.5, or to Florence where it is 1:2 or 1:3. However, in most American suburbs, the ratio is more like 6:1 or 10:1. This has traditionally been corrected by the use of boulevards with trees, street trees, and/or fences. Unfortunately, these elements have not found favor with developers and are not seen as essential for defining the public street space.[27]

The final criticisms concern the suburban house and are similar to some of the criticisms previously mentioned for both the suburban environment and street. Issues such as physical unity and compatibility among dwellings and the relationship between the landscape, street, and house are of great concern. Additional criticisms address the size of housing lots. and the dominant position of the garage on the front facade.

One of the most criticized features of the suburb is its lack of physical unity which as mentioned previously, is related to an inability to organize space effectively. The visual

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[a]The radius of a curb is not more than 8 ft. [2.44 m.] in a traditional town, while in a contemporary suburb, it can approach nearly 45 ft. [13.7 m.]. (Duany, "Traditional Towns," 61)

relationship between the street and house is compromised in part due to the great width of suburban streets, but also because of large front yards typical in most suburban subdivisions. Houses are pushed back from the street which increases the distance from the face of one house to the other, making it almost impossible to create an interesting streetscape. This results from the ratio of building height to width being so great, that the volume of houses has little direct affect on the scale of the street. Additionally, it is equally difficult to create a sense of unity among

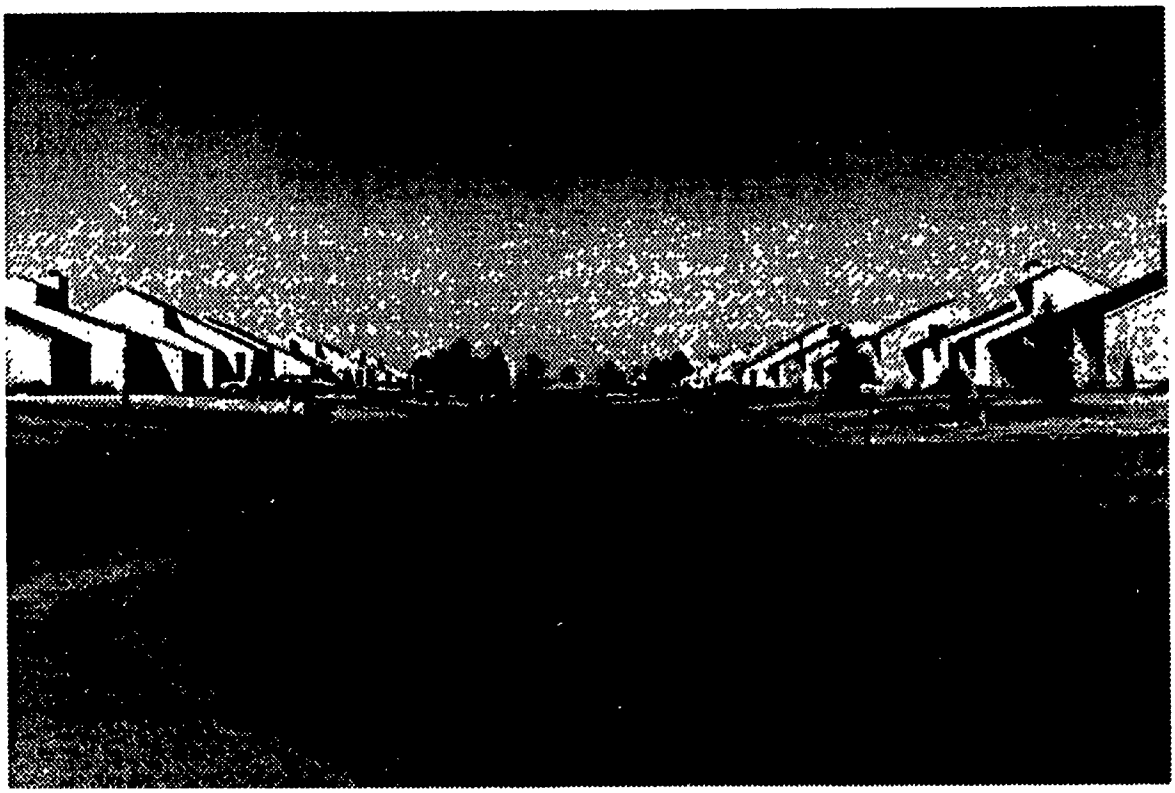

Fig.1.6. A Typically Wide Suburban Street, Colonie, New York

houses—or townscape—because the suburban house is conceived and built as an individual unit. "One of the most disconcerting physical characteristic of the middle landscape," as Rowe mentions in *Making a Middle Landscape*, "is the desolate and inhospitable spaces left between buildings..."[28] Many critics echo a similar opinion stating that it is the relationship between houses rather than the specific design of individual houses which causes the contemporary suburb to fail visually.

Criticisms which address the conflict between disunity and uniformity in the overall suburban environment also apply at a smaller scale to the suburban house. The suburban house is often described as appearing monotonous (fig.1.7). Mumford in *A City in History*, harshly characterizes suburban communities as "a multitude of uniform, unidentifiable houses, lined up

inflexibly, at uniform distances, on uniform roads."[29] It is difficult for large areas of similar building types, which are all approximately the same height and constructed usually within the same period of time, not to appear monotonous. In addition, many of the houses are designed from a limited number of floor plans which are varied only slightly resulting in a constant repetition of undifferentiated facades and housing layouts. Suburban houses are also uniform in appearance because they are seen as a financial investment. In *Making a Middle Landscape*, Rowe suggests that because of this consideration, wide divergences in the appearance of the surrounding

Fig.1.7. Uniform Appearance of Suburban Houses in Colonie, New York

homes are seen as a threat to the potential resale value of property.[30] This suggests a discrepency between the critics (who dislike uniformity) and the market (which apparently likes it).

Many critics focus on the uniformity of the suburban environment but overlook the vast variety that exists in individual houses—especially overtime as people begin to personalize their homes. Although a limited number of floor plans are built in subdivisions, developers offer homebuyers various exterior treatments and colors. The result is a mixture of materials and colors which are applied in an obviously superficial manner to achieve a sense of variety (fig.1.8). In a profound sense, the haphazard use of various architectural treatments to achieve individual variety is antithetical to a desire to achieve a sense of physical unity among houses. It is the narrowing of architectural possibilities (limitation of materials and colors) in traditional towns which

has given them their visual harmony. The ability to balance individual variety within the overall physical unity of the community is one of the many challenges in contemporary suburban design.

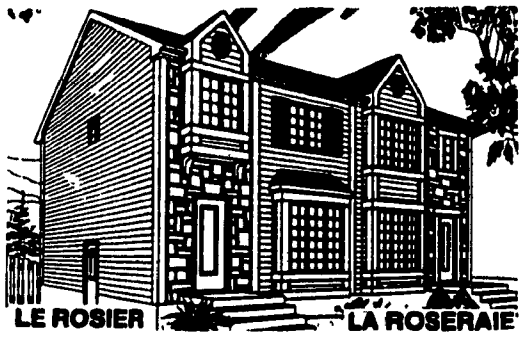

Fig.1.8. Typical Suburban House with Various Exterior Materials, Laval, Montreal (*Habitabec*)

The final two criticisms address more specific issues associated with the suburban house. The first issue involves the relationship between the size of the house and the size of the lot. The size of the American house has been increasing while the size of the typical suburban lot has been decreasing due to the rise in the cost of land. The result, especially in subdivisions built within the last 10-15 years, is that houses are crowded together and are not set on lots which are appropriate to their size. The second criticism concerns the dominant position of the garage on the front facade of the house (fig.1.9). Originally, the garage was a totally separate building made to resemble the primary house, but over the years, it has evolved from being loosely attached (as with a breezeway) to being totally integrated within the mass of the house.[31] Difficulties in design arise because the large garage door is out of scale with the other openings on the elevation. The typical suburban 2-car garage increases this design difficulty. It is also a challenge to assimilate the design of the garage within the envelope of the house when both have very different functions.

Fig.1.9. Dominant Garage Front, San Jose (Boles, "Reordering the Suburbs")

1.4 CONDITIONS WHICH CREATE DIFFICULTIES IN SUBURBAN DESIGN

The breadth of architectural criticisms discussed certainly suggest that the design of contemporary suburban communities is a difficult and complex task. There are additional difficulties encountered by designers and architects when planning suburban developments which encompass other related issues. The first is that modern suburbs are often located on large tracts of land and are much greater in area than the earlier twentieth-century suburbs. For example, Forest Hills Gardens constructed in 1912, was planned on 142 acres [57.5 hectare] on

Long Island,[32] and is a fraction of the size of more recent suburbs such as Levittown, New York, which consists of 4,000 acres [1,619 hectare],[33] or the Irvine Community which is located on 62,000 acres [25,091 hectare] in California.[34] The immense size of many modern suburban planned communities creates difficulties throughout the design and planning phases of the project. Numerous people representing various public and private agencies are involved in a project of this size, often impeding the ability of architects and designers to make decisions expeditiously, as well as complicating the coordination process which becomes crucial particularly on a project of this magnitude.

The second constraint which generates problems in the design of suburbs, is that most developments are constructed over a long period of time, often by a number of different architects. Without the adoption of a set of clearly defined objectives, the ability of architects to create a cohesive neighborhood is severely impaired. In addition, developers often do not rely on professionals. Design-build companies, which are responsible for the vast amount of the construction occurring in the suburbs, commonly hire designers who are not licensed. Laws adopted during the 1950s and 1960s allowing the design and construction of residential buildings without an architect, permit this practice to continue.[35]

The third problem is the reliance on the automobile as the primary means for transportation in suburban communities. The layout of roads and services is one of the initial phases in a project, and can have far reaching effects on the final form and appearance of the completed development. In order to accommodate the automobile (usually 2 or 3 per family), a substantial amount of area is devoted to streets, driveways, parking spaces and parking lots. Successfully integrating these functions while also dealing with the visual impact of repetitive elements such as garages or parking lots is a difficult aesthetic problem as is clearly evident from the criticisms expressed previously.

The fourth and final difficulty confronting architects is that suburban planning and design encompasses a wide range of contexts from the broad regional planning level to the more specific and detailed scale of the suburban house. This complicates the architects tasks, making it difficult to mediate between the land-use scale and the detailed scale of a wooden roof shingle, for example.[36]

A compilation of all the difficulties previously described, offers an explanation for the sharp increase in the use of architectural controls in contemporary suburban projects. An article titled "Time for Design," published in a 1987 edition of *The Planner*, concluded that the use of design guidance material had increased greatly since the previous survey conducted in 1976, and there was no evidence that showed a reversal in this trend.[37]

Architects who are in the forefront of addressing suburban problems, represent some of

the leading advocates for the use of controls in design, and realize the affect that controls can have not just on the appearance of individual suburban homes, but also on the community at large. Contemporary architects, such as Andres Duany and Elizabeth Plater-Zyberk (DPZ), and Daniel Solomon are disturbed by the appearance of the modern suburbs, and have criticized modern methods of regulation as actually contributing to the problem of developmental sprawl. They feel that codes created by planning commissions governing the growth of suburban communities, have actually caused the design problems associated with the modern suburb. As a result, these architects have developed controls themselves to improve the quality of housing projects that they have been involved with.

Based on the difficulties described, it is no wonder that many critics conclude that the crisis in the 1990s will be the design of suburbs.[38] As suburban communities planned for the future grow in size and scope, it is clear that architectural controls will play an important role in accommodating the increased demands of the market as well as the complexities within the design and construction industry.

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CHAPTER 2
ARCHITECTURAL CONTROLS

2.1 HISTORIC EXAMPLES OF ARCHITECTURAL CONTROLS

The use of architectural controls in building construction can be traced back to ancient Babylon (the Code of Hammurabi), and was also known to Greek and Roman planners.[1] However, comprehensive controls have a more recent history, one of the earliest occurring in pre-Renaissance Venice with the city's adoption of an early form of functional zoning. Different land uses were assigned to distinct islands causing residential neighborhoods to be separated from zones of industry. Although this control developed essentially as the result of Venice's natural geography (the city's spread-out configuration amongst numerous islands), rather than as a conscious desire to regulate growth, it did effectively help to preserve the unity and physical order of the city.[2] Another early set of controls developed as a result of devastation caused by the Great London Fire of 1666; this marking the first instance where codes were used to legally regulate building construction. In the aftermath of the fire, a Commission was set up to monitor the city's rebuilding process and insisted, for example, on widening roads and on uniform frontages without overhanging eaves, and in some instances, minimum as well as a maximum number of building floors was imposed. In addition, wall thicknesses and even the size of floor and roof timbers were strictly regulated. The Commission usually prohibited construction with combustible materials such as thatch and heavy timbers, preferring that houses be of brick or stone to limit the spread of fire.[3]

Subsequent controls followed those set up by the Commission, and later Acts consolidated all previous provisions established after the Fire. These additional provisions slowly began to tie property value to specific sets of regulations. For example, properties were divided according to four-rates, depending on the value of the property. Each rate had its own physical and structural standards which dictated not only the number of stories acceptable, but also the building area and maximum value of the property.[4] These Acts were primarily concerned with the prevention of jerry-building, with increased fire-protection, and with the protection of property values; however, they also standardized new speculative building, contributing to the sense of order and dignity found in later suburbs.[5] Although these early examples of controls enabled cities to regulate various aspects of land use and construction, their primary concerns were public

safety and the protection of property; they never attempted to regulate aesthetic matters. Issues of style and design were not legally regulated, but the concept of design control was not unknown and had a well established history. The use of design guides such as Vitruvius's *The Ten Books on Architecture*, Alberti's *Ten Books of Architecture* , and Palladio's *Architettura*, provided architects and builders with styles and forms that they could copy. Although these guides were not legal documents, they did describe what was thought to be appropriate, and constrained designers by precedent.

With the increase in land speculation in growing suburban areas of 18th century England, the use of architectural controls which specifically addressed the appearance of buildings, streets, and neighborhoods became a more common practice. The most common form of design control was through building agreements, which resemble modern deed restrictions. These agreements oftentimes included provisions to insure a minimum quality of construction by requiring the use of specified building materials. Additional provisions also included restrictions on parapet levels, floor-to-floor heights, window heights, and the heights of railings; all this insured a similarity in scale and a continuity in street elevations.[6]

The desire to compose an entire block or square as a unified whole caused some developers to include drawings as part of building agreements. At the Royal Crescent at Bath (1769), for example, John Wood the Younger attached elevation drawings to building agreements in order to dictate the external design of buildings to ensure a unified appearance.[a] Since Wood leased rather than sold the building lots at the Crescent, individual owners could plan the interiors as they wished, but Wood stipulated in the agreements that they had to strictly follow his design for the street facade.[7] Although the site consisted of thirty individual buildings, the controls on exterior design helped to give the impression of a single architectural unit (fig.2.1).

Building agreements were successful at regulating standards of design at the time of construction, but were insufficient to ensure permanently satisfactory environments well into the future. As a result, communities formed groups composed of homeowners to review and administer the written agreements. At the Rock Park Estate in England, for example, no one could purchase property without agreeing to its restrictions, and an association of homeowners was established to enforce the highly stringent regulations contained in its *Articles of Agreement* (1837). The *Articles*[b] prohibited brick making and any trade, business, or profession (except learned professions), specified appropriate materials from which houses must be made, established building setbacks, and set the maximum height that homeowners could erect a fence

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[a]Wood was both an architect and a developer, and leased the buildings at the Crescent for ninety-eight years, at which time they would revert to his descendants. (Benevolo, 16)

[b]The complete title of this agreement is *Articles of Agreement Regulating the Use, Holding, and Enjoyment of the Rock Park Estate in the County of Chester*.

or wall (especially board fences) at 3'-0" [.914 m.].[8]

A high value was placed on architectural character in English suburban design, and architectural controls were adopted as a method of addressing these concerns. It was felt that the character of the house should mirror the personality of its inhabitants; materials and styles were carefully selected, along with the arrangement and location of porches, windows, doors, and chimneys.[9] Considerable importance was also placed on balancing variety in the design of individual houses with overall uniformity of design in the community. In Raymond Unwin's influential planning guide, *Town Planning in Practice*, an entire chapter titled "of Buildings, and How the Variety of Each Must be Dominated by the Harmony of the Whole," is devoted to this issue. Unwin suggested that unlike previous periods when architectural styles developed gradually over generations, new contemporary styles were being introduced almost daily, destroying what was once a 'natural' method of stylistic control. In addition, improved transportation allowed architects to use building materials which were not indigenous to the site, creating an almost limitless variety of materials, colors, and textures. Unwin felt that unless some form of design guidance through regulations and supervision was introduced, it would be difficult to obtain any degree of harmony or consistency in design.[10]

Fig.2.1. The Royal Crescent, 1767-1775
(Little, *The Building of Bath*)

The American suburb in the mid-1800s followed this already well-established English suburban tradition of design philosophy and control. This is evident in the numerous early American suburbs concerned with overall design consistency through the establishment of community styles, as well as an interest in balancing individual variety and collective uniformity. At Llewelyn Park (1853), Andrew Jackson Davis suggested that houses be designed in the 'romantic' style, which inevitably determined the overall architectural appearance of the park (fig.2.2).[11] Llewelyn's picturesque site was protected by a written covenant which stipulated that

no house was to be built on less than a one acre lot [.405 hectare], and that no building was to be used as a shop, factory, or slaughterhouse.[12] This form of private design control in America was uncommon at the time, but would become more widely used in subsequent decades.

Like Unwin in England, many prominent American architects recognized the need for design controls, particularly in the growing 'fringe areas' of cities during the later half of the 19th

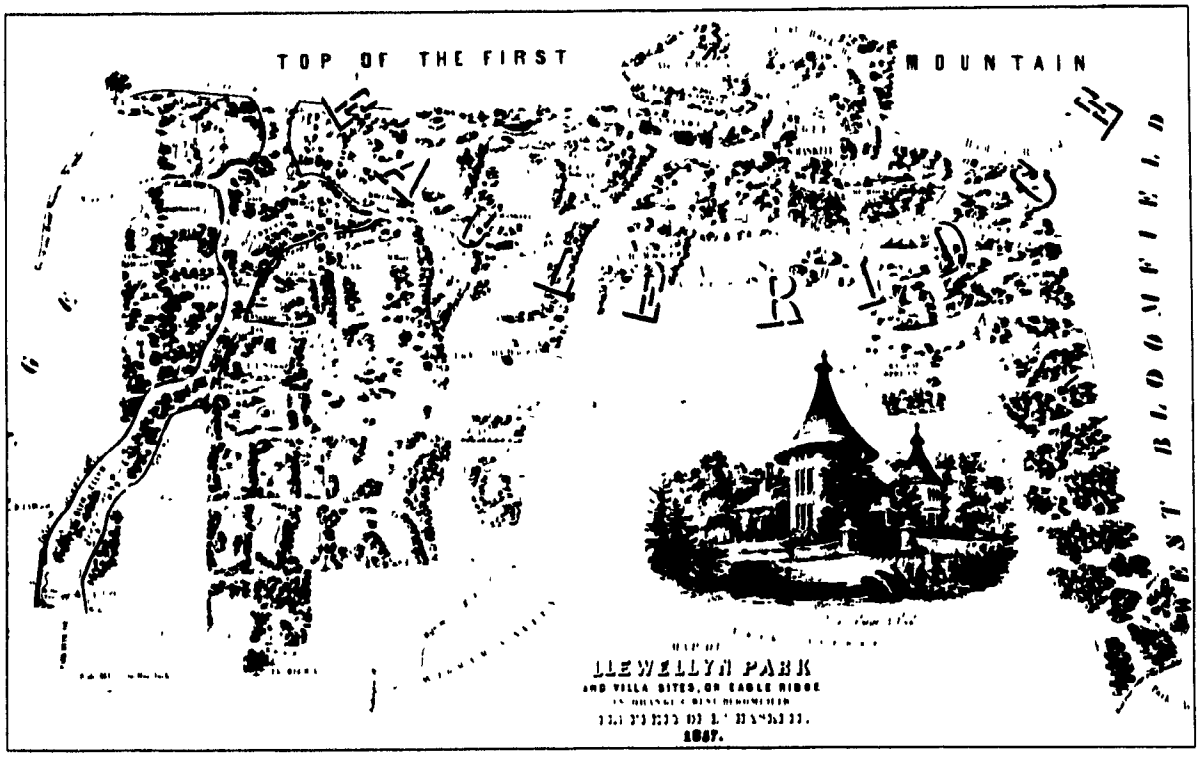

Fig.2.2. Plan of Llewellyn Park, 1857
(Stern, *The Anglo-American Suburb*)

century. Frederick Law Olmsted, who is recognized not only for his landscaping schemes (Central Park, New York City), but also for his involvement in designing some of the earliest American suburbs (Riverside, Illinois, 1869), advocated the establishment of building standards and controls to improve what he perceived as fragmented and haphazardly designed American suburbs.[13]

Both Llewelyn Park and Riverside represent early attempts at planning whole communities, however, the planned residential surburb did not reach its apogee as a recognizable form until the turn of the 20th-century when more extensive and reliable rail transportation caused an increase in land speculation by private developers. The most extensive of these efforts were made in planning large-scale suburban subdivisions mostly for middle- and upper-income families.[14] Architectural controls became an increasingly important feature in these communities, regulating how land could be used, the layout and location of roads and lots, and

more specifically, architectural appearance. Through the use of private design controls during this period, developers were able to shape the physical environment of the suburbs before public forms of control (such as zoning) existed in cities.[a]

2.2 EXAMPLES OF ARCHITECTURAL CONTROLS USED IN EARLY AMERICAN SUBURBS

The following section surveys architectural controls used in three early American suburbs developed around the turn of the century: Roland Park (1891), Forest Hills Gardens (1912), and Shaker Heights (1916). All three suburbs represent large-scaled suburban subdivisions planned as whole communities for middle-and upper-income families by private developers. These suburbs are highly admired for their overall planning schemes and architectural character, and are also known for their strict use of architectural controls placed on both architects and homebuyers.

2.2.1 ROLAND PARK

Roland Park, located near Baltimore, Maryland, represents an upper-class residential suburb which was innovative in its combination of comprehensive land-use restrictions and design controls. Originally conceived as a planned suburb in 1891, the Roland Park Company was organized in 1907 to develop a 1000 acre [405 hectare] site as privately owned lots. From the beginning, Roland Park was intended to be a 'high quality residential area,' with the architectural character of individual houses, as well as the community, being carefully controlled through provisions in the deed of sale.[15] Landscape architect, George E. Kessler, along with the landscape firm of Olmsted & Olmsted were influential in establishing an overall planning concept which was very sensitive to the natural terrain, by considering existing trees and special land features.[16]

At Roland Park, provisions in the deed of sales (deed restrictions) restricted the use of property and gave the company the right to approve plans. Homebuilders could choose their own architect and were actually encouraged to do so, but plans had to be approved by the company architect.[17] In addition, the company encouraged specific styles by constructing numerous model homes which indicated their own architectural preferences. After 1909, an association of homeowners called the Roland Park Civic League was formed to help in the administration of these restrictions which were previously the responsibility solely of the Roland Park Company.[18]

At Roland Park strict controls were placed on land use, building lines, and housing costs.

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[a]Although the first comprehensive zoning ordinance was enacted in 1916 (in New York City), it is important to point out that many of the growing suburban areas were located outside city borders, and thus were not under the jurisdiction of municipal zoning ordinances. See Stach, "Deed Restrictions and Subdivision Development in Columbus, Ohio, 1900-1970."

Firstly, no more than one dwelling per lot was allowed.[19] Building lines were rigorously enforced at distances of 40 ft. [12.2 m.], 50 ft. [15.2 m.], or 60 ft. [18.3 m.] from the roadway depending on a lots location in the park. Saloons and shops were banned from the community (except for a small block of shops provided by the company), and private stables were permitted only under special circumstances. Finally, the minimum cost of a house was set according to its location. On the main thoroughfare in the Park (Roland Avenue), any house costing less than $5,000 was prohibited, and on side streets and roadways, any "dwelling representing an investment of less than $3,000 was also prohibited."[20] The community was composed of mostly single-family houses with large frontages, although there is no indication that minimum lot size, or minimum

Fig.2.3. A 'Tudor' Styled House at Roland Park
(Howland and Spencer, *The Architecture of Baltimore* plate)

street frontage was restricted in the deeds.[a]

Unlike like Forest Hills Gardens or Shaker Heights, Roland Park had no restrictions on architectural styles and no limitations on the use of exterior building materials.[21] Consequently, a variety of styles are represented at the Park: Queen Anne, English Tudor, domestic Gothic, and a shingled style to name a few (fig.2.3).[22] It is interesting to note that even though over a thousand houses were designed by more than one hundred architects, strict controls ensured the

[a]The majority of the lots were 75'x165'-190' [22.9 m. x 50.3 m.-57.9 m.]. (Fawcett, 185)

preservation of Roland Park's 'unique residential character.'[23]

2.2.2 FOREST HILLS GARDENS

Developed in 1912 by the Russell Sage Foundation and designed by architect Grosvenor Atterbury with the Olmsted brothers as landscape architects, Forest Hills Gardens in Queens, New York, represents one of the most carefully planned of the railroad suburbs. Forest Hills is smaller (142 acres [57.5 hectare]), denser, and more urban in character than some of the earlier suburbs such as Roland Park. The community includes a commercial center as well as two-family and single-family houses (fig.2.4). Intended as a suburb consisting of lower-income housing, it soon developed into an upper-class neighborhood primarily because of its wide aesthetic appeal and convenient location, just fifteen minutes from New York City by rail.

Similarly to the Roland Park Company, the Russell Sage Foundation was founded as an association, and set standards to establish a community architectural expression. The Foundation chose to erect and hold a number of dwellings (model homes) to serve as examples of good practice with the intention of influencing future building in the community by private homebuilders.[24] The trustees of the Foundation decided that the model homes should be constructed of either concrete or brick to demonstrate a sense of durability and permanence.[a] The colors and textures of the exteriors were thoughtfully considered. Bricks were purchased from various manufacturers to avoid monotony.[25] Roof tiles were also chosen in shades of red and brown to compliment rather than contrast with the exterior wall colors.[26] Through an extensive architectural review process and deed restrictions, the Foundation was successful in dictating exterior design by requiring conformity with the proposed community style which they initiated and promoted with the construction of these model houses.

Fig.2.4. Station Square at Forest Hills Gardens ("Forest Hills Gardens," *The American City*)

In addition to provisions attached to every deed, the Russell Sage Foundation issued a

[a]Atterbury experimented with the use of prefabricated concrete construction techniques for added fire safety and overall durability.

Declaration of Restrictions (June 22nd, 1911) which summarized all the restrictions to be imposed, and complemented those restrictions already found in every deed. The *Declaration*, along with a map of the property was filed in the County Clerk's office, legally binding the homeowner to the restrictions until January 1st, 1950.[27] As in Roland Park, land use, setback lines, and housing costs were regulated, with additional restrictions also placed on building materials. Restrictions on the uses of property are too numerous to mention, however, almost every industrial and agricultural activity was prohibited. Private garages, not more than one story in height were permitted, but for the sole use of the owners or occupants. Front, side and rear setback lines were carefully established for primary dwellings as well as secondary structures such as garages. The placement of porches, steps, bay and oriel windows was also limited depending on their relation to the established building lines.[28]

Through the use of published guidelines like *A Forward Movement in Suburban Development*, the Foundation stated the more subtle aspects of their design intentions. Although these guidelines were not part of the *Declaration of Restrictions* or private deed restrictions, the Foundation could enforce the guidelines though the design review process. In *A Forward Movement*, the Sage Foundation clearly stated that only masonry or concrete construction was permitted; "All buildings and residences are either of brick, stone or stucco, with

Fig.2.5. Typical Gothic-Tudor Styled Houses at Forest Hills Gardens
(Stilgoe, *Borderland*)

tile roofs." The construction of frame houses was strictly prohibited.[29] Color and architectural style were also important considerations, particularly in the 'model homes' constructed by the company; there is no indication however, that the company specified in writing that private homeowners were required to build in a particular style and/or with a certain limited palette of colors. Nevertheless, the Company could enforce their preferences through the design review

process, which may account for the harmonious colors and dominant Gothic-Tudor style attributed to the Gardens (fig.2.5).[30]

2.2.3 SHAKER HEIGHTS

Shaker Heights is located on a 4000 acre [1619 hectare] tract, 8 miles [12.9 kilometers] east of Cleveland, Ohio. Originally the site of a Shaker commune, developers for the community, the Van Sweringen brothers, slowly began purchasing land and developing plats beginning in 1905. Although the site was extremely picturesque, the Brothers had difficulty attracting residents because of the lack of convenient rail access and consequently, built their own railroad to attract homebuyers. Because of previously failed real estate ventures, the Brothers chose to market only upper-middle class housing and used architectural controls to ensure the high quality of the community. Unlike Forest Hills which was designed primarily by one architect and landscape architect, the Van Sweringen brothers followed a restricted market approach, allowing different architects to design at Shaker Heights, but controlling design severely.[31] As a result, more importance was placed on the design and arrangement of individual houses at Shaker Heights and it was less of a totally harmonized planned community like Forest Hills.[32]

Similar to the Russell Sage Foundation, the Van Sweringen Company relied on deed restrictions (effective until 2026)[33], design review, and guidelines to restrict design and construction. The Van Sweringen Company required that all houses constructed at Shaker Heights be designed by a professional architect and specified exactly what drawings were required for the approval process: "...all floor plans; all elevations; the color scheme in detail for the exterior; a complete section through the building showing height of stories; and three-inch or full-size details of the front entrance, cornices and other special features."[34]

A twenty-eight page set of guidelines titled *Shaker Village Standards* outlined the restrictions imposed by the Van Sweringen Company. Restrictions were placed on land use, setback lines, building frontage, and dwelling size, however, the bulk of the *Standards* controlled color, exterior treatment, and architectural style. Required setback lines were documented in a table titled 'Location of Residences' which listed minimum distances from lot lines based on the width of lots. Another chart listed requirements for the overall size of the house, specifying building frontage and depth based on the frontage of lots.[35]

The guidelines stated that "all deeds for Shaker Village property require that all houses shall be full two stories in height."[36] Restrictions were further placed on floor to floor heights; the first and second stories could not be less than 8'-6" [2.59 m.], and 8'-0" [2.44 m.] clear, respectively, and the ridge line of the main part of the house could not be less than 16'-0" [4.88m.] above the finished second floor. These restrictions helped to set minimum housing

costs because they prohibited the construction of smaller, less expensive styled houses such as bungalows. Although the Company did not directly state what styles were permitted, the guidelines illustrated only houses of Colonial, English, and French designs (fig.2.6). It was evident that in addition to suggesting architectural styles, the Company was also concerned with avoiding hybrid styles. The Company stated in the guidelines that "[o]nly certain types of houses are suited to this climate, and [t]he one selected should be followed closely without variations."[37]

Fig.2.6. Colonial Styled House at Shaker Heights (Stilgoe, *Borderland*)

The emphasis of the guidelines was on restricting the exterior treatment of houses by controlling color, texture, and exterior material. Restrictions were placed on the exterior use of color, to prevent inappropriate combinations of colors within a particular style. The guidelines contained six charts which documented color schemes for six styles of houses: Colonial residences of frame construction, Colonial residences of brick or stone walls, and English and French residences of shingled walls (two separate charts), English and French residences of brick or combination walls (two separate charts). The charts listed appropriate colors for walls, trim and sash, shutters or blinds, doors, chimneys, fly screens, and roofs based on style, material, and the color of the exterior wall (fig.2.7).[38]

APPROPRIATE COLOR SCHEMES
For Colonial Residences

Walls	Trim and Sash	Shutters or Blinds	Doors	Chimneys	Fly Screens	Roof
1. White	White	Dark-green	White	Brick painted white	White	Dark-green
2. Silver gray	White	Bottle-green	White	Red sand-moulded brick	White	Weathered gray
3. Ivory	Ivory	Olive-green	Ivory	Red sand-moulded brick	Ivory	Dark moss green
4. Shingles stained to weather to natural wood tone.	White	Blue-green	Ivory	Common brick sand face, light range of red, brown and salmon	Ivory	Very dark gray

For Colonials of Frame Construction

Walls	Trim and Sash	Shutters or Blinds	Mortar	Doors	Fly Screens	Roof
1. Sandmould colonial brick	White	Blue-green	Natural	White	White	Mottled rough texture slate
2. Common brick burned in bee-hive kilns	Ivory	Bottle-green	Natural	Ivory	Ivory	Dark weathered gray shingles
3. Overburned arch brick	White	Dark-green	Natural	White	White	Dark moss green
4. Ledge stone	White	Olive green	Natural	White	White	Weathered gray

For Colonials of Brick or Stone Walls

Fig.2.7. Appropriate Color Schemes for Colonial Residences (*Shaker Village Standards*)

Unlike Forest Hills Gardens which permitted only masonry construction, the restrictions at Shaker

Heights limited the use of exterior materials based on architectural style. In addition, the guidelines attempted to limit the range of acceptable types of exterior materials by requiring, for example, the use of "Bedford Limestone" or "Briar Hill" sandstone, and prohibiting the use of artificial stone without written consent. Stucco, or the use of any similar material which would produce the same effect as stucco, was also prohibited. The guidelines also discouraged the use of mechanically perfect bricks. As an alternative, they suggested the use of bricks which had "reasonable irregularities" because it was felt that they would add more interest in texture and color. The color of mortar was limited to natural cement color or light buff: Black was avoided. Finally, roofing materials were limited to shingle, slate, or tile. The use of tar or composition sheet roofing and asphalt shingles was prohibited.[39]

The primary architectural goal of developers in all three suburbs was to provide architectural harmony. At Roland Park this was encouraged by setting minimum prices for houses which standardized the size and quality of construction, and by rigorously enforcing building lines which established visual continuity at the street. In addition to these factors, architectural harmony was encouraged at Forest Hills Gardens by permitting only masonry construction which inadvertently limited the number of styles that could be built. Architectural harmony was encouraged at Shaker Heights by advocating particular architectural styles and by discouraging hybrid styles, and also by regulating the use of exterior materials and color. Design review and the construction of 'model homes' by developers also encouraged architectural harmony by setting standards and by directing future construction by private homebuilders.

Developers realized that the value of residential property depended on what was next door or across the street, and also that architectural issues (what the community 'looked like') could not be separated from how much property was worth in the community. The Van Sweringen Company succinctly stated this their guidelines: "[t]he ugly residence injures the surrounding property values."[40] Architectural controls provided homeowners with some assurances that their property would increase in value, that the quality and appearance of their communities would be maintained, and also provided developers with the means to directly regulate the appearance of the physical environment.

2.3 MODERN EXAMPLES OF ARCHITECTURAL CONTROLS

Since the 1920's, architectural controls have continued to play an increasing role in the housing industry particularly in expanding suburban areas. The post-World War I period marked sharp increases in federal, state, and even local government involvement in housing through the administering and monitoring of newly adopted codes and zoning regulations. The adoption of the Los Angeles zoning ordinance in 1909, followed by the New York City zoning ordinance in

1916, caused many smaller cities and suburbs to quickly follow suit. By the close of the decade, zoning ordinances were in operation in 981 cities, towns, and villages throughout the United States.[41] Government intervention heightened through the1930's and 1940's with the establishment of the Federal Housing and Administration (FHA) in 1934, and the Veterans Mortgage Guarantee Program in 1944. This program, better known as the G.I. Bill of Rights, established guidelines in order to qualify housing for low interest mortgages. Mandated by FHA, these guidelines limited the price of homes from $6,000 to $8,000, restricted their size to 800-1100 square feet [74 sq. m.-102 sq. m.]. Because of concern for wide market appeal and resale value, the housing that developed as a result of these guidelines was conservative in character with more traditional styles being promoted such as colonial or the Cape Code cottage.[42]

Today, housing is considered among of the country's most regulated industries and it is evident that the influence of laws governing future developments will continue to grow.[43] Although the regulatory process remains increasingly complicated, modern architectural controls are derived from traditional approaches to developmental control and consist of simply six basic methods: building codes, zoning, deed restrictions, design review, design guidelines, and design codes. Controls such as building codes, deed restrictions, and design review originated from devices which had been in effect well before the 20th-century, while zoning ordinances, comprehensive design guidelines and design codes have emerged more recently. The following sections will examine each method by describing its form and scope, how it functions, and finally the intent or purpose of the control. Issues of the adaptability and flexibility of each method as well as its effects on architectural design will also be detailed.

2.3.1 BUILDING CODES

Building codes are the oldest and most basic method by which construction is controlled. Crude restrictions of this sort as previously mentioned, can be found in ancient Babylon (the Code of Hammurabi) and were known to the ancient Greek and Roman planners. More extensive regulations, such as those previously mentioned from 17th-century London, were established primarily to address issues of fire protection and public safety. Poor living conditions associated with the 19th-century industrialized city eventually led to the enactment of additional controls which established minimum standards for daylight, ventilation and lot coverage to limit overcrowding. It is the consolidation of these former controls addressingboth public safety and health that forms the basis for contemporary building codes.

A building code can be defined as an ordinance or set of regulations that deal with the structural as well as the mechanical aspects of a building in relation to public health, safety and welfare. The code seeks to establish minimum standards by controlling the design, construction,

alteration, repair, quality of materials, and the use and occupancy of a building with the ultimate goal of protecting both life and property (fig.2.8).[44] The code functions by classifying structures according to their type of construction and by occupancy group. From this criterion, building characteristics such as height, number of stories, floor area, and number of occupants are determined.

TABLE II-771
MINIMUM FIRE SEPARATION REQUIRED BETWEEN OCCUPANCIES
(Fire-resistance ratings in hours)

Occupancy	C1	C2	C3.1	C3.2	C3.3	C4.1	C4.2	C4.3	C5.1[1]	C5.2[2]	C5.3[3]	C5.4[4]	C5.5[4]	C6.1	C6.2	C6.3
A1	See table I-717															
B1	See table I-720															
B2	See table I-720															
B3	See table I-720															
B4	See table I-720															
C1	1	3[1]	2[1]	3[1]	np	2[1]	3[1]	np	2[1]	3[1]	4	2	2	2[5]	np[5]	np
C2	—	1	2[5]	3	np	2	3	np	2[1]	3[1]	4[1]	3	3	3[5]	3[5]	np
C3.1			1	2[1]	4[2]	2[1]	3[1]	4[2]	2[1]	3[1]	4[2]	2[1]	2[1]	np[5]	np[5]	np
C3.2	—	—	—	2	4[2]	2	3	4	np	np	np	np	np	np	np	np
C3.3					4	4[2]	4[2]	4	np	np	np	np	np	np	np	np
C4.1	—	—	—	—	—	2[1]	3[1]	4	2	3[2]	4[2]	np	np	np[5]	np[5]	np
C4.2							3	4	np	np	np	np	np	np	np	np
C4.3	—	—	—	—	—	—	—	4	np	np	np	np	np	np	np	np
C5.1									2[5]	3[5]	4[1]	2[1]	2[1]	2[5]	2[5]	2
C5.2	—	—	—	—	—	—	—	—	—	3[5]	4[1]	2[1]	2[1]	3[5]	2[5]	3
C5.3											4[1]	4	4	4[5]	4[5]	4
C5.4	—	—	—	—	—	—	—	—	—	—	—	2	2	2[5]	2[5]	2
C5.5													2	2[5]	2[5]	2
C6.1	—	—	—	—	—	—	—	—	—	—	—	—	—	2[5]	2[5]	2
C6.2															2[5]	2
C6.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2

[1] One hour in types 2b, 3 and 4 construction and ½ hour in type 5 construction
[2] For restrictions on a high hazard use area, see 771 4(b); for restrictions on a moderate hazard use area, see 771 4(c)
[3] Openings in separation not permitted.
[4] Vertical fire separations shall not be required between two spaces for group C5 1, C5 2, or C5 3 occupancies or any combination thereof where such spaces are occupied by one tenant
[5] For C5 occupancies, see Article 6
[6] For exceptions and additional requirements in day-care centers, see 771 6 and 771 7

Fig.2.8. Minimum Fire Separation Required Between Occupancies
(*New York State Building Code*, 1986)

The building code is adopted as law and enforced by local level of government such as a municipality. Most often, local municipalities choose to adopt one of the "model codes," such as the *Uniform Building Code*, *Basic Building Code*, or *Standard Building Code*. These codes are not site specific, and have been written by people considered experts in the field. Adopting one of these model codes decreases the work and responsibility of writing one's own code, and allows a municipality to have an entire, fully integrated and workable code. In addition, companion codes such as energy conservation codes or handicapped accessibility codes may be instituted to govern more particular aspects of construction (fig.2.9).

The code is enforced through the issuing of permits, usually by a local building department whose primary purpose is to carefully review submitted plans for approval and issue

building permits. Following the completion of a building, a building inspector will inspect the structure to confirm adherence to the construction documents and specifications and issue a permit for occupancy.[45]

The primary purpose of building codes is not explicitly to restrict architectural design by suggesting or imposing a particular style, however, they can have a unifying effect on external appearance. An example is New York City's Tenement House Act of 1901, which established construction standards requiring that buildings over six stories be fireproofed. This restriction made the construction of tenements over six stories prohibitively expensive, resulting in more consistent design by effectively limiting their height in most parts of the city.[46]

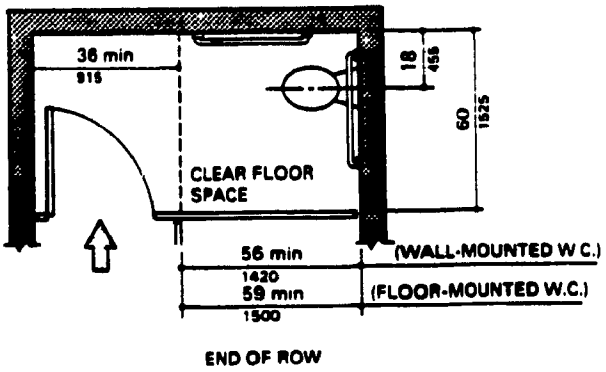

Fig.2.9. Handicapped Dimensions for Toilet Stalls (*American National Standards*, 1986)

2.3.2 ZONING ORDINANCES

The concept of zoning in modern times is a product of problems created by overcrowding and over development in expanding American cities at the turn of the 20th century. Unregulated building heights in larger cities caused some properties to decrease in value due to the obstruction of sunlight and fresh air by taller buildings. Municipal agencies intervened to help stabilize development and property values, and also to insure minimum public health standards. The first comprehensive zoning ordinances were adopted by Los Angeles and New York City in 1907 and in 1916, respectively, and zoning became common as a method of architectural control in smaller communities of the 1920's. Presently, zoning is the predominant land-use and building regulation operating in the United States.[47]

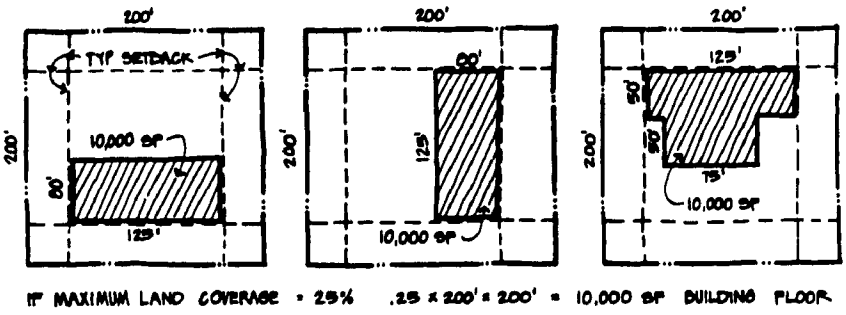

Fig.2.10. Three Options for Land Coverage (Wood, *Site Design*)

Zoning regulates how parcels of land in a specific municipality can be used, and for what purpose. With this as its primary objective, zoning generally restricts adjacent properties and

protects them against aesthetic nuisances or incompatibilities such as junk yards or billboards, from undesirable business such as adult book stores or pool halls, from dangerous industries and

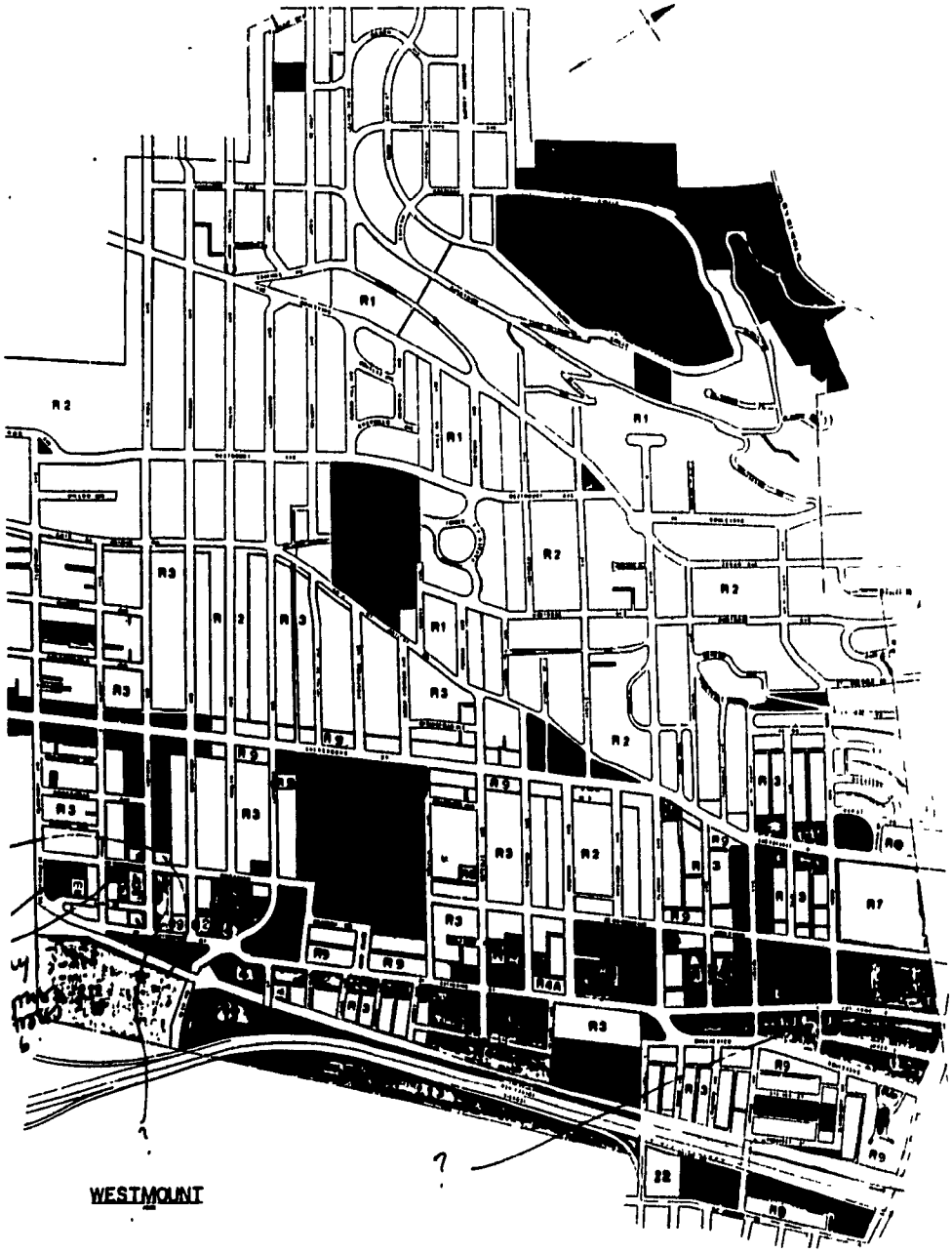

Fig.2.11. Westmount Zoning Map
(*By-Law To Regulate Residential, Commercial, Industrial, and Park Zone*, City of Westmount, 1986)

factories which may be toxic or explosive, and finally insures public access to light, air, and open space.[48] Zoning not only determines what land use is allowable in a particular district, but more specifically governs the size and positioning of buildings on a site. Regulations of this sort

establish property setback lines, height and parking requirements, and control the density of a zone by limiting the number of dwellings/acre and the percentage of land coverage (fig.2.10).

The zoning ordinance or code usually consists of a text/manual along with a zoning map which illustrates how the municipality is divided into designated land use districts (fig.2.11). The ordinance text describes each zoned area based on its primary allowable use such as agricultural, commercial, industrial, institutional, or residential. Each zone is given a code, such as R1 designating a single-family dwelling zone, which then corresponds to a location key on the zoning map. The primary land-use types are further subdivided into more specific categories: commercial into retail and wholesale districts, industrial into light or heavy manufacturing areas, and residential into single or multiple-family dwelling zones. Land-use zones are ranked in order of priority starting with single-family dwellings, followed by multiple-family, and ending with commercial and industrial uses (fig.2.12). A property may be used for purposes ranked higher than its zoned use, but not usually lower. Thus areas zoned for single-family dwellings are not allowed to be used for any other purposes.

Zoning ordinances are enacted and enforced by the municipality, whether it is a city, town or village. Based on the concept that the state has a responsibility to protect the health, safety and welfare of the public, municipalities are authorized to enforce zoning because of legislation passed at the states level.[49] This right was legally upheld in 1925 by the Supreme Court case, *Euclid v. Ambler*, firmly establishing public control through zoning in the United States.

Zoning ordinances address planning and design primarily in a two-dimensional manner setting requirements for yard setbacks, minimum area coverage and minimum lot widths. Zoning is also functional and numerically based; floor are ratio (F.A.R.) calculations are a good example of the numerical nature of zoning regulations. Zoning ordinances are not very flexible and thus are difficult to amend because they are broad in scope, complex, and legally binding. The amendment procedure can be quite costly in both time and money. If amendments to an ordinance are desired, the process begins with a petition that is circulated to the public requesting the ordinance change, and is then sent to the zoning board for review. This is followed by an announcement in the local newspaper for a public hearing where the public is given the opportunity to voice their support or opposition to the amendment. Finally, the zoning board members review all the material, and make a decision which can be influenced by local politics and not always by good sound judgement.[50]

The primary purpose of zoning is to preserve and promote the public's health, safety and welfare, to enhance the quality of life, and to protect and stabilize property values. Although its intention is not necessarily to control the external appearance of buildings, zoning has developed into a strong determinant of building form. For example, the 1916 ordinance effectively changed

the tall straight New York City skyscraper to a pyramidal form.[51] This familiar stepped massing of skyscrapers from that period was the direct result of setback lines, and not simply the architect's

PERMITTED OCCUPANCIES AND BUILDING TYPES

	ZONE	RESIDENTIAL									COMMERCIAL															INSTITUTIONAL	
	DISTRICT	R1	R2	R3	R4	R5	R6	R7	R8	R9	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C14	C15	C16	C17	I2	I3
	DETACHED	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	SEMI-DETACHED		X	X	X		X		X	X	X	X	X	X	X	X	X		X		X	X	X	X		X	X	X
	ATTACHED			X			X		X	X	X	X	X	X	X	X	X		X		X	X	X	X		X	X	X
TYPE																												
IA	ONE-FAMILY BUILDING	X	X	X	X	X	X		X	X	X	X		X	X		X		X		X	X	X	X		X	X	
IB	TWO-FAMILY BUILDING			X	X	X	X		X	X	X	X		X	X		X		X		X	X	X	X		X	X	
IC	APARTMENT BUILDING				X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
ID	ACCESSORY BUILDING	X	X	X	X	X	X		X	X	X	X	X	X	X	X					X	X					X	X	X
IIA	RESIDENCE FOR SENIOR CITIZENS				X	X	X			X	X	X	X	X							X	X					X	X	
IIB	NURSING HOME								X		X	X	X	X							X	X					X	X	
IIC	TEACHING ESTABLISHMENT										X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
IID	GEN. & VOC. COLLEGE, UNIVERSITY							X																	X		X		
IIE	HOSPITAL																				X								
IIIA	OFFICE										X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	SERVICE LABORATORY										X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	RADIO & T.V. STATION										X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	PRIVATE CLUB OR LODGE												X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	HEALTH STUDIO										X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
IIIB	BANK										X		X		X	X	X	X	X	X	X	X	X	X	X	X	X		
IIIC	RETAIL STORE														X	X	X	X	X	X		X	X	X	X		X		
	REAL ESTATE AGENCY														X	X	X	X	X	X		X	X	X	X		X		
	TRAVEL AGENCY														X	X	X	X	X	X		X	X	X	X		X		
	SERVICE SHOP														X	X	X	X	X	X		X	X	X	X		X		
	WORKSHOP														X	X	X	X	X	X		X	X	X	X		X		
	RESTAURANT														X	X	X	X	X	X		X	X	X	X		X		
	CINEMA & THEATRE														X	X	X	X	X	X		X	X	X	X		X		
	DAY CARE CENTER										X	X		X	X	X	X	X	X	X		X	X	X	X		X		
	MUSEUM														X	X	X	X	X	X		X	X	X	X		X		
IVA	WHOLESALE STORE																										X	X	
	WAREHOUSE																										X	X	
	RESEARCH LABORATORY																										X	X	
	SELF-SERVICE LAUNDRY & CLEANING																										X	X	
	GASOLINE STATION																										X	X	
	SERVICE GARAGE																										X	X	
	ANIMAL HOUSE																										X	X	
IVB	INDUSTRIAL BUILDING																												
VA	PARKING LOT										X	X	X		X	X	X			X	X	X		X			X	X	

LEGEND: X DENOTES PERMITTED OCCUPANCY

Fig.2.12. Permitted Occupancies and Building Types in Westmount, Quebec
(*By-Law to Regulate Residential, Commercial, Industrial, and Park Zone*, City of Westmount, 1986)

desire to add articulation and interest to the facade. The uniform single-family suburb is another result of zoning ordinances. Factors such as building setback lines, height restrictions, and lot coverage ratios, originally justified for health reasons, have come to explicitly prescribe the physical appearance of buildings.

2.3.3 DEED RESTRICTIONS

Modern day deed restrictions originated from the well established method of architectural control previously known as building restrictions. This form of private contractual agreement was prevalent in early 18th-century English town planning, and contributed to the unified appearance of the Royal Crescent at Bath and the Bedford Estate in London. Throughout the19th-century, restrictions of this sort were used as an effective method of creating communal architectural styles in planned suburbs such as Forest Hills and Shaker Heights Gardens. Prior to the advent of zoning, deed restrictions were commonly used in large scale residential land developments to restrict future land usage and to maintain architectural harmony.[52] Modern deed restrictions function in much the same way and share many similarities with these early controls.

Deed restrictions refer to any clause or covenant in a deed of sale which legally binds the

holder to certain requirements or provisions that may restrict future use or modification of land or property by the buyer.[53] These restrictions can be quite encompassing, controlling the development of large parcels of land by specifying broad characteristics such as overall site usage and density, as well as the permitted type and use of any building constructed on a parcel. More specifically, restrictions can be imposed to regulate building costs, area, and height, setback lines, exterior materials, construction methods, and even architectural style.

Deeds may contain numerous different types of covenants written with distinct purposes. Racial covenants for example, at one time prevented the sale of property to members of certain races with the goal of ensuring neighborhood homogeneity and property values. Covenants of this type were deemed illegal by the U.S. Supreme Court in 1946.[54] The most common form of covenant used today is the restrictive covenant which literally restricts land usage and building construction. This type of restriction is used most often when the goal of the developer or private agency is to produce a uniformly designed community, to promote a particular style, or to maintain residential land values. Another form of restriction called an affirmative covenant, legally delegates certain duties to the deed holder to be performed sometime in the future, such as maintaining a fence or a roadway. Affirmative covenants are frequently used in planned unit developments and condominiums for the up-keep cost of commonly owned areas.[55]

Deed restrictions represent a form of private control usually imposed by a private agency such as developer or a neighborhood association. They are legally binding and enforceable between buyer and seller, and sometimes third parties and must be in accord with civil rights law. For example, if a property is subdivided and the deeds specify that all buildings must be located 25 feet [7.62 m.] back from the street, and if the restrictions concern the quality and character land, then the restriction is enforceable. Anyone wishing to enforce the setback restriction could legally prevent someone from violating the covenant.[56] Covenants are written in the deed before the time of sale, so the buyer has an opportunity to cancel the sale if they do not agree with the restrictions. The covenants are generally effective for a certain period of time such as 10, 25, or 50 years. To provide control past the duration of the restrictions, some developers have set-up homeowner's associations which are composed of original buyers who by mutual interest and benefit wish to see the covenants remain in effect. Through the establishment of an architectural review board and a set of clearly defined design criteria, the association is authorized to review, recommend, and approve proposed designs.[57]

2.3.4 DESIGN REVIEW

Design review as a form of architectural control has developed in conjunction with the establishment of deed restrictions, particularly in early suburban communities of the last century.

This close relationship can be seen in such suburbs as Roland Park and Forest Hills Gardens, where the design review process in the form of homeowners' associations and architectural review boards, served an important role in the establishment and control of community styles. The modern design review process is similar, but considerably more complex, due to the increases in size and scope of many modern day suburban areas.

Design review is a method of monitoring the overall design process by administering, guiding, advising, and approving designs. The process can be carry out at a neighborhood level through a neighborhood or builders association, by a municipal agency through a local review board, or by a state agency such as a state historic commission. The individual or group of individuals who comprise the review board are either appointed or elected for varying term lengths depending on particular statutes. A board is often composed of people with a variety of backgrounds who are not necessarily design professionals such as architects, planners, or urban designers.

Review boards can function in a non-legal manner and in this case, their authority is limited to persuasive power by suggesting design direction rather than by imposing certain controls. In some cases, review boards impose and administer controls which are often vague and subjective, and derived from individual tastes of board members, or on stylistic trends of the community at large; Preferably the criteria and standards that a board uses as a bases to issue rulings should be written in advance and be made available to the general public. The more clearly these standards are defined and communicated to both professionals and laypeople, the more smoothly and more successfully the entire review process proceeds.[58] In addition, if these standards are adopted as part of the zoning by-laws for a particular municipality or agency, the review board gains more legitimacy because its decisions are legally supported by a set of design codes.

Design review primarily addresses concerns associated with architectural design and external appearance, but it can also address such issues as environmental impact and assessment and historical preservation. It often functions as a screening mechanism to identify policy changes, such as required zoning variances, which may be needed to implement a particular design approach.[59] It is characterized as being a highly flexible and responsive method of architectural control which is able to deal with the subtleties of design that can not be adequately addressed by other controls alone such as zoning or deed restrictions.[60]

Design review can have considerable relevance and impact depending on the size, scope and public importance of a project. It is therefore crucial that the review process be concentrated in the initial stages of conceptual design and design development, before certain decisions and directions are taken, and further review becomes futile and counterproductive. It is important to stress that the entire review process makes heavy administrative demands and can

be costly both in time and money, so it must be used wisely and judiciously.[61]

2.3.5 DESIGN GUIDELINES

Christopher Alexander's book, *A Pattern Language*, is well known among architects, and represents an unusual collection of design guidelines that can be used to plan and construct houses and even entire towns and neighborhoods. The book is one in a series of books published by the Center for Environmental Structure at Berkeley, and in conjunction with the companion text, *The Timeless Way of Building*, lay the foundation both conceptually and practically for an alternative method of designing and building. Together, the 253 individual patterns compose a traditional language of construction that Alexander feels "[is] so deeply rooted in the nature of things,...that they are part of human nature and human experience."[62] Alexander believes that we simply do not know how to build anymore, so the intent of the book is to give laypeople guidelines along with a method which he feels is universal, enabling them to construct their own home, or collectively, a town. The ultimate goal of the theory is to radically change our present ideas about architecture, planning and construction.

Alexander describes this 'universal method of building' as a language which is composed of 253 individual patterns. A pattern refers to a particular problem observed in our environment which seems to occur repeatedly. For example, the pattern titled, 'Six Foot Balcony,' recognizes the problem of poorly dimensioned balconies and concluding that "[b]alconies and porches which are less than six feet deep are hardly ever used." (fig.2.13) [63] The collection of patterns is ordered, starting with the broadest patterns which deal with regions and towns, then patterns which address neighborhoods or clusters of buildings, and ending with very specific patterns for rooms, a porch, or a window seat. The patterns are largely written, rather than being graphic, and follow a specific format, for clarity and ease of use. Each pattern begins with a picture which illustrates the architectural example, and is followed by a headline in bold letters identifying a particular architectural problem. The body of the pattern follows which describes the problem, giving background and statistical information to validate it as

Whenever you build a balcony, a porch, a gallery, or a terrace always make it at least six feet deep. If possible, recess at least a part of it into the building so that it is not cantilevered out and separated from the building by a simple line, and enclose it partially.

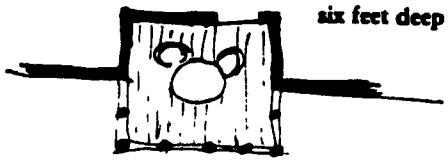

Fig.2.13. Sketch from 'Six Foot Balcony' (Alexander, *A Pattern Language*)

an actual problem. The solution follows in bold letters specifically stating what needs to be done to solve the problem described. Finally, there is a diagram illustrating the solution graphically.

Patterns are not intended to function independently of one another, and are connected with other patterns through references made at the beginning and end of each pattern. References made at the beginning of the pattern tie a particular pattern to broader scope patterns which precede it in the book. References made at the end of the pattern, connect the pattern with more specific patterns which follow it in the in the book. "The pattern helps to complete those larger patterns which are 'above' it, and is itself completed by those smaller patterns which are 'below' it."[64]

In contrast to the architectural controls discussed previously, these patterns are not intended to be legally binding or regulatory in nature, and are offered as suggestions not controls. Therefore, they are not enforced by any particular agency or municipality, and are inherently flexible and subject to change. It is also not their intent nor do they do necessarily produce a specific style of architecture.

2.3.6 SUMMARY

The five forms of architectural controls discussed: building codes, zoning, deed restrictions, design review, and design guidelines regulate different aspects of architectural design and construction, often employing different processes and methods for enforcement. More important, the various forms of control are designed with distinctive purposes in mind, and as a consequence, achieve different desired results in the built environment with varying degrees of success.

It is apparent from Figure 2.14 that there exists an array of regulations which affect architectural design and construction in various ways. It is this diversity and complexity in the regulatory process that has created some apparent drawbacks. Building codes, for example, are a necessary form of control to insure the public's health, safety and welfare are protected. But building codes are very broad in scope and make little differentiation from one region to another. They deal with specific technical issues that do not directly address the physical reality of the finished building form although they do sometimes 'accidentally' have an effect on architectural form and appearance. The building code can also be complicated to use and requires a person with a background in architecture, planning, or construction to interpret.

Similar to building codes, zoning ordinances protect the public by insuring access to light, air, and open space, but unlike building codes, zoning affects external appearance by controlling density, establishing property setback lines, and regulating aesthetic nuisances such as billboards. Like building codes, zoning is broad in scope which underlines one of its limitations.

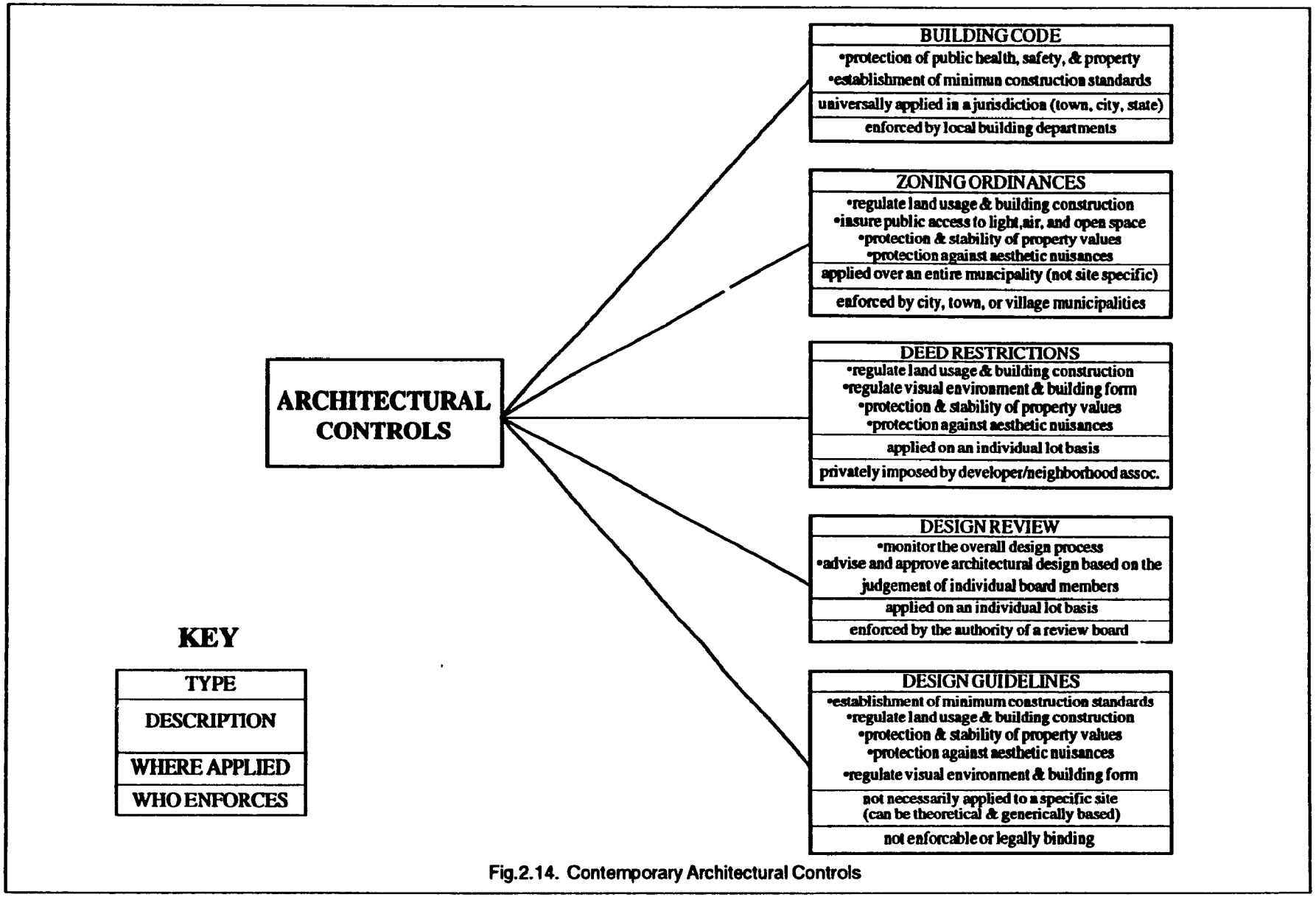

Fig.2.14. Contemporary Architectural Controls

Ordinances do not usually take into consideration orientation, or even the architectural tastes of the surrounding neighborhoods. They are a crude determinant of architectural form, and cannot function at a subtle level of design such as determining what color siding a house should have, or how high a fence around a trash dumpster should be. Zoning is based on blocks of similar land-use areas, and consequently, blocks are zoned rather than streets. This method of lot allocation is contrary to the way people perceive their neighborhood; people identify with a street, not a block. Zoning insures overall uniformity at the expense of subtlety, refinement, and variety. Zoning ordinances are difficult to decipher, which makes them virtually unusable to non-professionals. Because the process of enacting or altering zoning legislation is time consuming and complex, zoning as a regulatory method tends to be inflexible and hard to change.

Deed restrictions perform many of the same regulatory functions as zoning, but unlike zoning which is administered by a public municipality, deed restrictions are private contractual agreements between buyer and seller and are site specific. Deed restrictions are thus an option often used in wealthy communities to protect property values, or by a developer has who wishes to promote a particular neighborhood style. Because some neighborhoods may have deed restrictions and adjacent ones may not, an overall inconsistency is appearance can be created at the community level, which is especially apparent at fringe areas. Deed restrictions are usually enacted for a set period of time and may vary from one owner to another within the same neighborhood. This can potentially create a problem in design control after the restriction is no longer in effect, and may in the long term create an neighborhood which appears haphazard.

Unlike zoning which cannot effectively regulate subtleties in architectural design, the design review process is a flexible method of control which can make these kinds of necessary distinctions. The primary drawback of the design review process is that it is often subjective and based on the individual tastes of review board members who are not necessarily skilled in design, but nevertheless, have the authority to make architectural design judgements. Criteria used to make these judgements are often vague, which creates uncertainties for developers and designers, making it difficult to anticipate what board members feel is 'correct' and 'appropriate.' The review process also makes heavy administration demands and is costly both in money and in time.

Christopher Alexander's design guidelines attempt to address some of the limitations of other architectural controls, and are successful in describing a comprehensive language for design, planning, and construction. His patterns are both broad and specific in scope. They are able to address the large scale planning issues of a town, while also dealing with the 'proper' dimensions of a balcony. Although Alexander created these guidelines for unskilled people, one limitation of the pattern book is that it is complicated and difficult to use due in part to linkages

created between the patterns in the book. Of course, the guidelines are suggestions and are not intended to be legally binding, and thus, are not a regulatory method of control.

The five architectural controls discussed are particularly deficient when a specific architectural result is desired. In addition, most of them are complicated, and do not represent a form of working documents that are easy for non-professionals to understand. A method of control, design codes, has recently emerged to overcome some of the drawbacks associated with more traditional forms of architectural controls. Unlike other forms of controls, design codes are characterized by being less comprehensive than traditional forms of control, and more narrowly defined in their purpose and goals. They are intended explicitly to address design issues affecting the physical environment as a whole, but at the same time, are directly concerned with issues external appearance and architectural style; issues that are increasingly becoming a concern in modern suburban developments. The next chapter will discuss these characteristics of design codes greater detail, their relevance to modern suburban development, and will also analyze five representative design codes.

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CHAPTER 3
EXAMPLES OF CONTEMPORARY DESIGN CODES

3.1 INTRODUCTION

The desire to regulate the physical environment of the suburb through architectural controls is not a recent phenomenon. As illustrated in Chapter 2, the emergence of legally-binding controls specifically addressing the *aesthetic appearance* of buildings, streets, and neighborhoods, coincided with prospering suburban communities in 18th-century England. In the mid 19th-century, numerous early American planned suburbs, concerned with the protection of property values, established community styles to ensure a consistent neighborhood image and aesthetic compatibility within historic districts. This historic perspective provides some precedence for the importance and use of architectural controls in modern suburbs, because many of the aesthetic concerns expressed by developers, architects, and homeowners today are no different than those expressed in previous eras regarding the design of suburban communities.[a] Some contemporary architects who are in the forefront of addressing suburban problems propose the use of similar architectural controls in modern suburbs primarily in the form of design guidelines or design codes.

Nevertheless, there are still some who feel that these kinds of controls are unnaturally regulatory and that they will ultimately hinder creativity. These critics, however, have overlooked that zoning is already a rigid determinant of building form, and along with a miriad of numerous other restrictions which are part of the housing industry today, have been responsible for the congested, fragmented and overall unsatisfying contemporary suburb. Moreover, such critics of design control have failed to recognize that it is precisely suburbs such as Forest Hills Gardens and Shaker Heights (not Levittown) which are highly idealized by our culture,[1] and that these suburbs were not accidents; their appearance was carefully regulated through the application of relatively stringent design control.[b] Unfortunately, our present architectural controls prevent designers from building the sort of suburbs that are admired. The problem is not design controls

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[a]See '1.3. Architectural Criticisms of the Modern Suburb' in Chapter I.

[b]Stern states in an article titled 'Planned Communities,' in *Housing: Symbol, Structure, Site*, that: 'The dream of creating new, more perfect places to live has often not been left to chance but rather to a disciplined, predetermined, carefully articulated plan,' and that '[t]his has been particularly true in regard to the suburb...' (*Housing: Symbol, Structure, Site* 68.)

themselves, but rather the fact that contemporary forms of control are outdated and do not specifically embrace issues which are pertinent to suburban development today. Therefore, it is not the elimination of architectural controls, but rather the rewriting of design codes that will ultimately improve the diminished appearance of the contemporary suburb.

3.2 DESIGN CODES

The appearance of the contemporary suburb is one of its most criticized and problematic features. For the past forty to fifty years, architects have consistently shied away from addressing this issue, taking a more secondary role in its development. Many find themselves disturbed by suburban images, challenged by their increasing size and complicated planning issues, and distraught by the dominance of the automobile in its landscape.[a] These challenges are compounded because most modern methods of control do not specifically confront these architectural and planning criticisms; mainly, what the suburb 'looks like.' Rather than addressing these concerns from an architectural perspective as critics of modern controls such as Andres Duany of Duany & Plater-Zyberk (DPZ) points out, these controls—particularly zoning ordinances—tend to regulate non-architectural issues especially those involving the automobile such as traffic patterns and parking, as well as dictating a rigorous separation of uses and a relatively low density of building.[2]

Many housing standards from the turn-of-the-century originated for the purpose of protecting public health and safety within dwellings, not for improving the exterior environment. But, as Clare Cooper Marcus points out in *Housing As If People Mattered*, most people are concerned with the overall image, milieu, and site planning of their housing developments much more so than the interiors of their dwellings.[3] She also suggests that designers are adequately skilled in laying out functional kitchens and bathrooms, but are not as adept in site planning, landscaping, arrangement of dwellings on the site (particularly the crucial spaces between buildings) and the design of facades and entries.[4] The design profession is also criticized by Duany, who feels that unlike previous eras when architects received training within one school of thought (such as the Beaux-Arts school) and approached architecture from a similar perspective, today's designers often differ radically in design philosophy.[5] Consequently, there exists little consensus among contemporary architects about what constitutes 'good design.' This makes it extremely difficult to create harmonious towns and suburbs which, according to Duany, require placing limits on the range of architectural possibilities.[6] Unfortunately, the five controls discussed

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[a]John Nolan was one of the few architects during the advent of the auto age, who appreciated some of the special characteristics of the automobile suburb. Worth noting is his comprehensive plan for mill and factory workers homes in Bridgeport, Connecticut (1918) and the planning for Mariemont, Ohio (1918), a limited-profit, model town for industrial workers. (see Robert Stern, *Architectural Design Profile51: The Anglo-American Suburb*, 11, and *Urban America: Documenting the Planners*, 7-19.)

in Chapter 2 do not provide a means for narrowing architectural possibilities and are particularly deficient when a specific architectural result is desired. More broadly, they do not regulate the quality and milieu of housing environments from an aesthetic perspective.

Design codes, on the other hand, provide designers with a method of design control which is able to overcome some of these drawbacks. Design codes are composite codes, a synthesis of currently existing forms of architectural controls (fig.3.1). Similar to building codes, design codes can establish minimum construction standards, functioning at a very subtle level, regulating, for example, brick bonding patterns or exterior corner molding details. Like zoning, design codes can regulate circulation patterns and street profiles in new residential developments, dictate land usage, building types, and density. Like deed restrictions, design codes often promote a particular style or conserve existing vernacular styles; for example, controlling exterior design through the limitation of building materials or by designating roof slopes and window proportions. Design codes also utilize the review process and are enforced by the authority of a review board, town architect or simply through their incorporation into a town's zoning ordinance.

Although design codes appropriate some characteristics from each form of architectural control, they do not appropriate all characteristics. For example, design codes differ from building codes and zoning because they regulate the public realm from an aesthetic perspective, and are not concerned with issues of safety or structural stability. They differ from deed restrictions in that they are universally applied and administered over an entire residential development, whereas deed restrictions regulate and are administered on an individual per/lot basis. This characteristic is extremely important because it encourages the code to address many dwellings not simply the appearance of a single dwelling. Finally, it is important to make a clear distinction between design guidelines and design codes: *design guidelines* are offered as suggestions and are not legally enforceable, while *design codes* are legally binding either through adoption by a municipality into the zoning by-laws or ordinances, or as ordinances, or through a recognizable and binding design review process.

3.3 SURVEY OF CONTEMPORARY DESIGN CODES

The following sections survey five contemporary design codes which govern the suburban environment with particular focus on single-family housing: Westmount in Montreal, Quebec; Seaside, Florida; Westpark in Irvine, California; Mashpee, Massachusetts; and San Jose,

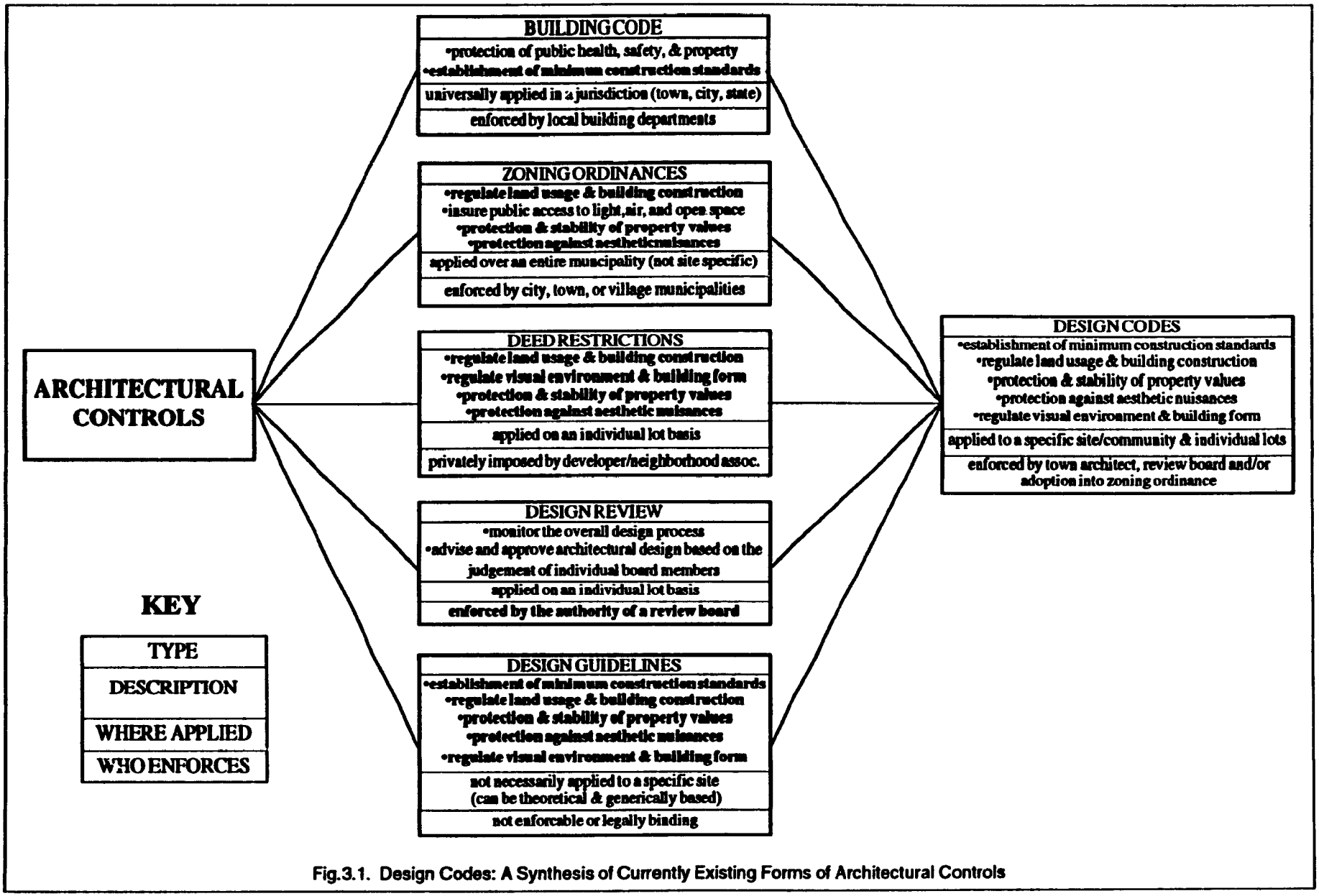

Fig.3.1. Design Codes: A Synthesis of Currently Existing Forms of Architectural Controls

California.[a] The codes chosen for the survey offer a good descriptive overview because they are representative of the broad range that exists among design codes. The examples illustrate various types and sizes of suburban communities and often incorporate differing goals. The historic community of Westmount, for example, is concerned with preserving its rich architectural heritage, whereas Mashpee is concerned with establishing a vernacular style for a relatively small, new town. The 80-acre [32.4 hectare] resort town of Seaside is considerably smaller than Westpark in Irvine California which is an 833-acre [337 hectare], "edge city" suburb of Los Angeles.

The examples are presented in an order which facilitates comparisons and contrasts between them. The survey begins with Westmount because it is the only historically-oriented code and it is also the least rigid of the five. It is followed by the well-known Urban Code of Seaside which is more strict and has some stylistic content. The third example is Westpark which is also strict code with a specific stylistic intent. Mashpee, too, is a stylistic code, but one that deals with this issue in a different manner. The survey concludes with San Jose because it represents the lengthiest and also the most complicated code of all the examples chosen.

The focus of the survey is on the architectural controls found in design codes, however additional issues which are considered related but not strictly architectural, such as urban and site planning, are also addressed. This is especially the case in design codes which are written for large communities, or in comprehensive and highly integrated codes. In addition, since it is difficult to summarize codes which may be up to sixty-six pages long, only unique features found within each code are discussed.

3.3.1 RENOVATION IN WESTMOUNT

The City of Westmount is an independent municipality located adjacent to Montreal's central downtown district. Much of Westmount is situated on the slopes of Montreal's 'Little Mountain,' bordering Mount Royal Park, and is known as one of the most distinctive and scenic areas in Montreal. Founded over 100 years ago, Westmount has developed from rural farmland with a few large estates into a densely populated contemporary inner-city suburb. But unlike many older suburbs which have recently been devastated by careless and unregulated growth, Westmount has been able to retain much of its original architectural fabric and neighborhood character through its strong tradition of carefully controlled design and by requiring relatively high standards of building construction. One of Westmount's construction requirements, for example,

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[a]Please note that although the terms design code and design guideline are often used interchangeably in the profession today, all examples chosen for the survey represent design codes (as defined in section 3.2). Many of the design codes chosen are actually titled design guidelines, and individual sections within the design guideline manuals are referred to as guidelines. Although this may be the case, no attempt is made by the author to alter the original terminology of the original design codes.

states that exterior walls of new buildings or additions must be constructed of stone, brick, or concrete, thus giving some insurance of sound construction techniques.[7a]

The architecture of Westmount houses is as varied as the terrain. From the terraced houses located south of Sherbrooke Street to the semi-detached houses on the slopes of the mountain and larger mansions located on the upper slopes, Westmount architecture reflects a

Fig.3.2. Greystone Terrace Houses on Dorchester Boulevard
(*Renovation in Westmount*)

wide range of incomes and styles with the character of each area being distinctive. Many Westmount streets are distinguished by the repetition of common architectural elements such as projecting bay or oriel windows, ornately carved wood porches or entranceways, and the treatment of rooflines with elaborately carved cornices (fig.3.2). Westmounters feel a strong responsibility and desire to preserve this rich heritage, and to maintain the aesthetic character and economic value of the community.[8]

Any alterations that affect the exterior of a building must be reviewed by the Westmount Architecture and Planning Commission which has the authority to require changes to a proposed

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[a]This construction requirement is a legal requirement covered in the Westmount zoning by-laws. (By-law 577, sect. 3.3.6.4.)

design or to deny the issuance of a building permit based on reasons of planning and aesthetics.[9] In the early 1980s, following a legal challenge to a decision made by the Commission, a set of guidelines titled *Renovation in Westmount* was drafted to serve as criteria for their rulings.[a] Because many of the decisions rendered by the Commission were aesthetic, and therefore very often based on the subjective tastes of its members, the guidelines were viewed as a positive step towards ensuring more consistency in the decisions rendered by the Commission. The guidelines were also written to expedite the overall review process and to limit the number of appeals. They provide a straightforward set of documented rules, giving architects and developers, as well as laypeople, an understanding of what constitutes acceptable design by the Commission; this ultimately limits the amount of time the Commission spends reviewing each design. The design guidelines were voted on and approved by the City Council of Westmount in 1985, and although they have not been incorporated into the zoning by-laws, they are nevertheless binding by general consensus and accepted by the City Council, the Architecture and Planning Commission, and the community.[10] Building permits are required for all new construction, alterations, and additions, but are not required for minor alterations and repairs (if the replacement matches the existing work) or for exterior or interior painting.[11] Adherence to the guidelines gives applicants for building permits some assurance that their designs will be approved by the Commission.

The guidelines are divided into ten sections, organized by architectural elements as follows: 1. Roofs, 2. Masonry Walls, 3. Windows and Doors, 4. Exterior Woodwork, 5. Entranceways, Steps and Porches, 6. Interiors, 7. Additions and Extensions, 8. Decks, 9. Landscaping and Fences, and 10. Storefronts and Signs. Each guideline follows a similar format. The first part addresses legal requirements affecting the particular element, cited from the Quebec Civil Code and the By-laws of the City of Westmount. An example of one legal requirement for guideline 9 'Landscaping and Fences,' taken from by-law 907, sect. 3, states that: 'The maximum permitted height of a fence or hedge is: in front of a building and on sides facing a street 1370 mm (4'6"); on sides and rear of the property 2000 mm (6'6").'[12] The second part of the each guideline

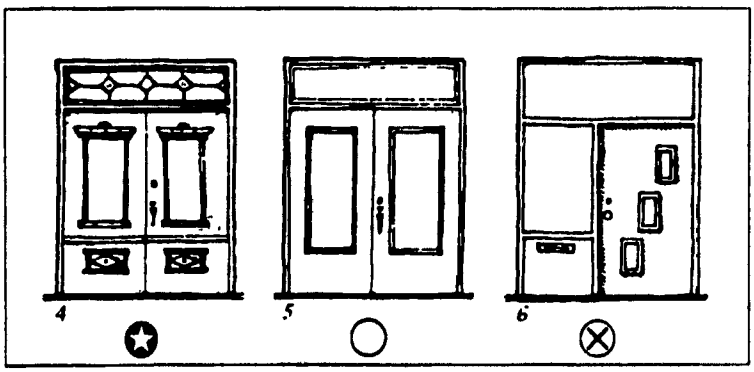

Fig.3.3. Sketch Illustrating Rating System
(*Renovation in Westmount*)

[a]This 32 page document is available to anyone—gratuitous—at Westmount City Hall.

lists general principles and designs suggestions. The suggestions help to provide a background and overview of the architectural feature and its importance to Westmount architecture along with outlining specific design limitations. Included are photographs and sketches which are used along with a rating system to show acceptable or unacceptable solutions. Symbols are used to show preferences among design solutions; a star with a circle around it indicates a recommended design solution, an open circle means acceptable under certain circumstances, and a circle with an 'x' indicates an unacceptable solution (fig.3.3).

The guidelines are not simply concerned with the appearance of individual houses, but with preserving the existing architectural context of an old, established community. Although the issue of style is important, especially the preservation of communities styles, the guidelines do not attempt to regulate aesthetics based on style alone; style is mentioned in the guidelines only when it applies to respecting the architecture of surrounding houses.[a] In the introduction to the guidelines titled, 'Respecting a Building's Character,' it is evident that the guidelines seek to balance individual design expression with that of the surrounding architectural context:

> The basic principle of sensitive renovation is to respect the character of the general streetscape as well as the design of the individual building and its particular features.[13]

In addition, the guidelines attempt to insure a degree of continuity from existing to new construction by instructing the reader to pay careful attention to the special characteristics of adjacent houses:

> Before undertaking an alteration or an addition to a building, it is advisable to study the surrounding buildings to identify the special characteristics of the streetscape and to design the new construction to respect and enhance that character.[14]

It is evident from the two sections quoted above that the issue of streetscape is important in Westmount, and because of this the guidelines focus on elements which define the realm between the private house and the public street. Architectural features which are important in defining this transitional realm such as porches, decks, fences, and landscaping, are strongly regulated by the guidelines. For example, suggestions for fence designs include varying the design of post tops to create variety (fig.3.4), dividing a high fence into an upper and lower portion to reduce the impact of the fence (fig.3.5), and emphasizing the posts and rails of a fence to create more interest (fig.3.6).[15]

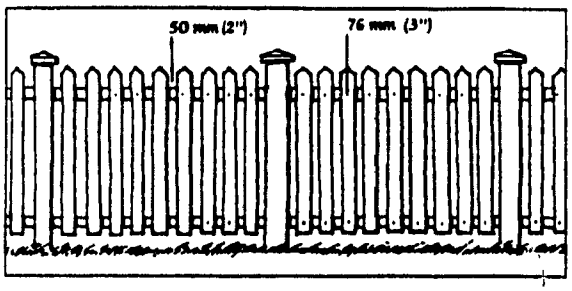

Fig.3.4. Suggestions for Design of Fencing Post Tops (*Renovation in Westmount*)

[a]This is due in part to the fact that Westmount architecture is varied (both in architectural expression and housing type), and thus there is no single community style.

The Westmount guidelines are preservation guidelines and as such, address architectural issues concerning renovation, maintenance, repair and alterations to the exterior of existing buildings, and do not apply to new construction or interior changes.[a] Guidelines concerning new construction are addressed in an eight page document titled *Building in Westmount: Criteria for the Design of New Buildings*.[b] This brief document reiterates similar design controls for new construction that are dictated for preservation construction, and additionally refers to sections of *Renovation in Westmount*, in its introduction.

> The following criteria are intended to preserve and enhance the visual character and harmony of Westmount. These requirements apply to new buildings and to major renovations and additions to existing buildings. Owners and architects are also referred to relevant sections of the City's renovation guidelines *Renovation in Westmount*, particularly the parts referring to additions, fences, and decks.[16]

Because *Renovation in Westmount* addresses issues of special concern to older buildings, particular importance is placed on how to bring buildings up to modern 'physical standards,' without destroying the special or unique architectural features of the house. The guidelines recognize that unknowledgeable, minor alterations have a cumulative affect over time which may not be realized immediately (fig.3.7). To avoid unnecessary alterations, the guidelines firstly emphasize prevention through proper care and maintenance.

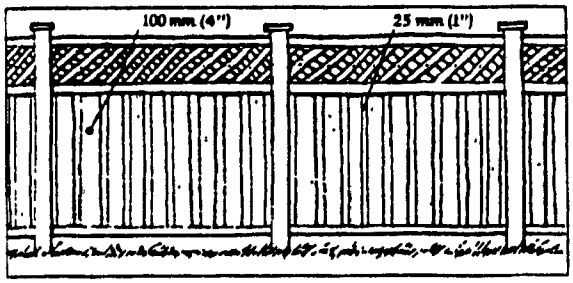

Fig.3.5. Suggestions for Design of Fencing
(*Renovation in Westmount*)

This is evident in the guideline addressing roofs which suggests that:

> Regular inspection and maintenance is essential, including annual cleaning of gutters and drainpipes, as well as inspection of flashing, chimneys and other parts.[17]

The guidelines are cognizant of the fact that older houses need special care not necessarily because of neglect, but also due to age and natural wear and tear. Consequently, some of the suggestions outlined are not necessarily architectural, but rather appropriate repair techniques. For example, guideline number 2 'Masonry Walls,' covers in detail proper means of repointing deteriorating masonry walls.

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[a] Although guideline 6 is titled 'Interiors,' it states that: 'interior changes are not subject to aesthetic control by the city.' (*Renovation in Westmount*, 19.)

[b] The majority of construction in Westmount is alterations and renovations. Approximately only 1 in every 25 plans reviewed by the Westmount Architecture and Planning Commission are for new houses. (from an interview with Derek Drummond, Director of the School of Architecture, McGill University, who also sits on the Westmount Architecture and Planning Commission, May 1992).

> The original mortar should be retained whenever possible. Repoint only when necessary to preserve the wall or to reduce water penetration. Complete repointing of a wall is rarely necessary. It is suggested that repointing should be done with mortar of the same strength and colour and with joints of the same size and profile as the original.[18]

Finally, the guidelines suggest replacement of damaged architectural elements, and if this is found to be necessary, the guidelines specifically regulate replacement procedures. The guidelines stress replacement of original features as close as possible to the original, leaving very little design flexibility. Replacement of elements such as windows and doors are highlighted in the guidelines due to the high degree of wear and tear they experience through constant use, and also because they have a great impact on the visual quality of the facade. Guideline 3, 'Windows and Doors,' stresses this importance by suggesting firstly that windows be replaced with an exact replica of the original, and if that is not possible, a simplified version of the original may be acceptable. Lastly it states that: 'Totally different window forms are usually inappropriate.'[19] (fig.3.8)

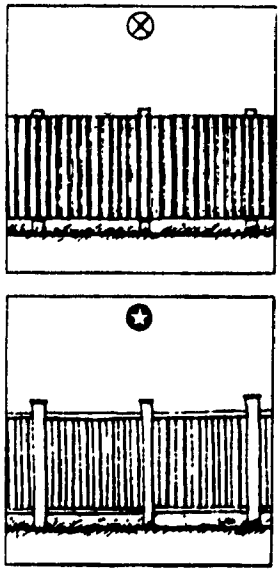

Fig.3.6. Suggestions for the Design of Fencing Posts and Rails (*Renovation in Westmount*)

The rating system represents one limitation of the guidelines because it attempts to illustrate by comparison or example, but cannot show all situations. The guidelines also tend to be descriptive and instructional, rather than prescribing necessary controls. This is evident in the fact that the controls are stated as suggestions rather than as requirements. The informative nature of the guidelines is due to the fact that they are seen as a way of educating the public to what is acceptable architecture in Westmount. This attitude is apparent in the following introductory section to the guidelines:

> A few hours of research can make an owner or designer more familiar with the style and techniques used in the original construction, and with the wide range of good quality materials and elements available for renovation.[20]

It is thought that an educated public/homeowners will ultimately make the job of architects easier because there will develop a general consensus between the owner and architect to what is allowable in Westmount.[21]

Although the goals of the guidelines are admirable, the guidelines in practice over the past seven years have produced mixed results. Prof. Derek Drummond, who presently sits on the Westmount Architecture and Planning Commission, is convinced that the code has cut down on the number of appeals, has helped in educating the public, and has also prevented mediocrity

within the architectural profession.[a] Prof. Drummond stresses that the guidelines were never intended to tell designers how to design, but were written to establish a consensus for design direction and intention. Consequently, the guidelines address broad design issues and are fairly flexible so that they don't preclude good design by restricting architects unnecessarily.[22] In contrast, Westmount architect Bruce Anderson is frustrated by the code because he feels it is inconsistently administered and does not appear to prevent insensitive design.

Fig.3.7. Character of a Building Destroyed by Illconsidered Changes (*Renovation in Westmount*)

Prof. Anderson points to a recent re-vamped porch entrance located a few doors down from his Sherbrooke Street office (fig.3.9). The entranceway was renovated in a high-tech style, with a series of metal steps and pipe railings all painted in a high gloss royal blue color. The entablature above the entrance door, also painted in royal blue, was renovated, while an existing column was removed and was not reused in the final design. This example clearly illustrates Prof. Anderson's concerns because it does not respond to the historical context of Westmount, and does not in any way respect the spirit of the guidelines. Prof. Anderson acknowledges that some improvements in Westmount's renovation architecture have been made recently, but feels that these gains have had more to do with a growing acceptance of classicism and heritage design by architectural universities, professionals, and the general public, rather than due to the direct affect of the guidelines.[23]

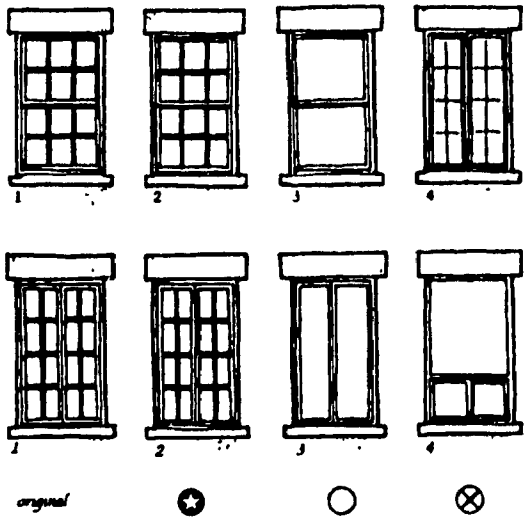

Fig.3.8. Appropriate Window Replacement Strategies (Renovation in Westmount)

[a]Prof. Drummond is also the Dean of the School of Architecture at McGill University in Montreal, and is a practicing architect in Westmount.

Fig. 3.9. 4480 Sherbrooke Street Entrance, Westmount, Quebec

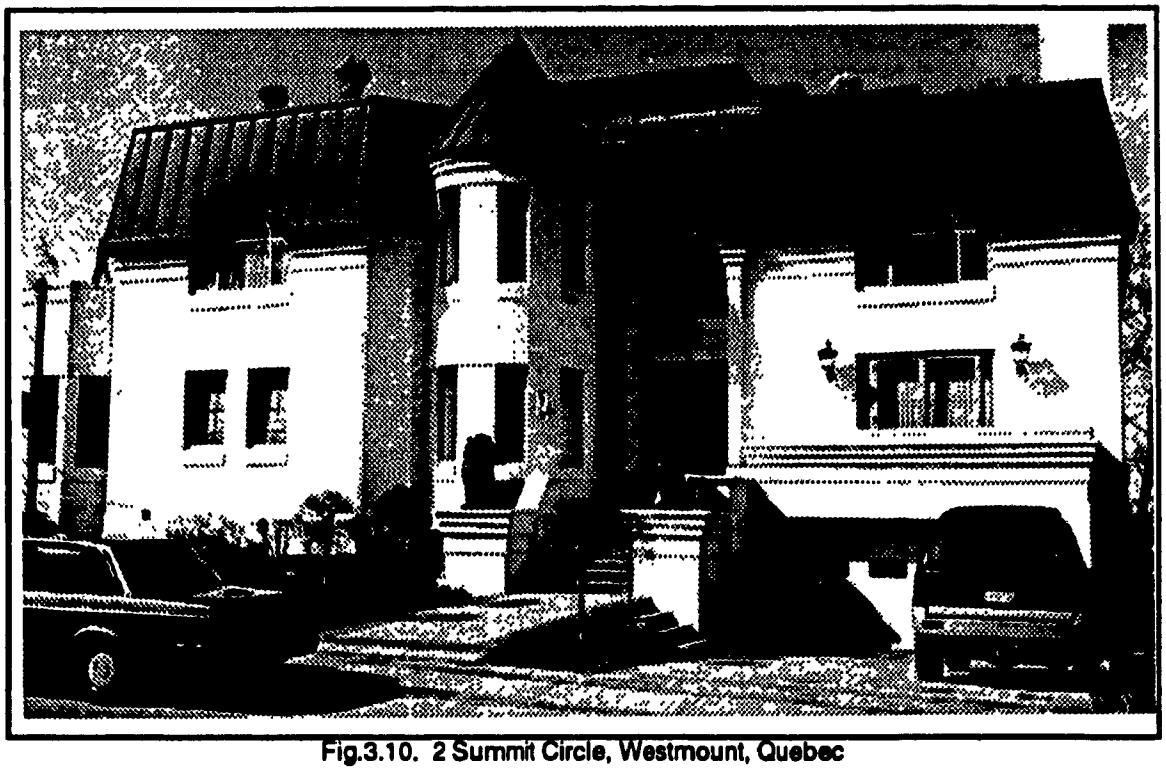

Fig.3.10. 2 Summit Circle, Westmount, Quebec

Walking around Westmount, it is clear that there are many fine examples of homes built recently that respect the spirit of the guidelines such as 2 Summit Circle (fig.3.10); However, equally as many other examples can be found which do not. Although the guidelines are enforced by a review board, board members are not bound legally to uphold the specificities of the guidelines. Since the guidelines are stated as suggestions, there are opportunities for personal interpretation. Finally, because the guidelines were not created to replace or even to compliment the review process, only to supplement it, much of the burden for 'quality' design still remains with the reviewers. This may explain many of the inconsistencies found with the way that the guidelines are applied.

3.3.2 THE URBAN AND ARCHITECTURAL CODES: THE VILLAGE OF SEASIDE

The resort community of Seaside is located on the Florida panhandle in the northwest part of the state on the Gulf of Mexico (fig.3.11). The 80-acre [32.4 hectare] site is attractive, with approximately twenty-eight hundred feet of beach front property, but is isolated from the majority of tourist towns in southern Florida. Realizing that an original design approach was needed to attract people to this out-of-the-way resort, owner and developer, Robert Davis in 1978, retained the services of architects Andres Duany and Elizabeth Plater-Zyberk (DPZ) to develop a master plan and zoning code for the town. From the beginnings, DPZ conceived Seaside as a whole town rather than simply another suburban subdivision, and accordingly surveyed traditional American towns throughout the South such as Savannah and Charleston to document characteristics which they felt were essential to small-town design.[24] Their premise was that American 18th and 19th century towns remain valid urban models capable of altering some of the prevailing standards typical of contemporary residential developments.[25] Recognizing that regulatory control of residential design through zoning ordinances, FHA and PUD standards, and trafficking policies have formed the basis of planning and building principles in the United States since World War I, DPZ realized that rewriting these codes was the single most effective way to improve the form of housing environments. The proposed village of Seaside became a way to "test" their premise and to see how effectively characteristics of a small town

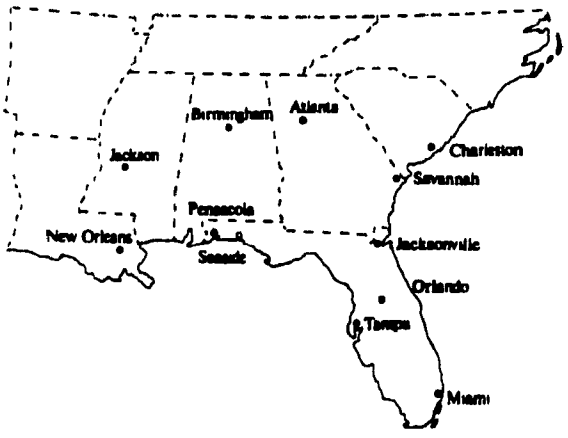

Fig.3.11. Location Plan of Seaside, Florida
(Andres Duany and Elizabeth Plater-Zyberk, 'A Town Plan for Seaside')

could be codified. Consequently, the design controls developed for Seaside gained significant importance not only as a method of design control, but also as a way of insuring at some level the design of an authentic, viable town life.

At Seaside, the vernacular of pre-World War southern towns has been translated into a highly succinct and primarily graphic set of regulatory documents. The master plan incorporates traditional town planning strategies. An example of this can be seen in Seaside's overall site planning which is concentric, with a simple rectangular grid superimposed on diagonal streets radiating outward from a central core (fig.3.12).[26] This radial style plan was chosen because it effectively affords more people a view of the sea, due to the increase of streets terminating at the beach front. The central core services the commercial district at Seaside, and is a prototype to a downtown and main square found in traditional town architecture. The density is appropriately higher towards the central downtown area and gradually decreases towards the perimeter, typical of towns surveyed by DPZ.[27] Axes and vistas at Seaside are also dealt with in a traditional manner, with identifiable landmarks and public squares terminating important views; beach pavilions complete the view to the sea on east-west streets, and the tennis club and central square/town square located at each end of the boulevard, signify major intersections and prominent public buildings.[28] Finally, a hierarchy of circulation networks is common in traditional town design and at Seaside this is translated into broad range of patterns from narrow pedestrian walkways located at the rear yards of properties, to sidewalk lined neighborhood streets, to grand boulevards and public squares.

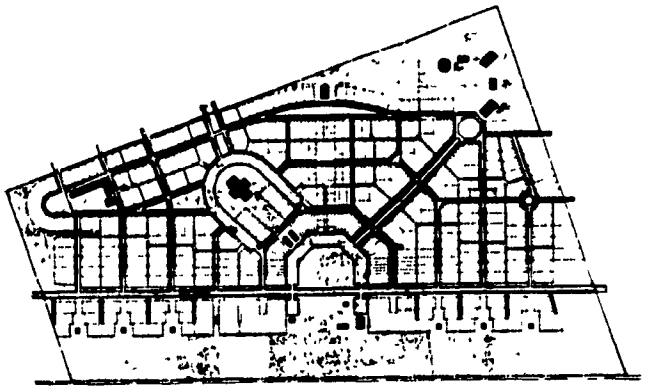

Fig.3.12. Layout of Seaside (Andres Duany and Elizabeth Plater-Zyberk, 'A Town Plan for Seaside')

Seaside's program incorporates provisions for a variety of public and private amenities all located within a comfortable quarter-mile radius to facilitate walking rather than driving. Street widths are carefully designed to accommodate both pedestrians and cars: Humanly scaled streets encourage walking and the pedestrian life of the town is enhanced by sidewalks and rear yard footpaths. Parking is designated on private lots and all cars can also be parked at curbside to avoid large expanses of parking lots. When completed, Seaside will not only include three hundred and fifty dwelling/residential units of varying types and sizes, but will also contain a mixture of public and private facilities such as a central shopping district, 100 to 200 units of

lodging (in hotel(s) and bed-and-breakfast(s)), a post office, tennis club, church, school and a Sunday market. Some of these facilities are reminiscent of traditional town life, such as the town green, town hall and market square, and are essential ingredients in creating a community atmosphere.

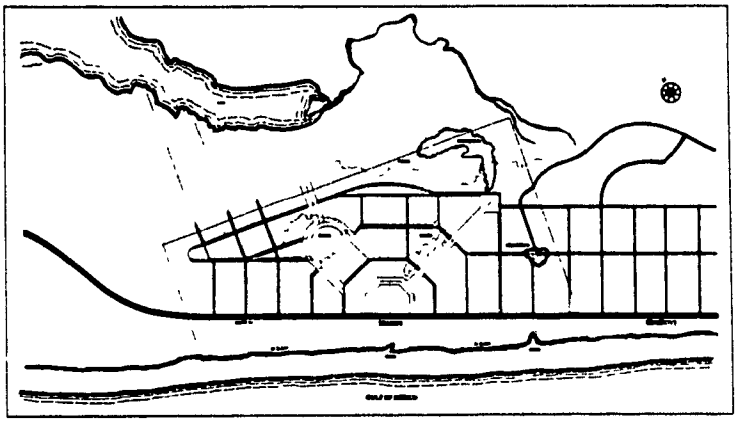

Fig.3.13. Master Plan of Seaside ("The Town of Seaside")

The set of regulatory codes for Seaside consist of three documents: a *Master Plan*, an *Urban Code*, and an *Architectural Code*. In addition, there also exists a design review committee which reviews buildings plans for conformity with the codes. The *Master Plan* is a composite drawing that locates all necessary planning information such as street networks, distribution of private lots and sites for public buildings and spaces (fig.3.13).[a] In addition to the *Master Plan*, Regulating Plan(s) are used to identify private lots according to broadly defined building types modeled after Southern typologies.[b] Figure 3.14 illustrates the regulating plan for building Type IV, whose prototype is based on the Greek Revival mansions of the Antebellum South (fig.3.15).[29] This building type allows a combination of uses—both residential (single and multi-family) and lodging (bed-and-breakfast)—but consistently applies the same architectural controls irregardless of usage. It is interesting that this form of design control differs from traditional zoning methods in that private lots are zoned by type, rather than by functional use, allowing the planner to directly regulate architectural form.

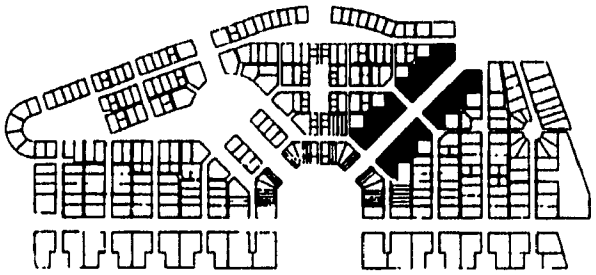

Fig.3.14. Regulating Plan for Residential Building Type IV (Duany and Plater-Zyberk, "A Town Plan for Seaside")

[a] In more recent large planned communities by DPZ, the composite drawing master plan may be replaced by a series of separate plans showing neighborhood, village, town, and regional street patterns. (*Towns and Town-Making Principles*, 21)

[b] At Seaside, there are eight primary regulating plans; one for each of the eight building types. Other building types are modeled after southern typologies such as the American bungalow, the Charleston 'single house,' and the arcaded retail/residential dwellings found in New Orleans's Vieux Carré district.

The *Urban Code* is used to reference specific requirements for building types highlighted on the designated Regulating Plans. It is a diagrammatic, one-page document, concerned primarily with controlling elements which define urban quality such as street frontages, height and size of buildings, roof style and pitch, configuration of porches, balconies and window openings (fig.3.16). One impressive quality of the *Urban Code* is its simplicity.[a] It is graphic as well as written, which enables people to use the code without necessarily needing professional assistance. This is an important aspect of the code because many of the houses built at Seaside are not designed by architects, but by carpenters, drafting services, or even by the owners themselves.[30] Only private buildings are regulated by either the urban code or architectural code. Public buildings are left to the personal interpretation of individual designers with only one requirement that they be painted white to differentiate them from private buildings, however they are still reviewed by committee. Since urban qualities are controlled through the control of building types, the code is organized into a matrix-like chart with building types positioned across the top of the code, and regulated elements positioned along the left hand side of the page. The code is divided into eight building types: three mixed-use (Type I, II, and IV), four residential (Type V, VI, VII, and VIII), and one light industrial (Type III). The last column of the code is reserved for specifications; broadly applied specifications which apply to administration of the code appear in the upper right hand corner of the code as follows:

Fig.3.15. Sketch of Building Type IV ("The Town of Seaside")

1. All building plans shall be submitted to the Seaside administration for conformity to the code.
2. Variances to the code shall be granted on the basis of architectural merit
3. All buildings shall conform to the approved materials list.[31]

Interestingly, at Seaside, variances are granted on architectural merit which is not the case in traditional zoning ordinances where variances are issued normally on hardship alone. This ensures that good architectural design is not excluded by overly rigid interpretation by designers. Further specifications are listed along the right-hand side of the page addressing specific details of construction. Requirements for elements listed such as yards and porches, for example, vary

[a] Duany compares Christopher Alexander's *A Pattern Language* to the Seaside code, stating that although both Alexander and DPZ believe in the same 'town,' they disagree how to achieve it. Duany feels that Alexander is too idealistic in thinking that the average person is patient enough to decipher his almost 253 patterns/guidelines in his1170 page book which is the instrument of implementation. The Seaside *Urban Code*, Duany feels, is more practical because it is primarily a one-page document, and one does not have to understand the principles behind the code to build a house compatible with the surrounding town's architecture. ('Interview with Andres Duany,' *Seaside: Making a Town in America*, 64-65.)

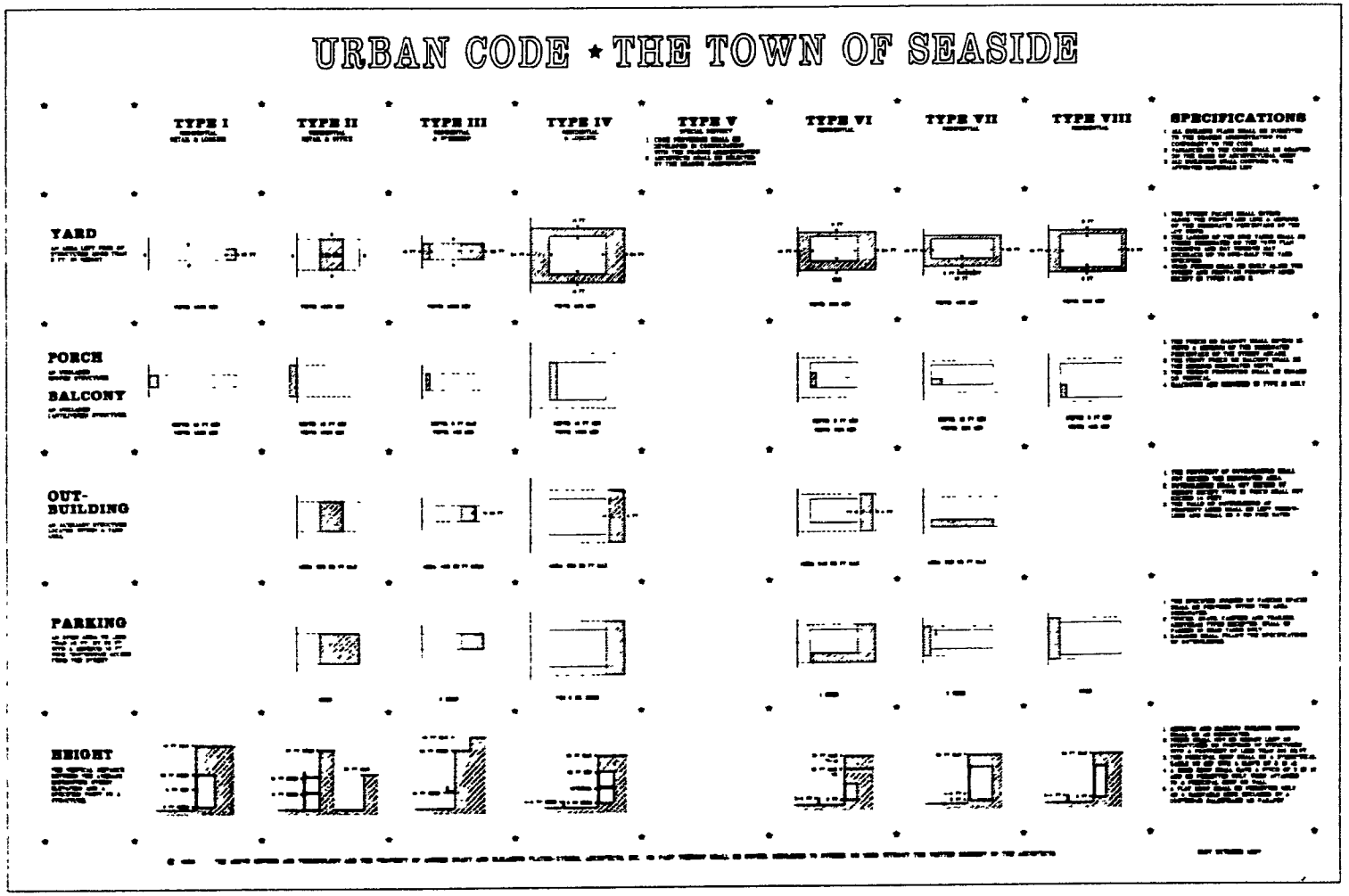

Fig. 3.16. Current Urban Code of Seaside, 21st October 1987
(Duany and Plater-Zyberk, "A Town Plan for Seaside")

according to building type, however, specifications apply uniformly for each element. This ensures a degree of homogeneity between types, although subtle differences are generated by distinctive regulations which apply to architectural elements. For example, Type I and Type VII, have different maximum building heights of forty feet and thirty feet respectively but specification No. 2 ('Height') additionally states that:

> 2. There shall not be height limit on structures or portions of structures with a footprint of less than 215 sq. ft. [20 sq. m.].[32]

This specification applies to all building types, encouraging the construction of tower-like structures, insuring everyone, including lots farthest away from the beach front, have access to a view of the sea (fig.3.17).

The third regulatory document for Seaside is the *Architectural Code* which is used primarily to prescribe materials and methods of construction for building regardless of use. Unlike the Urban Code which is diagrammatic, the *Architectural Code* is written document comprising four pages, and reading like a set of architectural specifications. The *Architectural Code* is divided into two sections titled General Provisions and General Construction Requirements. The General Provisions outline procedures to be followed during the review process at Seaside, along with specifying responsibilities of the general contractor such as maintaining and cleaning building sites during construction.

> Contractor shall furnish trash containers and, at all times, shall keep the premises free from accumulation of trash and scrap caused by construction.[33]

The section titled "General Construction Requirements" outlines construction regulations and techniques, selection of materials, sizes of construction members, and types of details, joints, and fasteners. The requirements are divided into nineteen sections, organized into brief paragraphs each addressing a particular area of interest titled as follows[a]:

> 2. Landscape, 3.Footings, 4.Roof Structure, 5.Exterior Cladding, 6. Fences, 7. Exterior Doors, 8. Windows, 9. Exterior Stairs and Railing, 10. Privacy Screens 11. Fasteners, 12. Roof Cladding, 13. Exterior Finishes, 14. Service Lines, 15. Exterior Lights, 16. Air-Conditioning, 18. Advertisement Signs[34]

The *Architectural Code* addresses many of the same elements as the *Urban Code* such as roofs, windows, doors, and fences, but further describes them in a more detailed manner. Both the *Urban Code* and *Architectural Code* address roofs, for example. The specifications controlling the heights of buildings in the Urban Code list the following regulations governing roofs:

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[a]Three sections listed in the 'General Construction Requirements' are untitled. Section 1 states that: '1. There shall be no more than two dwelling units per lot.' Section 17 and 19 address driveway surfaces and street numbers on houses, respectively. (*Seaside: Making a Town in America*, 261, 263)

3. The principal roof shall be a symmetrical gable or hip with a slope of 8 in 12.
4. A shed roof shall have a pitch of 3 in 12 and be permitted only when attached to a principle roof or wall.
5. A flat roof shall be permitted only as a habitable deck enclosed by a continuous balustrade or parapet.[35]

The *Architectural Code* reiterates similar controls for roofs in the section titled 'Roof Structure,' but additionally describes appropriate sizes for roof rafters, purlins, and also establishes a minimum roof overhang dimension.

> Pitch above the main structure shall be 8 in 12. Roof pitch above porches and ancillary structures shall be 3 in 12. Monopitches shall not be permitted unless abutting vertical walls. Roof shall be symmetrical about their peaks. Flat roofs shall be permitted only when accessible from an adjacent enclosed space. Roof rafters shall be 2" x 6" minimum with 1'6" [45.7 cm.] minimum overhang. Purlins shall be 2" x 2" or 2" x 4". No soffits are permitted. Fascias, if any, shall not completely cover rafter tails.[36]

It is evident that there exists some overlap of information between the two codes, but the *Urban Code* places more emphasizes on *where* it can be built, whereas the *Architectural Code* is primarily concerned with *how* something is built.

The *Architectural Code* encourages construction practices which convey a sense of visual quality, durability, and authenticity. For instance, Section 8 titled 'Windows' states that: 'No snap-in mutins [are] permitted,' and that '[s]hutters must be operable.'[37] This requirement ensures that both the mutins and shutters are functional and imparts a degree of genuineness which would not exist if they were merely ornamental features. Durability is emphasized in Section 11 titled 'Fasteners' stating that: 'All bolts, nails, staples, hinges, etc. exposed to the weather shall be hot-dipped galvanized steel, stainless steel, or brass.'[38] The galvanizing of all principal exterior fasteners extends the life of the fasteners themselves as well as the installation in general, and also provides protection from unsightly water staining due to premature corrosion exasperated by exposure to salty sea air.

Finally, the most outstanding characteristic of the *Architectural Code* is its limitation of materials. Exterior cladding is limited to clapboards constructed of various wood types and roofing materials are limited to various wood shakes and metal shingles, or sheets. Common exterior cladding and roofing materials such as vinyl siding and asphalt shingles are forbidden by the code. Exterior materials are regulated in Section 5 of the *Architectural Code* titled 'Exterior Cladding.'

> All wood exposed to weather shall be of cedar, redwood, cypress, pressure treated pine, pine only when properly finished to prevent moisture from rotting the wood. Chimneys shall be masonry, brick, or sheet metal.[39]

In addition, roofing materials are regulated in Section 12 titled 'Roof Cladding.

> Materials: wood shake, metal shingle, corrugated metal sheet, V-crimp metal sheet, or standing seam metal sheet.[40]

Although it is not directly stated in the Seaside codes, materials are generally limited to ones used prior to 1940. DPZ feel that many modern-day industrialized building materials are mere simulations of their natural counterparts, and are visually inferior because the materials do not age with dignity. By limiting materials in this way, buildings at Seaside will hopefully mature gracefully and develop a sense of genuineness over time. Through its limitation of materials, the *Architectural Code* is ultimately responsible for Seaside's prevailing visual harmony.[41] However, the Seaside plan is in fact motivated not only by overall consistency and cohesion as one of its objectives, but also by what DPZ term as 'authentic variety.' These two seemingly contradictory goals are balanced through controls found in both the Urban and Architectural Codes.[42] As mentioned previously, the *Architectural Code* provides a degree of harmony through its limitations of materials. Visual consistency is dealt with in the *Urban Code* primarily by controlling architectural expression through the definition of specific building types, by specifying that: 'All buildings shall conform to the approved materials list,' and also by broadly regulating roof pitches and window proportions regardless of building type.[43] Variety, on the other hand, is encouraged mainly by means of numerous administrative devices. Firstly, the town architect, whose responsibility it is to review designs for compliance with Seaside codes, is rotate on a yearly basis. This person has influence in determining the direction of architectural expression, and limiting the duration of the position ensures that the town will not be dominated by the tastes of single individuals for a long period of time; indirectly it encourages diversity because it provides the opportunity for yearly reinterpretations of the code. Secondly, Seaside employs the talents of many designers rather than a single architect or developer. This ensures that the town will develop diversity in architectural expression and a sense of authenticity which could not be generated by a single firm, developer, or designer.[44] Thirdly, from its conception, Seaside was planned to develop slowly over time which is unlike many modern suburban subdivisions where the common practice is to contract out all private lots as soon as possible, often within several years. Because the town is expected to take between ten to fifteen years to complete, the

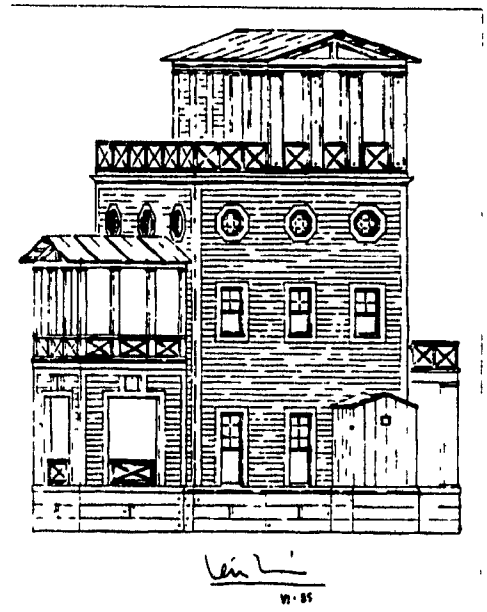

Fig.3.17. Elevation of Krier's House (Krier, "Projects")

code is constantly being reinterpreted by architects who also react to what has been previously constructed. This creates an environment where the town can develop its own history and context and is able to grow organically, more like an authentic town built up over decades.

Variety is encouraged also through controls found in the Urban and Architectural Codes. Firstly, as mentioned previously, variances are granted based on architectural merit. This flexibility allows the occasional departure from the Code, and results in a wider diversity of possible architectural expressions. Secondly, because public buildings are not governed by the Code, architects are encouraged to be more creative and innovative when contracted to design this building type. This added freedom in the design of the public realm contributes some relief to the generally homogenous appearance of private buildings as a group. Likewise, controls for building Type VIII are also far more liberal than other private building types, particularly in building placement and by the fact that outbuildings are not required by code. This distinctive building type is located at special places or gateways dispersed throughout Seaside, and through a relaxation of controls, reinforces a degree of diversity in expression. In addition, because exterior color is not a regulated element for private buildings, it also contributes to Seaside architectural

Fig.3.18. Various Fencing Patterns at Seaside
(Mohney, *Seaside: Making a Town in America*)

diversity. Finally, variety is firmly supported in the code by allowing individual expression through architectural elements such as porches, balconies, towers and fences.[a]

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[a]Duany states that fences are an important element for spatial definition, especially in American towns because the ratio of street width (face of house to face of house) to building height, is so great, it makes the definition of street space unperceivable. For example in European cities such as, Paris this ratio is 1:1.5, or in Florence it is 1:2 or 1:3, but in most American towns, the ratio is more like 6:1 or 10:1. This has traditionally been corrected by the use of boulevards with trees, street trees, and/or fences. ("Interview

Regulations for fences, found in both the Urban and Architectural codes, illustrate how effectively individual expression is encouraged while simultaneously maintaining a degree of regularity and cohesion at a broad scale. The *Urban Code*, for example, states that: 'Wood fences shall be built along the street and footpath property lines except in Types I and II.'[45] This provides uniformity at the overall town scale because most building types require fencing. Additionally, uniformity is reinforced by the fact that all fences must be painted white, and the *Architectural Code* further specifies manufacturers stock numbers for what is considered acceptable brands of white paint. On the other hand, variety is supported by a regulation in the *Architectural Code* which states that: 'Individual fence patterns shall not replicate another on the same street.'[46] This ensures some diversity at a very detailed scale because variations in fence designs are mandated by code, but it also prevents unimaginative responses to an important architectural element whose design could otherwise be thoughtlessly repeated throughout (fig.3.18).

The small-town prototype which Seaside is derived from stands in opposition to contemporary zoning practices in four primary ways. First and foremost it integrates residential, commercial, and office functions in one area, rather than allocating large, single-use zoned areas. This planning strategy aids in reducing dependency on the automobile by locating activities such as shopping (ie. corner store), closer to residential areas. Secondly, unlike conventional zoning ordinances which allow only one dwelling unit per lot, at Seaside *two* dwelling units per lot are allowed by code.[47] This provision permits the development of a higher density town better adept at supporting a variety of town facilities, and also encourages affordable housing alternatives by creating the possibility of flats located in single-family houses or apartments located over garages and outbuildings. Thirdly, planning and design are addressed in a more three-dimensional manner by requiring the construction of porches or balconies for most building types, as opposed to zoning which deals primarily only with two-dimensional requirements such as yard setbacks, minimum area coverages and minimum lot widths.[48] Finally, Seaside's design controls are physical and morphologically based, in contrast to zoning ordinances which are functionally and numerically based.[a] At Seaside, this is translated into attention and concern for spatial aesthetics, such as the requirements for porches [to help in creating a comfortable transition between the private house and public street zone], for fences [to more clearly define street edges], and for zoning boundaries at mid-block [to enhance spatial clarity by promoting groupings of similar building types].[49]

Since its beginnings, Seaside has had a strong influence not only on the architectural profession as a whole, but also on the public's perception and awareness. Its financial success is

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with Andres Duany," *Seaside: Making a Town in America*, 68)

[a]Floor area ratio (F.A.R.) calculations are a good example of the numerical nature of zoning regulations.

obvious (land prices are ten to twenty times higher than neighboring areas) although some of its social intentions, such as incorporating a mixture of income and age groups, have unfortunately not been realized. It has helped architects and planners alike recognize some of the architectural benefits illustrated in American towns prior to 1940. In spite of its successes, Seaside has been criticized by some as being superficially stylistic, overly rigid in its design constraints and inappropriately used as a model to test traditional town planning concepts because it is a seasonal vacation resort. These critics overlook the fact that Seaside's main feature is not its stylistic or social intentions, but rather its regulating codes. DPZ have rightfully criticized zoning ordinances and PUD's as being responsible for the degraded appearance of modern suburbs and have also made the profession aware that it is only through the rewriting and simplification of design regulations and the design review process that will inevitably reshape the suburban environment.

3.3.3 WESTPARK DESIGN GUIDELINES

Westpark is a newly planned community located in Southern California, and represents one of the most recently developed residential sections in Orange County's Irvine area. Irvine is part of the Los Angeles Basin and comprises more than 62,000 acres [25,091 hectare]-almost one hundred square miles, stretching from the Pacific Ocean and inland for more than 20 miles [32 kilometers].[50] A suburb of Los Angeles, Irvine is situated approximately 35 miles [56 kilometers] southeast of downtown Los Angeles and is well within the 'sphere of influence' of cities such as Santa Ana, Costa Mesa, and Newport Beach. Privately owned and controlled by the Irvine Company, Irvine is one of the largest planned suburbs ever developed by a single company.[51]

Originally purchased by James Irvine in 1864, the Irvine Ranch was created by uniting several Mexican ranches with a substantial Spanish land grant. In 1894, the Irvine Company was established by James Irvine's son to control and manage the family's holdings, and for the following sixty years the estate functioned mainly as an agricultural plantation. In 1960, the Irvine Company hired the architectural and planning firm of William L. Pereira & Associates, to develop a master plan for a substantial section of the properties. At the same time, 1,000 acres [405 hectare] was donated to the University of California for the construction of a new campus, and 1,800 acres [728 hectare] was designated for the City of Irvine, which was incorporated in 1971.[52] Located in the fastest growing region of southern California, Irvine has experienced a dramatic rise in population over the past twenty years, from 20,000 in 1974, to over 200,000 today. It has also achieved wide market appeal and financial success, with the median home prices ranking among the third highest in the United States.[53]

Unlike large master-planned suburbs such as Levittown, Irvine consists not only of

residential areas, but also of institutional, commercial, and industrial areas, which have been woven together in order to create a viable community capable of supporting a wide range of activities. Although some of the commercial pursuits have struggled and failed, the area does support a job base of approximately 150,000 and in that sense, is closer to the garden city ideal than previously planned American suburbs.[54]

The Irvine Company describes Irvine as a 'city of villages,' and a total of forty villages have been planned. These individual villages are connected by activity corridors which weave throughout Irvine. Along the corridors, neighborhood-centered commercial and recreational activities are concentrated among parks, and bike and pedestrian paths.[55] The concept of community is important in Irvine and from the beginning there was an attempt to strengthen this idea by utilizing one architectural style or 'theme' assure a degree of uniformity throughout an entire planned area. But at Irvine, ultilizing one style was initially followed with such fervor and literalness, that the result was a repetition of identical houses which were and a townscape which was visually monotonous and which some critics described as lacking spontaneity and variety. Deed restrictions which prevented homeowners from customizing their homes were strictly enforced by community associations, making it difficult for houses to become distinguishable over time by personal touches.[56] Community associations at Irvine were compulsory, and along with enforcing deed restrictions, they monitored adherence to community rules, and the use and maintenance of common community areas.[57]

In reaction to some of these criticisms, new design guidelines for the 833-acre [337 hectare] planning area of Westpark titled, *Westpark Design Guidelines: Planning Area 14*, were introduced to broaden the range of possible architectural expressions at Irvine (fig.3.19). Developed by the Irvine Company in 1985, these guidelines are used by developers and design consultants, under the direction of the Irvine Community Development Company. The guidelines are used as review criteria for aesthetic decisions rendered by the Company, and do not seek to modify applicable Federal, State, or City of Irvine codes and ordinances; Other

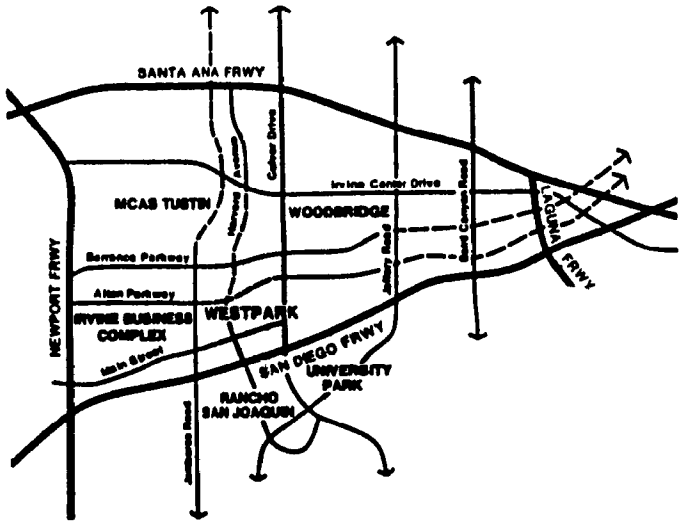

Fig.3.19. Context Plan Locating Westpark within Irvine (The Irvine Company, *Westpark Design Guidelines*)

issues such as life safety are reviewed by the City of Irvine. In addition to being required to follow these guidelines, builders are also advised to review applicable zoning requirements, as well as the overall Irvine general plan and Westpark concept plan. The guidelines contain general information describing the context of Westpark within Irvine, the submittal and approval process that builders and designers must follow, and broad site planning criteria and numerous design guidelines. The Irvine Company hopes that in reviewing the Westpark concept, builders and designers will develop a keener understanding of the relationship of the Westpark community within the larger context of Irvine, and in the end, insure final approval of proposals by the Company.[58]

In contrast to guidelines such as Westmount and Seaside, the guidelines for Westpark are not intended for use by the lay person.[59] Whereas the descriptive and overall accessible nature of the Westmount guidelines and the simplicity of the Seaside codes result from a desire to encourage their use by homeowners, the Westpark guidelines do not cater to that possibility; clearly, these guidelines are written for contractors, homebuilders and developers.[60] This is evident in the following passage quoted from the cover letter included with the *Westpark Design Guidelines*, from Ron Hendrickson, Senior Director, Urban Planning and Design for the Irvine Company:

> The Westpark Design Guidelines were prepared in 1985 to communicate the Irvine Company's intended vision of the new community to home builders and their design consultants. It is a private document, not for public review.[61]

The Guidelines are divided into three sections titled 'Introduction,' 'Design Guidelines' and 'Area Development Guidelines.' The first and third sections are primarily aimed at fitting the Westpark community appropriately within the broader Irvine context, while the second section establishes design criteria for architectural and landscaping features. This constitutes the primary focus of the Westpark guidelines. All guidelines concerning land use, area planning strategies, landscaping, site furnishings and architectural design are contained within one manual. To facilitate referencing, architectural guidelines are listed by commonly understood architectural categories: 'Building Massing and Scale,' Roof Pitches and Materials,' Materials and Colors, 'Windows and Doors,' and 'Garage Doors.' A sub-section titled 'Architectural Forms and Details,' is divided into additional features such as 'Balconies,' Exterior Stairs,' 'Columns and Archways,' 'Chimneys,' 'Project Walls and Fences,' and 'Buidling Details.' Each architectural guideline follows a similar layout beginning with a broad introductory statement describing the guideline's overall intention. The following is the introductory statement for the guideline 'Balconies' states that:

> The incorporation of balconies onto or within the building form is encouraged for both practical and aesthetic value. Balconies should be integrated to break up wall masses, offset floor setbacks, and add human scale to buildings.[62]

These introductory statements often provide the reader with a rationale as to why the guideline is necessary and also what the guideline hopes to accomplish in the built environment. A more detailed list of specific requirements, ranked into categories follow; appropriate (required, encouraged, or permitted), discretionary (limited), or inappropriate (prohibited). Complying with this ranking system, the guideline for balconies, for instance designates that:[a]

> A float finish on balcony wall surfaces is appropriate and required, but that ceramic tile accent trim is also appropriate but encouraged rather than being required. The use of a single pipe rail above a low stucco wall is limited, whereas transparent walls, such as wrought iron or pipe railing is inappropriate and prohibited.[63]

Unlike the written guidelines, the sketches which accompany specific guidelines only illustrate acceptable solutions.

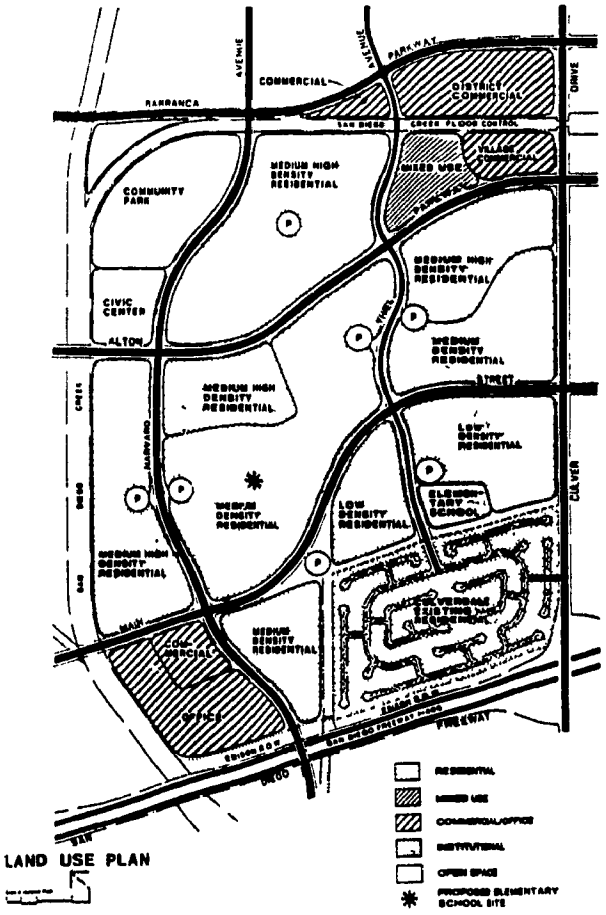

Fig.3.20. Westpark Land Use Plan
(The Irvine Company, *Westpark Design Guidelines*)

The Westpark Guidelines are interested in addressing site planning issues as well as architecture. This is evident by the fact that many design guidelines are non-architectural, regulating for example, parking design standards, landscaping elements, planting and site furnishings. Guidelines for non-residential design are also included such as commercial design criteria for retail and offices. Clearly Westpark, like the larger community of Irvine, seeks to develop a mixed-use community; integrating landscaped parks, along with residential and non-residential functions. Figure 3.20 shows the land use plan for Westpark, illustrating how it is composed not only of residential districts with varying densities, but also of parks, schools, and numerous commercial and office districts.

The issue of compatibility is a major theme of the Guidelines and is clearly expressed in the following section of the

[a]This guideline is not quoted verbatim because the guideline is written in short phrases rather than full sentences. It has been quoted in this way to better incorporate it into the text, and to also enable the reader to understand it without showing the entire guideline as an illustration.

'Introduction' titled 'The Westpark Concept':

> Westpark is to be a community compatible with other master-planned communities in Irvine: tasteful architecture in an attractive landscaped environment, with a strong hierarchy of roadways, bike trails and greenbelts. Westpark will have its own identity to be established by the use of a distinctive theme, and defined by the treatment of open space and architecture.[64]

In the 'Westpark Concept,' emphasis is placed on a hierarchy of zones, from the overall community to neighborhoods and smaller residential street zones. This is reinforced through a hierarchy of circulation patterns, from major parkways to neighborhood streets and to footpaths or paseos. Various sized parks, from public-community to private-neighborhood parks and recreation areas, also reinforce this hierarchy. Theme corridors emphasize the importance of residential street zones, while theme intersections and entries help to individuate the numerous residential areas in the Westpark community. At theme corridors, intersections, and entries, special plantings and defined open spaces are used to create a consistent landscape and visual landmarks (fig.3.21). Importance is placed on the overall appearance of streets, described as streetscapes; landscaping and landscaping elements play an important role in characterizing and individuating these streetscapes as the following phrase suggests: 'Streetscapes are characterized by meandering walkways, trees, shrubs, and the community theme wall.'[65] Consequently, there exists a degree of interdependence between landscaping and architectural form.

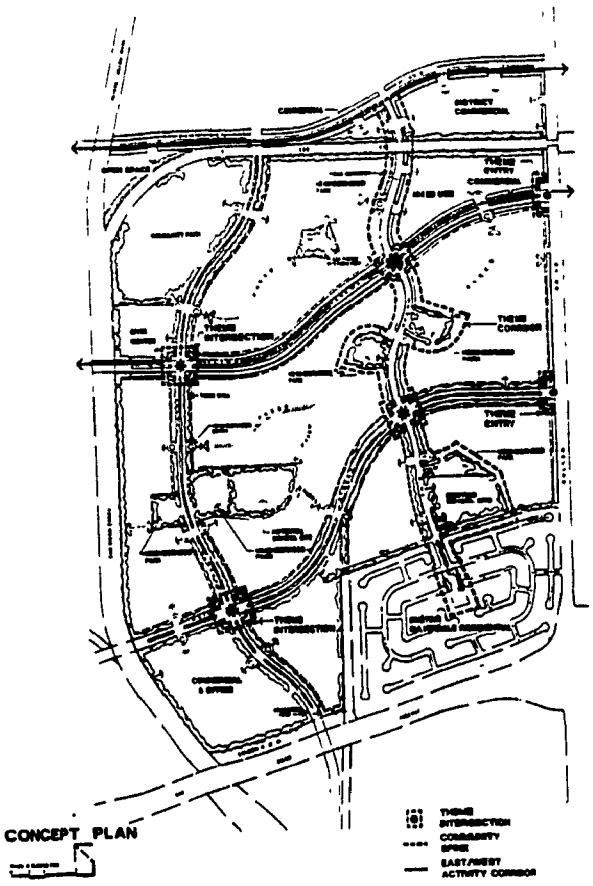

Fig.3.21. Westpark Concept Plan
(The Irvine Company, *Westpark Design Guidelines*)

> Private fences and walls are encouraged to provide security, privacy and landscape definition in both commercial and residential areas...Plant material, particularly vines and espalliered trees, should be used to visually soften garden walls. Refer to site furnishings section for additional design criteria.[66]

Architectural elements which have a close association with the landscape such as paving, fences, garden walls, and site furnishings, are highly regulated.

Overall, the Guidelines have four primary architectural purposes which are outlined in the 'Introduction' of the manual:

> The Guidelines have been designed to establish a high quality of appearance, to assure compatibility, to direct character and form, and to enhance the community's overall value.[67]

The primary architectural goal of the Guidelines is to establish a 'Mediterranean' architectural expression in Westpark. This style is rooted in the Spanish Colonial Revival, a historically prominent vernacular style of the Southern California region.[68] The guidelines specify that the more cosmopolitan forms of the Mediterranean style should be emphasized, rather than the more rustic forms found in the Mission/Spanish Colonial Revival architecture.[a] Examples of such expression 'might include the use of stucco walls, 'terra cotta' colored roofs, ceramic tile wall accents, pastel colors and simple stucco balcony and stair projections.'[69]

In addition to landscaping which is seen as a way of reinforcing architectural character, building massing and scale, roof forms, and building materials and colors are perceived as principal design components of the Mediterranean style, and consequently are strictly controlled. Roofs in particular exhibit a strong influence within this style, especially when considering that traditionally terra cotta tiled roofs are one of its most distinguishable characteristics. The following guideline governing roof pitches and materials illustrates this emphasis on roof form, and on the appropriate application of exterior color and roofing materials.

> Principal roof forms shall be gable or hip with pitches from 4:12 to 6:12. All pitched roof materials shall be clay or concrete tile from the approved color and material board to ensure continuity of textures and colors. Minimal flat roof areas shall have gravel surface with color to match roof tile. Short roof overhangs are encouraged with simple plaster fascias. Exposed rafter tails are not permitted.[70]

The guidelines contain an approved color and material list, mentioned above. The list is quite prescriptive, specifying colors along with acceptable building materials for exterior walls, roofs, and accessories such as doors, window trim, gutters, railings and facias (fig.3.22). Unlike Westmount which has no regulation controlling color selection, and Seaside which discourages only a few colors, color is a highly regulated element at Westpark. This is due to the fact that color is regarded as having a strong unifying quality, and is intended to act as a primary theme conveying element—ensuring a degree of continuity throughout the community. The guideline titled 'Materials and Colors' states that colors should be appropriate to Southern California styles which,

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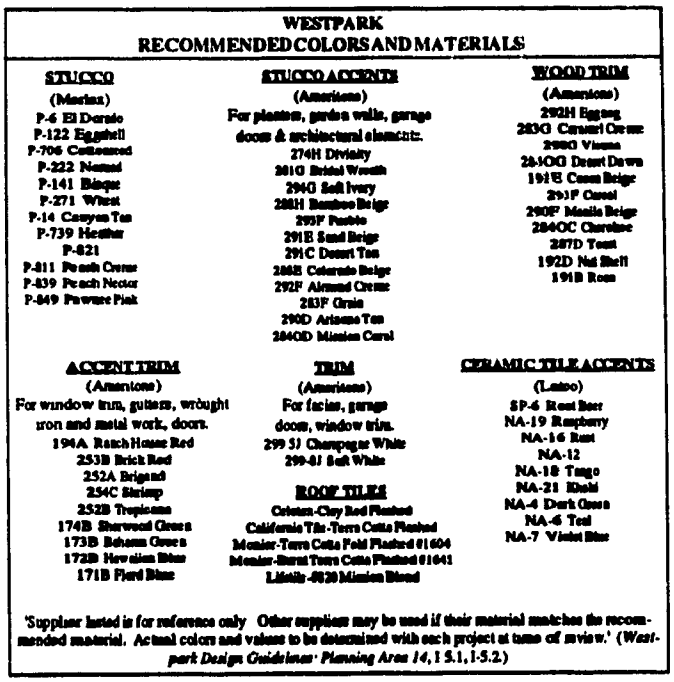
[a]The subtle distinction between these two closely related styles is not clearly defined; nowhere in the guidelines is the term 'Mediterranean' or what constitutes the style, outlined for the reader, nor are the differences between the cosmopolitan and Mission/Spanish Colonial Revival precisely described.

. in general, use light colors; however the use of darker or lighter accents are encourage for trim materials to add contrast and to highlight the character of the building.

The Westpark guidelines are succesful in their ability to organize and address many issues within one manual; this is unlike Seaside which addresses planning and architectural issues. Although this method of organization may appear to make the manual more complicated to reference, it is successful because there is an attempt to deal with each issue in distinctively separate sections so as not to confuse large scale planning issues such as circulation patterns and park locations with the more detailed scaled guidelines addressing the design of windows, chimneys, and balconies.



WESTPARK
RECOMMENDED COLORS AND MATERIALS

STUCCO
(Merlex)
P-6 El Dorado
P-122 Eggshell
P-706 Cottonseed
P-222 Natural
P-141 Bisque
P-271 Wheat
P-14 Canyon Tan
P-739 Heather
P-821
P-811 Peach Cream
P-839 Peach Nectar
P-849 Pawnee Pink

STUCCO ACCENTS
(Americana)
For planters, garden walls, garage doors & architectural elements.
274H Divinity
281G Bridal Wreath
294G Soft Ivory
288H Bamboo Beige
295F Pueblo
291E Sand Beige
291C Desert Tan
288E Colorado Beige
292F Almond Cream
283F Grain
290D Arizona Tan
284OD Mission Coral

WOOD TRIM
(Americana)
292H Eggnog
283G Caramel Cream
298G Vienna
284OG Desert Dawn
191E Cream Beige
293F Camel
290F Manila Beige
284OC Cherokee
287D Toast
192D Nut Shell
191B Rose

ACCENT TRIM
(Americana)
For window trim, gutters, wrought iron and metal work, doors.
194A Ranch House Red
253B Brick Red
252A Brigand
254C Shrimp
252B Tropicana
174B Sherwood Green
173B Bahama Green
172B Hawaiian Blue
171B Fjord Blue

TRIM
(Americana)
For facias, garage doors, window trim.
299 SJ Champagne White
299-8J Soft White

ROOF TILES
Crimson-Clay Red Flashed
California Tile-Terra Cotta Flashed
Monier-Terra Cotta Field Flashed #1604
Monier-Burnt Terra Cotta Flashed #1641
Lifetile-4820 Mission Blend

CERAMIC TILE ACCENTS
(Latco)
SP-6 Root Beer
NA-19 Raspberry
NA-16 Rust
NA-12
NA-18 Tango
NA-21 Khaki
NA-4 Dark Green
NA-6 Teal
NA-7 Violet Blue

'Supplier listed is for reference only. Other suppliers may be used if their material matches the recommended material. Actual colors and values to be determined with each project at time of review.' (*Westpark Design Guidelines· Planning Area 14*, I 5.1, I-5.2.)

Fig.3.22. Westpark Recommended Colors and Materials

The Guidelines are compromised by a number of limitations, particularly concerning the use of language and illustrations in individual guidelines. Firstly, the grading of design alternatives—appropriate (required, encouraged, or permitted), discretionary (limited), or inappropriate (prohibited)—supposedly allows for a more subtle range of architectural design solutions, however, this becomes confusing because it tries to regulate all possibilities. It would be better if the guidelines were stated as single, precise and positive statements of exactly what needs to be done, rather than attempting to distinguishing between all possible positive as well as negative variables. This only creates redundancy among the guidelines and makes them unnecessarily lengthy.

Secondly, throughout the Guidelines, ambiguities in definition and intentions are apparent due to of the consistent use of inexplicit language in conjunction with generic and overly simplistic graphics. One example of this can be found in the guideline governing exterior stair design; an important element found in the cosmopolitan expression (fig.3.23). The guideline states that: 'Simple, clean bold projections of stairways are encouraged to complement the architectural massing and form of a building.'[71] The term *simple* is an important quality, however, the term leaves too much open for personal interpretation. The sketch illustrating this guideline

does not provide any additional clarity to enable the reader to visualize this implied simplicity, since it is vague and the term 'simple' is too broad, rendering the sketch ineffective. Unlike the illustrations and sketches for Westmount which are specific and issue-oriented, the sketches for Westpark are more decorative than informative, and may inadvertently lead the reader away from the true goals of a particular guideline. The language and graphics used in this example are indicative of many other guidelines found throughout the *Westpark Design Guidelines*.

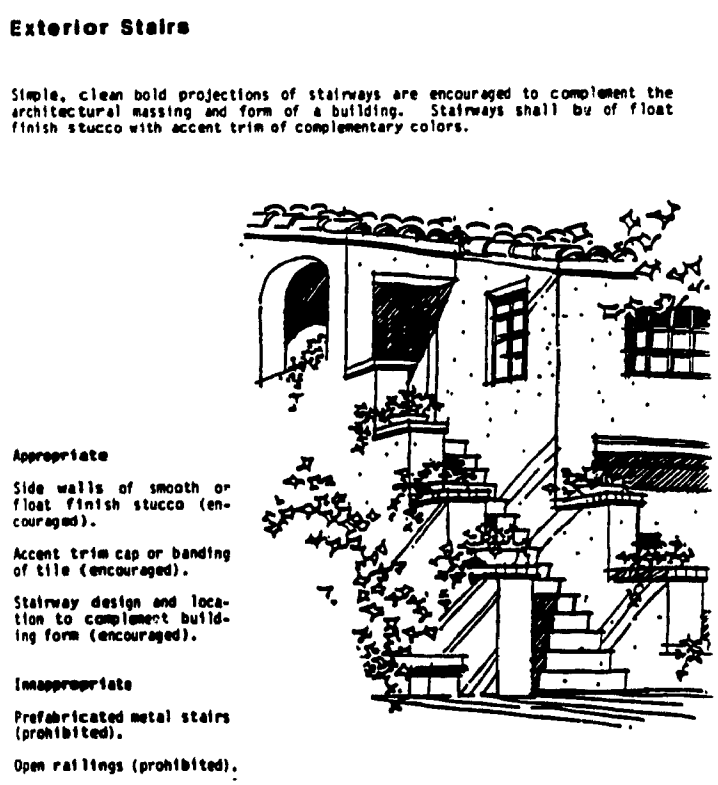


Fig.3.23. Sketch from 'Exterior Stair' Guideline
(The Irvine Company, *Westpark Design Guidelines*)

The built results at Westpark to date have been far less successful than the Irvine Company's optimistic planning goals. In *Edge City* , Joel Garreau describes Westpark as: 'An unbroken field of identical Mediterranean red-clay roof tile, covering homes of indistinguishable earth-tone stucco.'[72] This description underlines a limitation of the guidelines; their over emphasis on continuity and overall homogeneity at the expense of individual variety and expression. Unlike Seaside which encourages variety throughout the town, Westpark is preoccupied with imposing one community style over an entire subdivision and does not seek to offer sub-styles of different building typologies to encourage more variety.

3.3.4 THE SITE AND ARCHITECTURAL CODE: MASHPEE COMMONS, MASSACHUSETTS

Mashpee Commons, Massachusetts is representative of a growing number of towns in the United States which have recently begun to challenge the planning practices that have evolved since the late 1940's. By adopting more traditional approaches to town-making, towns like Mashpee have abandoned the single-use zoning policies typical of single-family residential enclaves, in lieu of more integrated residential, commercial, and civic functions with identifiable town centers. The renovation, in 1984, of a 1950's strip shopping center afforded the

development company of Fields Point Limited the opportunity to convert this mall into new 30 acre [12 hectare] town center. Nearby historic villages in Cape Cod, provided the Field Point partners, Arnold Chace Jr. and Douglas Storrs, with what they regarded as successful traditional models for the design of new urban spaces. By incorporating physical characteristics such a pedestrian-scaled streets and sidewalks as well as the architectural vocabulary of these villages like small clapboard and brick buildings, Fields Point Limited attempted to recreate the charm and distinctive sense of place unique to New England.[73] Existing buildings which formed the old shopping mall were cut through by a grid of new streets, and additional buildings were added with commercial and civic functions at street level and apartments and offices above. The newly created streets, Market and Main, were extended to incorporate a church, a new town green, a library, and a meeting hall and also provided the basis for future planning and development of the surrounding area (fig.3.24).[74]

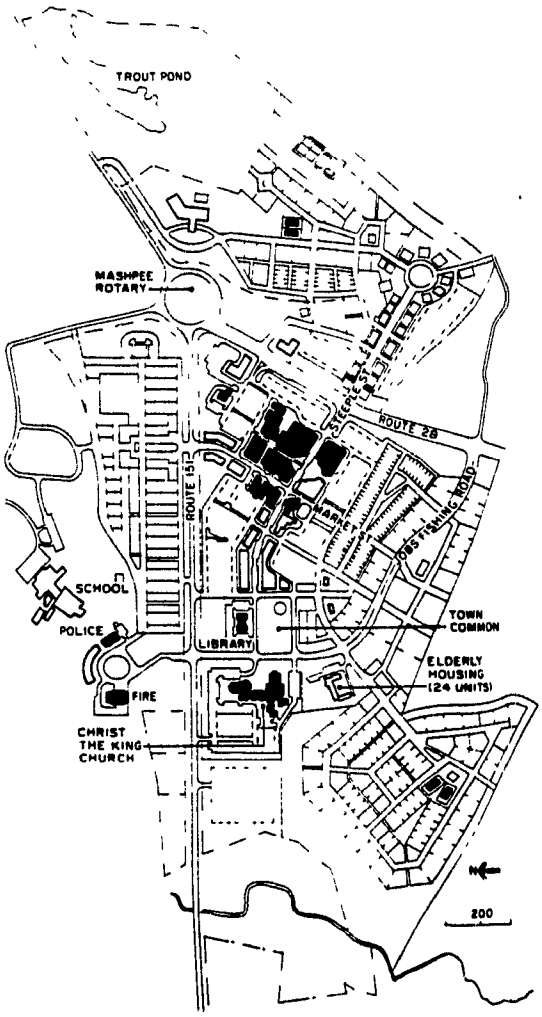


Fig.3.24. Plan of Mashpee Commons (Sachner, "Common Sense,")

Chase and Storrs were influenced by the wide success and appeal of Seaside in Florida and in 1988, retained the services of DPZ to develop a set of architectural guidelines for the properties (totaling 275 acres [111 hectare]) which they had recently purchased bordering the site of the new town center. Through a week-long 'charette' or intensive planning session, guidelines for six mixed-use neighborhoods were produced. Presently under construction, Mashpee Commons, when completed, will consist of three hundred dwelling units and a combination of other town facilities such as commercial space, and civic buildings like a town hall, post office, library and two places of worship (fig.3.25). It is planned that with the involvement of many architects in the growth and development of Mashpee, the town will develop the diversity and authenticity of a town built up over many years.[75] The Mashpee Architectural Committee

oversees the town's development and insures that developers and property owners adhere to the guidelines.

The discussion of the guidelines that follows applies to a preliminary set produced for the Whitings and Quashnet neighborhoods, two of the six neighborhoods in Mashpee Commons. The overall intentions of the guidelines, as stated in the 'founder's statement' in the introduction, are similar to those of previous guidelines surveyed: 'To create a community that is both visually harmonious and experientially diverse.'[76] At Mashpee, this is accomplished at an urban level by employing the seven principles listed as follows:

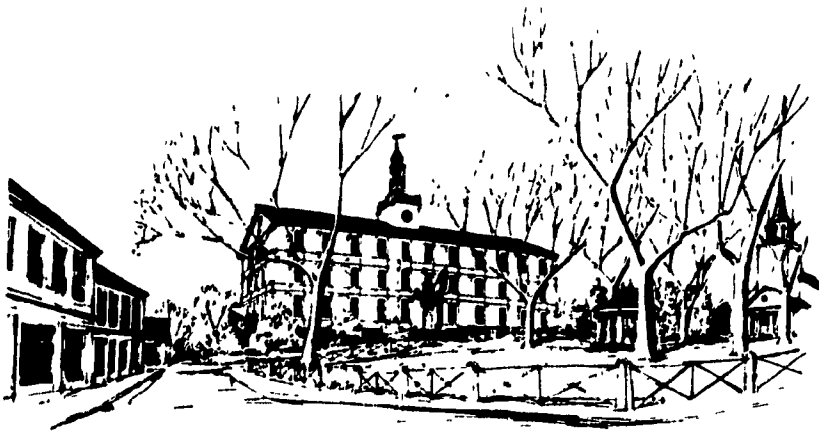


Fig.3.25. Drawing of Proposed Town Hall and Common
(Duany and Plater-Zyberk, *Towns and Town Making-Principles*)

1. Use traditional materials and configurations for buildings.
2. Mix building types—small houses and large houses on same street.
3. Provide shops, offices, and civic building within walking distance of houses.
4. Provide immediate access to public greens and parks.
5. Create memorable places and defined views through careful layout of streets and houses.
6. Provide balance of cars and people—easy to drive, easy to walk.
7. Define the civic realm by locating public buildings in prominent positions to encourage each citizen's involvement in the life of the community.[77]

Interestingly, these principles also address land use and functional adjacencies which are typically dealt with in zoning ordinances. Principle No. 2. and No. 3 clearly illustrate this by requiring a mixture of building types, and by requiring that shops, offices, and civic buildings are located within walking distance of houses, respectively. Even though it is not specifically stated as a goal of the guidelines, these principles respond to the shortage of affordable housing in Cape Cod by requiring rental apartments above shops and by placing housing within walking distance of the town center.[78] Similarly to Seaside, the guidelines for Mashpee also encourage the construction of outbuildings on single-family lots which increase the density of the neighborhood, and provide lower cost rental units or 'granny flats.' The mixture of housing types and uses clearly attempts to reverse the single-use zoning practices typical in modern suburban subdivisions.

In addition to these general goals, the guidelines also have a stylistic intent, and like the guidelines for Westpark, attempt to extract what are essential elements of a particular style of

architecture, in this case that of the surrounding regional architecture of coastal New England.[79] Although the two design codes share the same goal of stylistic unity, they achieve it in different ways; that is, Westpark codifies elements of the Mediterranean style literally, while Mashpee more subtlly interprets New England architecture.

The manual of guidelines for Mashpee consists sections such as an illustrated glossary, an annotated bibliography, and a section devoted to describing a method for using the guidelines. However, the main portion of the guidelines is devoted to describing the site and architectural codes. By means of three components (the regulating plan(s) and the site and architectural codes) the guidelines establish basic standards for overall building form and architectural character. The regulating plans for the two neighborhoods contained within the manual identify private building lots and correspondingly designate each lot by a building type: Type III is the Mashpee Cape, Type IV is the Three Bay, Type V is the Five Bay, and Type VI is the Manor House. The site code which follows, is divided into sections according to these four building types and describes requirements for building usage: These requirements are the same for all housing types. Building placement, frontage, height, and parking requirements vary accordingly. Because all four types share the same architectural code, subtle distinctions of style (or characteristics of type) among them are generated strictly by requirements made in the site code. For example, Type III and Type IV lots circled on the Whitings regulating plan shown, are located across the street from one another (fig.3.26). The sizes of the two lots are

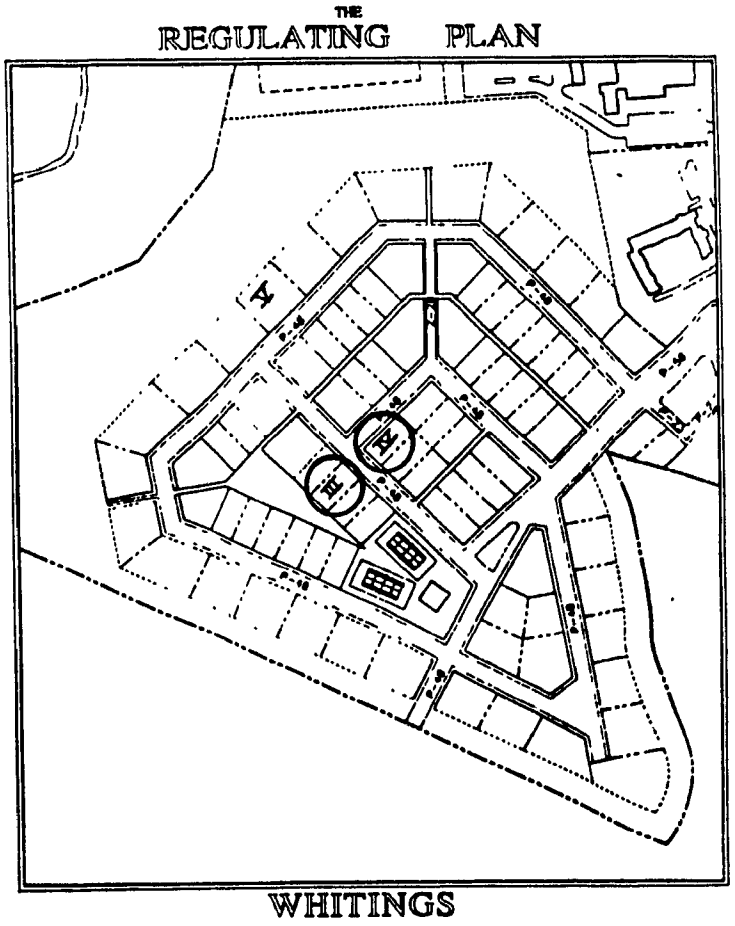


Fig.3.26. Regulating Plan for Whitings (Fields Point Limited Partnership, *Guidelines for Mashpee Commons*)

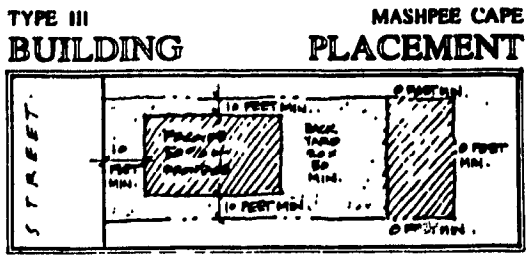


Fig.3.27. Building Placement Plans for Building Types III and IV (Fields Point Limited Partnership, *Guidelines for Mashpee Commons*)

similar—determined by their location on the plan. Permitted building usages are exactly the same for each type, basically requiring that the main structure be residential and that addition buildings are permitted as outbuildings such as garages, guest cottages and an artist studio to name a few.[80] However, there are differences in the requirements for building placement. For example, the Mashpee Cape requires a 10' [3.05 m.] min. front and side yard setbacks, but the Three Bay requires a larger 12' [3.66 m.] front setback and side yard setbacks of 15' [4.57 m.] min (fig.3.27). Additionally, although both buildings are limited to an overall maximum building height of 2 stories, the Mashpee Cape is restricted to a maximum front facade height of 10' [3.05 m.], insuring the typical cape look of a one story house with a steep roof and usable attic (fig.3.28). Similarly, slight differences between the two types are also found with respect to building frontage and parking. Consequently, design considerations dealing with issues of variety and uniformity are treated quite differently in Mashpee and Westpark: Whereas the guidelines for Westpark dictate one primary style over an entire planning area, resulting in a far more homogeneous neighborhood than desired, Mashpees' guidelines offer a range of possibilities within that primary style, thus allowing for more options and variety within the main style. Furthermore, because the same architectural code is used for all building types, it serves to homogenize the differences generated in the site code and provides some uniformity among the four housing types.

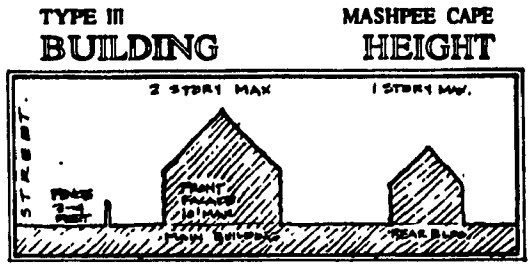


Fig.3.28. Height Requirements for Building Types III and IV (Fields Point Limited Partnership, *Guidelines for Mashpee Commons*)

The architectural code follows the site code, and sets requirements for materials, configurations and specifications of building elements such as building and garden walls, doors and windows, roofs and gutters, and gardens. Similarly to the Seaside's urban and architectural codes, Mashpee's architectural guidelines attempt to regulate the way in which materials are brought together during construction, and are not limited to merely determining what materials and elements are appropriate. A good example of this is found in the guidelines on Building Walls. These guidelines begin with a section titled, 'Materials,' which describes *what* materials can be used on exterior walls-stating that:

> 1. Building walls may be made of white cedar shingles 4"-6" [102 mm.-152 mm.] to the weather or horizontal wood clapboard 3.5"-4.5" [89 mm.-114 mm.] to the weather.
> 2. Building walls may be made of brick selected from the M.A.R.C. master list.
> 3. Foundation walls may be made of granite or concrete faced with brick.[81]

The section titled, 'Configurations and Specifications,' further describes *how* materials are to be assembled. Guideline No. 1 states that:

> 1. Shingles and clapboards shall be butt-jointed or flush trimmed against corner boards. Flat trim boards at window and corners shall be no more than 4".[82]

Brick work is also regulated in Guideline No. 2 stating that:

> 2. Brick shall be placed in Running, English or Flemish Bond only. The mortar joints shall be rudded.[83]

The emphasis placed on construction technique is due in part to the perceived correlation between building construction/technique and style.[a] For example, English and Flemish bonds have been used historically to construct full thickness masonry walls without the use of metal ties and are part of New England's architectural heritage. In addition to this, durability is another important goal of the guidelines as is stated in the introduction:

> The guidelines set basic standards to promote a visually harmonious community of durable and dignified buildings.[84]

Because the English and Flemish bonds suggested would not logically or for that matter economically,be used to construct a veneered brick wall, it underscores a particular attitude towards construction integrity and visual durability. This also can be seen in Guideline No. 2 found under 'Building Elements, Configuration and Specifications' section which states that:

> 2. Wood posts shall be no less than 5-1/2" x 5-1/2." [140 mm.x 140 mm.][85]

This requirement insures to some degree that no spindly porch columns are designed which architecturally do not convey a sense of solidity and sturdiness. This approach is more restrictive than the Westmount or Westpark guidelines, because it does not merely suggest suitable

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[a]Andres Duany (DPZ) maintains this association when describing the codes for Seaside, that "[b]y selecting valid construction technique, we inevitably selected a valid style." (Mohney, 70)

materials, but specifies a narrow range of sizes and (orientations) of that material.

The guidelines for Mashpee are much lengthier than the guidelines for Seaside, but exhibit a similar ease and simplicity of use which is uncommon when compared to the other guidelines surveyed: this underlines one of its chief strengths. Firstly, the guidelines cater to the user of the code who may or may not be a professional. This is apparent in the introductory section of the guidelines which outlines how to use the code, and also includes an illustrated glossary primarily aimed at defining architectural terms used throughout the manual (fig.3.29). Secondly, the language used throughout is positive, precise and prescriptive and tells the reader exactly what to do and how, rather than focusing on why a particular guideline should be followed. This is unlike Westmount which states guidelines as suggestions rather than actual controls, or Westpark which uses overly vague or negative, proscriptive language. For example, here is a comparison of Westpark and Mashpee's guideline regulating chimneys: The Westpark guideline opens by stating that: "As an architectural form, chimneys shall be simple in design to insure consistency of character and style;" It further states that: "Simple smooth plaster forms' are encouraged," but "[r]ustic material veneers' are prohibited."[86] The term 'simple' is obviously an important and desired quality, however the term is broad and how it relates or will result in the stylistic goals of Westpark or how one would even go about designing a 'simple' form is not defined. In contrast, the Mashpee guideline regulating chimney design succinctly states that: 'Chimneys shall be made of brick.'[87] The wording for this guideline is characteristic of other guidelines contained in the Mashpee manual, and unlike Westpark, more decisively determines what needs to be fulfilled and what is expected for conformance within the design regulations. Thirdly, the Mashpee guidelines, unlike Westpark, are not encumbered by misleading graphics.

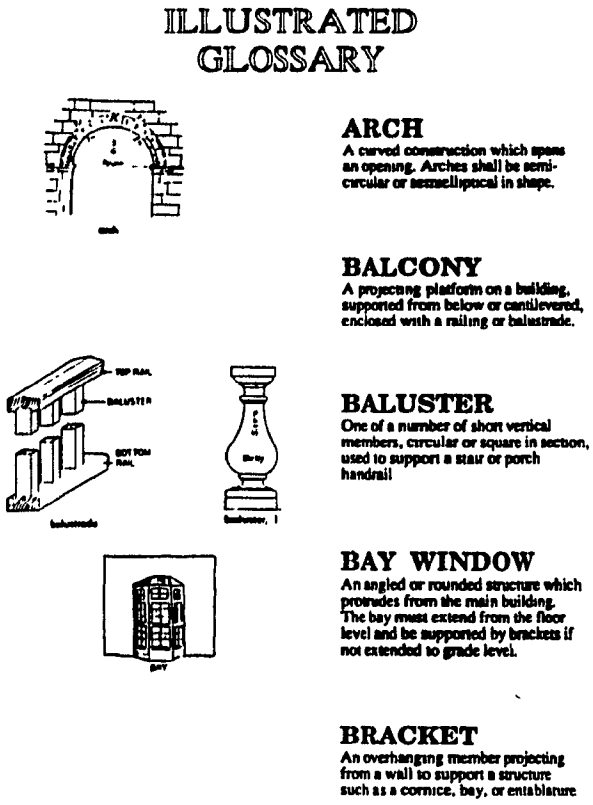

Fig.3.29. Section from the 'Illustrated Glossary' (Fields Point Limited Partnership, *Guidelines for Mashpee Commons*)

Although both sets of guidelines are concerned with a style, Mashpee includes no illustrations. This may be due to the fact that graphics may provide misleading interpretations of the guidelines and limit expression, ultimately hindering the amount of variety that would normally be the result from free interpretation of the guidelines. Overall, both the precise language and limited use of graphics limits the length of the guidelines. Finally, because of this and its other qualities, Mashpee's guidelines compliment the review process, and can function more independently, outside the traditional realm of architectural review committees. The role of the committee can be further diminished, by clear and precise guidelines like Mashpee, because, rather than interpreting the intent of the guidelines during the review process, the function of the review board can be limited to simply evaluating adherence to the guidelines.

3.3.5 RESIDENTIAL DESIGN GUIDELINES FOR THE CITY OF SAN JOSE

The City of San Jose, located approximately 50 miles [80.5 kilometers] south of San Francisco, is typical of expanding American suburbs which have experienced extraordinary growth in both size and population since the late 1940's. As a result of San Jose's population nearly doubling from 1965 to 1985, planning tools such as (FHA) subdivision standards and (PUD's) have proved insufficient in successfully regulating the present development of its expanding edge communities.[88] The reliance on the automobile for most transporation has also encouraged this expansion.[89] The negative features of these practices over the past forty years have had the greatest effect on the quality of community life and the appearance of San Jose's townscape.[a] In addition, the heterogenous nature of San Jose's housing stock has made it very difficult for architects and planners to create a cohesive community. Some sections of San Jose, for example, consist of older, more established neighborhoods, while others consist of expanses of vacant land allotted for future development. non-urban to urban dense to sparse. Housing varies from sparse, detached and semi-detached housing, to more dense forms of housing like row houses, garden apartments, and high rise apartment complexes.[90] It is the relationship between dwellings and the quality of the overall community "that new housing creates in aggregation" where the contemporary housing schemes in San Jose are deficent.[91] San Jose is no longer a visually cohesive community.

In 1985, the City of San Jose decided to adopt a set of design standards aimed at addresses these mounting concerns. With the collaboration of several city planning departments and commissions as well as input from local architects and builders, the consultant team of Daniel Solomon and Associates drafted a set of guidelines titled *Toward Community: Residential Design Guidelines for the City of San Jose*, which was later approved in 1986 by the City Council of San

[a]See Chapter 1, pages 4-5, for a description of (FHA) and (PUD'S).

Jose. The guidelines are directed to planners, developers, and architects to help them collectively achieve a sense of community which the City Council feels can be assured through specific site and architectural design controls Compliance with the design code is mandatory, although designers may need to sometimes meet more than required minimums to ensure approval by the City Council [92]

The 67-page guidelines apply to new higher-density residential developments which include, for example, small-lot single-family detached housing but excludes conventional single-family detached in traditional R-1 zoning districts They also do not apply to renovation work or development within the Downtown Core Area.[93] There is no clear explanation given to why the guidelines do not pertain to traditional R-1 single-family detached housing, other than that this form of housing does not fall under the category of higher-density housing which the guidelines are specifically addressing. One would assume, however, that the challenge of designing a cohesive 'community' can be as difficult (if not more so) within lower-density housing developments.

The intentions of the guidelines are numerous and broad in scope. In the introductory section of the manual titled, 'Why Design Guidelines,' the intentions are summarized as follows:

> The design guidelines contained in this book address the private residential environment of the citizens of San Jose and the public world created by their dwellings in aggregation. The subject matter of the design guidelines is both the quality of housing and the quality of the city itself. (from introductory paragraph of the 'Introduction')[94]
>
> These new guidelines build on the experience of the recent past and will assist planners, developers, and architects to achieve through their collective efforts a quality of townscape that has often proved elusive through the period of postwar growth (from concluding paragraph of the 'Introduction')[95]

These paragraphs provide a descriptive background and focus primarily on *why* design guidelines are needed, rather than specifically outlining *what* the guidelines hope to achieve. The guidelines attempt to 1) address the variety of conditions and housing types, 2) improve the quality of higher density housing; not just the design of individual houses, but the internal organization (circulation and the integration of existing projects and new projects), and 3) address the impact of the automobile in the suburban environment Goal No. 3 can be further broken down into more specific goals: a) to improve traffic patterns by re-establishing a grid-iron street systems in lieu of curvalinear and meandering streets, b) to narrow street widths, c) to reduce setbacks, and d) to visually integrate or lessen the impact of the 'two-car' garage on the facade of suburban houses. Finally, it is strongly felt by the city that the guidelines should encourage creativity and inspire creative approaches to the design restrictions; consequently, they should be flexible, not overly rigid.

The organization of the guideines is critical because of the length of the manual and the

scope of their intentions. The guidelines are divided into a total of 24 sub-sections, grouped into three main sections, individual guidelines are listed within each of the 24 sub-sections (fig.3.30). More specifically, the set is divided into three sections which clearly respond to distinct conditions in San Jose. older, established neighborhoods, non-developed or underdeveloped areas, and a diverse housing stock. Part I, 'Relationship to Surroundings,' focuses on established developments (and infill housing conditions) and specifically the relationship of new developments to older ones. Emphasis is placed on ensuring that specific qualities found within older communities are respected and supported, particularly at perimeter conditions. Examples of typical guidelines (sub-section guidelines) contained within this section are Guideline no.1, 'Existing Neighborhoods,' and Guideline no.2, 'Perimeter Walls and Fences.'[96] Part II, 'Internal Organization,' deals with issues which are important to new housing subdivisions such as placement of streets, landscaping, and determining appropriate areas for common versus private open space. Additionally, issues which are applicable to all housing types are addressed within this section such as Guideline no.13, 'Building Articulation,' Guideline no.12, 'Finish Materials,' and Guideline no.16, 'Garbage Enclosures.'[97] Finally, Part III, 'Additional Guidelines for Specific Housing Types,' addresses design considerations unique to specific housing types found within San Jose. The eight housing types represent nearly the full range of housing which exists in San Jose and are as follows: Guideline no.17, 'Single-Family Detached Houses,' no.18, 'Paired Dwellings,' no.19, 'Rowhouses,' no.20, 'Garden Townhouses,' no. 21. 'Entry Court Townhouses,' no. 22, 'Cluster Housing,' no.23, 'Podium Cluster Housing,' and no.24,' Corridor Buildings.'[98] Specific requirements which are unique for each housing type, such as required setbacks, street frontage, building heights, and lot shapes, are listed under each housing type.

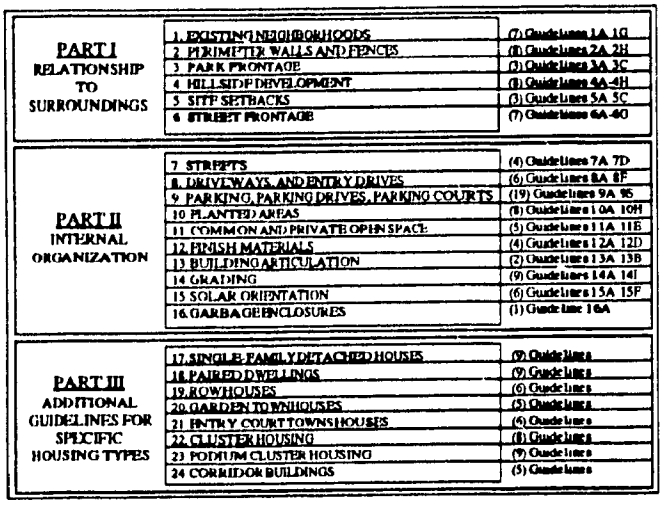

Fig.3.30 Organization of the San Jose Guidelines

Each of the twenty-four sub-sections is divided into a number of individual guidelines (the number varies among sections) along with a section devoted to definitions and intentions. For example, the section titled 'Planted Areas' is divided into eight individual guidelines: 10A: Developer Reponsibility, 10B: Setback Landscaping, 10C: Frontage Roads and Landscaping, 10D: Street Trees, 10E: Open Space Setback Landscaping, 10F: Landscape Bulbs, 10G:

Irrigation, and 10H: Tree Preservation. The definition for 'Planted Areas' states that. "[a]ll areas not covered by buildings, street, drives, or hardscape are considered planted areas "[99]

Unlike Westpark and Mashpee, the San Jose guidelines do not address the issue of style directly by dictating a specific architectural style, but rather seek to regulate aesthetics outside the issue of style. This is accomplished by regulating elements which are felt to have a history of being abused by careless design For example, the guidelines try to eliminate clashing materials, the misuse of decorative materials, and the piecemeal embellishment of facades.[100] Guideline 12, 'Finish Materials,' illustrates the manner in which adjacencies between differing materials are regulated:

> Materials tend to appear substantial and integral when material changes occur at changes in plane. Material or color changes at the outside corners of buildings give an impression of thinness and artificiality which should be avoided. Material changes not accompanied by changes in plane also frequently give material an insubstantial or applied quality[101] (See fig. 3.31)

The guidelines attempt to insure a quality,'substantial' exterior appearance by minimizing what they consider poor detailing practices, and in this sense, are similar to Seaside and Mashpee because they try to regulate aesthetics through the control of construction techniques.

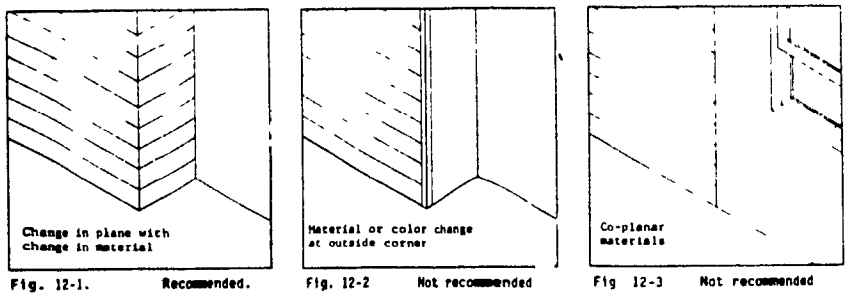

Fig.3.31. Recommended/Not Recommended Finish Materials and Detailing Methods (Solomon and Associates, *Toward Community*)

The Guidelines address many areas of concern such as landscaping, project walls and fences, articulation of building walls, roofs, walls and fences and parking, however specific attention is placed on the design of garages. In Part III, 'Additional Standards for Specific Housing Types,' garage placement and frontage is regulated for single-family detached houses and paired dwellings, and garage frontage only for rowhouses. In the sub-section titled 'Single-Family Detached Houses,' garage (and carport) frontage is limited to fifty-percent of the building frontage and can be increased to 62.5 percent if the garage is "recessed a minimum of five feet [1.52 m] behind the front face of the first story of the house " (fig 3.32) It is suggested that garages and carports "be set back a minimum of three feet [.914 m.] from the face of the first story of the house."[102] The guideline further states that if a garage occupies no more than fifty percent of the building frontage, it may vary from this setback minimum only if one of the following compensating features is incoporated into the design (fig.3.33):

1. An entry porch or trellis not less than 12 feet [3.66 m] wide, located in front of the living area, and extending not less than 2 feet [.61 m] in the front of the face of the garage.
2a. Useable open space above the garage with a trellis or roof at the front face of the garage.
2b Enclosed living space over the garage extending to the front face of the garage.[103]

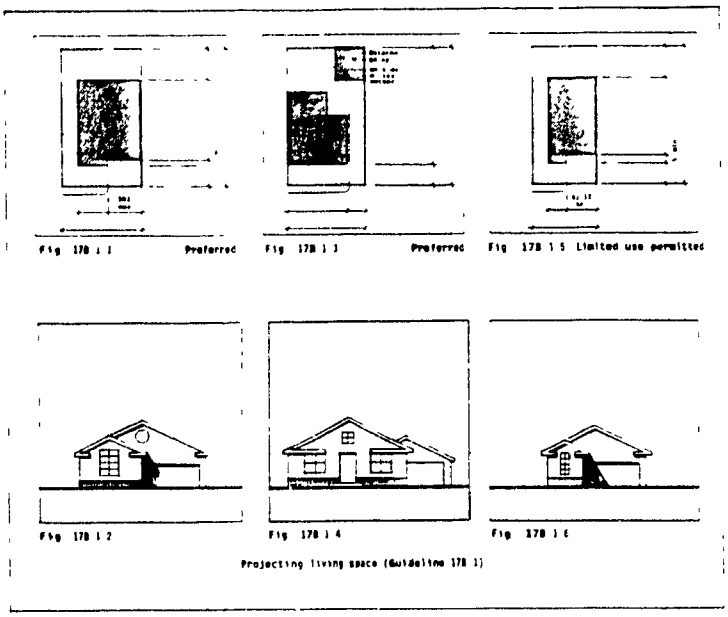

Fig.3.32. Projecting Living Space
(Solomon and Associates, *Toward Community*)

The development and enforcement of the San Jose guidelines is a major undertaking and by some indications, has been successful in remedying some of the negative features found in housing schemes designed prior to their enactment (fig.3.34). In addition, the Guidelines also make great strides in specifically addressing the design of garages in a thoughtful and urgent manner. However, the guidelines are deficient in key areas, primarily surrounding their overall intentions (what they hope to achieve) and organization.

The San Jose guidelines attempt to address universal issues of environmental quality, and differ greatly from those of Westpark and Westmount, which are motivated by single-minded goals. For example, in Westmount, the goal is to preserve an existing historic community by regulating repairs and alterations to existing buildings. In Westpark it 'is to implement the community theme as established by the *Westpark Concept Plan*' by controlling architectural character and form.[104] Although these

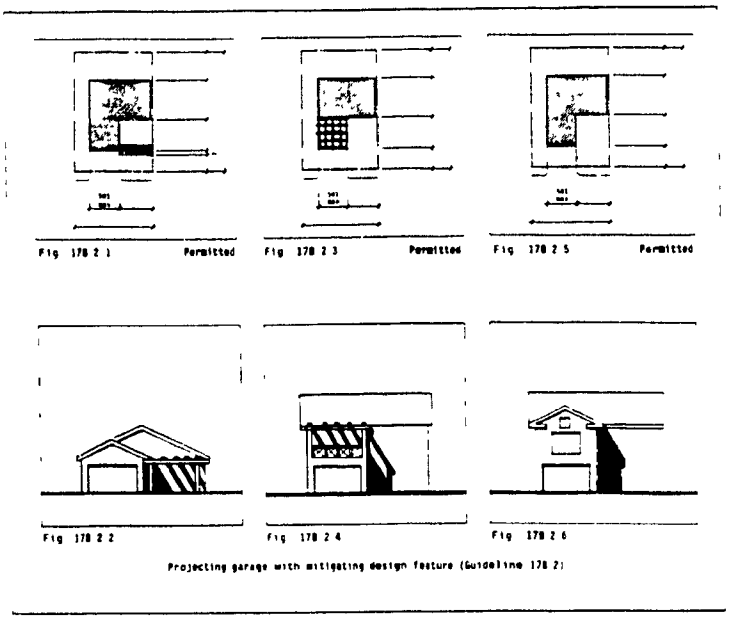

Fig.3.33. Projecting Garage with Mitigating Design Feature
(Solomon and Associates, *Toward Community*)

guidelines have developed numerous means of achieving their goals, they remain clear at least as far as their primary objective is concerned. In contrast, the set of guidelines for San Jose are less successful because they are ambiguous and attempt to address too many planning and architectural concerns at once The San Jose guideline's objectives are too numerous and too broad in scope; they try to do too much and consequently there is no one overriding goal to effectively help in prioritizing more specific concerns or secondary objectives.

Fig.3.34. Example of Projects Constructed Since the Enacting of the Guidelines (Boles, "Reordering the Suburbs")

In general, the San Jose code also lacks the clarity and simplicity found in guidelines such as Seaside and Mashpee which emphasize why a particular guideline is important, rather than focusing on how it is applied. This is particularly evident in the example taken from the introduction to the manual (see page 81 in this section), in which the term 'quality' is stressed as the subject matter of the design guidelines, although it is never explained how it will be achieved This is also evident in the 'Intent' found in each sub-section which describes more specifically the goal of the individual guidelines that follow. For example, the intent for 'Planted Areas,' illustrates how the inclusion of a rationale and explanation to the guidelines makes the guideline less explicit because the specific design restraint or application is not obvious.

> Planted areas are used to frame, soften and embellish the quality of environment, to buffer units from noise or undesirable views, to break up large expanses of parking, and to separate frontage roads within a project from public streets. To accomplish these design objectives, landscape elements need a vertical dimension Trees and tall shrubs are needed in addition to grass and groundcover. Trees can also be used to provide shading and climatic cooling of nearby units.[105]

The guidelines become lengthy because emphasis is placed on superfluous (descriptive)

information [a]

Unlike the guidelines for Seaside, Westpark, and Mashpee which address issues of site and architecture separately, San Jose's guidelines address these issues within the same sections of the guidelines. The code for Seaside, consists of a Regulating Plan, an Urban Code and an Architectural Code, the Westpark guidelines are divided into three sections titled, 'Architectural Design Guidelines,' 'Landscape,' and 'Site Furnishings', the guidelines for Mashpee are also divided into separate sections titled 'Site Code' and 'Architectural Code.' The San Jose guidelines, on the other hand, are divided into three parts addressing broad areas of interest (Part I, II, III) rather than by commonly understood architectural categories. The organization of the San Jose guidelines also lacks any correspondence to a hierarchy of scale, from the larger urban scale, to the more specific architectural detail scale and construction techniques. This is due to the fact that zoning, site, planning, and architectural issues are addressed within each guideline rather than separating these issues into different sections.

The heterogenous nature of San Jose's housing stock adds another level of complexity to how the guidelines function. In areas which are undeveloped, the guidelines establish a foundation for overall community design and planning standards, including such issues as street location and the size and layout of driveways and parking areas. Within the older sections of San Jose, on the other hand, they focus on issues of compatibility between new and existing projects, and respect for the character of the of the existing neighborhood. The organization of the guidelines into sections and sub-sections may appear to be an effective and logical strategy, but it becomes problematic, because of the many overlaps. This is evident when examining how the guidelines regulate setbacks For example, Part I contains guidelines 1A, 1B, and 1D titled 'Relevant Setbacks,' 'Setback Averaging,' and 'Setbacks from Single-Family Houses,' respectively, and sub-section No. 5 titled 'Site Setbacks.' Part II contains guidelines 10B and 10E titled 'Setback Landscaping,' and 'Open Space Setback Landscaping,' respectively. Finally Part III, contains setback guidelines in each sub-section of the eight housing types described. Because all three sections contain specific guidelines which address setbacks, it is difficult to know what section applies. Since many guidelines mention setback regulations, but do not necessarily highlight them, the designer is forced to read through a substantial amount of text to find essential information. This is one factor contributing to San Jose's lengthy 67-page guidelines, the longest document surveyed.

Finally, some of the guidelines refer to other sections which makes cross-referencing between each section cumbersome because supplemental information is often left out and is

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[a]San Jose's guidelines are 67 pages and are the longest of the guidelines surveyed. Interestingly, Christopher Alexander's *A Pattern Language*, which follows a similar format, comprises a total of 1171 pages.

referenced elsewhere. This creates unavoidable overlapping and redundancy of material. For example, guideline 10E: 'Open Space Setback Landscaping' states that:

> Private rear yards, patios, and balconies should be provided with an extra 10 to 20 feet of landscaped setback when adjacent to incompatible uses or close existing decks or balconies These extra setback dimensions are built into Guideline 5C, Private Open Space Setbacks, page 17.[106]

Guideline 10E refers the designer to 5C, but presumably, 'these extra setback requirements' have already been calculated into the standard setbacks given in Guideline 5C. This guideline simply repeats regulations previous provided and as such, is unnecessary.

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CHAPTER 4
DISCUSSION AND CONCLUSIONS

4.1 PRESENTATION OF DESIGN CODES

Chapter 3 provided an overall description of the five design codes with particular attention being placed on the presentation of the guidelines. Clearly, factors such as organization, the use of language and terminology, and how graphics are incorporated into design codes are important considerations in the design codes surveyed. Equally as important are how codes address essential objectives such as architectural expression, harmony and variety, and detailing and durability. Interestingly, one factor that most of the codes share is that they cater to both professionals and laypeople. The accessibility of design codes is seen as an important consideration since a sizeable amount of suburban housing is designed and constructed by developers, not architects and, often minor additions and extensions are done solely by the homeowner. Additionally, it is also evident from the survey that design codes are not necessarily lengthy. Seaside and Mashpee have concise codes which clearly prescribe controls Limiting the length is seen as important since the longer a code becomes, the more complicated it can be to use, and the more likely it may be implemented incorrectly.

There are a number of factors which are important in the presentation of design codes. The first relates to language and terminology. Because codes address subjective issues such as the appearance of suburban housing, some codes such as Seaside and Mashpee carefully define terminology and use very specific terms This is especially true with words which are frequently used, or used in an unconventional way. Mashpee, for example, includes a glossary. Terms can also be defined within the body of a code immediately when they are used, as for example in the San Jose code. In addition, Westmount, Seaside, and Mashpee represent codes which use simple and clear language. Their immediate goals and intentions are well articulated and obvious to the reader. This is in contrast to codes such as Westpark and San Jose which use vague and broad terms that can be misinterpreted. Westpark's use of the word 'simple' in one of its guidelines underlines how unclear language can be confusing and misleading to the reader.

A second important factor in the presentation of design codes is organization. To avoid redundancy and contradiction, many codes present information only once. Information common

to several guidelines is usually stated in an introductory paragraph, section or chapter--depending on the code--and is not repeated within each guideline or section Most of the codes encompass planning, site and architectural issues, and are consequently divided into distinct sections which can function separately from one another. Examples of this form of organization include Seaside which is divided into separate urban and architectural codes, Westpark which is divided into architectural, landscaping, and site guidelines, and Mashpee which is divided into site and architectural codes.[a] Organizing guidelines into distinct sections helps to limit the need for cross referencing from one section to another and makes the codes less cumbersome to use. Finally, most of the codes list individual guidelines based on commonly understood elements such as landscaping, doors, or porches, rather than by key areas of interests or concerns such as existing neighborhoods or building articulation Four out of the five codes surveyed list guidelines in this manner, the only exception being the San Jose code which lists guidelines based on broad areas of concern.

The use of graphics in design codes is another issue that deserves mentioning. Codes use a number graphic tools: a) charts (Seaside's Urban Code) b) diagrammatic plans, elevations, and sections (Mashpee's regulating plans), c) sketches of proposed designs (Westpark's sketches), and d) photographs (Westmount's photographs of existing conditions). The use of graphics can be very helpful in consolidating information as for example the Seaside Urban Code, and is a positive step in creating more 'user-friendly' codes. It is important that graphics be carefully considered. Charts and diagrammatic drawings used in the Seaside and Mashpee codes typically illustrate conditions described within the guidelines and do not attempt to influence the reader's interpretation of the written code. In contrast, rough sketches and photographs in the Westmount and Westpark are used as decoration and embellishment and do not always illustrate a specific guideline. Rendered sketches in particular give the reader a preconceived image of the guidelines in practice. If carelessly applied, the incorporation of sketches may cause misleading interpretations of the guidelines, and possibly limit the amount of variety that would normally result if no visual information was provided.

In conclusion, the codes surveyed tend to fall into one of two categories; codes which directly state necessary controls and codes which provide a list of alternatives or suggestions within individual guidelines. Prescriptive codes such as Seaside and Mashpee do not usually provide alternatives within individual guidelines, and use charts and diagrams, rather than illustrations and sketches, to graphically represent information. Prescriptive codes tend to be more concise. Codes such as Westmount, Westpark, and San Jose list both desired and

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[a]It is less essential for shorter and less complicated codes such as Westmount to be divided in this manner.

undesired conditions and regulate through comparison or example. Because these codes regulate through comparison, illustrations are used frequently and have an important function in the codes. Photographs and sketches help to show alternatives and priorities within the guidelines listed. These type of guidelines tend to be descriptive and instructional rather than prescribing necessary controls. It is assumed that listing alternatives will provide examples for comparisons and will ultimately add more variety and individual expression when the guidelines are implemented. However, based on the codes surveyed, this system tends to make the codes unnecessarily lengthy; in addition, because both desired and undesired conditions are illustrated, the codes are more likely to be confusing to the reader.

In addition to the considerations discussed, there are a number of factors concerning architectural expression, harmony and variety, detailing and durability, which should be mentioned. The first issue, directing architectural expression, is very important because it is used by many of the codes, as a regulating tool to establish a particular image and a degree of architectural harmony throughout a community. Codes such as Seaside and Mashpee are not singularly focused on imposing an architectural expression, and consider broader architectural and planning issues which are essential in developing and sustaining a community. In contrast, establishing a community style becomes the single most important objective of the Westpark code. This increases the likelihood that too much emphasis will be placed on insuring overall harmony at the expense of individual variety, resulting in stifling homogeneity rather than in a pleasing sense of consistency.

The second factor also relates to architectural expression and concerns the manner in which a particular style is defined. In contrast to the Westpark code which specifically defines one style and provides few alternatives within this style, both the Seaside and Mashpee codes have developed an organizational scheme which defines a style in broad terms. This allows the possibility of sub-styles or building types which fall within that broadly defined style. Controls for each building type can therefore be unique and specific to the proposed sub-style for that building type. This encourages variety between types, yet the primary style provides a recognizable degree of harmony. In addition, because the codes are divided into distinct urban and architectural codes, variety is promoted at the urban or community standard level by varying controls between different building types and harmony is promoted at the detailed level of architectural code, because the same architectural code is used for all building type.

Finally, based on the design codes surveyed, codes can address issues of style, durability of materials, and authenticity of design, by regulating detailing and construction techniques. This is particularly true in some of the codes (Mashpee, for example) which establish a community style and also regulate the details and construction techniques which determine that

style. In addition, qualities such as durability and authenticity are also addressed in some codes through the regulation of detailing and construction techniques. Most of the codes acknowledge that poorly constructed details directly affect actual longevity and the overall impression of durability. Often, details which appear out-of-place are inappropriately applied and are not authentic to a particular style or climate. Many of the codes stress that carefully controlling 'how-materials come together' can help alleviate these situations. This is not to suggest that design codes are a substitute for building specifications, however, design codes address construction from a perspective of aesthetic merit, which is not commonly the case for building specifications. Most of the codes surveyed contain guidelines which regulate detailing and construction methods (Seaside, Mashpee, and to a lesser extent Westmount and San Jose) and do not isolate issues of aesthetics from detailing; these issues are viewed as essential components in producing a quality suburban environment.

4.2 CONTROL OF ARCHITECTURAL ELEMENTS

Thus far, design codes have been examined in a broad manner by providing an overall description and also by exploring their objectives. However design codes encompass both broad and detailed issues, so it is important to examine not only *why* design codes are enacted, but more precisely *what* design codes regulate. Figure 4.1 lists commonly regulated elements in the five codes surveyed. The chart is divided into community and architectural standards; the former pertain to elements typically regulated by zoning such as building height, frontage, and setbacks, while the later pertains to architectural elements associated with an individual house such as porches, fences, and windows.[a] Elements are listed in the chart only if they appear in at least two codes. Elements are also ranked according to how strongly they are regulated as compared to other guidelines *within the same code*: heavy emphasis, average regulation, or briefly mentioned.

The list of elements in Figure 4.1 suggests that there exists a correlation between a particular code's primary objective and what a code regulates. One good indicator of this is the number of elements listed as community standards compared to those listed as architectural standards. Figure 4.2 provides a summary of this comparison. The Seaside code controls the highest number of elements considered to be community elements—9 out of 10, followed closely by both Mashpee and San Jose with 8 out of 10 elements. The heavy emphasis placed on community elements is understandable since all three codes plainly state that one of their objectives is to reverse present planning and zoning practices; therefore, these design codes regulate elements typically covered under zoning (those considered 'community'). In contrast, codes such as Westmount and Westpark do not attempt to modify existing ordinances. Elements

[a]See Glossary for the definition of the terms 'community standards' and 'architectural standards.' The terminology is based on terms used in the *Windsor Code* developed by Duany and Plater-Zyberk.

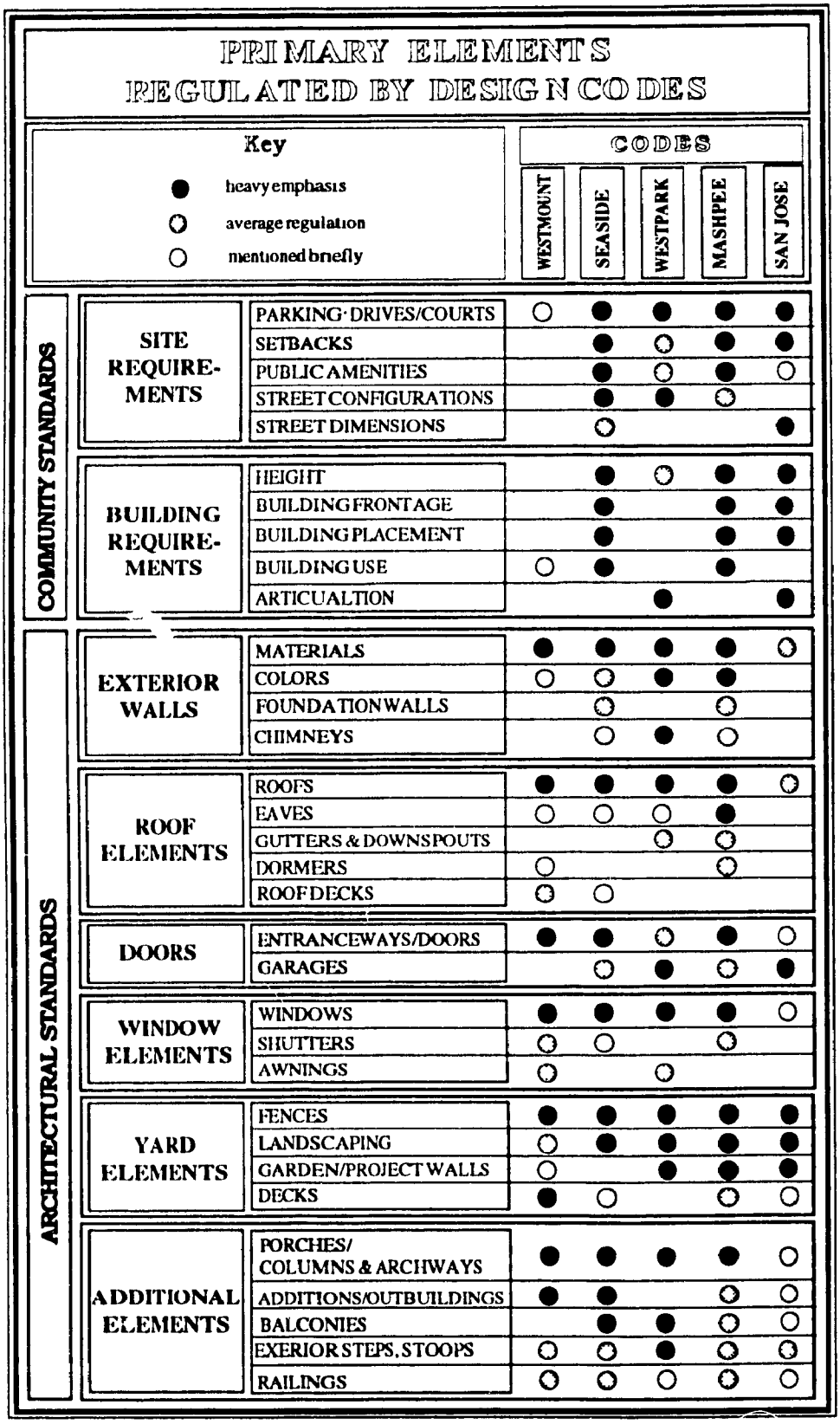

Fig.4.1. Primary Elements Regulated by Design Codes

such as building frontage and building usage are regulated in applicable ordinances and do not need to be regulated in design codes. In addition, because the majority of construction in

COMPARISON OF COMMUNITY VERSUS ARCHITECTURAL STANDARDS

DESIGN CODES	COMMUNITY STANDARDS (Total number of elements regulated)		ARCHITECTURAL STANDARDS (Total numebr of elements regulated)		PERCENTAGE*	
					COMM.	ARCH
WESTMOUNT	2 out of 10	20%	18 out of 23	78%	10%	90%
SEASIDE	9 out of 10	90%	19 out of 23	83%	32%	68%
WESTPARK	6 out of 10	60%	17 out of 23	74%	26%	74%
MASHPEE	8 out of 10	80%	21 out of 23	91%	27%	72%
SAN JOSE	8 out of 10	80%	14 out of 23	61%	36%	63%

*Out of the number of regulated elements within each code
(For example, the Westmount code regulates a total of twenty elements, two plus eighteen)

Fig.4.2. Comparison of Community Versus Architectural Standards

Westmount is renovation work, guidelines which address such issues as building placement, setbacks and height are not as necessary. This explains why these codes rank the lowest in the number of community elements regulated.

In contrast to community standards, architectural standards govern architectural expression rather than planning. Codes such as Mashpee which have a strong stylistic goal, regulate elements which are essential to that style, and consequently have a large number of elements listed under architectural standards; Mashpee has the highest number of architectural elements regulated of the codes surveyed—21out of 23. It is interesting to note that although the Westpark code also promotes the 'Mediterranean' style, the Code relies on regulating a more limited range of elements such as materials, colors, and roofs than does the Mashpee code (17 out of 23 possible architectural elements). It is also interesting that the Seaside code claims not to have a stylistic agenda, however, like the Mashpee code, it too regulates a large number of architectural elements. This could be due to the codes' creators (DPZ) desire to link construction techniques with architectural style. The Westmount code, being a preservation code, also regulates a large number of architectural elements, particularly those which are historically important in the existing architecture of the community such as decorated wood entranceways and porches. Finally, the least stylistic code among those surveyed, the San Jose code, not surprisingly, regulates the least number of architectural elements. This is understandable since

the code specifically states that: "San Jose is too large and too heterogeneous for guidelines to have a specific stylistic intent."[a] Only architectural elements which are considered essential such as garages, fences and landscaping are regulated, but these are viewed more as a way of providing a 'quality' environment without dictating a particular style.

Finally, the last columns of Figure 4.2, titled 'Percentage' compares the degree of emphasis each code places on community versus architectural standards. Unlike the numerical values presented in the previous two columns, these percentages illustrate the emphasis that *each* code places on community versus architectural standards. For example, the Westmount code regulates a total of 20 elements; 2 listed under community standards and 18 listed under architectural standards, and the resulting percentage for Westmount is 2 out of 20, or 10 % for community elements, and 18 out of 20, or 90%, for architectural elements. Figure 4.2 illustrates that Westmount places the most emphasis on architectural standards. Since it is an existing urban community and not a new subdivision, most of the emphasis is placed on directing architectural expression and ensuring compatibility with what already exists, rather than locating buildings and roads. In contrast to Westmcunt, Seaside is a new subdivision and additional planning issues need to be addressed in the code such as locating housing plots, town facilities, streets, parking and landscaping. Consequently, Seaside has one of the lowest percentage difference between community and architectural standards because both community and architectural issues are equally addressed by the code. Finally, San Jose has the highest community percentage and the lowest architectural percentage. These figures indicate that the code attempts to balance its regulating efforts between large scale and detailed scaled issues and is not as focused as the other codes surveyed. This may be the result of San Jose heterogenous housing stock and the broad goals which the code professes.

THE MOST COMMONLY REGULATED ARCHITECTURAL ELEMENTS

ELEMENTS	EMPHASIS OF REGULATION (# of elements listed under the following categories) ●	⊙	○	TOTAL
FENCES	5			5
MATERIALS	4	1		5
ROOFS	4	1		5
LANDSCAPING	4	1		5
WINDOWS	4		1	5
ENTRANCEWAYS/ DOORS	3	1	1	5
PORCHES	2	1	2	5

KEY heavy emphasis, ● average regulation, ⊙ mentioned briefly, ○

Fig.4.3. The Most Commonly Regulated Architectural Elements

There exist a number of differences in the codes but there are also some similarities. This is especially true when comparing the number of architectural elements which are highly controlled in all five codes. The results presented in Figure 4.1 suggest that certain architectural

[a]See *Toward Community: Residential Design Guidelines for the City of San Jose*, 3.

elements are consistently regulated. The most commonly regulated *group* of architectural elements is 'yard elements,' which has the greatest proportional number of guidelines ranked as 'heavy emphasis.' This underlines the importance of the landscape and landscaping features such as fences and garden walls in the suburban image. The most commonly regulated architectural elements are fences, materials, roofs, landscaping, windows, entranceways/doors, and porches (fig.4.3). The least regulated elements are those which are very particular to a climate or architectural style such as awnings, gutters and downspouts, and foundation walls.

Finally, it is important to examine what features and design considerations are addressed by design codes within each one of the seven architectural elements listed in Figure 4.3. For example, in the design of fences, roofs, and porches, respectively, the codes surveyed identify the following features as important to regulate: for fences, a) height, b) location, c) color, d) fencing patterns, and e) opacity; for roofs, a) shape and type of roof, b) pitch and slope, c) roof structure, and d) length of a single roof; and for porches, a) overall dimensions (both width and length), b) proportion of porch openings, c) porch roof type and structure, and d) detailing. Additionally, design considerations for fences, roofs, and porches, respectively address the following issues: for fences, a) consistency in fencing design (both pattern and color), b) visual impact (not too high, too solid, or too long), c) fence articulation, d) definition of property and street edge, e) security, privacy, and landscape definition, and f) buffering of unsightly views and noise; for roofs, a) roof articulation, b) limiting the use of flat roofs, and c) appropriately designed within a given style and climate; and for porches, a) compatibility with the primary dwelling in both materials and style, b) usability, c) finished quality and details, and d) visual and structural durability. Refer to Figure 4.4 and 4.5 for a summary of specific features regulated by codes and important considerations expressed for the seven most commonly regulated elements.

4.3 OBJECTIVES OF DESIGN CODES

One of the most noticeable features of design codes is that they are specific to a project and site and address unique objectives of a particular community. The primary objectives of design codes can vary depending on such factors as the location, size, age and historical significance of a community, and whether or not a community is a new subdivision, an expanding 'edge-city,' or a small town upgrading its image and appearance. On a broad level, the objectives of the codes surveyed in Chapter 3 seem to vary substantially. Westmount is concerned with the preservation of its historic architecture; one objective of the Seaside code is to recreate the feeling or atmosphere of a small Southern town; Westpark is concerned with establishing a Mediterranean style throughout the community; Mashpee's objective is not only to re-create the style of New England but also a 'sense of place' which is unique in New England villages; the

SPECIFIC FEATURES REGULATED BY DESIGN CODES

1	**FENCES**	a) DIMENSIONS: HEIGHT, LENGTH b) LOCATION/POSITION c) COLOR d) FENCING PATTERNS e) OPACITY
2	**MATERIALS**	a) SIDING WIDTH,THICKNESS,ORIENTATION, PATTERN b) FINISH OF EXTERIOR WALLS, COLOR c) TRIM: PATTERN, SIZE d) BRICK: PATTERN, COLOR e) MORTAR JOINTS: TYPE, WIDTH f) USE AND LOCATION OF CONCRETE BLOCK g) MATERIALS: AMOUNT AND COMBINATION
3	**ROOFS**	a) SHAPE/TYPE OF ROOF b) PITCH/SLOPE c) ROOF STRUCTURE d) LENGTH OF A SINGLE ROOF
4	**LANDSCAPING**	a) TYPE OF VEGETATION b) SIZE, HEIGHT c) LOCATION, GROUPING, CLUSTERING, SPACING d) % OF SITE COVERAGE/AMOUNT OF VEGETATION
5	**WINDOWS**	a) WINDOW TYPE, WINDOW SHAPE b) SIZE;OVERALL DIMENSIONS, PROPORTIONS, SQ./FT. c) WINDOW PANES;SIZE AND PROPORTION OF PANES d) MULLIONS, WINDOW SILLS
6	**ENTRANCEWAYS/ DOORS**	a) TYPE, PATTERN OR PANELS b) SIZE c) GARAGE DOORS;SIZE,PATTERN,DESIGN d) SLIDING GLASS DOORS; LOCATION, SIZE
7	**PORCHES**	a) DIMENSIONS: WIDTH, LENGTH b) PROPORTION OF PORCH OPENINGS c) PORCH ROOF; TYPE, STRUCTURE d) DETAILING

Fig.4.4. Specific Features of Architectural Elements Regulated by Design Codes

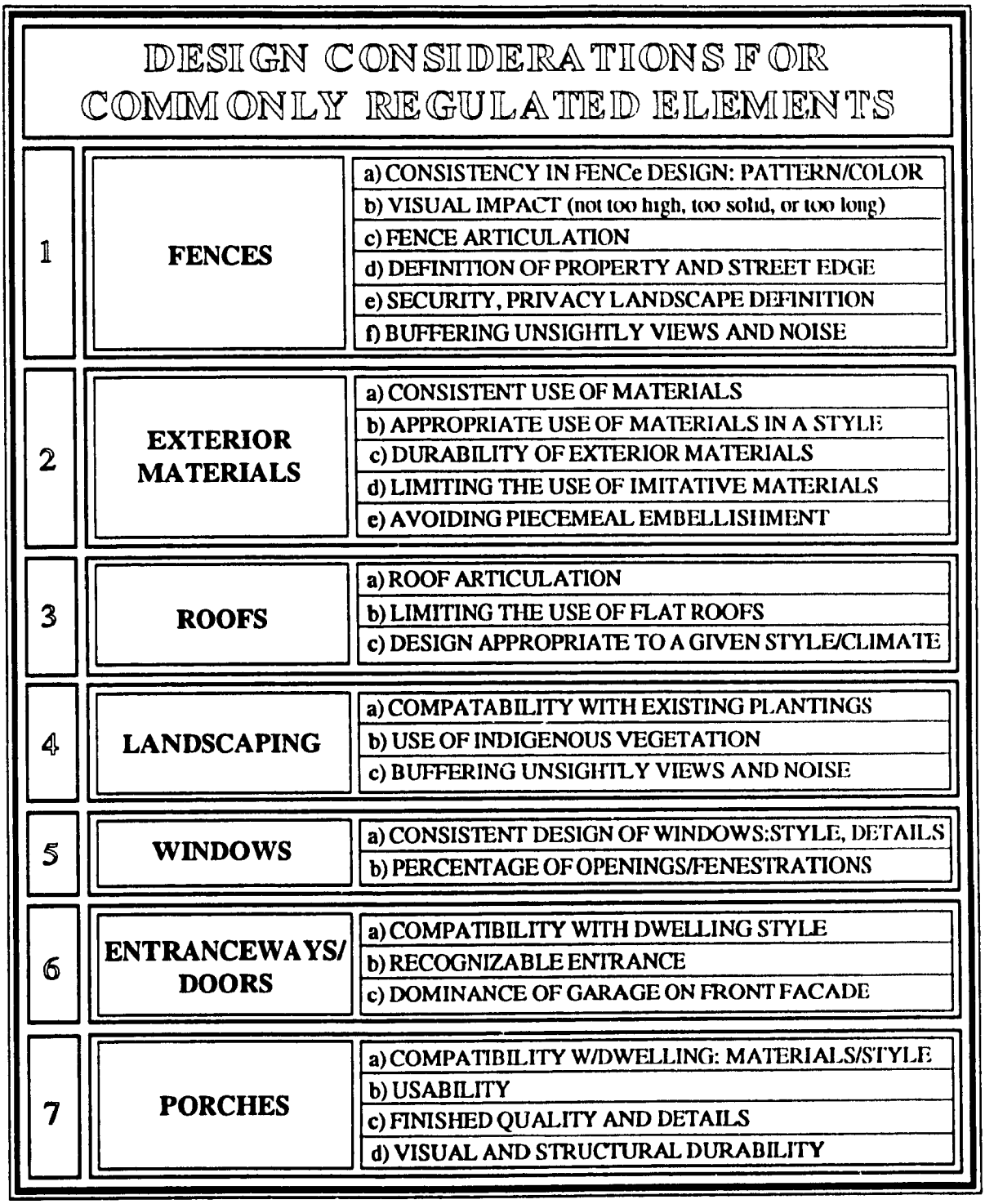

Fig.4.5. Design Considerations Expressed by Design Codes for Commonly Regulated Architectural Elements

objectives of the San Jose code is to improve the quality and design of the overall residential environment. Although the design codes have different primary goals, many of their secondary or underlying objectives are similar. The subsequent paragraphs will summarize issues and concerns which many of the codes share.

The codes all express the desire to establish or re-establish a sense of community. This is addressed in the codes through the use of certain architectural styles to create images of a small town. It may also be expressed as a desire to create a community which has a recognizable town center, and integrates residential, commercial, and light industrial uses. In addition, some of the codes surveyed stress the importance of planning suburbs as integrated communities and contain master plans, regulating plans, or concept plans as part of their regulating documents. Combined with this issue of community is the goal of designers to redefine the central role that zoning has had in shaping the suburban environment. Rewriting present zoning ordinances is viewed as an essential ingredient in enabling designers to create communities, because present methods of control hinder the construction of functionally integrated communities.[a] Rewriting present zoning ordinances and integrating residential, recreational and commercial areas is clearly the direction that many contemporary suburban designers are taking. Two noteworthy examples are the Traditional Neighborhood Development (TND) written by Andres Duany and Elizabeth Plater-Zyberk and the pedestrian pocket concept conceived by Peter Calthorpe. The TND is a prototypical zoning ordinance designed to replace single-use PUDs with mixed-use developments designed as small towns. The pedestrian pocket concept also stresses a multi-use community by clustering housing, retail space, and offices (fig.4.6). By loosening rigid single-use zoning practices, design codes can better provide communities with alternative suburban models. It is evident that more and more developers and designers realize that a sense of place and community is just as important to homeowners as is the appearance of their individual house.

A second important consideration is the integration of the built and natural environments. The landscaping of both private and public areas is addressed in some manner in all the codes surveyed through the regulation of general plantings, street trees, and parks. Elements such as fences and garden walls are also regulated because of their association with the landscape. The Westmount code, for example, emphasizes the protection of existing trees and plantings; Seaside, Westpark, and Mashpee codes refer the reader to a list of approved planting materials; and the San Jose code contains numerous sub-sections which address landscaping titled park frontage, planted areas, and hillside developments. A number of recurring issues regarding

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[a]Andres Duany states in an article titled "Traditional Towns," in *Architectural Design Profile 59: Reconstruction, Deconstruction*, that: '...over the years, codes have been modified to the point that we can no longer build traditional American towns. We can no longer build Williamsburg, or Winter Park, or Nantucket, or Annapolis. We can no longer build the places that are among the great collective memories of America.' (Duany, "Traditional Towns" 61)

landscaping are stressed within most of the codes such as the use of indigenous plantings, respecting existing planting types and layouts, and encouraging a consistent use of planting

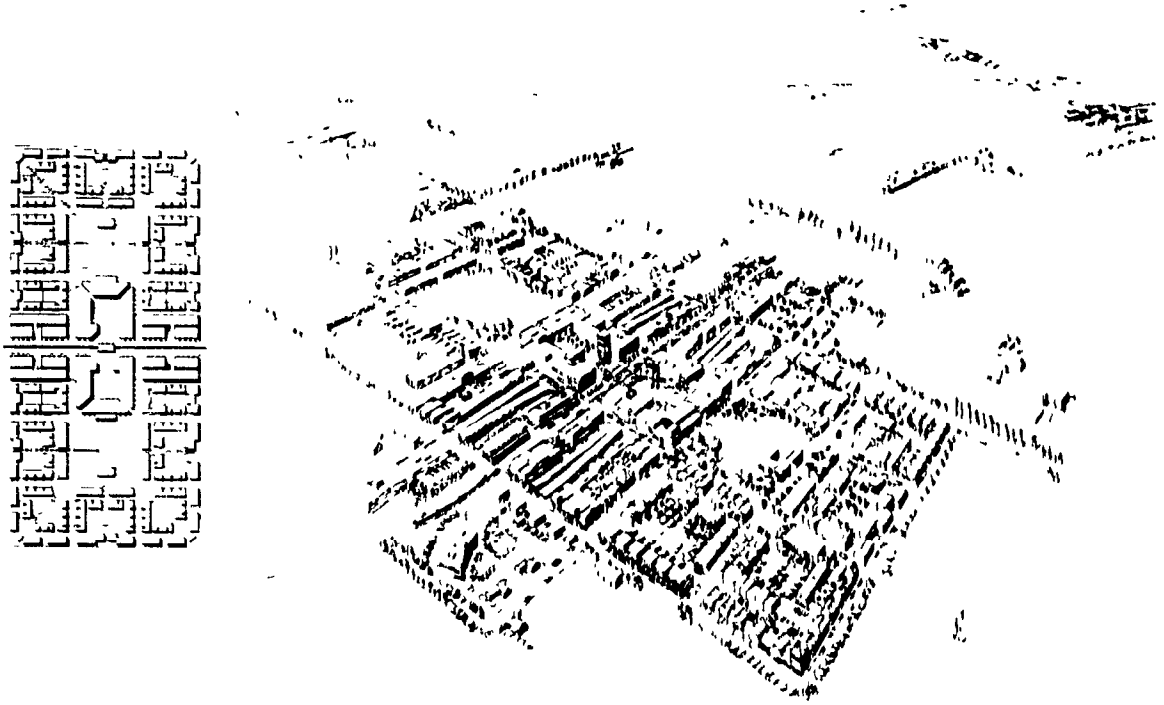

Fig.4.6. Diagram and Sketch for a 60-acre [24.3 hectare] Pedestrian Pocket
(Kelbaugh, *The Pedestrian Pocket Book*)

materials throughout the community. Landscaping is also used to define public and private space, to reinforce the hierarchy of spaces and circulation patterns, and to strengthen an overall community style or image. Generally, the codes stress the interdependence between landscaping and architectural form and view landscaping as an integral component of the suburban environment.

The impact of the automobile on the suburban environment is another concern that most of the codes address; The ultimate goal is to limit its dominance in the environment. With the exception of Westmount, all the codes contain guidelines regulating the width and configuration of streets, the size and placement of parking spaces/areas, the width of private driveways, and the design of garages or carports.[a] Overall, importance is placed on providing a hierarchy of circulation patterns from main streets and neighborhood streets, to alleyways, sidewalks, and backyard footpaths. Many of the codes recommend the construction of sidewalks and walkways to encourage walking rather then driving. These provisions, along with the location of commercial areas (closer to residential areas), limit the reliance on the automobile for everyday travel and

[a]In particular, the San Jose code limits the percentage of the front facade which can be occupied by a garage.

consequently, the amount of roads need. The planting of street trees is also stressed because it is an effective way to buffer noise caused by traffic, to limit the perceptible width of suburban streets, and to soften the hard environment created by an abundance of asphalt streets.

The fourth and perhaps most obvious concern expressed in the codes is the desire to regulate external appearance and to determine how a particular community looks. This concern is manifested in a number of ways depending on the primary objectives of a code. In Westmount, preserving the existing appearance of the community is important and therefore the code stresses repair rather than replacement to help maintain the current appearance and historical significance of the community. Stylistic codes such as Westpark and Mashpee establish an overall architectural expression to regulate external appearance Codes such as Seaside and San Jose (along with Mashpee) encourage the use of particular construction practices; ones which convey a sense of visual quality, durability and authenticity.[a] All the codes recognize the need to limit materials in some manner (some codes more than others), but some codes also recognize that it is not enough simply to limit materials, it is just as important to regulate the way in which materials are brought together. For example, although both Mashpee and Westpark share a definite stylistic intent, unlike Mashpee, the Westpark code addresses the issue of style in a superficial way. The 'Mediterranean' expression is imposed in a superficial manner because elements such as color, materials, and roof pitches are controlled without regulating detailing and construction methods important in producing that style. Contrary to the Westpark code, the San Jose code regulates aesthetics through the control of construction techniques (similar to both the Seaside and Mashpee codes). However it regulates aesthetics outside the issue of style and treats construction detailing in a simplistic manner by regulating only elements which it considers to have a history of being 'abused.' Because San Jose separates the issue of style from construction detailing and techniques, the emphasis on sound detailing is not applied consistently throughout the guidelines.

Combined with concerns surrounding the appearance of the suburb is the desire that communities be visually harmonious. Consistency and compatibility are terms used repeatedly throughout the codes to describe the quality desired. The codes assert that houses should fit into the neighborhood; that newly built houses should be compatible with existing houses; that new construction match existing construction; that additions be compatible in style, materials, and detailing with primary dwellings; and that planting materials be indigenous to the site.[b] To insure overall harmony, the codes place limits on architectural possibilities. All the design codes

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[a]Westmount's by-law stating that exterior walls must be constructed of stone, brick, or concrete also insures a sense of durability through sound construction techniques.

[b]Duany also stresses the idea that houses should 'fit-in' stating in an interview with David Mohney that: '[w]hat the typical house should do is homogenize the fabric, and assign a proper hierarchy to public and private buildings (Mohney, "Interview with Andres Duany" 67)

surveyed limit in varying degrees the use of materials and most limit the use of color Many suggest a primary architectural expression for the community. In these instances, architectural style is used as a unifying element. In addition, certain architectural features are strictly regulated to ensure a harmonious community, including roofs, windows, porches, and fences, all elements that are visually dominant and have a strong impact on the appearance of housing

The greatest challenge that the codes face is not only insuring compatibility among houses, but balancing overall harmony in the community with individual variety Codes such as Seaside, Westpark and Mashpee, which promote an architectural style, recognize that too much consistency can produce monotony and visually sterile environments. The balance of these two seemingly contradictory goals is addressed slightly differently in these three codes which is evident when comparing how the codes use the concept of style as a regulatory tool Overall, the Westpark code seems less successful in promoting individual variety because the code emphasizes harmony and compatibility and does not seem to promote variety The Westpark code narrowly defines the 'Mediterranean' style so that the range of architectural expression within that style is severely limited Similarly to Westpark, both the Seaside and Mashpee codes promote a community style; the southern vernacular and New England Colonial, respectively. However, in contrast to the Mediterranean style, these categories are more broadly defined to allow the formulation a number of building types modeled after particular prototypes These prototypes fall within the broad architectural expressions. For example, at Seaside, building type IV is modeled after the Greek revival mansions of the antebellum South and building type VII is modeled after the Charleston 'single-house.' The Mashpee code contains four building types. the cape, the three bay, five bay, and the manor house. Unlike Westpark, these codes offer a range of possibilities within their respective primary style and because of this, will probably allow a greater number of options and variety within the main style.[a]

4.4 GENERAL FINDINGS

The discussion presented in this chapter suggests a variety of conclusions:

1. The organization, language, and presentation of codes is important.
2. Codes are not necessarily lengthy.
3. Architectural expression, harmony and variety, and detailing and durability are important considerations expressed by codes
4. Codes can dictate design without dictating architectural style.
5. Codes can regulate through description and instruction by providing a list of prioritized alternatives within individual guidelines, or they can be prescriptive by dictating specifically what course of action needs to be taken.

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[a]The Seaside code contains additional provisions which help to promote variety like granting variances based on architectural merit to insure that good designs are not stifled by the code, by requiring that fence designs are not replicated on the same street, by rotating the town architect's position, and by encouraging the community to grow slowly. See pages 63-65 in Chapter 3

6. Codes regulate both the architectural scale and community scale in design, and can be weighted in either direction.
7. Codes are adopted for different reasons, yet some of their secondary or underlying objectives are similar.

The discussion also suggests that there exists a distinct number of architectural elements which are commonly regulated by design codes and these have been historically important in the suburban architectural tradition. Elements such as fences, materials, roofs, landscaping, windows, entranceways/doors, and porches, have historically been important in the suburban architectural tradition and are still viewed as essential features. Understandably, design codes focus on regulating these architectural elements. Pitched roofs and picket fences are also strongly regulated because they are essential to the suburban imagery.[a] In addition, elements which define the edge between the private realm of the house and the public realm of the street such as fences, garden walls, porches and street trees are commonly regulated by design codes. Finally, elements which are seen as important in defining townscape, streetscape or in producing a style are strongly regulated such as roofs, window openings, materials and colors.[b]

It is evident that the design codes surveyed are not simply concerned with controlling the appearance of individual houses in isolation. Throughout, emphasis is placed on regulating how elements within the suburban environment come together. Although codes regulate specific elements, they are equally concerned with regulating the relationships between elements; between the primary dwelling and an addition or outbuilding, between a house and the street, between adjacent houses, between blocks or neighborhoods, and finally on a broader scale, between the natural landscape and buildings. This emphasis placed on regulating relationships is manifested in the codes by repeated concern for streetscape and townscape issues, and by the importance most codes place on clearly defining the transitional realm between private house and public street. Elements important in defining the streetscape are therefore highly regulated such as street dimensions and configurations, street trees, and fencing as well as those important in defining townscape such as porches, window openings, roofs and building materials.

Finally, design codes specifically address design problems associated with the

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[a]In the introduction to *The Anglo-American Suburb* titled 'La Ville Bourgeois,' Stern associates this image to particular architectural elements stressing that "...the suburb is perhaps most importantly a state of mind based on imagery and symbolism. Suburbia's curving roads and tended lawns, its houses with pitched roofs, shuttered windows, and colonial or otherwise elaborated doorways..." These elements are the same ones design codes identify as essential to regulate. Therefore, the codes are regulating suburban image; style has often been a part of that image. (*The Anglo-American Suburb*, 5)

[b]Both Andres Duany and Thomas Sharp (*Towns and Townscape*) agree that roof pitches and window proportions are two essential elements in producing townscape. Duany states that: "Towns considered beautiful are made of buildings which share an attitude towards the proportion of openings and towards roof type." (Mohney, Seaside: *Making a Town in America* 64) Sharp stresses that street rhythm is effected most strongly by window openings and that street rhythm is an essential component of townscape. (See Sharp, *Towns and Townscape* 12, 25-26)

contemporary suburb. Many of the objectives and underlying goals of the codes discussed in section 4.3 directly respond to architectural criticisms outlined in Chapter 1. Objectives such as creating visual consistency between houses, neighborhoods, communities, and balancing overall harmony with individual variety respond directly to the lack of physical unity in the suburb Limiting the dominance of the automobile in the suburban environment directly responds to numerous criticisms surrounding the negative impact of cars on the environment (pollution and traffic congestion), its effect on the configuration of suburban streets (width, length, and quantity of streets), and its effect on the design of suburban houses (dominance of the garage on the facade). The desire, in all of the codes surveyed to strongly regulate the landscaped environment and to integrate the built and natural environments responds not only to the suburban landscape tradition, but also to the blurred distinction between country and city in the contemporary suburban condition. The desire in many of the suburbs surveyed, to create viable communities with an authentic sense of place, clearly responds to the limitations and short sightedness of single-use zoning practices, the segregation of functions, the sheer size of many modern subdivisions and communities, and the low density at which many contemporary suburbs are planned.

Finally, the desire to regulate the external appearance of the house, neighborhood, and community broadly responds to the most criticized feature of the suburb—its appearance. This is the most important objective of design codes, because it is a distinguishing feature from other forms of architectural controls presented in Chapter 2 which tend to regulate strictly nonarchitectural issues. Although deed restrictions often regulate the appearance of housing, they are administered on an individual lot basis and are inefficient in controlling the appearance of an entire community over a long period of time. Design guidelines share many of design codes' objectives, however, they are also limited because they are not legally binding. This underlines the inability of architectural controls, particularly zoning ordinances, to specifically address the aesthetic concerns of the contemporary suburb.

Another finding of this thesis is that the use of architectural controls to regulate the physical environment of the suburb is not a recent phenomenon. The emergence of legally binding 'aesthetic controls' coincided with the emergence of suburban communities in 18th century England, and then later in 19th century America. Some American suburbs such as Roland Park (1891), Forest Hills Gardens (1912), and Shaker Heights (1916), established relatively stringent design controls to regulate the architectural appearance of their communities. The use of private forms of architectural controls such as deed restrictions and design review, allowed developers to shape the physical environment of suburban communities before public forms of control (such as zoning) existed in cities.

This historic perspective provides some precedents for the use of design codes in modern suburbs, and many of the aesthetic concerns expressed today by architects are no different than those expressed by developers and designer of early American suburbs. Design controls provided homeowners then with the same assurances that suburban homeowners desire now. that their communities will be protected from unregulated growth, and that their property will increase in value. These concerns are intrinsically tied to what a community 'looks like.' Therefore, it is not surprising that it is the physical appearance of the contemporary suburb that is its most criticized feature. Unfortunately, commonly used modern methods of controls (particularly zoning) do not regulate the quality and milieu of housing environments from an aesthetic perspective. Design codes are a form of control which integrate the traditional methods of architectural design control and replace many of the functions that zoning presently performs. This underlines the essential role that design codes have, (and will continue to have) in the future reshaping and improving of the diminished appearance of the contemporary suburb.

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