

Restructuring the Suburban Landscape

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INTRODUCTION

It is clear that the suburbanization of our cities over the last half century has resulted in physical patterns that violate essential social, perceptual, organizational and spatial qualities found in traditional urban contexts. Mechanisms of real estate development and zoning have produced regional forms whose characteristics are common throughout almost any American metropolitan area: congested, unsightly commercial strips, undifferentiated, unbounded tracts of homogeneous single family housing, highways bisecting sensitive landscapes and established neighborhoods, excessive distances between single-use vocational, recreational and domestic land uses, fragmentation of social networks, and generally, what might be described as the formless, dispersed, and incoherent patterns of metropolitan and regional growth. These developments have evolved into larger aggregations, codified as "Edge Cities," concentrations of mixed commercial, retail and recreational functions serving surrounding suburbs, which share similar problems.¹

More recently, a series of new suburban forms have emerged, based on the work of Peter Calthorpe, Duany/Plater-Zyberk and others which seek to recapture traditional organizing principles, and offer promising alternatives for structuring the suburban landscape.² But while there have now finally begun to appear a series of theories which offer strategies and models for the design of new suburban development, little work has been done on the problem of what to do with the existing suburbs that were built between the Second World War and the 1980's. They obviously will simply not "go away," and as they continue to evolve, and both housing and commercial districts undergo transformation and existing street patterns expand--whatever original sense of order once existed usually becomes further compromised, and the problems simply get worse. But as many of the earlier suburbs further age, and the housing and commercial fabric have begun to reach the limits of their originally intended lifespan, it may be reasonable to consider more radical forms of transformation.

Given the complexities of suburbanization, inclusive of a

myriad of political, economic, social, ecological, technical, and symbolic issues beyond the scope of a limited study, this paper will only attempt to investigate the possibilities of *formal* transformation. The focus will be to propose broad design strategies for physically re-structuring the existing suburban landscape, accomplished essentially by articulating connective strategies, as well as selective separations, that will enhance perceptual clarity, and reestablish the formation of a meaningful public realm. The paper will present the implications of some earlier models, articulate three fundamental theories, or devices of transformation, and illustrate the theory through a case study analysis of an existing suburban district developed in Fort Worth, Texas.

EARLIER MODELS

There are numerous models of outer city projects which help to inform research on suburban form, including the work of: Ebenezer Howard (Garden Cities, 1896); F.L. Olmsted (Riverside, 1869); Alterbury/Olmsted Bros. (Forest Hills Gardens, 1912); Soria Y Mata (Ciudad Lineal, 1882); Clarence Stein (Radburn, 1928; Greenbelt, 1933; Baldwin Hills Village, 1941); Miliutin (Tractorstroi, Stalingrad, 1928); Frank Lloyd Wright (Broadacre City, 1936); and Le Corbusier (Algiers Plan, 1930, Industrial City, 1943). More recently, one could include: Lynch and Appleyard (*A View From the Road*, M.I.T. Press, 1965); Duany/Plater Zyberk (Traditional Town Code, Seaside, 1982); and Calthorpe/Kelbaugh (Pedestrian Pockets, 1989).

The problem with many of these models, relative to their use within existing suburban contexts is that they were generally conceived for open, natural territories with little, if any existing development. They exhibit a particular internal relationships--a *total* conception, which needs to be applied intact to maintain their central intent, or organizational structure. Also, some of the more recent models such as the pedestrian pockets and cluster designs of Calthorpe/Kelbaugh and Duany/Plater Zyberk, which while offer new possibilities for pedestrianization and social integration, seem to be dependant on a nostalgic bias towards historical

small-town models in terms of imagery, scale and organization, as well as disregard larger implications of the modern highway and telecommunications that continue to shift living and working patterns and regional perceptions.

But there are some aspects of the existing models that remain convincing, can absorb a certain degree of distortion and still be credible, and would seem to be worthwhile to retrieve. Models such as Le Corbusier's or Miliutin's linear city models propose development at a vast, regional scale that can perceptually dominate smaller fields of disparate elements. The notion of linearity in itself continues to be meaningful, considering the nature and dominating role of the automobile and highway networks to serve extended suburban areas.

The clear delineation of development vs. open landscape systems (Ebenezer Howard's "greenbelts," and the recent cluster, or pocket proposals) is especially relevant in dispersed, continuous suburban fields which have little sense of distinction, or demarcation into perceptually identifiable components. The key element which is so compelling, and pervasive in so many of the earlier models (the Olmstead projects, Broadacre City, Pedestrian Pockets etc.) is the role of *landscape* as a physical system that can structure larger territories. The rational ordering of landscape systems may in fact be the key for achieving the articulation and subdivision of the suburban landscape. While it would be most logical to *initially* maintain preserved open easements³ (which unfortunately may have been long ago lost through unabated development), it is also possible to reconstruct new landscape devices in existing territories that may achieve similar results.

I will propose three strategies for reconstruction that attempt to incorporate the above considerations: The first is called "Voiding," which attempts clarification through the removal of existing fabric; the second is "Edging," based on the adding of new zones of natural and/or manmade fabric, or the densification of selective edge conditions; the third is called "Implants" which has to do with the insertion of new public functions or spaces to provide a dominant infrastructure of idealized public components within less structured private districts.

VOIDING

The evolution of many suburban areas is marked by the continual aggregation of successive subdivisions, each parcel platted by different developers with only the broadest intervening public controls to establish operational and design relationships between plots. In most cases, there is no intervening easement between subdivisions--each plot tightly appends on to the adjacent parcel; in other cases, there is formed a series of useless residual spaces, or commercial strips to resolve street connections. There are often no structural, or patterned relationships between one plot and another--the street grid might be arbitrarily rotated from the adjacent grid, articulate a completely different block system,

or align to some existing natural or manmade feature that causes disjunction with the adjacent plot. The result is a tightly woven, chaotic patchwork of residential/commercial fabric, with no overriding infrastructure or public form to hold the parts together.

The concept of "voiding" is to establish a planned opening through an existing built-up area--actually, a removal of buildings within certain territorial limits, with perhaps only the replanting of crops, landscaping, or the building of selected public facilities within or adjacent to removed districts (Fig. 1). The critical design decision in all of this (and it *is* an act of design) is how the "cut," or the opening is to occur, or, what is the "form" of the removal. The act of taking away and not replacing with with a better version of the old, but with "nothing," is a subversive reversal of the tendency to always redevelop property with a better, usually larger/denser version of the same kind. "Nothing" in this case becomes the most cohesive, identifiable component in the local scene, whose sense of wholeness and clarity performs in powerful contrast to the surrounding chaos and lack of larger intent.

Examples? Perhaps a long, linear swath of open landscape, or a greensward, could serve as a connective void which mediates between different subdivisions and establishes a dominant perceptual order based on its uniformity and definition. This open zone might form a connection to existing natural features beyond built subdivisions, such as agricultural lands, forest, or bodies of water. The void can take on any number of configurations, depending on the desired adjacencies to existing fabric (such as the possibility of connecting two or more previously unrelated institutions) or redefine certain existing natural boundaries (such as topographic fluctuations, or bodies of water.) The shaped



Fig. 1

figure, formed as a clear spatial gestalt acts as a referential constant, whose own stability and perceptual clarity can perform as an ordering instrument that asserts its influence far beyond the surrounding flux of random development. The actual fabric of the void can vary from being left in a stripped, abstracted state, perhaps planted with grass or farmed crop, to being a dissimulation of its original state, with much of the landscape and natural topography brought back into being.

An important consideration of the void becomes its use, or programming. The new edge condition, or selected sites within the space can ultimately become the site of new public institutions that can “charge” the void, giving it new meaning and identity. Examples could include sports facilities, which would suggest related recreational uses; the building of a new college, with the adjacent space used as campus quadrangle; or, the location of community services, meeting facilities, churches, or other institutions that could turn the void into a kind of community “commons” not unlike earlier colonial precedents.

EDGING

Most existing suburban areas are highly fractured and fragmented, since individual developers subdivided their own parcels according to varying internal boundaries or simply individual preference. This random, uncoordinated collision of different developments over time has resulted in a variety of leftover parcels and conflicting adjacencies. One strategy for redevelopment would be to focus on the peripheral zones—the discontinuities, or the areas considered to be “inbetween.” The notion of “edging” is to attempt to clearly demarcate boundary conditions, making the points of fracture clearly intentional and resolved as independent events. The intent is to establish meaningful spatial limits between such events—conceiving of edges (breaks, fissures, interruptions) which define/clarify identifiable qualities of *place* or differentiation within the suburban field (Fig. 2). It is the inbetween spaces that can become the conditions that define zones of relatively “high” order versus other less controlled, more randomly developed surrounding territory.

Such limits make clear the act of leaving a particular realm, and entering another, forming “threshold” conditions. Edging may produce wall-like boundaries, which divide areas into precisely shaped districts—or, be conceived as “seams” which more loosely define intermediary spaces between development. In other cases, edges can serve a connective role, and be designed as a circulatory linkage, tying together previously unrelated areas. The edge condition can also acquire “thickness,” and define transitional zones between functional districts, taking the form of either open space networks, or physical boundaries, both of which break down formless residential fields into discrete territories.

The actual forming of spatial or physical edges can be achieved through two kinds of opposing formal transformations: the first occurs through creating *dissociation*, or

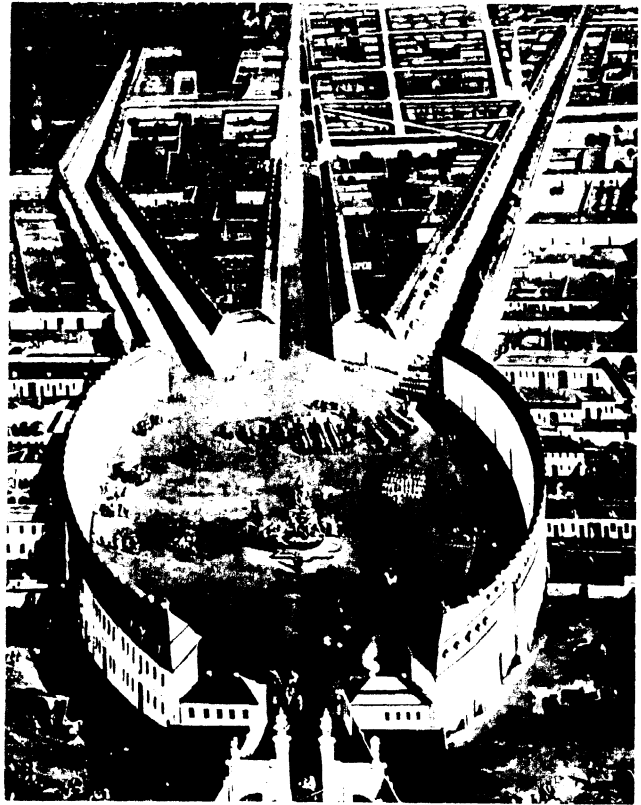


Fig. 2

separation between existing districts, by clearing away obstructive or inconsistent development, leaving open gaps that clarify the beginning and ends of distinct conditions. The second type of transformation occurs through forming degrees of *recurrence*, or redundancy along a particular zone, by intensifying and aligning new built and natural elements. In this case, new buildings and landscape are inserted in open or underdeveloped sites designated to perform as a bounding condition, and controlled within strict guidelines relative to height, setback and overall massing. The intent is to achieve a quality of division through a higher density and physical definition of spatial edges than occurs elsewhere, which can be perceivable at both pedestrian and vehicular scales.

Another strategy can be understood as a combination of both dissociation (voiding) and recurrence (building) techniques, in terms of designating a particular street, or series of blocks to acquire a specific sectional form through highly coordinated setback and massing requirements. The edge would be formed through the selected redevelopment of existing properties and open parcels within strict zoning guidelines. There might occur a new setback, or streetwall condition, defining a zoning envelope on one side, as well as an open, transitional zone on the other. Perhaps the designation of rows of vegetation could further define the sectional condition, or possibly buffer development from heavily trafficked circulation. The overall edge would ultimately take on the quality of a kind of developmental “extrusion” that can continue through suburban tracts and be distinct from

less structured surrounding areas, and be made up of layered zones designated for various scales of movement, landscape, and building types. Or, a “front” layer might be more controlled and idealized to separate itself from surrounding development, while the “back” condition could be developed in a manner to be more transitional, or integrated to the specific nature of the existing adjacent context.

IMPLANTS

The notion of implants suggests that the redevelopment of suburban areas can be accomplished through new urban orders inserted into the existing fabric. The new components would be composed of a wide variety of public and private forms, both natural and manmade, in various degrees of mix and intensity. Implants are conceived not as single, isolated events, but as an orchestrated grouping of identifiable, clearly ordered aggregates, resulting in a comprehensive large-scale intervention (Fig. 3). An implant can be perceived as an independent realization within a larger territory, yet also asserts a dominant order that influences the perception of its context; it possesses its own functional identity, but is also intended to serve existing peripheral areas. Because of its higher levels of order and cognition, the implant would perceptually separate itself from larger regional land use patterns, breaking down the suburban scene into distinct fragments of order within larger anonymous fields of development.

The overall form for new implants might vary, depending on existing conditions--but the importance of the highway and movement as the key structuring agent in suburban development would suggest that a sequential, or linear pattern of redevelopment is one logical possibility, given the necessity to perform at extended scales within existing dispersed patterns. One source for these kinds of extended

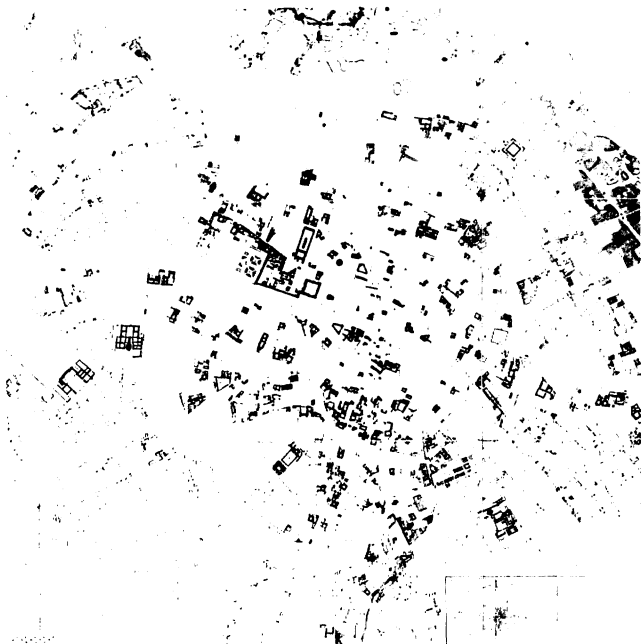


Fig. 3

orders can be found in the linear city model which has existed since the early development of the street car and automobile in the late 19th century. From the first models of Soria y Mata in 1882, to later projects by N.B. Miliutin, Ernst May, Le Corbusier and others in the 1920's, all suggest ways that rail and vehicular systems can serve as a generator of development patterns that are linearly extended in space. Most of these models were not built, but still remain convincing, and indeed, have been influential through the evolution of various forms and of rail and transit corridor development.⁴

All of these models, however, were proposed for new developments in virgin territory--none were thought of in terms of their ability to modify existing suburban forms. Rail, or transit linkage, unless highly extended, and conceived with significant increase of surrounding densities, is difficult to be achieved in most existing suburban contexts, which is one reason these models were never built. But it is possible to conceive of more limited local linkages of vehicular or bus circulation connecting a variety of new commercial, institutional, recreational and residential development. The form of an implant would thus result in a sequentially ordered, linearly structured pattern of public nodes surrounded by private development residing within a larger, less structured suburban field.

Such a linear order of arrangement is certainly not a new phenomenon--it doesn't seem, at first glance, to be all that different from what we know as “the commercial strip,” found in virtually all suburbs, or the more substantially analyzed strip organization investigated by Venturi/Scott-Brown.⁵ But it is also interesting to imagine Las Vegas, say, as an example of a model which could have been conceived and implemented *after* suburbanization had occurred. Its structure could be based on an *a priori*, idealized organization of precisely arranged parts conforming to preconceived rules, a clearly perceivable order placed within a less than rational context.⁶ And one could also imagine the “strip” being composed of a far greater range of functions than only single-use hotel-casinos, or commercial services; an “idealized” strip could actually become suburbia's armature, a complex public structure of institutions and services forming a kind of extended physical center, serving as a referential, more highly ordered scene within the flux of less controlled development.

IMPLEMENTATION

Clearly, large-scale interventions within private territories are only possible through the implementation of municipal legislative initiatives that challenge private development rights. Given that much of the residential and commercial development of older suburbs are aging beyond their expected lifespan, that fluctuating shifts in populations have increased vacancies, and lowered real estate values in many less desirable areas, it is suggested that major “sub-urban renewal” of such areas may be an appropriate tactic for transformation. Like the Urban Renewal policies of the late

1940's and early 1950's, certain areas may be condemned, purchased by the municipality through eminent domain legislation, and the existing fabric torn down. In the case of *voided* areas, property would remain under public ownership, and be developed for parks, farming, and selective institutional and recreational development. In the case of *edging* and *implanting* strategies, the municipality would develop new infrastructure and specific developmental controls for particular properties, which would be sold back and privately developed to conform to overall guidelines. Such plans would be developed with community participation, coordinated with concurrent new residential development, and be appropriately phased to minimize the social and economic costs of relocation.

In the case of areas which are in good physical condition and economically stable, large-scale transformation would still be convincing in terms of economic and qualitative benefits, but be politically, if not legally untenable. In these cases, longer term redevelopment can be encouraged through focussed "special district" zoning, "strip zoning" legislation, and other forms of re-zoning, providing economic incentives for redevelopment within specific urban design guidelines. Public intervention, in terms of providing new infrastructure and support services, especially for *implanting* strategies, is still a key ingredient to promote large-scale physical redevelopment. However, compared to the more radical renewal strategies discussed above, transformation will be far slower, susceptible to compromise and inconsistencies, and probably result in less effective, or perceivable forms of large-scale restructuring.

THE UNIVERSITY DRIVE MODEL

While we lack examples of the above strategies being systematically applied to modify existing suburban regions, one can find some existing examples of earlier outer city development which does share certain similar characteristics. An attempt will be made to analyze one of these examples, proposing further modifications to clarify its structure and test the validity of the strategies to develop a higher degree of formal order. One should be careful, however, not allow the presentation of a specific case study to constrict broader readings, and limit wider applications and variability. Also, one must realize that any existing example that has developed through the mechanisms and rules based *within* the existing suburban paradigm is inherently compromised, and can never serve as a pure pedigree of what can be possible if applied through more radical methods of transformation.

The case study area chosen for analysis is an older suburb developed from about 1915-1930, located in the western area of Fort Worth, Texas, approximately 4 miles from the downtown core. The formation of what can be termed as the "implant" is based on a major vehicular street, University Drive, which forms a vehicular spine connecting a series of well-articulated public precincts along its length. The street

is slightly over 3 miles in length, clearly terminated at each end, and surrounded by a dense field of private commercial and residential development. Portions of the district, however, are "voided," or remain in their natural state as preserved parkland and forests (which now contain botanical garden and zoo functions), partially due to the fact that the street runs through the flood plains of the Trinity River, allowing minimal built development. These same natural features establish clearly demarcated "edging" conditions between districts, resulting in north-south divisions; other strong boundaries are formed through alignments of building massing, resulting in east-west divisions, especially along the frontage of Texas Christian University on University Drive, and the densely built structures of the Will Rodgers Coliseum complex (see below).

While each public precinct is different, each responds to the same structural rules:

- a. Each is adjacent to, or forms the terminus of the vehicular spine.
- b. Each contains a nodal core of institutional public spaces and/or buildings which are "figural," highly determined, stabile, and of symbolic and/or perceptual significance.
- c. Each core is surrounded by private development which is "residual," relatively unplanned, changing, and not highly charged with perceptual or symbolic significance.
- d. Each precinct is connected through vehicular and transit linkage along the University Drive spine, while the scale of the precinct itself is structured through pedestrian associations.

The following precincts can be identified along University Drive, from north to south (Figure 4):

1. The Will Rodgers Arts and Coliseum Complex: The configured core is composed of many of Fort Worth's major cultural institutions, including the Kimbell museum (designed by Louis Kahn), the Amon Carter Museum of Western Art, the Fort Worth Art Museum, the Will Rodgers Coliseum and Stock Barns (built for the 1936 Texas Centennial Exposition.) The Will Rodgers "green," terminated and defined by the Kimbell to the north and the Coliseum to the south defines the focal center of the district, while peripheral areas are composed of strip commercial and professional offices, and single-family housing.
2. Fort Worth Botanical Gardens: The configured core is composed of an axial series of formally landscaped parterres and gardens carved out of a natural forest adjacent to the Trinity River. The peripheral area is heavily forested, and is part of a regional park system extending to the Fort Worth CBD.
3. The "Village"/Trinity Park Office Area: The configured core of "The Village" is composed of a sense organization of mixed retail functions surrounding a well-defined plaza. The peripheral area is made up of light industrial/commercial buildings, vacant properties, and a commercial strip along University Drive.

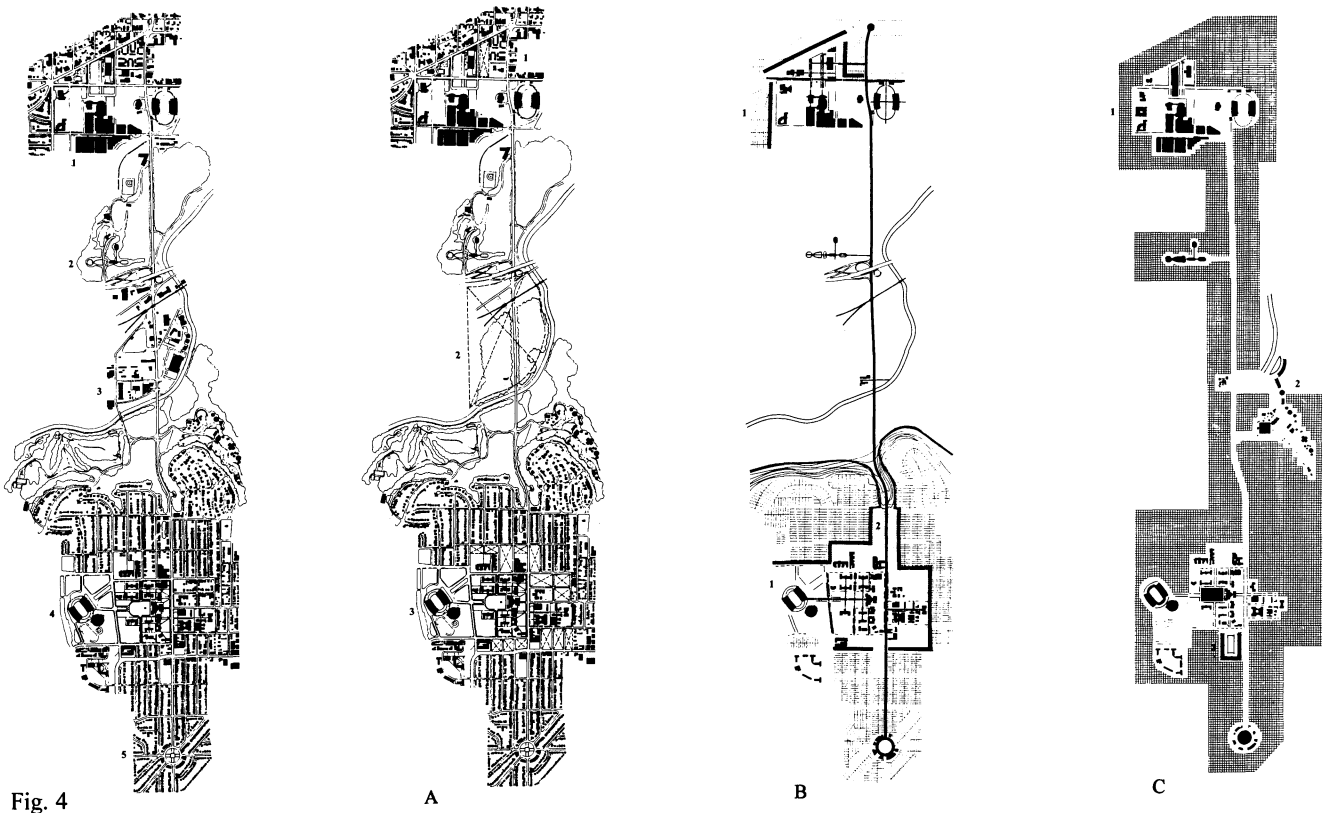


Fig. 4

4. Texas Christian University: The configured core is composed of the primary campus buildings and lawn parallel to University Drive, as well as smaller quadrangle complexes axially related to the north-south spine. The peripheral area is composed of more recent campus buildings (stadium and student dormitories) more arbitrarily related to the original campus plan, and a continuous, gridded field of single-family subdivisions.
5. Bluebonnet Circle: The configured core is composed of the circular park defined by commercial buildings. The peripheral area is composed of a continuous field of single-family subdivisions.

Although the individual precincts are formally differentiated and possess different dominant functions, they together can be understood as a larger, self-contained district which attain cohesion through relative proximity, structural consistency, and common adjacencies to University Drive. While University Drive today only functions as a vehicular street, its scale suggests the possible incorporation of articulated light-transit, moped, or bicycle forms of circulation to link the precincts together. Its size is such that it is large enough to possess the functional diversity and formal complexity to sustain a kind of "city in miniature," and small enough for districts to be perceived and remembered through direct association. Each precinct is highly identifiable, possessing its own internal organization of linkages, external spaces, and dominant functions. Yet they all share the same essential organization in terms of possessing configured public cores, residual private peripheries, and direct association to the common linkage of the University Drive spine.

As noted earlier, University Drive was a product of a variety of evolutionary factors, and was not preconceived through the imposition of a cohesive overall plan, or developed through the application of the 3 strategies outlined above. But that is exactly the basis of the usefulness and applicability of such a model-- given its high level of variability, it suggests that the concept of a public linkage could be developed in *existing* suburbs through degrees of modification, adaption, and intensification over time. Examples: some precincts could be "implanted" and highly idealized, while others might be more circumstantial, and only slightly transformed; certain "edging" devices may already be in place, and simply intensified, while others could be newly legislated; some areas of farmland, for instance, could be preserved as open space, while other parts of a district may be more radically "voided" through selective parks/open space development.

UNIVERSITY DRIVE TRANSFORMATION

While the University Drive district already possesses certain features of the 3 strategies of voiding, edging, and implanting, an attempt was made to further apply the same principles to the area in order to further clarify its perceptual characteristics, and test the effectiveness of the strategies applied to an existing context. The following transformations were undertaken:

Voiding (Figure 4A)

1: Unsitightly apartment housing facing the east side of the Kimbell Museum is removed and area is landscaped to

develop a preferred natural setting for vehicular entry, and complete the overall park context. 2: Virtually all commercial development is removed from the Trinity River floodplane, which is to be transformed into public parkland, unifying the existing botanical garden, golf course and Trinity River Park into a comprehensive natural system. 3: Residential development is voided within newly established territorial limits around Texas Christian University, providing additional land for expansion and clear articulation between the institution and surrounding community.

Edging (Figure 4B)

1: Commercial and residential properties facing significant institutions, including the Will Rodgers Complex and Texas Christian University are re-zoned as "transitional" sites, promoting appropriately scaled redevelopment or natural landscape adjacencies between institutional and private properties. 2: A new setback easement allowing a boulevard linkage is instituted along University Drive north of TCU, thus achieving a continuous natural system connecting the university lawned forecourt to the Trinity River Park.

Implanting (Figure 4C)

As described above, the precincts are already well established; however, future expansion possibilities could improve their performance. Suggestions--1: "plug" the site between the Fort Worth Art Museum and the Science and Technology Museum with a new museum facility; 2: expand/rebuild the Fort Worth zoo towards the north to connect to the Trinity River; 3: Establish a new "college town" commercial district adjacent to TCU.

To summarize: The incorporation of the voiding, edging and implanting devices is offered as broadly defined corrective strategies applied to the unplanned proliferation of suburban growth, attempting to accomplish levels of collective identity instead of individual dissociation; the definition of physical limits instead of infinite, undifferentiated expansion; the formation of a public realm within single-use residential enclaves; the reemergence of environmentally scaled, associative orders through open space and natural landscape rather than uniform subdivision; the emphasis of

pedestrian and mass transit connections over the dominance of the automobile; and the sensitive adaption to existing natural and manmade features instead of the pervasive lack of response to context. It further suggests that regional development can also be investigated as a problem of formal theory and design, rather than merely limited to programmatic or zoning policy, as well as define new forms of collective order within the private, fragmented patterns of suburban growth.

NOTES

- ¹ Joel Garreau, *Edge City: Life On the New Frontier* (New York: Doubleday, 1991).
- ² See: Andreas Duany and Elizabeth Plater-Zyberk, *Towns and Town Making Principles* (New York, Rizzoli, 1991); Doug Kelbaugh, Ed., *Pedestrian Pocket Book* (New York: Princeton Architectural Press, 1989); Peter Rowe, *Making a Middle Landscape* (Cambridge: M.I.T. Press, 1991); and Peter Calthorpe, *The Next American Metropolis*, (New York: Princeton Architectural Press, 1993).
- ³ Perhaps the most advanced application of this principle was the Randstad Plan of 1958 for the Netherlands, which established the develop of a ring of outward urban growth extended from the major urban centers (Amsterdam, Rotterdam, The Hague, Utrecht, Haarlem and Hilversum) around which would be maintained a green central area for agricultural and recreation uses. Cities within the ring would also be separated by buffer zones. The implementation of the plan has only been partially successful, due to the lack of a central administration to coordination overall development. See *Alexanderpolder: New Urban Frontiers* (Bussum: Thoth Publishers, pp. 21, 22).
- ⁴ These corridor forms continue to be one of the few convincing examples of restructuring suburban regions. One of the most successful was the Southwest Transit Corridor implemented for metropolitan Boston, which established a series of new community services and housing development along the transit route.
- ⁵ Robert Venturi and Denise Scott-Brown, *Learning From Las Vegas*, (Cambridge: M.I.T. Press, 1972).
- ⁶ The notion of implant as an idealized order placed within a circumstantial context results in a condition not unlike earlier descriptions the urban structure by Colin Rowe and Fred Koetter in *Collage City* (Cambridge: M.I.T. Press, 1980), although now applied at a regional scale through the modulation of land subdivision, circulation networks, and vegetational patterns, rather than the spatial structure of the historic city.