Restoring Community through Traditional Neighborhood Design: A Case Study of Diggs Town Public Housing

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Not just about public housing; shows how design affects community: promotes public safety and social interaction, redefines public/private space, decreases crime.

Abstract

This article examines how traditional neighborhood design (TND) can restore a sense of community to distressed neighborhoods. Traditional neighborhoods, such as those found in many cities and inner suburbs, provide their residents numerous opportunities and venues for social interaction. We apply the principles of TND to the redesign of a public housing project. We call our approach an "architecture of engagement."

Using a case study of Diggs Town, a public housing project in Norfolk, VA, we explore how the application of TND principles transformed a socially alienated and distressed neighborhood into a socially integrated and functional one. We find that TND techniques improve the quality of life by facilitating the social exchanges that create social capital.

Keywords: Community; Low-income housing; Social capital

Introduction

Traditional neighborhood design (TND) is increasingly being utilized in community revitalization efforts across the country. This approach to rebuilding neighborhoods employs an American town-planning practice that reached its zenith in the early part of this century but was all but abandoned after World War II. Traditional American neighborhoods are characterized by moderately high densities and diverse land uses. These features facilitate a high degree of civic integration and social interaction among residents.

Renewed interest in traditional design techniques stems in part from the failure of modern city planning to reproduce the livability of many older neighborhoods. This failure is most dramatic in the

development of public housing. In most modern public housing, the distinctions between the public and private spheres are blurred or eliminated.[1] In traditionally designed neighborhoods the public-private distinction structures and facilitates daily interactions by giving residents the ability to navigate the public realm while maintaining a sense of privacy. Consider, for example, the interaction with others that one may have from a front porch. Here a person encounters the public sphere while securely anchored in his or her private space. Most public housing built in the post–World War II era did not provide this distinction between public and private space, and as a result residents lost a critical venue for social exchange.

In this article we explore the redesign of Diggs Town, a low-rise public housing project in Norfolk, VA. We focus on Diggs Town for three reasons. First, the project exemplifies traditional neighborhood (or New Urbanist)[2] public housing redesign. Second, one of the authors was a principal in this redesign—allowing us firsthand access to the data. Finally, Diggs Town's moderate-built density is typical of public housing throughout much of the country. Contrary to popular perception, high-rise buildings do not comprise the majority of the public housing stock.

Each of the three authors brings a different perspective to this investigation. Stephanie Bothwell is a city and town planner focusing on neighborhood redesign projects. Raymond Gindroz is a principal architect in the firm that managed the planning and redesign of Diggs Town. Robert Lang is an urban planner and sociologist who helped develop the study's methodological and theoretical framework.

Recent efforts to apply TND to the rehabilitation or replacement of public housing require a critical assessment of its opportunities and limitations. TND is increasingly the urban redevelopment method of choice in America. The U.S. Department of Housing and Urban Development (HUD) underscored this trend in 1996 when it approved the use of TND methods. HUD's decision reflected a growing consensus that some public housing projects had failed at least in part due to poor design (HUD 1996). It is our hope that by carefully

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[1] Throughout this article we draw a distinction between public and private space. We do not use Oscar Newman's (1972) intermediate categories of quasi-private and quasi-public space. Rather, we assume that porches and front yards are private space despite their being in public view.

[2] We use the terms TND and New Urbanism (explained in the next section) interchangeably throughout this article. Although we recognize that there are some key differences between the two, for the purpose of this article they are synonymous.

evaluating redesigned housing projects we can avoid mistakes of the past.

Until World War II, traditional neighborhood planning and design practice provided America with a built environment well suited to the creation of social networks, which in turn fostered civic life. After the war, however, many policy, market, and social forces eroded the integrity and stability of new and old communities—in part because most new construction ignored the principles of TND. This shift in community design methods has since contributed to the destruction of our natural environment and given rise to an alienating urban structure that reinforces existing social pathologies. Disinvestment and abandonment have followed. Our public realm has deteriorated and may be in "danger of extinction because the forces that have contributed to [its] physical decline show no signs of abating" (Longo 1996).

TND offers the essential physical elements that promote community. These elements, when properly employed, provide a balance between the public and private realms necessary for the conduct of civic life. Design elements range from the smallest detail, such as window or door sizes and colors, to the arrangement of blocks that form a neighborhood, to the integration of such places into the larger region.

But how can seemingly simple elements have such an impact on the life of a place? Urbanists and sociologists have explored the causal relationship between the physical form and the image of an individual's dwelling and community.

Alvin Schorr, in his 1963 classic *Slums and Social Insecurity,* identifies two key effects of physical form. The first, articulated by the phrase "house as a mirror of self," suggests that the world in which we live forms an integral part of our identity. Our house, particularly its image within the community, tells us much about who we are. The second effect derives from an understanding of how people are (or are not) integrated into the larger community. Schorr distinguishes between "block dwellers," or those who have little connection to the world outside their immediate surroundings, and the more widely circulating "city dwellers." City dwellers typically have more access to what a city may offer, including social and economic opportunities. Schorr argues that some physical forms (e.g., elevated highways) can cut poor neighborhoods off from the rest of the city and inhibit block dwellers from becoming city dwellers. Unfortunately, many neighborhoods are not well connected to the opportunities of the city, and in many others a "glass wall" (City of Norfolk 1994) psychologically prevents residents from reaching opportunities (Lynch 1960).

Many studies have documented the direct relationship between the physical structure of a neighborhood and its residents' ability to create a cohesive community and maintain public safety. Clear definition of public and private territory, the creation of human-scale streets, and the design of buildings with windows that give residents "eyes on the street" all help to maintain community stability (Jacobs 1961; Newman 1972, 1996).

We find that elements such as front porches and well-designed streets encourage neighbors to come together and form a community. This supports the recent position of social science that social connectedness and civic engagement contribute to the health, vitality, and stability of a community (Langdon 1997). In this study, we find that traditional structure (e.g., front yards and porches) promotes social interactions that lead to the formation of social capital. We explore the connection between physical structure and social capital in more detail later in the article.

America's urban form and its discontents

If you were to fly over all the cities of this country, photograph them, and lay the photographs out on a table for comparison, you would begin to discern the patterns of development and decay that characterize American urbanism. You could easily identify the stages of growth a particular city has undergone over the last 200 years. You could pick out the older parts of the city with their tight grids and street layouts, downtown cores, and traditional prewar neighborhood centers. You could also see the tears in the urban fabric produced by abandoned lots, by infill areas of megadevelopments and public housing projects, and, most especially, by the highway superstructure cutting through the heart of the city. Beyond the city, you would recognize the contrasting suburban structure of strip shops and malls and its unmistakable winding street systems, all typical of postwar development patterns.

There have been many critical responses to these patterns of development and the principles that created them. One of the earliest and most important was Jane Jacobs's (1961) *The Death and Life of Great American Cities,* which signaled a renewed interest in TND along with a nationwide commitment to the preservation of historic neighborhoods. The large-scale development projects typical of postwar urban revitalization threatened to tear down most inner-city neighborhoods. The popular support for preservation movements that was born of opposition to such projects forced designers, planners, and politicians to rethink the postwar redevelopment model. Subsequently, professionals developed plans for neighborhoods that increasingly reflected more traditional design principles.

Gentrification, despite its controversial politics, also provided critical insight into the value and viability of older urban neighborhoods. Gentrification affected just a tiny fraction of urban space, but it was high-profile and widespread enough to capture the public's imagination. It served as a wake-up call to planners that the neighborhoods championed by Jane Jacobs had an enduring appeal for many Americans.

After slowly gathering strength in the 1970s and 1980s, the movement to restore and rebuild traditional neighborhoods facilitated the formation of groups such as the Congress for the New Urbanism (CNU). Since its founding in 1993, the CNU has garnered remarkable media attention. Consider, for example, how many planning theories have made the cover of *Newsweek*. We think much of the attention is due to a sense among Americans that we need to reconsider old approaches to city building. The New Urbanism is really an old urbanism plus years of collective wisdom about what can go wrong when cities are developed to accommodate the needs of automobiles rather than people.

Despite some overblown claims by advocates and some caricature by the media, the mission of New Urbanism is quite restrained. The CNU charter (1996) recognizes that there are limits to what can be accomplished by applying physical remedies alone to long-standing social problems. For example, the charter's preamble states that "physical solutions by themselves will not solve social and economic problems." However, the charter continues, "but neither can economic vitality, community stability, and environmental health be sustained without a coherent and supportive physical framework." We concur with this view.

In the past, much of the argument in favor of TND relied on appeals to aesthetic sensibilities (Katz 1994). The movement began with an emphasis on improving the quality of life in mostly middle-class neighborhoods. But the New Urbanist movement has now expanded its focus to encompass the full breadth of the built environment, including a major emphasis on redeveloping low-income neighborhoods. This concern for distressed neighborhoods was confirmed in 1996 when then HUD secretary Henry Cisneros signed the CNU charter, which emphasizes revitalizing cities.

The New Urbanists have further strengthened the argument for their redesign methods by pointing out all the benefits that are derived from developing more compact regions, such as greater transportation efficiency, lower infrastructure costs, more social equity between city and suburb, and environmental protection through the preservation of open space (Bank of America 1995; Burchell et al.

1998; Calthorpe 1993). We now add to this list an extra dimension: an improved sense of community leading to stable neighborhoods.

Principles and elements of traditional neighborhood design

The principles of New Urbanist community design are organized by categories based on the different scales of elements in metropolitan areas (Duany and Plater-Zyberk 1998). Districts, corridors, and neighborhoods are the contexts within which these compact developments should mix character, support pedestrian-scale activity, and provide alternative modes of transportation. For individual buildings, the focus is to design structures that create community and civic space, which in turn promote interaction among a diversity of people.

In attempting to restore public housing through TND, we recommend the following principles:

Actively engage citizens in the process of developing a vision. Any plan that attempts to restore community must of course be participatory. Residents need a voice in how their community is to be redeveloped, or the design changes we suggest will seem imposed. TND connects people and place. This means the relationship between the two must be well understood before any physical changes are made.

Draw design guidance from the local context and vernacular traditions. As part of the process to link people and place, housing designs should reflect local building customs and be consistent with the best residential images of the region. In the Southwest, an adobe revival could be appropriate. In the South, classically designed windows and porches might dominate a house's facade. Reconnection to a region's vernacular tradition and ecological adaptation are not exercises in vanity. Rather, they are vital ingredients that signal to outsiders that residents living in TND developments are connected to a deeper regional tradition. Developing a sense of place and belonging through the built environment is key to reviving a sense of community.

Create a structure of lots, blocks, and streets that clearly defines the public and private realm and provides a framework for expression of the individual within the community. Each dwelling unit or group of dwelling units needs identifiable outdoor space that is clearly under the control of the residents. In traditional neighborhoods, this space includes front yards and backyards. Porches extend the private zone of the house into this space and front lawns further extend personal territory, so that it becomes visually a part of the public

space of the street. Despite the overlap of public and private space, there should be no ambiguity about ownership. Each individual's territory needs a clearly marked edge of a fence or a hedge, or even the edge of the sidewalk. Dwellings should be grouped together on blocks surrounded by streets. Blocks need an alley, a public right-of-way for service running through the middle. The boundary of the block is the street frontage. In the most successful neighborhoods, the perimeter of the block is secure and continuous, with a clear definition of public and private territory.

Provide a network of streets, civic structures, and open public spaces to establish a well-defined civic realm. Civic buildings and public activities need appropriate, visible public settings in the form of parks and squares bounded by streets. In the best traditional neighborhoods, continuity exists between parks and public spaces and the network of streets serving the neighborhoods. These public spaces function as landmarks and anchors for the community and become an integral part of its identity and the self-image of residents (Hegemann and Peets 1988). Just as each residential street is a collection of individual houses, a neighborhood is a collection of different streets and public spaces. An appropriate size, density, and mix of uses creates a compact, pedestrian-friendly neighborhood. Neighborhoods should have a wide enough range of housing types and prices to provide for a diverse population and a stable environment (Nyden, Maly, and Lukehart 1997). Streets and open public spaces should be configured to create a network that encourages walking and reduces the number of automobile trips. We recognize that this may represent an ideal integration of uses; however, it is important to move as far as possible in this direction.

A transformation from public housing project to neighborhood: Diggs Town, Norfolk, VA

Project background

Developed in the 1950s in Norfolk, VA, as part of the federal Public Housing Program, Diggs Town contains 428 units. As of June 30, 1996, 417 families lived there. Of the 1,389 residents, 755 were children. Residents were predominantly single African-American women and their children (Norfolk Redevelopment and Housing Authority [NRHA] 1996).

Like most large 1950s public housing projects, Diggs Town was built in an institutional style. In recent years it became plagued with serious problems of unemployment, crime, drugs, and decay. The residents feared for their lives and felt they had lost control of their community. In 1990 the NRHA initiated a $17 million redevel-

opment of Diggs Town and awarded Urban Design Associates (UDA) a contract to create a master plan and implementation strategy for the site and its architecture.[3]

Under the leadership of Raymond Gindroz and with the involvement of residents and the NRHA, UDA prepared a plan to use the opportunity of the HUD Comprehensive Improvement Assistance Program (CIAP) to transform Diggs Town from a "project" into a neighborhood (NRHA and City of Norfolk 1992).

Diggs Town's barracks-like structures lacked any expression of individual dwellings. Foot and automobile traffic, uncontrolled by distinguishable yards, subdivided the landscape and made it increasingly difficult to plant or maintain the unclaimed land around each dwelling. Moreover, in the absence of a clear distinction between front yards and backyards, a variety of appropriate outdoor uses could not evolve. With no architectural details such as porches, dormers, shutters, and doors, individual identity was lost in a sea of brick boxes. The public areas also lacked appropriate location, scale, and character. Common areas in many cases were off the street, out of public view, and lacking in the program elements necessary to provide safe and diverse recreational space for the community.

Diggs Town provides a case study in which conditions at the beginning of the redesign process had cut residents off from one another and the rest of the city. TND principles become most clear when we see them violated. Applying them in a neighborhood transformation affords an opportunity to evaluate their effect (Alexander et al. 1977; Duany and Plater-Zyberk 1991).

Past policy and design practice in public housing favored the construction of superblocks and provided inadequate and inconvenient perimeter street parking. The design supported a policy that prohibited public housing residents from owning automobiles. The street pattern did not allow access to the inner parts of the complex or facilitate supervision by residents. This isolated the central part of the project, leaving it open to criminal and other undesirable activities—a pattern that occurred in similarly configured housing projects throughout the country.

The planning process

Involving residents in all phases of the planning process is the most important principle in neighborhood redesign. The involvement en-

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[3] CMSS Architects, Virginia Beach, VA, partnered with UDA on Diggs Town. CMSS designed the interiors and drafted construction documents for the project.

ables designers to understand the problems they face, test multiple solutions, and improve final plans. In fact, the process itself helps restore a sense of community by initiating the idea of civic engagement. It also gives residents a sense of ownership in their surroundings that promotes the long-term success of the project. It is only by engaging residents in the design process that we know that the resulting changes will help create a safe and stable community. The following field notes from the team led by Gindroz give a flavor of the Diggs Town design process from the perspectives of UDA, CMSS, and the community:

> We studied the project in plan and drove through it. From an analysis of Norfolk neighborhoods we felt that the "project" needed the elements of a traditional neighborhood. We prepared some base drawings and preliminary thoughts about porches, fences, and streets. We did not yet understand the project's relationship to adjacent neighborhoods or to the city as a whole.

> We arrived at the community building across the street from Diggs Town. It looked like a barracks. We found our way into the lobby and were greeted warmly by the manager of the project across the street. The project manager led us in to set up. We were early, so we had a chance to look around. At the appointed time, no one came. After a while, Andrea Clark, the president of the Tenant Management Council (TMC), arrived with a coffee pot and started to set up. And then, one by one, about six elderly women came in followed by two young mothers. In the course of this process, there was much discussion about Diggs Town, the latest murders (one had taken place the day before in front of the building we were meeting in), and the problems residents faced.

> We began the meeting with introductions and then showed our base drawings. The model was the most effective and each person found her unit on the model. The first question was, "How does Diggs Town relate to the rest of the community?" There was silence. We asked it a different way. Still silence. Then one woman asked, "Do you mean the fences?" When we looked puzzled she started explaining that there used to be fences in the yards. People were able to grow plants, sit out in the yard, but now the fences were gone and the "others" had taken over. In further conversations, we learned that the "others" were gangs, mostly from other parts of the city who used the spaces between buildings at Diggs Town to conduct their drug trade and other illegal business. When asked where these gangs were the biggest problems, the residents said "everywhere"—they keep moving. Once the police make it uncomfortable in one area, the gangs move to another. With further discussion it became clear that the places farthest from the public streets and the areas at the edges of buildings were the most popular. These were the

most difficult for the police to see from their patrol cars and the places that were easiest to escape from.

As the conversation continued, we realized that the key issue was defining personal territory, and that the fences had become a symbol of the community's loss of it. For example, there was a discussion about trash: "When there were fences, you had a yard. If there was trash in your yard, it was your trash. Now it's 'the world's trash' and nobody takes care of it. There used to be individual garbage cans, but they were taken away and everybody now uses the Dumpsters. It is the same problems—once the trash leaves your yards it is nobody's responsibility." The only ones to benefit from the big Dumpsters were the drug dealers who used them as a "sales counter." By placing the drugs on them and then standing a few feet away, they could get what they needed for customers, but if the police were to come, they would be "clean" since they had no drugs on their persons and therefore could not be arrested.

In subsequent discussions, the project architects heard a great deal about community and privacy, about the importance of pride and dignity, about the ambitions of people desperately trying to make ends meet and to take care of their families, and about the difficulties of coping with a rapidly changing social environment. But the most stunning lesson was about citizenship. It began with a discussion of porches, when the president of the TMC said, "We would like to have porches, real porches that you can sit on. We need them not as another room or just for the space, but so that we can come out of houses, be together, get to know each other, so that we can come together to deal with our problems." This desire should be recognized as concerning more than simply defensible space. Rather, it has to do with bringing people together to create a viable community.

The design elements

Out of these meetings in the early 1990s a plan emerged that recognized the fundamental need of the residents to regain control over their outdoor space. As it stood, no clear definition of either public or private space existed. Adding elements such as porches, two types of fences, landscaping, residential windows, and new streets would begin to provide definition within public areas, as well as private space for each unit. These elements were developed and integrated into the plan in the following areas.

The dwelling. Front porches form the most significant addition to the exteriors of the buildings.[4] Rather than complicate the buildings

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[4] Diggs Town's new design realigns the project with African-American vernacular

with other details, the team used the budget to obtain the best possible porches that would provide the best possible visual effect. The porches feature a roof pitch and detailing that enhance the general character of the buildings. Rather than making arbitrary changes in porches, they designed a series of standard porches with minor variations on all the two-story buildings. To add variety, color was used discriminatingly on trim panels, doors, and shutters. Several components make up the porches, and a variety of materials were incorporated. This approach allowed a balance between performance, aesthetics, maintenance, and labor. The existing bland grey window frames were replaced with heavy white ones that are visually prominent and serve as symbols of "eyes on the street" (see figures 1 and 2).

Figure 1. **Porches for Living**

Before   **After**

Figure 2. **Diggs Town Before and After**

Before   **After**

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architecture. For example, a large front porch constitutes a significant African-American contribution to southern U.S. architecture. John Michael Vlach argues that the front porch "may be tallied as an African-derived trait. No antecedent for the front porch, as it is commonly found in the South, can be found in England or elsewhere in Northern Europe" (Vlach 1986, 45).

The lot.   The project architects added white metal fences to define the front yards and a combination of tall and low fences to define the backyards (figure 3). Treatments vary for different types of lots; those on courts are defined differently than those on streets.

The front yard.   Front fences are two feet, six inches high and placed at the intersections of streets or where pedestrian paths meet sidewalks. The configuration of the fences defines the outdoor space associated with each unit and allows residents to plant areas because it is much more difficult for people to cut across lawns. Areas closest to the buildings are typically the locations easiest to maintain and protect. Therefore, no foundation planting was included around the building so that residents could express their own tastes and plant their own gardens and flower beds.

The backyard.   The architects continued the theme of defining personal outdoor space with new elements for each unit by using backyard patios, storage sheds, and yard fences. Patios typically are six feet deep from the building face and run from the doorway to a storage building. Three-foot-high, dark green, chain-link fences separate the building and storage buildings and define the adjacent yard. Storage sheds are at least four-by-six-foot brick structures. In the rear, a seven-foot-high fence defines backyards and distinguishes them from the common open space of the development (see figure 4).

Replacing the fences made it possible for people to tend gardens and maintain them to their own satisfaction. More important, residents regained control of the outdoor spaces of the neighborhood. Any remaining space was designated for community gardens and play areas.

The block.   The buildings are grouped around communal backyards that are secured through a combination of fencing and the configu-

Figure 3. **"No-Man's Land" Reclaimed**
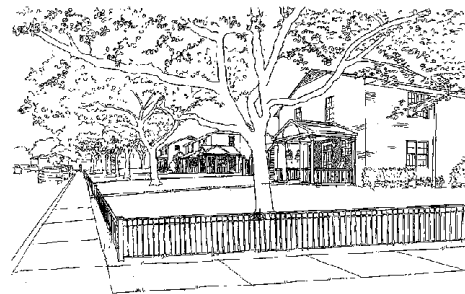
Before   **After**

ration of the buildings. Each grouping is called a village and is the basis of organizing the tenant management system (figure 5).

Each block in the community gained more coherence and identity through the articulation of building entrances and porches; streets edged with trees, sidewalks, and curbs; and fencing, gating, and landscaping. Cumulatively the redesign imparts a new image to each block, an image that suggests a neighborhood rather than a collection of anonymous buildings in empty yards. We hope that character will continue to evolve as trees mature and front-yard gardens become unique.

The street.   Through the addition of parking islands and small-scale streets, the street system was redesigned to provide access to previ-
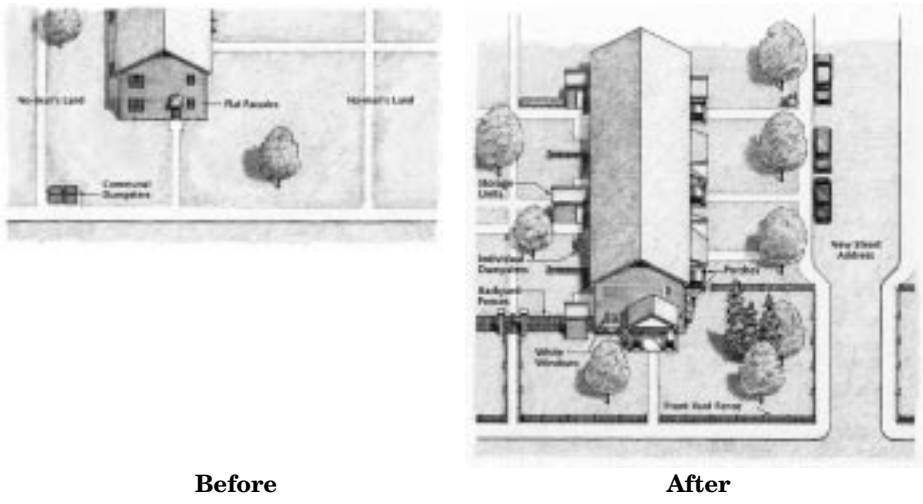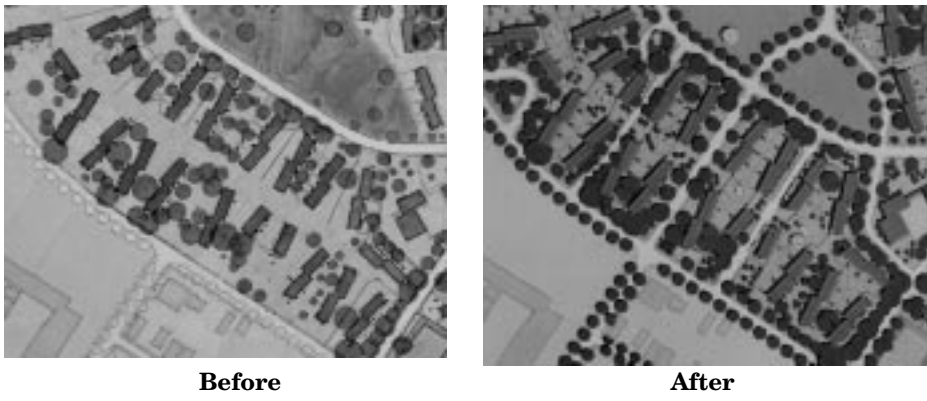
Figure 4. **Diggs Town Before and After Designs**

Before   **After**

Figure 5. **Diggs Town Villages**

Before   **After**

ously inaccessible courts. Designed to fit different conditions, the streets will have one moving lane and either one or two parking lanes. Most units now have parking spaces directly in front (figure 6). Also, each unit now has a street address (figure 7).

In many cases, the dimensions between buildings are too tight for streets. In these instances, we created eight-foot-wide paths, paved with either brick or concrete. The streets are lined with indigenous shade trees to provide shelter along the walks and the front yards. The trees also help create a sense of neighborhood.

The public spaces.   The public spaces will eventually include a series of community gardens and play areas to the rear of the buildings but visible from nearby streets and sidewalks. The remodeled management office building now resembles a small town hall and is set on a deep lawn that functions as a village green.
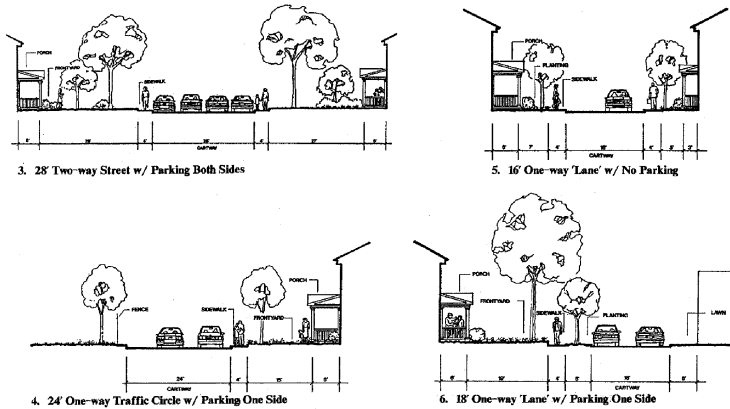
Figure 6. **Street Designs**

Figure 7. **Streets Replace Pathways**

To achieve the maximum visual effect, the landscape concept relies on grouping large trees, including evergreens for winter color, in key places, such as in the center of blocks where no trees previously existed. The project architects also invested in turf grass, especially in areas where grass is difficult to maintain. They attempted to reestablish lawns throughout the complex because years of foot traffic had compacted the soil and made it barren.

Reestablishing lawns and fencing at the same time should lessen cross-site pedestrian traffic. We hope the lawns will flourish with normal maintenance and some modifications to storm drainage.

The richness of the public spaces results from efforts by individuals who plant and embellish their front yards, porches, and backyards. We believe that the act of planting these gardens will stimulate community discussion and involvement. The first step to restoring community is the simple act of engaging neighbors. From such interaction comes a public realm whereby individuals develop a more direct stake in the decisions that affect their lives.

The neighborhood.   Diggs Town remains a public housing project. However, its blocks more closely resemble its surroundings, and its pattern of streets establishes a network of public space (figure 8). Diggs Town now also features some mixed uses. With waivers from the NRHA, a resident opened a snack shop in her apartment, a day care center is flourishing, and other community activities take place in former units. The character and image of the buildings more closely resemble a typical neighborhood than before. The edges of the project now seamlessly blend into the larger community of which Diggs Town is a part (figure 9).

Follow-up

Construction on Diggs Town was completed in 1994. Six months after Diggs Town's redesign was complete we began our evaluative process. Although a much more rigorous evaluation is under way to confirm the value of the concepts that drove the redesign, we nonetheless found good preliminary evidence of a positive community impact. A flavor of this change is evident in our field notes:

> On a sunny June day we spoke with a young man who was looking after his two little daughters as they played a board game on the porch. From the porch he was able to see who was coming and going on the street. Occasionally, a neighbor would come over and ask his advice on how to keep the flowers from dying in

Figure 8. **Street Patterns**
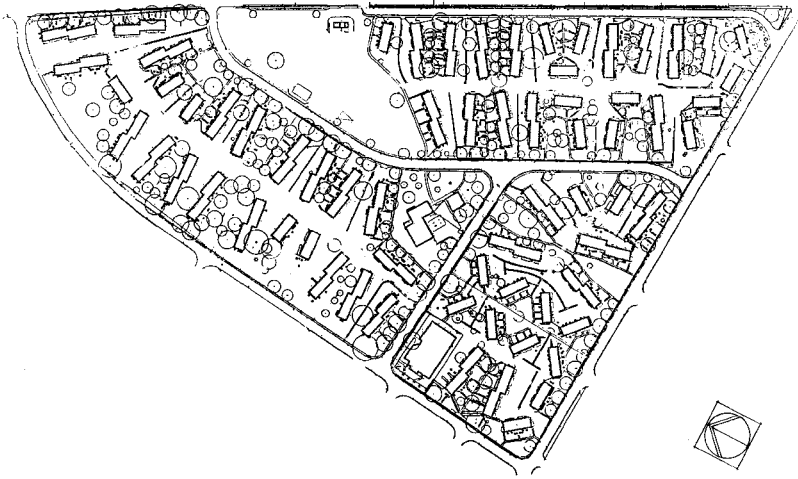
Before
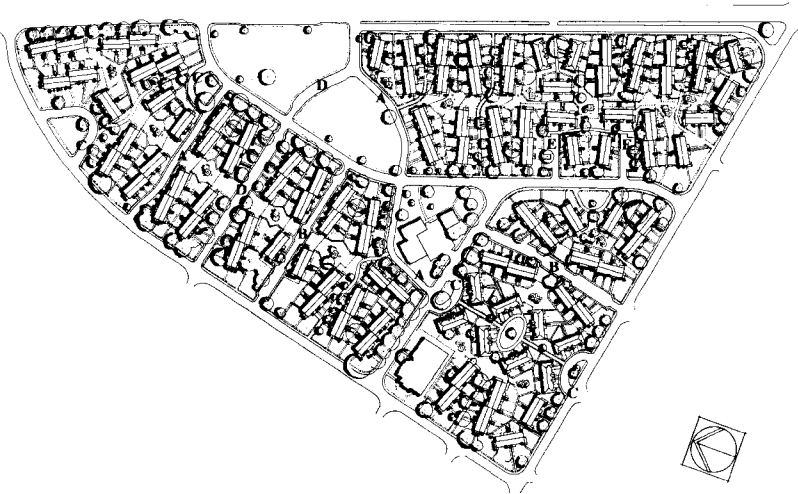
After

the yard. He told us that "before the changes" he heard three to
four gunshots a night and now [heard] only [one] every three or
four months. People are no longer afraid to speak up and to take
charge of the neighborhood.

We learned that there is a community police officer whose post
is in one of the units. It is on a street that still had problems
after the changes. Drug dealers lived in the middle of the new

Figure 9. **Diggs Town Connected**

street. Our putting in the street, unfortunately, gave them the opportunity to conduct a brisk drive-through business.[5]

However, once the officer's post was in place, the customers disappeared and the drug dealers moved off the block. Most important, the officer is a part of the neighborhood and knows everyone and their families. The result is that police calls have gone from 25 to 30 per day to 2 to 3 per week. When asked what had made the difference, he cited a renewed sense of pride and self-esteem, which led to an identification and engagement with the community. People felt they had dignity with their new homes. They also felt that their yards had been restored and that their homes were something worth fighting for. (See figure 10.)

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[5] The open-street design inherent in TND may facilitate some crimes that rely on easy access to neighborhoods. However, we believe that this potential problem is offset by the improved community social controls that come from people better knowing one another. We also recognize that the current trend in urban America is to close off streets in order to achieve defensible space. We question this strategy for improving public safety. Ed Blakely and Mary Gail Snyder, in their book *Fortress America: Gated Communities in the United States,* find that street closures have a mixed record of success. For example, they cite the outcomes of two thorough and wide-ranging studies conducted by police in Fort Lauderdale, FL: "The first found no significant change in the rates for violent property crime in a closed-street neighborhood. . . . A second study . . . concluded that gates and barricades had no significant effect" (Blakely and Snyder 1997, 122).

Other New Urbanist public housing redesigns have used gates to reduce the potential for drive-through crime. For example, Harbor Point in Boston, a project similar in street design to Diggs Town, installed gates during its first development phase. The gates are intended to lessen crime while the project is built out and the community stabilizes. Harbor Point's master plan calls for removal of the gates once community groups feel comfortable that there is little risk of drive-through crime.

Figure 10. **Diggs Town Today**

Evidence emerged in our follow-up that clearly demonstrates the importance of a decent-looking home in improving a resident's self-esteem and sense of connection to the community. For example, we interviewed a group of Diggs Town churchgoers who, prior to the redesign, felt anxious arriving at services from an unsightly public housing project. Once Diggs Town had been redesigned to resemble a typical Norfolk subdivision, the same churchgoers were comfortable in engaging the community outside the project. Where they once felt self-conscious, they now felt self-confident. In addition, attendees of the same church who lived outside Diggs Town reported feeling more comfortable with the Diggs Town churchgoers after the redesign.

By spending the extra money to ensure that Diggs Town looks like the rest of the city, policy makers have given its residents an opportunity to blend in and feel like a part of the neighborhood. Outsiders who now see Diggs Town are hard-pressed to identify it as a housing project. It is important to consider the alternative. If Diggs Town were redeveloped in a way that further distinguished it in physical terms from the rest of Norfolk, its residents would then carry the stigma of that difference. That has been the problem with so much low-income housing: it looks different, and that difference has become synonymous with poverty. It is as if a large billboard were placed on the street that read, "Only poor people live here." The residents and nonresidents of such places know that public housing projects are somehow distinct places and that they often house the poorest of the poor.

Diggs Town is also under evaluation by the agencies that funded its redevelopment. The NRHA is conducting an ongoing evaluation of

the Diggs Town project, including the physical redesign component. Grady Village, a neighboring public housing project of similar size, physical qualities, and demographics, was chosen as a "control" community for comparison.

In 1993, the NRHA, the Norfolk Division of Social Services (NDSS), the Diggs Town TMC, Norfolk Public Schools, and the residents of Diggs Town established the Diggs Town Economic Empowerment Demonstration (DEED) project to develop a self-sufficiency program. The program, which became fully active in June 1994, now has 199 participants (174 families) and includes three components: a family self-sufficiency plan; employment and education counseling; and family and personal counseling. Participants work with case managers to establish personal goals and objectives for employment, education, and their futures. Intensive case management ensures that participants receive the services they need to achieve eventual self-sufficiency.

The first-year evaluation by the NRHA included a resident survey and a comparison of data relating to program goals and objectives. The survey was conducted in September 1995 with 74 out of 118 DEED participants surveyed, along with 113 Grady Village residents (the survey targeted the entire DEED population and a randomized sample population from Grady Village). The results from the survey provided baseline attitudinal measures for further evaluations and will be compared to a survey to be carried out in the third-year evaluation. The quantitative data from the first- and second-year evaluations were analyzed and compared. Further evaluations will continue this analysis.

The evaluation so far suggests that, though there remains much difficult work ahead for residents to reach the goals they have set for themselves, significant changes have occurred in the social, economic, and physical quality of life of the community. Those who participated in the DEED project showed the greatest gains in all categories. Those residents received the highest incomes, moved off welfare rolls more often, and saved more. Thirty-nine participants enrolled in an education program during the first two years, and 86 enrolled in skills training of some kind.

Thirty-three participants had sufficient income to move off welfare in the first two years of enrollment. Their yearly incomes are $4,000 higher than Grady Village residents (the control project). The majority of those polled believed that a pleasing physical environment encourages a more positive sense of community, and many expressed great pride in the changes that have been made.

Despite improvements over the past two years, Diggs Town still contains a heavy concentration of low-income families with inadequate opportunities for social mobility. The integration of physical changes with social programs helps but only begins to deal with the problems of alienation and isolation of those most in need of access to opportunities. Bridges and networks must still be built to connect this community to the larger opportunities found in the region (Briggs 1997; Galster and Killen 1995). Unless ongoing efforts to monitor and address issues of importance to the community, such as crime and safety—actual and perceived—continue and are expanded, Diggs Town could easily slip back to its former dysfunctional state (Schlosser 1995).

The problem for us in assessing the impact of physical design alone is that Diggs Town's revitalization came packaged with a host of social interventions. Certainly we understand and support a comprehensive revitalization effort; however, from an evaluative perspective it would have been easier for us to gauge the importance of physical redesign in the absence of other program interventions. (Cook and Campbell 1979).

Our case study of Diggs Town is only a first step in a broader evaluation of housing projects redesigned using TND principles. Subsequent studies should employ a more formal social scientific evaluation. We suggest that anyone attempting a more rigorous evaluation of public housing redesign consider using a quasi-experimental field method. In such a study, public housing redesigned through TND could be compared to housing that underwent a more conventional redevelopment. Researchers would need to gather data before and after physical interventions. They would also need to select projects with similar demographics and external conditions, with the only major variable being the redesign method.

Given the limited resources available for public housing redesign, we must establish which design interventions have the most impact. This means evaluating redesign elements by type. For instance, are porches the most critical element in restoring the public sphere? If so, then they should be given priority in redesign projects. The Diggs Town reconstruction cost $45,000 per unit— $28,000 for the inside and $17,000 for the outside. Clearly, some money must be spent on interiors; yet focusing our efforts entirely on restoring public housing interiors is equivalent to shuffling deck chairs on the *Titanic*. When funds are severely limited, we believe a redesign project should place greater priority on exteriors and streetscapes than on interiors.

Much scholarly work remains to be done on the topic of TND public housing redevelopment, including qualitative research. For example, there has yet to be a deep ethnographic study of a TND community of the type Herbert Gans undertook in his classic work on

Levittown (Gans 1967). An ethnography would yield a wealth of information about whether individual components of the built environment (e.g., front yards) facilitate greater interaction, leading to a better sense of community.

Physical design lessons of Diggs Town

Based on interviews with residents, it is clear that the physical form and image of their environment have some effect on the stability of the neighborhood, but how much effect remains to be determined. We do, however, believe that enough evidence of positive change exists to begin using Diggs Town as a model for community redevelopment through design interventions. In order to restore community via TND, we suggest that the following design principles be followed:

1. The structure of lots, blocks, and streets must distinguish the private territory of residents from the public realm of the community and must enable residents to establish a secure environment for themselves and their families. In our case study, the importance of front porches and large windows for the full length of blocks along streets cannot be overemphasized.

2. Dwellings and their sites should be designed in an architectural style that draws on the best of regional and local tradition while allowing for individual expression and a venue for social interaction so that a unique neighborhood character can emerge.[6] If Diggs Town were part of another city in another region of the country, our specific design strategy would have been different. For example, if Diggs Town were part of Tucson, AZ, and populated by Mexican Americans, we would never have used an architecture that made symbolic reference to the American South as we did in Norfolk. We might have employed some variant on Spanish Mission Revival in order to fit in with the rest of the city. Furthermore, we would have developed public spaces in a manner consistent with Latino customs, such as open, clay center courtyards in multifamily projects. The point is to maintain a cultural and physical sensitivity when redesigning projects. This may be more important for low-income projects than middle- and upper-class ones because poor people often have fewer options to relocate from places that ultimately do not suit their needs.

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[6] HUD recognized as early as the Carter administration that successful assisted housing blends into neighborhoods and makes reference to local design traditions (see Francescato et al. 1979).

3. Public spaces must be restored so that the activities of civic so-
    ciety may be conducted. Public spaces including parks, squares,
    and play areas should be constructed from a simple palette of
    materials—these include large native canopied trees, defined
    ground planes, and carefully crafted and enduring materials for
    details.

Physical design's role in developing social capital

Our case study leads us to conclude that social interaction of the
type supported by TND promotes the formation of social capital.
Our use of the term *social capital* derives from the work of political
scientist Robert Putnam (1993a, 1993b, 1995a, 1995b).[7] As he
writes in the foreword to this issue of *Housing Policy Debate,* social
capital "refers to the norms and networks of civic society that lubri-
cate cooperative action among both citizens and their institutions.
Without adequate supplies of social capital—that is, without civic
engagement, healthy community institutions, norms of mutual reci-
procity, and trust—social institutions falter" (Putnam 1998, i). Put-
nam originally applied the concept to a study of Italian regional
governments. He showed that the key difference underlying Tus-
cany's successful regional government and Sicily's failed one was
the degree of "civic engagement" (Putnam 1993a).

Civic engagement does not refer simply to politics but applies to all
types of voluntary group participation (e.g., clubs and sports
leagues). Social capital is gauged by looking at rates of civic partici-
pation, such as how many people vote or join organizations. It is
also important to understand how committed people are to these
groups—places high in social capital have active and dedicated vol-
unteer and civic networks.

Lewis Spence, a public housing manager, developed the connection
between physical and social capital. Spence argues that "the na-
tion's public housing policy has systematically set about creating
public housing neighborhoods that are utterly devoid of social capi-
tal" and further notes that "the consequence is precisely what the
theory of social capital would predict: an accelerating social alien-
ation and distress" (Spence 1993, 367). We seek to rectify this prob-
lem that Spence identified several years ago by establishing a de-
sign tradition for public housing that creates rather than destroys
social capital.

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[7] Sociologist James Coleman (1990) developed much of the original thinking behind
social capital. It is interesting that Jane Jacobs used the term *social capital* in
1961, implicitly linking it to physical design. We now make this connection more
explicit.

We find that design can and should enhance the formation of social capital. Based on our field evidence, that is exactly what occurred in Diggs Town. The porches, the yards, and the civic spaces in the redesigned Diggs Town provide residents with an environment in which social capital may flourish. Before a person engages any community, he or she needs to make human contact. Diggs Town's design now facilitates such interaction.

We refer to this new design method as an "architecture of engagement," which structures space in a way that maximizes social interaction so that individuals can build the trust that underlies the social order. The architecture of engagement restores public venues. These venues lead to the formation of social capital, which in turn benefits communities by providing the links between the individual and society that are essential to economic and social life.

Diggs Town residents were not just cut off from one another; they were disconnected from the rest of the city—physically and symbolically. The people who lived in Diggs Town were stigmatized for the simple reason that they lived in a failing public housing project. The residents often internalized this stigma, reducing their desire to interact with the rest of Norfolk. The Diggs Town redevelopment moved toward destigmatizing the project through design. Our findings show that people who are confident that they live in a respectable place are more secure in establishing and maintaining contacts with others. We cite as evidence our field notes, which include a description of how even church attendance is affected by the way residents feel about the physical condition of their community.

The architecture of engagement builds on social ecological thought that includes the works of Kevin Lynch (1960), Jane Jacobs (1961), Alvin Schorr (1963), Oscar Newman (1972), James Vance (1977), and William Whyte (1980). Although social ecologists differ in their understanding of how physical design structures social interaction, their work forms a unified intellectual tradition. All of these authors share our central concern: space matters. Physical design constitutes an independent variable that influences social structure.

The Diggs Town case study suggests that a link exists between the theories of physical design described in the social ecological literature and the concept of social capital. We make the following axiomatic assumptions based on the social ecology and social capital literature. The axioms are listed in causal order.

1. Physical design affects the rate and nature of social interaction.

2. The rate and nature of social interaction affects the rate at which people participate in civic life.

3. The rate of participation in civic life helps determine the quality of social and economic life in the community.

The first axiom, that physical design affects the rate and nature of social interaction, originates in social ecology. The second axiom connects social ecology theoretically to social capital. The third axiom restates Putnam's concept of social capital. We find preliminary evidence to support the first and second axioms. The third axiom is validated by all studies utilizing social capital—it is contingent on the degree to which one accepts the validity of social capital as a concept.

Finally, we use our analytic scheme connecting TND to social capital as a lens to view findings in our case study. Research that builds on our findings should employ a more formal research design, using our axioms as a hypothesis to be tested. Our study constitutes a first tentative step in demonstrating how changes in the built environment using TND affect the nature of social life. Follow-up research may show more definitively the importance of that relationship. Such a finding would provide solid evidence that good design leads to good neighborhoods.

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