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## Title

Whatever Happened to “Urbanism”? A comparison of premodern, Modernist, and HOPE VI morphology in three American cities

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## Abstract

In the United States, urban form and design changed tremendously during the twentieth century. From the early 20C, a time when small-scaled, highly diverse city blocks, or what Rae (2003) called “urbanism” predominated, urban redevelopment came to be dominated by large-scale Modernist superblocks, often promoted by Federal policy (Whiting 2001). In the last two decades of the century, some urban designers argued for recapturing the physical qualities of the pre-Modern city (e.g. Duany et. al. 2001), while others argued that large-scale, autonomous city areas were both inevitable and ideal (Koolhaas 1995a). This study undertakes a morphological investigation of three “twice-cleared” (Vale 2010) urban sites in three American cities- Boston, Chicago, and New Orleans- to measure the changes occurring in eight morphological variables. The study examines three eras: 1910, when all three areas were dominated by small-scale buildings and city blocks, or premodern development; 1950, when all three areas had been redeveloped for Modernist-inspired public housing; and 2010, when all three areas had again been redeveloped under the historicist-inspired Federal HOPE VI public housing improvement program. The study finds that, as expected, Rae’s “urbanism”, or what Talen (2008) calls “place diversity”, was reduced in the mid-twentieth century by Modernist redevelopment, but that the subsequent HOPE VI redevelopment of the late twentieth century recaptured some elements of this “urbanism”. The study concludes that urban design is influenced both by seemingly unalterable forces like technology and economy, but that purposeful design ideals can also have substantial effect.

**Keywords:** urban design, urban morphology, urban redevelopment, Modernism, neohistoricism, HOPE VI, place diversity

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## **Whatever Happened to “Urbanism”? Comparing urban morphological variables in three different eras of the American city**

### **Introduction**

In American cities, urban form changed tremendously during the twentieth century. At the beginning of the century, cities were generally characterized by a visual variety and functional complexity of structures, activities, and uses. Jacobs (1961, 143-151), examining one such mostly 19C neighborhood in New York City, called Greenwich Village’s formal and experiential qualities “diversity,” and cited them as the most important physical aspect of city neighborhoods. Somewhat later, Rae (2003, 17-19), examining a not dissimilar early 20C neighborhood in New Haven, Connecticut, labeled this same variety and complexity “urbanism,” citing in particular the neighborhood’s “dense fabric of enterprise” and “clustering of housing”. Yet by the mid-20C urban form in both redeveloped central-city locations and suburban areas had changed dramatically. Not only was low-density peripheral development flourishing around nearly every city in the United States (Jackson 1985), but urban redevelopment, inspired by the Modernist movement, had shifted toward isolated, single-use buildings that were often surrounded by larger amounts of open space and located on amalgamated city blocks, or ‘superblocks’ (Hall 1988, Whiting 2001).

In the 1970s, in part due to critics such as Jacobs who railed against Modernism’s dramatic rejection of historic urban form, many urban designers altered strategies again. Much of the urban redevelopment of the late 1970s and following was notably more sympathetic to context and preservation of historic elements (Frieden and Sagalyn 1989) than that of previous decades had been. By the 1990s, urban designers’ respect for context became encoded into Federal policy with the HOPE VI (“Housing Opportunities for People Everywhere) program to rehabilitate troubled public housing complexes, most of whose designs had originally been inspired by Modernism. HOPE VI policy rewarded developers for introducing neohistorical design elements into public housing design such as street-facing buildings, reconnected street grids, and housing ornament like gables and pitched roofs. The result on many public housing sites that had been “twice cleared” (Vale 2010), first by Modernism and then by HOPE VI, was something of a revival of historic city form- a revival that was applauded by advocates of neohistorical design and planning (e.g. Calthorpe 2009, 49).

The return of historical urban elements to urban design did not go uncontested. Some architects, most visibly the polemical and innovative Rem Koolhaas, welcomed the shift of scales, enlargement of programs, and dramatic, often brutal changes to city form that Modernism had introduced. Such changes, claimed Koolhaas, were part and parcel of contemporary economics and development patterns and efforts to reject these realities were both unnecessary and futile. Perhaps most provocative was Koolhaas's playfully titled "Whatever Happened to Urbanism?" (1995b), an essay that disowned the relevance of historicism in contemporary urban design.

This broad outline of 20C shifts in urban design ideology and form is familiar to urban design scholars. Well-known histories of urban form and planning describe the progression from premodern to Modernist to historicism (minus Koolhaas' rejoinder against neohistoricism) in relatively similar terms (e.g. Scully 1988, Plunz 1990, Hall 1990). But few studies exist of the precise amount of morphological change that occurred as urban design shifted, both in ideology and in implementation, during the 20C. The previously mentioned historical studies provide a broad outline of such change, but have not attempted to quantify this change. Urban morphologists, on the other hand, are accustomed to measuring and assessing historical urban environments (e.g. Conzen 1960), but few such morphological studies have examined the sweeping morphological changes that occurred in American cities across the twentieth century.

This study was undertaken to examine morphological change as it actually occurred in the American city, and to address in a small way these existing research lacunae in urban design and in urban morphology. Examining a small number of sites in three different American cities, this study sought to answer the questions of how much change in urban form had actually occurred across time; which morphological variables had changed more or less; and to quantitatively assess the similarities and differences between three different eras of urban development: the premodern or historical city form of the early 20C; the Modernist-inspired redevelopment of the mid 20C, and the contested neohistorical strategies of the late 20C.

## **Study Concept and Method**

To answer these questions, the study examined a somewhat unusual ‘site’ in the American city: the public housing development. In particular, the HOPE VI\* program to rebuild troubled public housing developments provided a convenient locus for a comparative study of urban morphology over time. Many HOPE VI sites are actually “twice-cleared” communities (Vale 2010) that contained several city blocks worth of premodern buildings before they were cleared for public housing, generally between 1940 and 1970. The sites were again redeveloped, either in whole or in part, in the late 1990s or early 2000s. The unusual palimpsest nature of HOPE VI, where three generations of development often occurred on a single site across the course of the twentieth century, provided a rare opportunity to examine and compare urban design changes both across time (premodern, Modernist, and HOPE VI urban form) and across multiple cities.

The study selected three HOPE VI sites out of the more than 245 such developments constructed. This relatively small number of cases was selected because the intention of the study was to obtain detailed information about an understudied phenomenon rather than to uncover broadly generalizable findings across a population of cases. Selecting three cases for measurement in three eras of urban design was felt to balance a modest degree of comparison across both space and time, and the limits of a study with time and scale constraints. The three sites were located in older neighborhoods in relatively older cities, ensuring that sufficient urban development was present in all three eras of measurement, and each was a relatively well-known and well-regarded case of HOPE VI development in the popular press (e.g. McKim 2010, PBS 2008, Chicago Neighborhood Development Awards 2007). The three HOPE VI sites examined were Orchard Gardens in Boston, Mass., (formerly Orchard Park), Roosevelt Square Phase I in Chicago, Ill., (formerly the Jane Addams Homes), and River Gardens, New Orleans in La. (formerly the St. Thomas Homes).

All three sites had similar histories (see development histories below). Prior to public housing construction, each site comprised a mix of housing, retail, manufacturing, and other uses (see Figures 2, 12, and 22). Historic maps indicate that the future public housing sites were little different than the blocks immediately surrounding them. Between 1935 and 1950, most of each site was cleared and

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\* HOPE VI is a somewhat strained acronym for “Housing Opportunities for People Everywhere”. The “VI” refers to the program’s place in a lineage of Federal public assisted housing programs, most of which achieved far less visibility than HOPE VI. Initiated in 1992, the program has rebuilt over 246 public housing developments nationwide (Engdahl 2009, 85) via more than \$6.2 billion awarded to local public housing agencies. See Cisneros 2009 for more information, much of it frankly promotional, about HOPE VI.

redeveloped with low-rise public housing designed according to a version of the *zeilenbau* (German for “rows of buildings”) style typical of European Modernist housing (Plunz 1990, 181) (see Figures 5, 15, and 24). *Zeilenbau* structures were mostly arranged in parallel rows that provided only partial enclosure of the resulting open spaces. Several decades later, between 1995 and 2005, deteriorated *zeilenbau* structures on each site were cleared and replaced by HOPE VI housing (see Figures 8, 18, and 26). Two of the three HOPE VI developments, in Boston and New Orleans, were completed by 2008, while the third, in Chicago, was left incomplete due to the onset of post-2007 real estate slowdown, though published plans showed an eventual buildout of the full site.

Each site was assessed according to eight morphological variables (Table 1) derived from different sources in the urban design literature. Perhaps the most important of these sources were Talen’s studies of “place diversity” (2006a, 2006b, 2008), Talen examined numerous morphological and other variables that she argued contributed to place diversity, including land use mix, structure type mix and dwelling unit type mix (2006, 243-245), as well as other morphological measures like unit density, parcel coverage, and numbers of street intersections. Talen argued that these measures are associated with historic urban areas even if they do not measure “diversity” strictly speaking. Another morphological study (Beauregard 1986) provided the additional measures of block dimension mixes and number of block faces. Morphological variables, definitions, and sources are shown in Table 1.

*Table 1 about here*

Morphological information for the three sites in the premodern and Modernist eras came from Sanborn Map Company fire insurance maps, provided by a library digital subscription. Map dates for the premodern and Modernist eras were 1919 and 1950 in Boston, 1917 and 1950 in Chicago, and 1909 and 1951 in New Orleans. Morphological information for HOPE VI developments was provided by a variety of sources, including developer internet sites (Chicago), internet-based aerial photography (Boston and New Orleans), and newspaper internet sites (New Orleans).

Many morphological characteristics could be calculated from the above data sources, but parcel coverage and unit density were calculated from 1:1 two-dimensional scale models of developments constructed in AutoCAD. These scale models also provided the basis for the figure-ground drawings in

Figures 2, 5, 8, 12, 15, 18, 22, 24, and 26. All morphological characteristics were calculated precisely from map data and scale models. Morphological characteristics were first recorded as raw scores (Table 3) calculated either as a simple measure or as the average deviation of each block's characteristics from a site-wide average (precise score calculation methods are provided in Table 2). Raw scores were then converted into scaled urbanism scores on a scale of one to ten by comparing scores for each site across the three eras, assigning the highest a score of ten and the lowest a score of zero (Table 4). Other scores were then placed proportionally in this range so that all scores fell between the values of zero and ten. Each scaled score could therefore be given equal weight to generate an aggregate "urbanism index" (scores are shown in Table 4).

## **Site Histories**

### *Orchard Park/Orchard Gardens (Boston)*

What is today (2012) called Orchard Gardens is located in the Dudley Square area of Roxbury in Boston (Figure 1). Now-deteriorated Dudley Square was at one time the second largest commercial district in the Boston area (Discover Roxbury 2010). The premodern neighborhood, like much of Boston outside the city center, was a heterogenous mix of small houses, 'triple-decker' apartments, and small commercial and industrial uses (Figures 3 and 4.) In the 20th century, the neighborhood underwent economic and ethnic change, transforming from a white, middle-class suburb to a low-income neighborhood inhabited by racial minorities. Orchard Park, one of several Depression-era slum-clearance projects in Boston, began development in the late 1930s and opened in 1942. The site was chosen for several reasons, including the surrounding "deterioration and spreading blight," low-cost land, accessibility to multiple transportation modes, street network "flexibility," and ease of resident relocation (Heath 2005). Designed by architect John M. Gray, Orchard Park was noteworthy for its proximity to Dudley Square, which provided the first residents with access to 152 retail establishments within only 600 feet of the development (Vale 2000, 256). Orchard Park, like other public housing of the era, attempted to recreate the density of the premodern site (Vale 2000, 191), but the development also differed dramatically from the historic neighborhood in form and design (compare Figures 2 and 5).

Unlike many public housing developments of the era, Orchard Park was racially diverse but internally segregated, with four buildings for blacks and the rest for whites (Vale 2000, 194). During the 1960s, the racial mix of the development changed, with nearly 100 percent of the tenants non-whites by the following decade (Vale 2000, 303). Orchard Park's condition declined dramatically in the 1970s and 1980s until the development was deemed "one of the most severely distressed developments in the BHA portfolio" (Boston Housing Authority 2010), a "blighted and dangerous area . . . (with) the highest crime rate of all city housing projects" (Tach 2010).

Orchard Park received a HOPE VI implementation grant in 1995 and redevelopment into the mixed-use, mixed-income "Orchard Gardens" occurred over the next several years. The \$7.6-million-redevelopment, designed by Boston-based architects Domenech Hicks & Krockmalnic, was lower-density than the old complex, both because the high vacancy rate in the former Orchard Park mandated a lower 'replacement rate' of housing units and because the Housing Authority did not wish to reconstruct apartment blocks (Vale 2000, 373). The 331-unit Orchard Gardens reintroduced nonresidential uses into the formerly single-use development, including a community center, rehabilitated elementary school, and a park. Approximately 150 HOPE VI homes were located in surrounding blocks as part of an effort to deconcentrate the development (Tach 2010). By 2000, considered a success by the public and design community (McKim 2010), Orchard Gardens was awarded HUD's Housing and Community Design Award.

*Figures 2 through 10 about here*

#### *Jane Addams Homes/Roosevelt Square (Chicago)*

On Chicago's Near West Side, only one mile from the downtown Loop, are today's Roosevelt Square houses (2012). By the late 19th century, the neighborhood had already evolved from a wealthy, park like area into a diverse district populated by several waves of immigrants. The first African-American settlement in Chicago was located nearby (Pauillac 2004), and the Near West Side became characterized by "residential areas divided along ethnic, economic, and racial lines" as well as by a succession of immigrant groups as their economic and social status changed over the years (Pauillac 2004). The poverty of many Near West Side immigrants led to early social movements like Hull House,

founded by Jane Addams in 1889, and would later influence the decision to site public housing in the area. Over the course of the 20th century, Latinos and African Americans became the dominant populations of the area, in part because of segregation that restricted their settlement elsewhere in the city.

The early 20C Near West Side was thickly developed with three- and four-story buildings, and numerous commercial corridors with wholesale businesses, manufacturers, and small neighborhood shops. But urban renewal throughout the 1950s and 1960s had a significant impact on the area, clearing dozens of city blocks for megaprojects including the Dan Ryan and Eisenhower expressways, the University of Illinois at Chicago campus, and numerous public housing developments. The first public housing development in the area was the Jane Addams homes, named after the famous reformer, designed by the office of well-known Chicago architect John Holabird and constructed by the Public Works Administration in 1937 (Hunt 2009, 39, 89). The Addams homes were comprised of 32 brick 2-, 3-, and 4- story buildings composed of 1,027 apartments designed in a spare modernist style and containing only residential uses. The Addams homes were tokenly integrated: A mere 30 apartments were initially provided to black families (Hunt 2009, 55). The decline of the Addams homes was swift; by the 1950s, Italian-American gangs regularly and extensively vandalized the development's public facilities (Hunt 2009, 159). The Chicago Housing Authority was perhaps the nation's most troubled in the 1970s and 1980s (Hunt 2008) and the Addams Homes deteriorated in concert with many other local public housing developments, though the development's modest walkup buildings remained more desirable than 'elevator' public housing elsewhere in the city (Hunt 2009, 179).

By the 1990s, gentrification in surrounding neighborhoods influenced the Chicago Public Housing Authority's decision to raze the Addams Homes and rebuild them as a \$60-plus-million HOPE VI redevelopment. Construction began in 2005 on what was now called Roosevelt Square. Envisioned as a six-phase, 2,441-unit redevelopment, it will feature 1,090 rental units, 1,351 for-sale units and approximately 75,000 square feet of retail once completed, as well as a community recreation center, fire station, and police station. According to the developer, Roosevelt Square was "designed to integrate the historic pattern of urban development with modern development trends. For-sale and rental buildings are mixed throughout the development on a block-by-block basis. The existing street grid was redesigned, providing a traditional neighborhood where residents can walk conveniently to local

services and transportation and interact with their neighbors. Architectural styles are in character with the surrounding community and evoke the best of Chicago's tradition for sturdy, well-constructed and thoughtfully designed homes.” (Axia Development 2010) Photographs of the current-day development (Figures 19 and 20) back up some of the developer’s claims, showing a streetscape of shops that visually, at least, recalls the diverse immigrant neighborhood of 100 years previous.

*Figures 11 through 20 about here*

### *St. Thomas Homes/River Gardens (New Orleans)*

New Orleans’ River Gardens is located close to the Mississippi River between the high-income Lower Garden District and low-income “Irish Channel” neighborhood. Due to the site’s adjacency to industrial riverfront uses, the St. Thomas/River Gardens area has been occupied by lower income populations since its settlement in the beginning of the 19th century. The area was once built up by low-rise, small wooden houses and small commercial ventures bordered by warehouses until well into the 20th century (Figure 23). Under the United States Housing Act of 1937, the neighborhood’s impoverishment and poor physical condition pinpointed it for public housing redevelopment. In 1941, the first phase of the St. Thomas Homes was completed, including 970 units in 120 buildings constructed of masonry and organized loosely around courtyards. An additional construction phase in 1952 added 540 more housing units. Prior to the 1964 Civil Rights Act, the St. Thomas Homes were inhabited only by white tenants. Subsequently, industrial decline, white flight, and restrictions on maximum income led to the development’s growing demographic of impoverished African Americans.

By the 1980s, the development was dangerous and crime-ridden, which, along with its adjacency to wealthy neighborhoods, led to developer pressure for its early HOPE VI transformation beginning in 1996 (Elliott et. al. 2004). The site was cleared by 1998 (Elliott et. al. 2004, 380), and only five St. Thomas buildings ultimately survived in a feeble gesture toward historic preservation. New Orleans developer HRI completed the project in 2007. The new River Gardens development was mixed-income and included 38 homeownership units, 347 rental units, and 57 elderly units, as well as a neighborhood park and a new Wal-Mart constructed on an empty lot to the south of the development.

Unlike the St. Thomas Homes before it, River Gardens has a variety of building types, including historically influenced housing based on the distinctive New Orleans neighborhood vernacular.

*Figures 21 through 30 about here*

## **Findings**

*Tables 2 through 5 about here*

Scaled urbanism scores show that the three study sites were far from identical. Aggregated scores from the three eras (premodern, Modernist, and neohistoricist) were much higher in Boston and Chicago (107 and 125 respectively) than in New Orleans (49). While the urbanism scores should not be overinterpreted- they are simply scaled sums of the eight morphological variables selected for the study, and as such should not necessarily be considered ‘authoritative’ measures of urban complexity- the aggregated scores do correspond to visible evidence from the three study sites. In particular the New Orleans site, which was almost entirely housing in the premodern era, consequently possessed a much lower initial urbanism score than did the other two sites, both of which were a mix of residential, commercial, and industrial properties- paradigmatic mixed-use neighborhoods of the historic city. As such it could be expected, given the overall tendency of Modernism toward single-use, relatively large-grained city form, that Modernist urbanism scores would be even lower in New Orleans than in the other two cities, thus reinforcing that city’s low aggregate score across eras.

Despite their substantially different aggregate scores, the individual scores of the three study sites showed similar, though not identical, morphological relationships between premodern, Modernist, and neohistorical city forms. Summing the scores of the eight morphological variables showed, as one might expect, that premodern city form had the highest urbanism score in all three cities. These scores reflected the fine-grained uses and structures of that era. Premodern scores were 182 percent of the next highest scoring era in Boston, 150 percent in Chicago, and 192 in New Orleans. Unsurprisingly, the Modernist sites, with their homogenous housing and amalgamated city blocks, possessed much lower urbanism scores than premodern sites. Modernism scores were only 55 percent that of premodern sites in Boston, a mere 34 percent in Chicago, and a modest 44 percent in New Orleans. On all three sites,

premodern city form possessed a relatively high place diversity, just as Modernist redevelopment policy clearly and dramatically reduced that place diversity.

HOPE VI showed a somewhat surprising relationship to the other two eras examined in the study. On an aggregate level, the sum of urbanism scores for all three study sites (77) showed HOPE VI to be only 24 percent higher than the sum of Modernist sites (62), and just 54% that of premodern sites (142). In other words, if one examines the three sites as a whole, it is clear that HOPE VI collectively recaptured only a limited amount of the place diversity of the premodern era, despite the policy's intention of reintroducing historical urban elements like smaller city blocks, additional streets, and mixed land uses. At least on a summary level, the urbanism score of HOPE VI was much closer to that of Modernism (difference of 15) than to that of premodern city form (difference of 65).

The relationship of HOPE VI sites to earlier eras differed widely between cities, however. In Chicago, the HOPE VI aggregate score of 42 lay almost exactly between the aggregate score of premodern city form (62) and Modernism (21). In Chicago, at least, HOPE VI recaptured many of the morphological elements that contributed to a high urbanism score. The results were quite different in Boston and in New Orleans. In New Orleans, HOPE VI's aggregate score of 13 was little different than that of Modernism (11), meaning that HOPE VI recreated very few of the premodern site's (low) number of high-scoring morphological elements. In Boston, HOPE VI actually reduced the number of morphological elements that would have contributed to a high score there. The Boston HOPE VI score of 22 was almost identical to Chicago's Modernist score of 21. In other words, from a premodern era with the second highest score (55) of all 9 sites and eras, the Boston site progressively reduced its urbanism score through two periods of redevelopment. In Orchard Gardens, at least, HOPE VI did not increase place diversity: it reduced it.

On the level of individual morphological variables aggregated across sites (see the bottom three rows of Table 4 for the relationship of individual variable scores in different eras) HOPE VI scored higher than Modernism in four variables (dwelling unit mix, land use mix, number of street intersections, and number of block faces), and lower than Modernism in the other four (structure mix, unit density, parcel coverage, and block face mix). Some of the higher Modernist scores reflect the particular Modernist morphology of the Boston site, where the Orchard Park development had high unit densities and mixes

of structure types and block faces. On the other hand, the higher aggregate HOPE VI scores across all three sites for land use and dwelling unit mixes as well as street intersections and block faces reflect the widely stated HOPE VI policy goals of reducing the homogeneity of Modernist public housing and of breaking up the large and often dangerous superblocks that characterized those complexes.

Ultimately the different urban scores reflect a diversity in premodern, Modernist, and HOPE VI urban form that was perhaps greater than expected. Premodern development is often portrayed, perhaps nostalgically, as highly mixed-use and diverse, but this was clearly not always the case: the New Orleans site was almost entirely residential, even in an era before zoning and widespread land use controls. Modernist redevelopment is also commonly portrayed as homogenous in terms of land use and building type, with relatively monotonous city blocks and lower densities, but the Boston site shows that at least some Modernist redevelopment retained a large number of older structures and even increased the unit density of the premodern site. Modernism, in other words, generated very different built outcomes on different study sites. Finally, the scores demonstrate that HOPE VI, which avowedly attempted to recover some of the morphological elements that Modernism (sometimes) eliminated, often succeeded on certain sites, with particular variables- a higher number of city blocks in Boston and New Orleans, or a higher mix of dwelling unit types in Chicago. In all three eras, the urban morphology of the sites was somewhat different than the image conventionally portrayed of rich, complex premodern cityscapes, arid Modernist monocultures, and vibrant, mixed-use HOPE VI developments.

But the aggregate scores also demonstrate that the conventional image of premodern and Modernist cityscapes was also, at least on the three sites studied here, substantially the case. Both the Boston and Chicago sites possessed complex premodern cityscapes whose high levels of place diversity were eliminated by Modernism and not recovered. By the same token, Modernist public housing development succeeded in reducing aggregate place diversity by 50 percent or more in all three sites, even if individual morphological characteristics sometimes differed from this overall pattern. And, at least on the three sites examined, the aggregate urbanism scores demonstrate that the neohistorical, restoricit rhetoric of HOPE VI did not hold true except in cases of particular morphological measures. Even if HOPE VI design was inspired by the premodern city, the morphological reality of the premodern city was far more diverse and complex than even a reformed Federal policy could or would institute. This finding neither argues for or against the 'success' or 'failure' of HOPE VI as urban design policy; it

simply illustrates, that, for the three study sites, that the place diversity of the premodern city was substantial indeed, that Modernism's was much lower, and that only so much of that diversity was possible to recover even by the most dedicated HOPE VI designers and policymakers.

Certainly current development practice, even when influenced by neohistorical housing policy, can prove itself resistant to restoring place diversity. Adjoining the New Orleans site, for example, the HOPE VI developer constructed a Wal-Mart superstore against the express wishes of some preservationists and urban designers working in the project (Elliott et. al. 2004). The reality of larger retailing and manufacturing facilities is a technologically driven force that likely cannot be feasibly reversed. The seeming inevitability of such changes, in fact, is what has driven both polemical arguments for large-scale development like that of Koolhaas (1995a), as well as more nuanced arguments like Berger and Waldheim (2008). Whether urban designers can and should acquiesce to technological or economic realities, and when, is perhaps still an open question.

On the other hand, the study findings also show that urban design and morphology is a surprisingly mutable variable. All three eras may have been subject to technological and economic realities that to some extent made their changed urban form inevitable, but on the other hand morphological variables like unit density, street and block form, and parcel coverage also showed themselves to be subject to purposeful variation due to design. The study thus confirms, but does not resolve, the extent to which urban design and urban form is a dialogue between technological, economic and other realities of an era, and the interests and agenda of designers and policymakers. The study findings do seem to argue that urban design is a complex interplay between different forces, many of which designers can influence and affect, and others which appear to be more resistant to such design intervention.

## **Conclusion**

As histories of urban form and the evidence of the built environment itself tell us, American cities once contained mostly small housing structures with nonresidential uses mixed in between. Buildings were dense, occupying much of their individual parcels. Blocks were small in size and numerous, resulting in many street intersections and a large number of mixed-use block faces. Many of

these features were eradicated over the course of the 20th century. Postwar urban renewal changed the urban fabric by consolidating city blocks into larger blocks, removing nonresidential structures, and replacing old buildings with larger ones on consolidated large parcels. In the case of public housing, buildings occupied relatively little of these parcels; the remainder was devoted to open space and parking. All of these changes reduced the diversity and urbanism of the historic city. The HOPE VI redesign of public housing, influenced by neohistoricism, replaced much of this relatively arid Modernism with smaller buildings while restoring some vanished city blocks and streets. Yet many of the morphological changes wrought by the twentieth century seemed to a large extent irreversible.

Today, urban designers are divided about what constitutes good urban form in the 21st century. Proponents of neotraditionalism (e.g. Duany 2001, Calthorpe 2009), 'bigness' (Koolhaas 1994, De Hooghe 2010), or other movements not examined in this study such as landscape (Waldheim 2006) or the everyday (Chase et. al. 2008) each sidestep the larger question of the extent to which urban design is driven by realities or ideals, and the subsequent question of whether urban design should be driven pragmatically by reality, or optimistically by ideals. The evidence from this study is mixed. On the one hand, the urban form of the premodern past appears to be gone forever, at least in the United States, forever altered by the changed technological and economic circumstances that drove Modernists like Le Corbusier to advocate a revolution in design around one hundred years ago. Yet the evidence of this study, and of much of the advocacy-driven urban design literature, also argues for city form being as much as product of designers' and society's wishes and ideals as it is the inevitable product of irreversible change. Urban design is doubtless, as this study has demonstrated, a combination of both the alterable and the unalterable; and assessing the mix of pragmatism and idealism that the good city should contain will continue to be a challenge and an inspiration for urban designers and policymakers in the future.

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## Tables

Table 1. Morphological characteristics used to measure HOPE VI and historic developments. The source of each characteristic is provided in the right-hand column.

Place diversity characteristic	Definition	Source
Structure type mix	Percentages of residential and nonresidential structures	Talen 2006b, from Nyden et. al. 1997
Dwelling unit mix	Percentage of dwelling units in single-family, multi-family, and mixed-use structures	Talen 2006b
Unit density	Average number of dwelling units per acre	Talen 2006b
Parcel coverage	Average percentage of parcel occupied by a structure	Talen 2006b
Land use mix	Overall percentage of parcels occupied by residential structures	Talen 2006b
Block face mix	Percentage of block faces with residential, nonresidential, or mixed uses	Beauregard 1986
Block faces	Total number of block faces	Beauregard 1986
Street intersections	Total number of street intersections	Talen 2006b, from Jacobs 1961

Table 2. Calculation method for place diversity scores.

Diversity indicator	Calculation of Raw Scores	Sample block from Boston 1919
Structure Mix (%)	Measured % of residential and % of non-res for each block. Took absolute value of difference between percentages. Took inverse (so that higher figure equals higher diversity.) Averaged figures to give diversity of uses for entire site.	Block was 83% residential and 17% non-residential. $1 -  .83 - .17  = .3478$ . Average of all blocks = .2766 raw score. Raw score * 10 = scaled score of 3.
Dwelling Unit Mix (%)	Measured percentage of single family homes, multi-family homes, and mixed-use residential buildings. Measured difference between these percentages. Took inverse, averaged figures to find site average deviation.	Block was 56 % single family, 44% multifamily, 0% mixed. $1 -  .44 - .56 - 0  = .8889$ . Average of all blocks = .6604 raw score. Raw score * 10 = scaled score of 7.
Unit Density (units / acre)	Measured units per acre for each block. Averaged figures to find site average density.	25.3 units/acre, site average = 31.7965. $(31.7965 - 7.0815 \text{ [lowest overall]}) / (39.0250 \text{ [highest overall]} - 7.0815 \text{ [lowest overall]}) * 10 = 8$ scaled score.
Average Parcel Coverage (%)	Measured ratio of built area to parcel area for each block. Averaged figures to find site average coverage.	Block coverage = 41.7%. Site average = 42.36%. $(42.36 - 19.72 \text{ [lowest overall]}) / (42.36 \text{ [highest overall]} - 19.72 \text{ [lowest overall]}) * 10 = 10$ scaled score.
Land Use Mix (%)	Measured percentage by block of each land use (residential, commercial, industrial, institutional, open space, and other). Subtracted % of other uses from % residential and took inverse. Averaged figures to find the site-wide average diversity.	Block: $1 -  76\% \text{ res} - 24\% \text{ comm.} - 0\% \text{ ind} - 0\% \text{ inst} - 0\% \text{ open}  = .48$ . Repeated site wide. Average of all blocks = 0.3048 raw score. Raw score * 10 = 3 scaled score.
Block Face Mix (%)	Counted number of faces on perimeter of each block. Measured percentage of only res, only nonres, and mixed. Subtracted single use % from mixed use %; took inverse. Averaged these figures to generate site-wide block face mix.	$1 -  75\% \text{ mixed} - 25\% \text{ residential} - 0\% \text{ nonresidential}  = .50$ . Repeated site wide. Average of all blocks = .7264 raw score. Raw score * 10 = 7 scaled score.
Street Intersections (#)	Counted number of intersections on site.	20 intersections on the site. $(20 - 13 \text{ [lowest overall]}) / (40 \text{ [highest overall]} - 13 \text{ [lowest overall]}) * 10 = 3$ scaled score.
Block Faces (#)	Counted number of faces on each block.	56 block faces on the site. $(56 - 19 \text{ [lowest overall]}) / (70 \text{ [highest overall]} - 19 \text{ [lowest overall]}) * 10 = 7$ scaled score.

Table 3. Raw scores.

Raw Diversity Scores*	Structure Mix (%)	Dwelling Unit Mix (%)	Unit Density (units / acre)	Average Parcel Coverage (%)	Land Use Mix (%)	Block Face Mix (%)	Street Intersections (#)	Block Faces (#)
<b>Boston 1919</b>	0.2766	0.6604	31.7965	0.4236	0.3048	0.7264	40	56.0000
<b>Boston 1950</b>	0.3815	0.0350	37.0394	0.3025	0.2863	0.4167	24	19.0000
<b>Boston 2010</b>	0.0417	0.0000	21.8775	0.2871	0.1389	0.0667	27	50.0000
<b>Chicago 1910</b>	0.4550	0.7690	17.6127	0.4001	0.8296	0.9958	39	70.0000
<b>Chicago 1950</b>	0.1667	0.0000	39.0250	0.1986	0.1284	0.3333	20	31.0000
<b>Chicago 2010</b>	0.2500	0.6827	23.2968	0.3874	0.4167	0.3472	25	51.0000
<b>New Orleans 1910</b>	0.1724	0.0000	15.7888	0.3598	0.1577	0.4127	19	45.0000
<b>New Orleans 1950</b>	0.0000	0.0000	29.6576	0.1972	0.0000	0.0000	13	39.0000
<b>New Orleans 2010</b>	0.0000	0.0650	7.0815	0.2733	0.0000	0.0000	20	53.0000

Table 4. Scaled Urbanism Scores.

Diversity Index Scores (0-10)**	Structure Mix (%)	Dwelling Unit Mix (%)	Unit Density (units / acre)	Average Parcel Coverage (%)	Land Use Mix (%)	Block Face Mix (%)	Street Intersections (#)	Block Faces (#)	Total	Overall score by era: Urbanism Index
Boston 1919	3	7	8	10	3	7	10	7	55	
Boston 1950	4	0	9	5	3	4	4	0	30	
Boston 2010	0	0	5	4	1	1	5	6	22	
Chicago 1910	5	8	3	9	8	10	10	10	62	
Chicago 1950	2	0	10	0	1	3	3	2	21	
Chicago 2010	3	7	5	8	4	3	4	6	42	
New Orleans 1910	2	0	3	7	2	4	2	5	25	
New Orleans 1950	0	0	7	0	0	0	0	4	11	
New Orleans 2010	0	1	0	3	0	0	3	7	13	
2010 as % of 1910	32.26	52.31	80.15	80.08	42.99	20.03	73.47	90.06		Premodern 142
As % of 1950	53.20	1949.38	42.73	96.59	133.98	57.02	126.31	113.48		Modernist 62
1950 as % of 1910	60.64	2.45	162.16	59.0	32.09	35.13	58.16	52.05		HOPE VI 77

## Figures

### *Boston*

Figure 1. Location of the Orchard Park/Orchard Gardens development in Boston. Figure by author

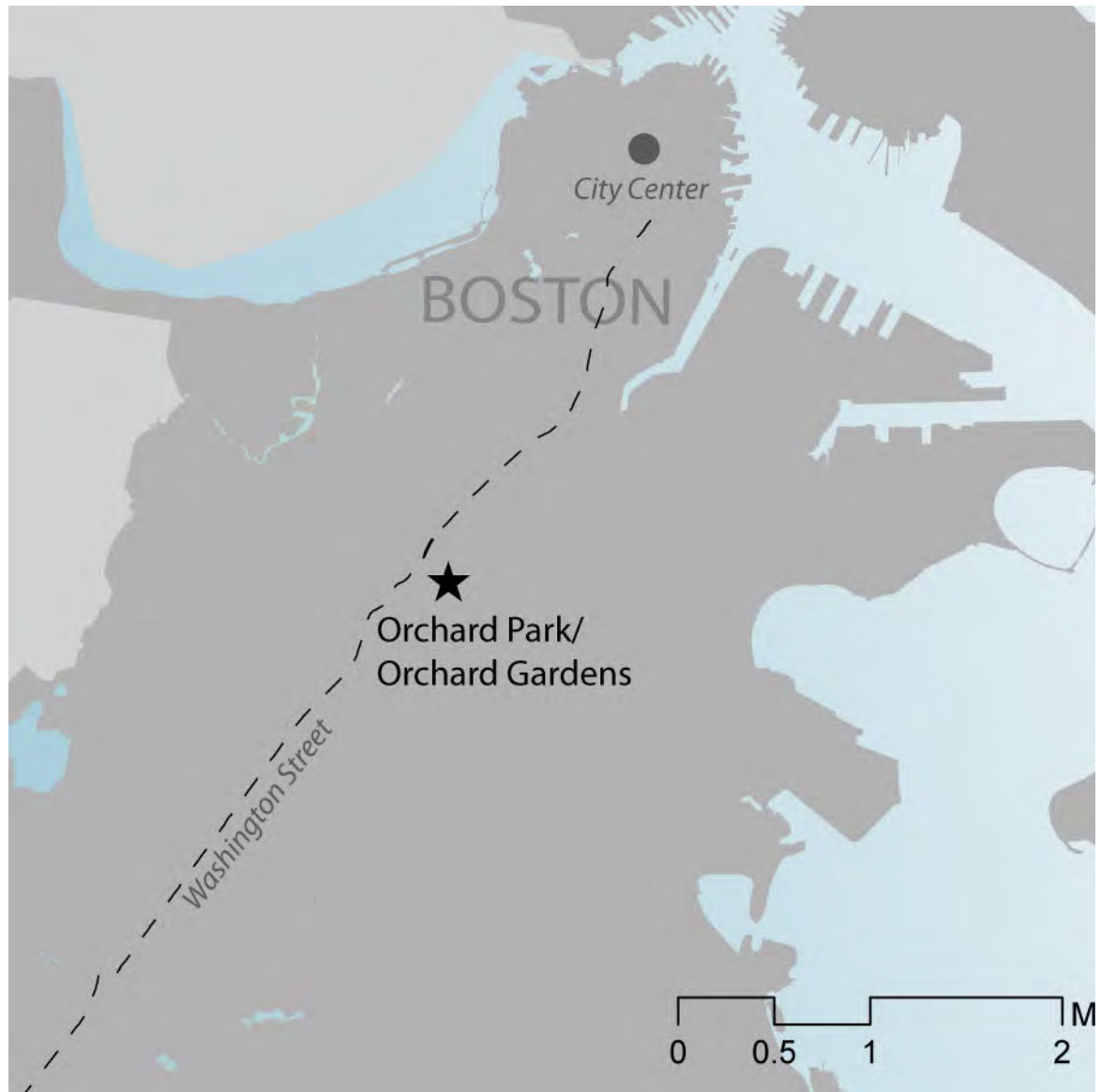


Figure 2. The future Orchard Park in 1919. The mixed- use area was made up of tenement homes, single-family houses, low-rise industrial structures, commercial and institutional uses, and Orchard Park, the large area in the center of the large block at top right. Figure by author. Source: Sanborn Map Company.



Figure 3. The Orchard Park area prior to redevelopment for public housing. Photograph of Ziegler Street in 1940. Source: the Bostonian Society.



Figure 4. The Orchard Park area prior to redevelopment for public housing. Photograph of Larkin Street toward Adams Street in 1940. Source: the Bostonian Society.

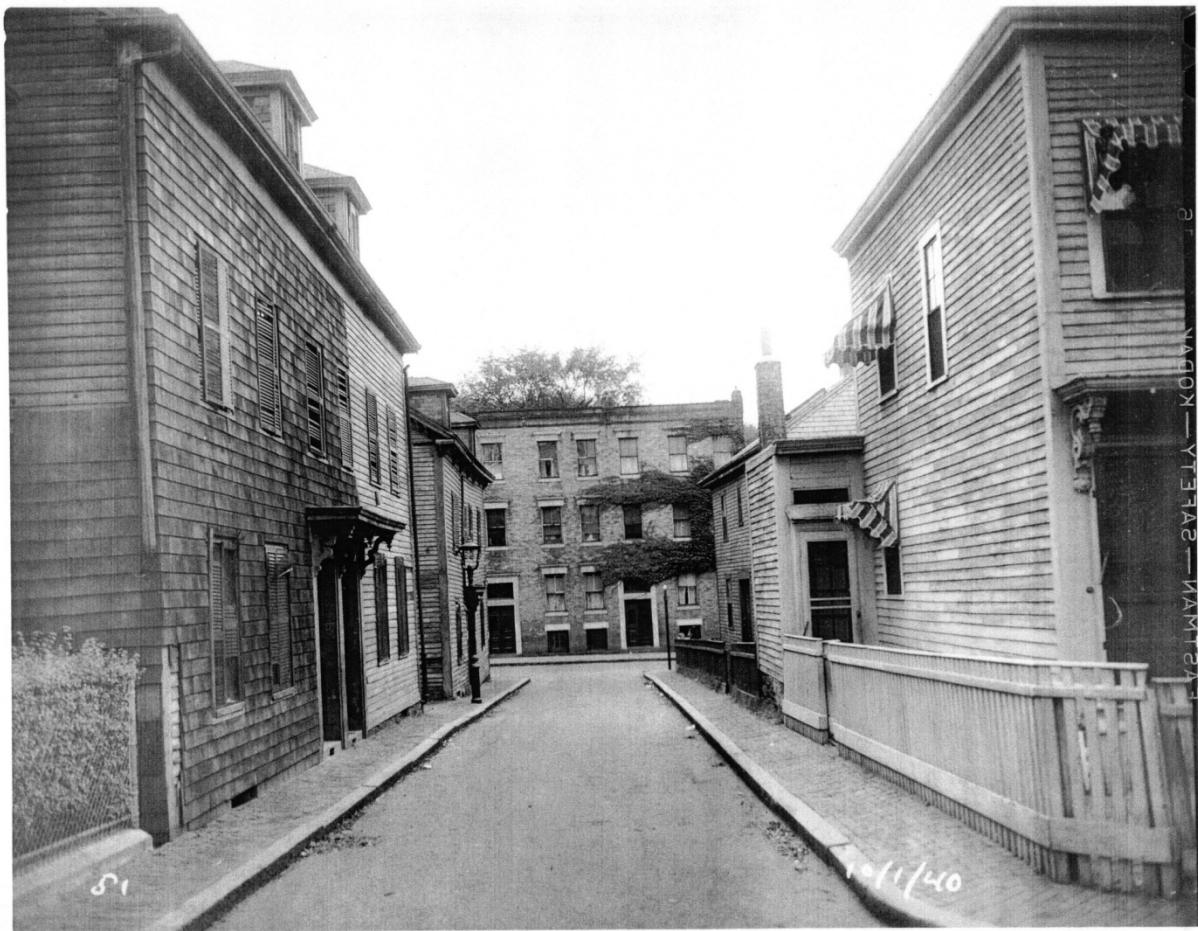


Figure 5. Orchard Park in 1950. A few older buildings, as well as Orchard Park, remained, but all other structures were replaced by public housing. Figure by author. Source: Sanborn Map Company.



Figure 6. The newly pastoral landscape of the Orchard Park houses in 1949. Source: Boston Housing Authority.



Figure 7. By 1976, when this aerial view looking southeast was taken, many of the spaces between public housing buildings had been paved over. Source: Alex MacLean.



Figure 8. By 2000 Orchard Park had become the HOPE VI Orchard Gardens. Several public housing structures were rehabilitated, and the remainder were replaced by low-rise row or detached houses. Figure by author. Source: Google Earth.

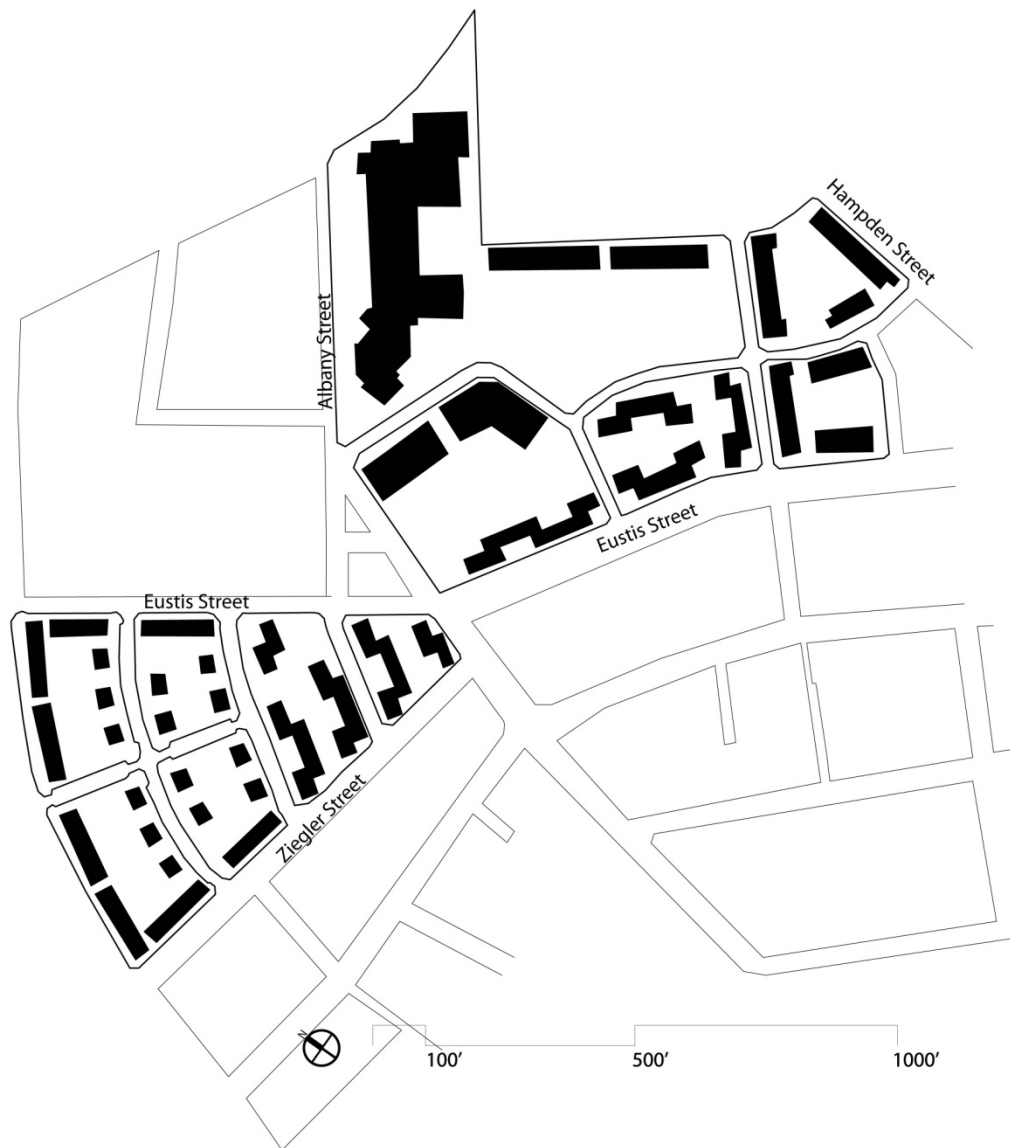


Figure 9. Orchard Gardens today (2010). Row houses along Ziegler Street have restored some of the texture and form of the local wooden vernacular. Source: Author.



Figure 10. This 2010 aerial view looking east shows approximately the same view as Figure 7. Several of the public housing buildings remain and others have been replaced by low-density rowhouses. The surroundings make the new row houses more isolated than contextual. Source: Microsoft Bing.



*Chicago*

Figure 11. Location of the Jane Addams/ Roosevelt Square development in Chicago. Figure by author.



Figure 12. The site of the future Jane Addams Houses in 1917. Except for two blocks occupied by institutions, the blocks were densely developed with a mix of small homes and mixed-use commercial buildings. Figure by author. Source: Sanborn Map Company.

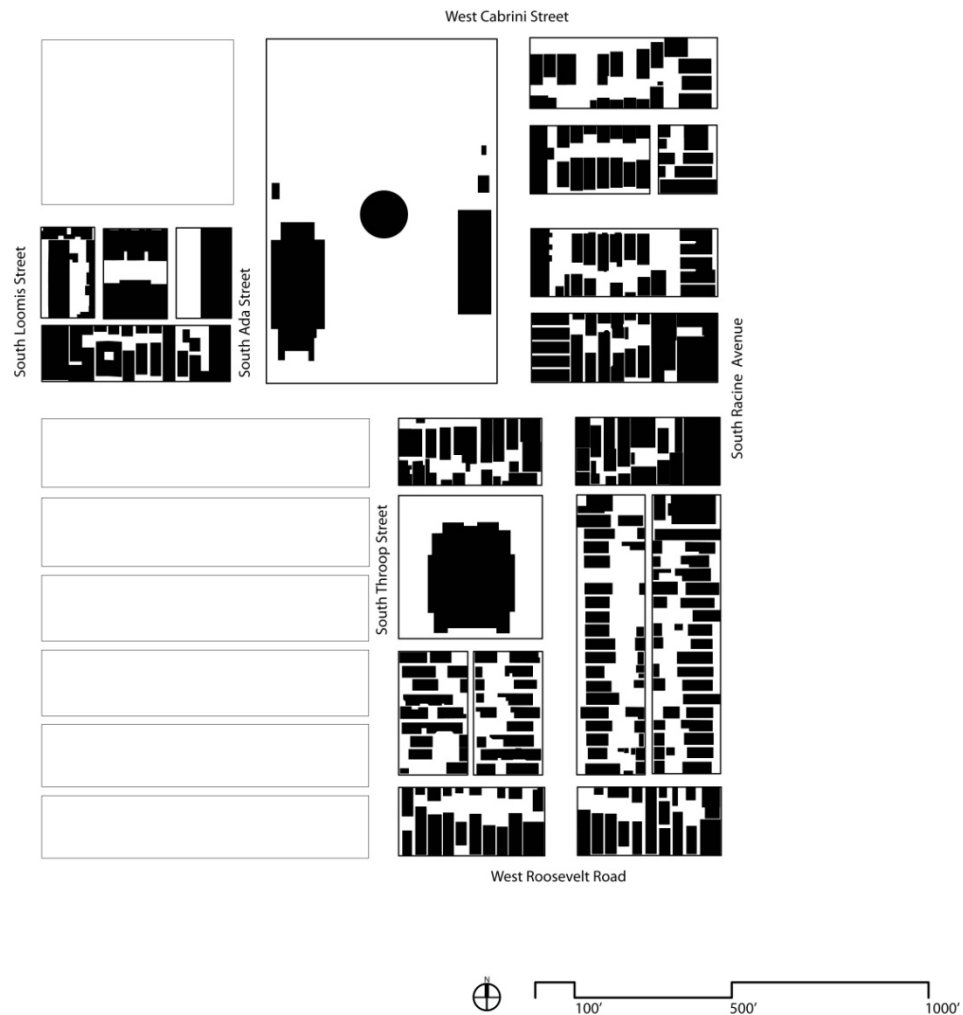


Figure 13. This aerial photograph of the Jane Addams site, taken in 1934, shows a vernacular urban fabric indistinguishable from surrounding blocks. Like much of the Near West Side, the site was a mix of single-family, two-family, multi-family, and mixed-use structures. Much of the area within the rectangle would be cleared for public housing over the subsequent 20 years. Source: Chicago Housing Authority.



Figure 14. A street near the Jane Addams Houses showed the mix of residential and commercial structures typical of the area. In the late 1940s, it was cleared for an additional phase of public housing. Photograph from 1941. Source: Chicago Housing Authority.



Figure 15. The Jane Addams Houses in 1950. Redevelopment for public housing in the late 1930s replaced all buildings except a school with hybrid *zeilenbau*-courtyard-type four-story brick buildings. Figure by author. Source: Sanborn Map Company.

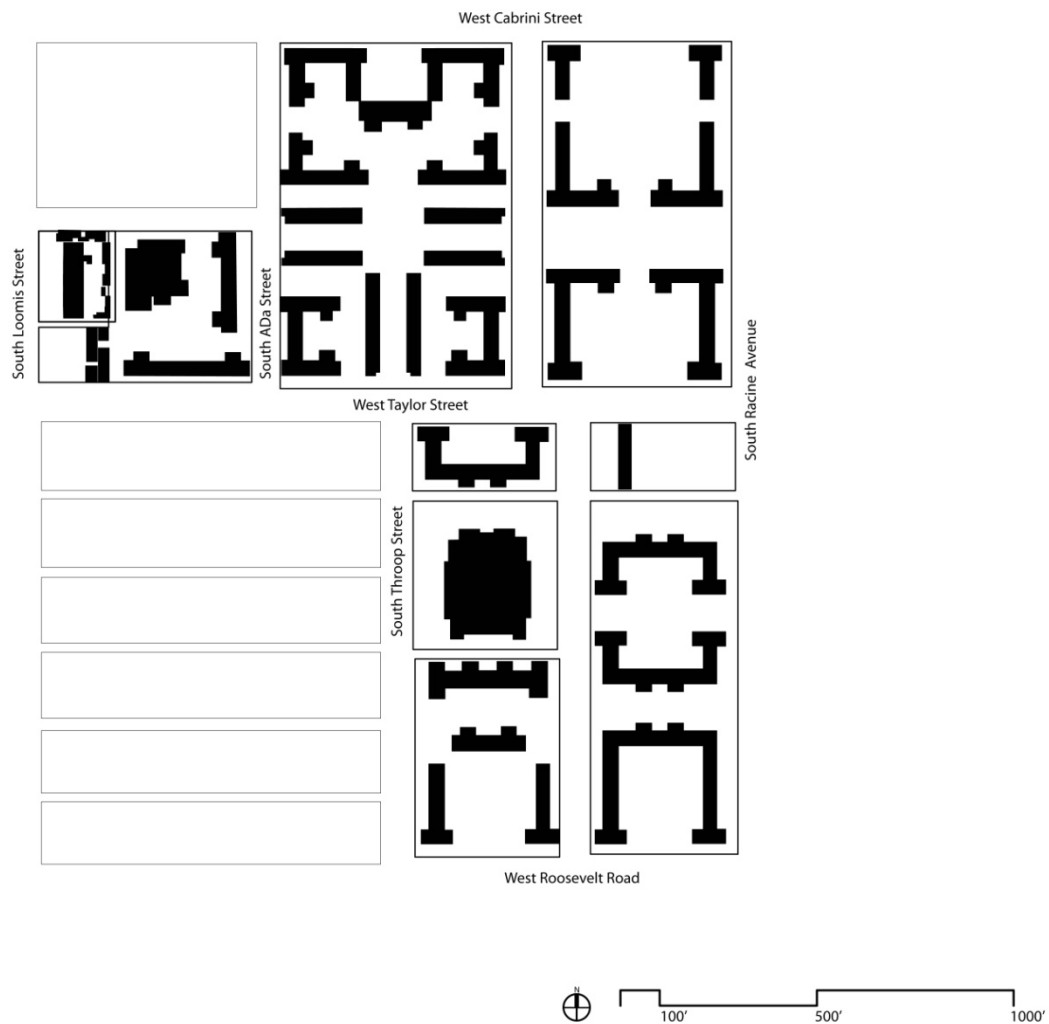


Figure 16. Children frolic in this photograph of the Jane Addams Houses' central courtyard taken soon after the development had opened. Undated photograph. Source: National Archives.



Figure 17. This undated perspective, looking southwest across the Jane Addams Houses, contrasts the ordered landscape of public housing with the surrounding vernacular context, which is ignored. The public housing building at top center of the site is the only one remaining today (2012). Source: Chicago Housing Authority.



Figure 18. The first phase of Roosevelt Square in 2008. All Jane Addams buildings were cleared except for a single structure earmarked for a public housing museum. The surviving premodern school was demolished in 2009. Construction of the second phase of the development has been delayed by the economic crisis as of 2010. Figure by author. Source: LR Realty.

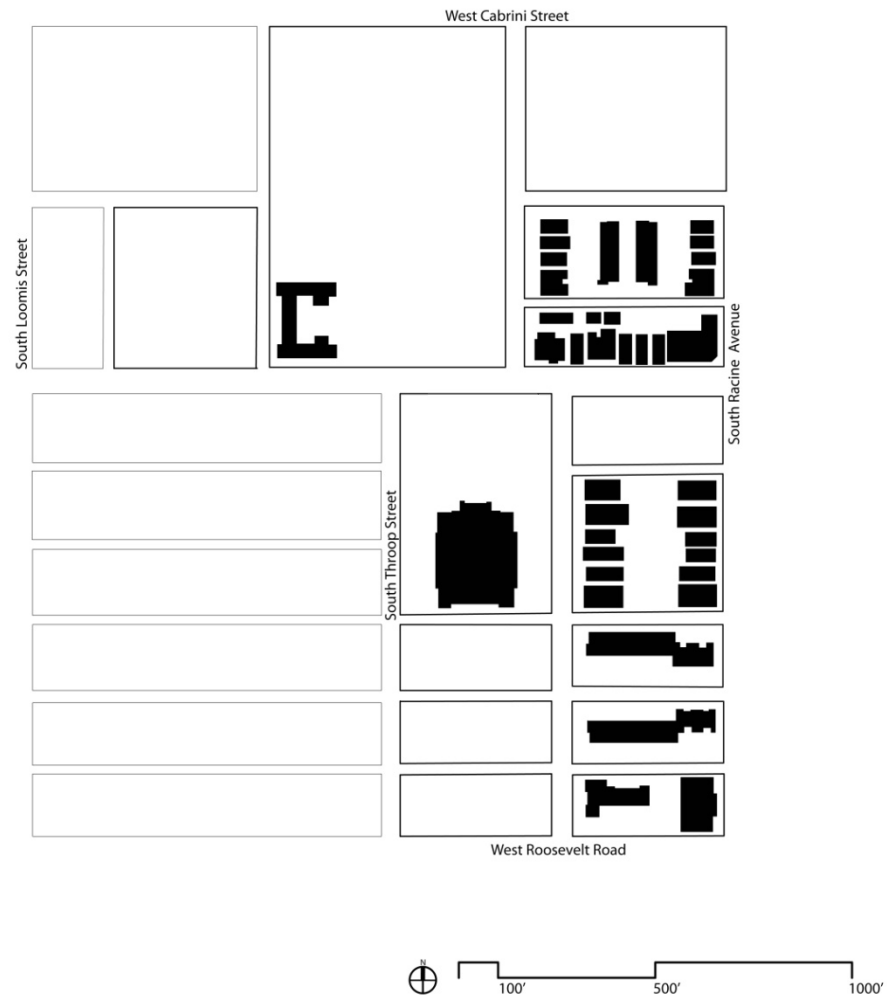


Figure 19. Roosevelt Square buildings vary superficially from each other, but the surviving historic buildings at the end of this block possess greater variation in form and program. Photograph of Grenshaw Street looking east toward Racine Avenue, circa 2010. Source: Google Street View.



Figure 20. Along Taylor Street, Roosevelt Square features a mix of residential and retail structures similar to its pre-public housing-era context. Photograph circa 2010. Source: Google Street View.



## *New Orleans*

Figure 21. The site of the St. Thomas/River Garden homes in New Orleans. Figure by author.



Figure 22. In 1909, the St. Thomas homes site was occupied by small, narrow, mostly-single-family twin or detached houses. Figure by author. Source: Sanborn Map Company.



Figure 23. The St. Thomas site prior to redevelopment, circa 1940. This photograph, like many taken during this era, may have exaggerated the site's dilapidation. Source: Franklin D. Roosevelt Presidential Library.



Figure 24. By 1951, the site had been entirely redeveloped for the low multifamily buildings of the St. Thomas homes. Figure by author. Source: Sanborn Map Company.

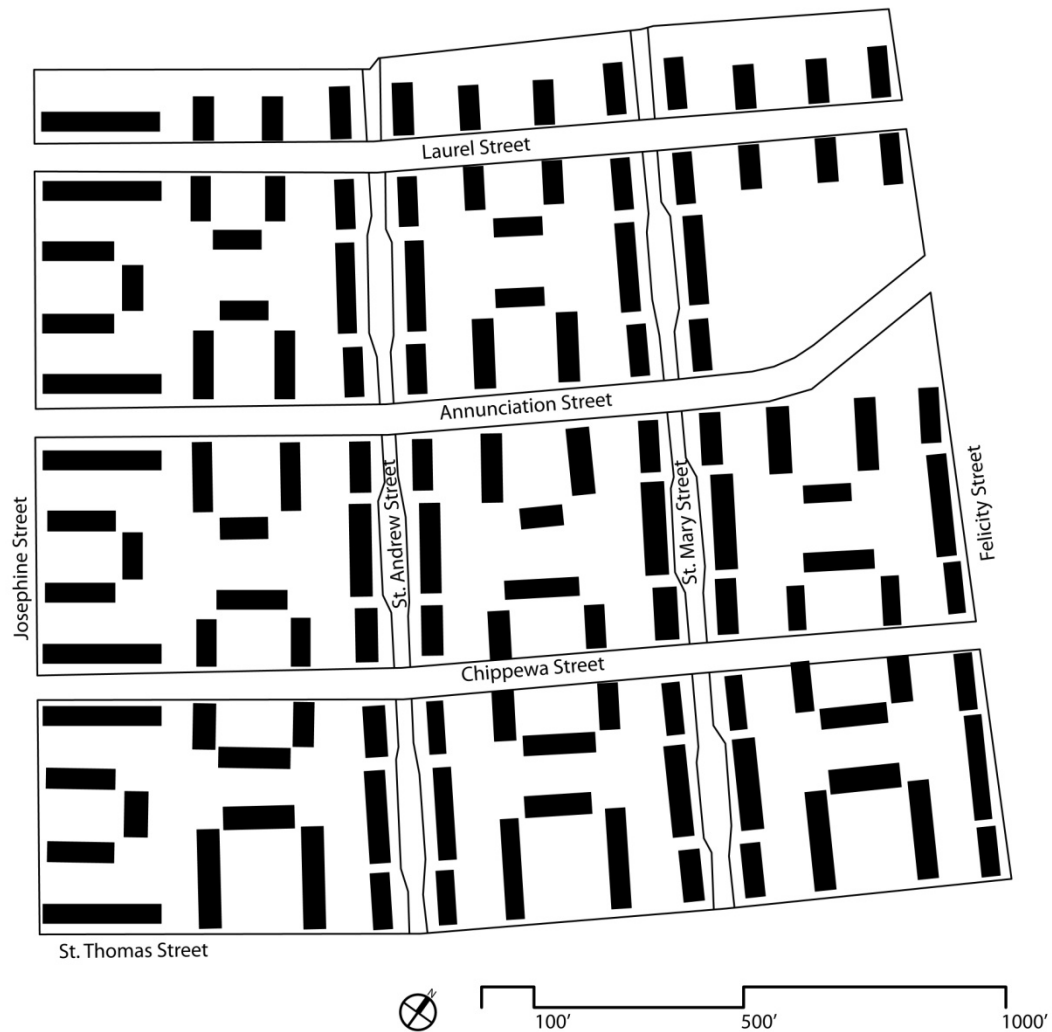


Figure 25. This photograph, taken soon after completion of the first phase of the St. Thomas homes in 1941, shows a preternaturally clean and ordered landscape of lawns and brick buildings with metal balconies reminiscent of 19th-century New Orleans buildings. Source: Franklin D. Roosevelt Presidential Library.



Figure 26. By 2008, HOPE VI reconstruction had replaced the St. Thomas homes with the mostly detached single-family homes of River Gardens. A few St. Thomas buildings were rehabilitated and a triangular park was added to the southern edge of the site. Figure by author. Source: New Orleans Times-Picayune.



Figure 27. The River Gardens development captures much of the architectural grandeur of the nearby Lower Garden district, but contains very little of the place diversity that characterizes much of New Orleans.



Figure 28. In 2006, the surviving St. Thomas public housing buildings were dilapidated and abandoned.  
Source: author.

