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town center surrounded by residential zones of slightly-curving streets, studded with parks.¹²²

American Garden City Planning

In the United States, planners and landscape architects had been designing residential subdivisions in the naturalistic tradition with curvilinear streets, oddly-shaped blocks, and limited linear, green space since the mid-nineteenth century. Most influential was the example of Riverside (NHL), Illinois, designed in 1869 by (Frederick Law) Olmsted, (Calvert) Vaux & Co.. Most of these were upper-income neighborhoods designed for the professional and entrepreneurial classes. The Chicago World's Columbian Exposition of 1893 had popularized City Beautiful principles for downtown plans, featuring broad, axial streets, formal gardens with statuary, and tree-lined parkways, and formal Beaux-Arts design principles soon after dominated the training of aspiring young designers in the fields of architecture and landscape architecture. American planners began blending garden city principles into the naturalistic and City Beautiful models around 1910, creating suburbs and subdivisions that integrated residential areas with naturalistic, irregularly-shaped blocks and curvilinear streets, with the more abundant and interior-block parks of the garden city projects and the formal town center present in both City Beautiful and Garden City design. Frederick Law Olmsted Jr., John Nolen, and Werner Hegemann and Elbert Peets were among the leaders of this trend. In the United States, the Garden City concept was embraced by the emerging fields of city and regional planning and, in addition to architects and landscape architects, attracted the attention of philanthropists, housing advocates, and real estate developers.¹²³

The Russell Sage Foundation, a philanthropic organization, constructed America's first Garden City-influenced suburb, Forest Hills Gardens (New York), for working class families in 1910-11. The plan, prepared by Frederick Law Olmsted, Jr., incorporated a small commercial area adjacent to the train station, curvilinear residential lanes including several blocks with interior parks, a public school, several playgrounds, and a large recreational area along one end of the development. Another early Garden City-influenced suburb was Washington Highlands (NR), designed by Hegemann and Peets in 1916. Situated west of Milwaukee in Wauwatosa, the suburb exhibits an axial, tree-lined principal thoroughfare ringed by sweeping residential lanes, an existing stream preserved as a linear parkway, and numerous small parks. In addition to the physical example provided by projects such as Forest Hills Gardens and Washington Highlands, the Garden City ideal and garden suburb design were widely publicized in architectural journals, technical publications and popular magazines in the 1910s. In addition, the National Conference on City Planning and the National Housing Association (both organized in 1910), endorsed garden-city principles and hosted conferences at which papers on garden suburbs, the Garden City model, and England's experiments with cooperatively-owned housing were prominently featured.¹²⁴

During World War I, the United States was suddenly faced with a housing shortage for workers in cities where defense industries such as shipbuilding and ammunition production were located. In 1918, two Federal agencies were created to alleviate the shortage: the U.S. Shipping Board Emergency Fleet Corporation (EFC) and the U.S. Housing Corporation (USHC). Led by John Nolen, Frederick Law Olmsted, Jr., and Robert D. Kohn, the planners, architects and landscape architects in these programs worked collaboratively, employed Garden City ideas, and prepared comprehensive plans for their projects. Twenty-eight housing projects were erected through the EFC, while the USHC built twenty-seven new communities. Many incorporated elements of Garden City design, including formal commercial centers, curvilinear residential lanes arranged around the

¹²²Parsons and Schuyler, eds., pp. 8 & 43-44; Newton, pp. 460-61; Ames and McClelland, p. 42.

¹²³Newton, pp. 364-70 & 466-68; Ames and McClelland, p. 43.

¹²⁴Newton, pp. 474-76; Ames and McClelland, p. 42; Cady, pp. 34-36.

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public school, and interior-block parks. The architecture, although low-cost, was attractive. Yorkship (Camden, New Jersey), Seaside Village (Bridgeport, Connecticut), Atlantic Heights (Portsmouth, New Hampshire), Hilton Village (Newport News, Virginia), and Union Gardens (Wilmington, Delaware) were among the most admired, inspiring higher standards in residential construction and subdivision site planning, at least in suburbs for the well-to-do, in the years following World War I. The two World War I agencies also provided a new generation of design professionals the opportunity to experiment with garden-city principles and other state-of-the-art ideas. Several of these architects, planners and landscape architects would go on to form organizations that would transform planning in the United States.¹²⁵

The most widely admired Garden City-influenced suburb of the era was John Nolen's Mariemont (NHL), outside of Cincinnati, Ohio. Philanthropist Mary (Mrs. Thomas J.) Emery intended to create a wholesome and self-sustaining community for working-class families at Mariemont. Nolen's final (1921) plan connected an octagonal-shaped town center with residential blocks featuring a few cul-de-sac roads and interior parks as well as a variety of housing types. The plan maintained existing topographic features in the Naturalistic tradition, creating a park along the banks of an existing stream. It also displayed a hierarchical street system, with a wide, central boulevard, wide cross streets, and narrow, residential lanes. Mariemont was designed as an "exemplar" of American small house design and initially well-known architects from several major American cities were invited to develop clusters of single and multi-unit houses within the town plan. Reflecting the leading landscape theories of the day, the planned community blended the influences of the English garden city and American naturalistic tradition into a cohesive whole. Mariemont was designed to serve the residential needs of a range of income groups and offered a wide range of housing types including interconnected row houses, multiple-unit dwellings called "flats," clusters of small houses on short courts and cu-de-sacs, and larger detached dwellings on spacious lots. Mariemont was unable to attract industry until the late 1930s, leaving much of the plan to be built out after World War II.¹²⁶

The Rise of Community Builders

Concerns over the expanding urban environment brought about an alliance between city planners and real estate developers, represented by the National Association of Real Estate Boards, and resulted in the emergence of a group of community builders intent on creating planned suburbs of upper middle class homes. Community builders incorporated amenities such as shopping centers, schools, churches, parks and playgrounds, and golf courses, into their planned communities and relied upon professional landscape architects to lay out streets, subdivide the lots, and provide planting plans to create an attractive neighborhood. The designers of these suburbs applied the principles of landscape design that had evolved in the United States since Frederick Law Olmsted's pioneering work, characterized the mainstream practice, and were being taught at Harvard and Cornell, the nation's leading institutions, as well as the nation's land grant colleges. The character of these neighborhoods was controlled by deed restrictions (later called protective covenants) that excluded nonconforming land uses and requirements that homes be architect-designed, meet setback guidelines, and exceed a minimum threshold on the cost of construction. The stabilization of real estate values was further controlled by the attachment of restrictive covenants that excluded certain groups from ownership on the basis of race, religion, or income. Due to initiative of Lee J. Ninde of Fort Wayne, Indiana, who hired Boston landscape architect Arthur Shurtcliff to design Lafayette Place in Fort Wayne, a number of these developers attended the General Committee meeting of the National Conference on City Planning in 1915 and became involved in the political, economic, and zoning issues of the times. The most influential of the community builders of the early twentieth century included Edward H. Bouton, who relied upon the design talents of George Kessler and the Olmsted Brothers in developing

¹²⁵ Robinson and Associates, Inc., and Shrimpton, p. 8; Ames and McClelland, p. 44; Cady, p. 45

¹²⁶ Ames and McClelland, p. 45. See also Millard Rogers, "Village of Mariemont NHL Nomination," 29 March 2007.

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Roland Park in Baltimore, Maryland; King Thompson, the developer of Upper Arlington, outside Columbus, Ohio; Paul A. Harsch, the developer of Ottawa Hills in Toledo, Ohio; Duncan McDuffie of St. Francis Wood, San Francisco; J. C. Nichols, known for the extensive County Club District laid out as a series of interconnected subdivisions by the landscape architectural firm Hare (Sidney J.) and Hare (S. Herbert) and covered large portions of Kansas City, Kansas, and Kansas City, Missouri. These developers understood the added economic benefits and the long-term stabilization possible when high standards of design were applied to homes, subdivision design, and community amenities, such as schools, parks, community buildings, and nearby shopping centers.¹²⁷

According to planning historian Jon A. Peterson who has traced the emergence of city planning as a profession in the United States:

“The formula underlying this new market for suburban environments relied on three major ideas. First, consistent reliance was placed on professional landscape design, to impart a suave, parklike integrity to the entire tract...Second, all sites were marketed as finished packages, complete with presale installation of streets, utilities, and community features, all built in fulfillment of the era’s heightened engineering and civic standards...Finally and most definitively, each lot buyer submitted to uniform, tractwide deed restrictions.”¹²⁸

The offices of John Nolen and Frederick Law Olmsted Jr. were particularly in demand for a broad range of services extending from quality subdivision design to the technical aspects of town planning and subdivision regulation. A younger generation of designers, including Earle Sumner Draper and Justin Hartzog, gained experience working for Nolen on projects such as Kingsport, Tennessee; Mariemont, Ohio; and Myers Park in Charlotte, North Carolina, which is admired by Peterson for the “parklike integrity of the entire tract.” Likewise the Olmsted firm built its reputation on higher income projects such as Druid Hills, Atlanta, Georgia; Roland Park in Baltimore; St. Francis Wood in San Francisco; and Palos Verdes overlooking the California coast north of Los Angeles.¹²⁹

Laid out in stages beginning in 1891, Edward Bouton’s Roland Park in Baltimore immediately gained recognition as an ideal community and became a “mecca” for real estate developers. The first section was laid out by George Kessler, and the later sections by the Olmsted Brothers, who also worked with Bouton on Forest Hills. In both design and through the introduction of deed restrictions, the community influenced the design of upper income suburbs elsewhere in the United States and perfected design conventions such as curvilinear roadways and cul-de-sacs that were central to accepted subdivision practices of the landscape architecture profession. Practitioners and community builders alike admired the designers’ “close observance of topography” and praised the treatment of several ridges and valleys which were “penetrated by a series of culs-de-sac each following in succession ...and creating interesting and varied home sites.”¹³⁰

¹²⁷ Jon A. Peterson, *The Birth of City Planning in the United States, 1840-1917* (Baltimore: The Johns Hopkins University Press, 2003), pp. 277, 280-282. See also Marc Weiss, *The Rise of the Community Builders: The American Real Estate Industry and Urban Land Use Planning* (New York: Columbia University Press, 1987).

¹²⁸ Peterson, p. 278.

¹²⁹ *Ibid.*

¹³⁰ Peterson, p. 278. The quote comes from Garnett Laidlaw Eskew, *Of Land and Men: The Birth and Growth of an Idea* (Washington, D.C.: Urban Land Institute, 1959), p. 100.

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Influence of the Regional Planning Association of America

Foremost in the efforts to establish a garden city in the United States and to promulgate the planning ideas of Ebenezer Howard was the Regional Planning Association of America. Several of its members would play crucial roles in the greenbelt town program. In 1923, Charles Harris Whitaker, editor of the *Journal of the American Institute of Architects*, invited several progressive designers and social scientists to his office in New York City to exchange ideas. From this meeting, the Regional Planning Association of America (RPAA), an interdisciplinary "think tank," was born. Founding members included: architects and planners Clarence S. Stein, Frederick L. Ackerman, John Bright, Robert D. Kohn, Henry Wright and Frederick Bigger; realtor Alexander M. Bing; economist Stuart Chase; forester Benton McKaye; social critic Lewis Mumford; and Whitaker. Housing experts Edith Elmer Wood and Catherine Bauer, as well as landscape architects Tracy B. Augur and Russell Van Nest Black, soon joined the group.

Education was the primary goal of the RPAA. Meeting two or three times a week for informal discussions, members strove to educate themselves about topics as diverse as Thorstein Veblen's economics, John Dewey's child-centered education, Scottish planner Patrick Geddes's "geotechnics," regional resource conservation, and social welfare theories. Experts on the given subject were often invited to participate. RPAA members became outspoken proponents of government-built affordable housing (inspired by the American experience during World War I and public housing projects then underway in Europe), regional comprehensive planning incorporating industrial decentralization (possible because electrical power could be extended anywhere, and automobiles could transport people wherever electricity could reach), and both the social reform and design facets of Howard's ideal. The RPAA endeavored to educate others by serving on many planning and housing committees, and publishing numerous articles in professional magazines including *Architectural Record*, *Architectural Forum*, and the *Journal of the American Institute of Architects*, as well as popular publications such as the *Nation* and *New Republic*. Subgroups of the RPAA also collaborated on a variety of projects. Following a visit to Howard and Unwin in 1924, Bing, Stein, and Wright formed the City Housing Corporation (CHC), a limited dividend company established to build a complete garden city. The CHC would produce two highly-influential developments: Sunnyside Gardens and Radburn.¹³¹

In 1924, the CHC purchased a site in Queens, near New York City, and began developing Sunnyside Gardens (NR) as a residential suburb for moderate-income families. Wright and Stein were obliged to conform to the grid-iron street pattern surrounding the site, but were able to design each of the project's ten blocks as a unit (rather than subdividing them into small lots) due to the property's industrial zoning classification. Row housing and cooperative apartments lined the outer edges of each block, enclosing a common green space for gardening and recreation. Wright and Stein included a community center, cooperative apartments and common green space in their plan for Sunnyside Gardens, in part, to promote positive social interactions between residents and encourage the development of communal feeling. Sunnyside Gardens was completed in 1928. The CHC viewed Sunnyside as an experiment, and a step toward their goal of a fully-realized garden city.¹³²

The CHC found a suitable tract for its next project, Radburn (NHL), in 1928. Located in the Borough of Fairlawn, New Jersey, about sixteen miles from New York City, the site lay near a highway and along a branch of the Erie Railroad. The parcel itself encompassed nearly two square miles of farmland and had only one

¹³¹ Cady, pp. 134-35 & 142; Dirk Schubert, "The Neighbourhood [sic] Paradigm: From Garden Cities to Gated Communities," in *Urban Planning in a Changing World: The Twentieth Century Experience*, Robert Freestone, ed. (New York: E & FN Spon, 2000), pp. 121-23. See also, Roy Lubove, *Community Planning in the 1920s: The Contribution of the Regional Planning Association of America* (Pittsburgh: University of Pittsburgh Press, 1963), pp. 58-66.

¹³² Schubert, p. 122; Ames and McClelland, p. 44; Newton, pp. 489-90.

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major road running through it. Wright and Stein initially envisioned Radburn as a garden city for moderate-income families with a total population of 25,000. It was to be divided into three neighborhoods, in keeping with the "neighborhood unit" concept articulated by Clarence Perry in the *Regional Survey of New York and Its Environs* (in process for several years prior to its publication in 1929). Perry contended that the size of a neighborhood unit should be tied to the number of households needed to support an elementary school, somewhere between 4000 and 7000 people. He recommended that all housing in a neighborhood be located within one-half mile of the school and that at least ten percent of the land be set aside for parks and recreation. Perry also argued that traffic should be directed around, rather than through, the neighborhood. Finally, he maintained that the commercial area should be placed at the periphery, yet be within easy walking distance of all residents' homes.¹³³

Stein and Wright quickly realized that they did not have enough land to provide a greenbelt around Radburn, and that the location was unlikely to attract industry, but they decided to proceed, planning Radburn as a garden suburb and satellite of New York City. The concept of a greenbelt was supplanted by a central green that formed the interior of each superblock. Wright's and Stein's design for Radburn was an Americanized variant of Howard's model, reflecting garden-city principles while incorporating Perry's neighborhood unit formula and innovations that recognized that the automobile, with its attendant dangers to pedestrians, had become an essential part of life in the United States.

Three major design elements distinguished the Radburn plan, earned it the nickname, "the town for the motor age," and made it a landmark example of American city planning. The first element was the superblock, more than ten times the size of a typical American city block, with a four to six-acre interior park, bordered by narrow, cul-de-sacs along which housing was clustered. The measures taken to accommodate the automobile while protecting pedestrians comprise the second distinguishing element of the Radburn plan. These measures include separate circulation systems for vehicular and pedestrian traffic, and off-street parking. The vehicular circulation system employed a hierarchy of roads from narrow, residential cul-de-sacs; wider, collector streets that carried cars around the perimeter of each superblock, unifying groups of superblocks into neighborhoods; and broad, through streets intended to connect Radburn's neighborhoods with each other and with major arterials leading to other communities. The pedestrian circulation system consisted of footpaths, within each superblock, which led from housing to the park, as well as to underpasses that allowed pedestrians to reach schools, recreational areas and the shopping center without crossing a single street. Off-street parking consisted of garages and car-length driveways in the residential areas, and a strip of diagonal parking spaces across the front of Radburn's shopping center. The latter represented an early use of off-street customer parking, which was first seen in J.C. Nichols' Country Club District, a Kansas City, Missouri suburb developed between 1919 and 1931.¹³⁴ The third distinguishing element of the Radburn plan was the reverse-front floor plan of the housing, with the kitchen and utility room facing the cul-de-sac (the "service" side), and the family spaces such as the living room and bedrooms overlooking the park (the "garden" side). The Radburn plan focused on families and children, its physical design promoting their health and safety, and facilitating social interactions

¹³³ Newton, pp. 490-93; Daniel Schaffer, *Garden Cities for America: The Radburn Experience* (Philadelphia: Temple University Press, 1982), p. 157; Clarence A. Perry, "The Neighborhood Unit," *Neighborhood and Community Planning*, vol. 7, *Regions/Survey of New York and Its Environs* (New York: Regional Plan of New York, 1929), pp. 20-89. Although no formal relationship existed between the RPAA and the Sage Foundation which sponsored the *New York Regional Survey* and *New York Regional Plan*, both Perry and Thomas Adams, the plan's general director, participated in meetings where Radburn was being planned. They both recognized Radburn's importance as a model for residential planning in the age of automobiles and as an antidote to the typical pattern of unplanned, speculative home building.

¹³⁴ Richard Longstreth, *The Drive-in, the Supermarket, and the Transformation of Commercial Space in Los Angeles, 1914-1941*, (Cambridge, Massachusetts: M.I.T. Press, 1999), p. 136.

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within and between families.¹³⁵

Unfortunately, only a portion of Radburn's first neighborhood unit had been completed when the stock market crashed in October 1929. The CHC hoped to resume construction, but was forced to declare bankruptcy in 1933, and Radburn was never finished.¹³⁶ Lewis Mumford dubbed the plan's distinguishing design elements the "Radburn Idea." The Radburn Idea was integral in the planning of the greenbelt towns, and continues to resonate with planners, architects and landscape architects today.

Emerging Federal Policies and the Neighborhood Unit Plan

The design of each of the RA's greenbelt towns embodied land-use planning principles, social concerns, construction methods, and architectural concepts that coalesced in the 1930s and were at the forefront of Federal policy during a highly pivotal period in the history of American housing. This was the period when the basic tenets of Federal involvement were being defined and far-reaching measures for improving the nation's housing conditions and stimulating the home-building industry were being formulated. In the long-term, the events of the Great Depression, including the measures implemented by a variety of New Deal programs, would help shape the massive suburbanization of American cities in the second half of the twentieth century.

The earliest and one of the decade's most far-reaching, federally sponsored measures was the President's Conference on Home Building and Home Ownership, convened in December 1931 by President Herbert Hoover. To Hoover, who had championed the Better Homes movement in the 1920s while Secretary of Commerce, the American home was the "foundation of our national life" and a subject meriting Federal attention. In the foreword to the conference's multi-volume proceedings, he stated: "The next great lift in elevating the living conditions of the American family must come from a concerted and nationwide movement to provide new and better homes." Hoover looked to the private building industry to lead this movement and encouraged business groups to support wisely planned large-scale housing efforts. He acknowledged that architects, engineers, inventors and manufacturers had all made possible the building of houses that were beautiful, convenient, and healthy, but recognized that new methods of extending credit were needed.¹³⁷

The conference brought together several thousand participants representing private industry, public agencies, and professional organizations. Many were the nation's leading experts in home financing, neighborhood planning, zoning, home design and construction, domestic science, and methods of prefabrication. Prominent planners who were involved in the discussion and research of the various committees, included Henry Wright, Harland Bartholomew of St. Louis, Jacob Crane of Chicago who was then president of the American Institute of City Planning, and Thomas Adams who headed the New York Regional Survey, and Harlean James who headed the American Civic Association. Numerous architects were involved, including a number who had been involved in small house movement, such as William Stanley Parker of Boston's Small House Service Bureau, or had worked collaboratively on garden-city projects, including Radburn's architect Frederick L. Ackerman, and Charles Cellarius of Cincinnati, Edmund B. Gilchrist of Philadelphia, and Eleanor Manning of Boston who had all designed housing groups for Mariemont. The conference focused on all aspects of housing reform, including advances in professional theories for home construction and community planning, and the development of national standards for subdivision design, large-scale development housing, and community

¹³⁵ Schaffer, pp. 152 & 160; Newton, pp. 490-93; Schubert, pp. 122-24; Ames and McClelland, p. 47. See also Paula S. Reed and Edith B. Wallace, "Radburn NHL Nomination," 5 April 2005.

¹³⁶ Shaffer, p. 12.

¹³⁷ Herbert Hoover, Foreword, in *Planning for Residential Districts*, ed. John M. Gries and James Ford, vol. 1 (Washington, D.C.: President's Conference on Home Building and Home Ownership, 1932), pp. xi-xii.

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enhancement. The greenbelt towns would become the proving grounds for many of its recommendations.

One of the major outcomes of the conference was the overwhelming endorsement of Clarence A. Perry's Neighborhood Unit Plan by several committees, particularly those concerned with planning and zoning issues and subdivision layout. Perry underscored the importance of community planning and called for decentralization of residential development into neighborhood units having four essential neighborhood functions: an elementary school, parks and playgrounds, local shops, and residential environment. He recognized a number of successful models of planned communities, including Forest Hills, the Russell Sage Foundation-supported community where he lived; Kohler, Wisconsin, a company town the initial planning of which involved Peets and Hegemann; Roland Park in Baltimore, a streetcar suburb developed by Edward Bouton; the expansive Country Club District in Kansas City developed by community builder J.C. Nichols; Mariemont, Ohio, the planned garden community designed by John Nolen; and Palos Verdes, California, a residential community of upper-income homes planned by the Olmsted firm. In his 1929 monograph, Perry drew special attention to the new town of Radburn, New Jersey, which was to become a "town for the motor age" and whose planners had seized upon the concept of planning in neighborhood units as a way to safely accommodate the automobile and create a pedestrian-scale community for mixed-income residents.¹³⁸

Perry's Neighborhood Unit Plan (NUP) would become the common denominator that linked the design of the four greenbelt towns to the Radburn plan, the seminal town for the motor age. Furthermore, in giving material form to Perry's theoretical model, the greenbelt towns would exert their greatest influence on American community planning. The design team for each greenbelt town would interpret Perry's concept and, to varying degrees, draw from the Radburn Plan. Outlined in great detail in the seventh volume of the *Regional Survey of New York and Its Environs* (1929), Perry's plan called for communities large enough to support an elementary school, preferably about 160 acres with ten percent reserved for recreation and park space. Interior streets were to be no wider than required for their use with cul-de-sacs and side streets being relatively narrow. Community facilities were to be centrally located. Instead of placing the shopping district at the edge of the village, however, the planners of Greenhills gave the commercial center central prominence more in keeping with the model of the American small town.

As far as the President's conference was concerned, the development of Radburn in the several years preceding the conference was particularly timely, offering solutions to many of problems facing planners, developers, and builders, at a time of great economic uncertainty. The community was still under construction in December 1931, although sales and plans for future expansion had slowed due to the economic depression. Radburn provided a tangible demonstration of Perry's neighborhood formula and was praised as a dynamic and highly successful model of a self-contained garden community offering a wide variety of moderately priced homes. Its innovative plan, called the Radburn Idea, involved laying out the community in superblocs, turning the external agricultural belt into an internal green, on which homes fronted, and creating a hierarchy of roads and paths accommodating automobiles and pedestrians on separate circulation systems. Although the plan received international acclaim as an ideal model of garden-city planning and attracted the attention of the officials overseeing the design of the government-sponsored greenbelt towns during the New Deal, it was not readily embraced by the entrepreneurial and professional interests that made up the nation's real estate community. Instead, it was Radburn's practical demonstration of the economies of building a suburban community as a large-scale enterprise, with attractive small dwellings, parks and yards of native trees and shrubs, and community facilities that would capture the imagination of the conference attendees and influence the FHA's earliest standards. The greenbelt towns offered a venue for incorporating and advancing the Radburn Idea at the same time demonstrating a wider range of design options, including those being formulated for the privately-

¹³⁸ Scott, p. 284; Perry, "The Neighborhood Unit," pp. 31-32.

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funded and -financed FHA-approved subdivisions.¹³⁹

The conference involved a wide range of professional interests through the assignment of committees to study the nation's most pressing housing issues. Numerous recommendations were made for long-term reform and the committee reports were published in a series of volumes addressing concerns such as planning for residential districts and house design and construction. The Committee on City Planning and Zoning, chaired by Frederic A. Delano, a Chicago industrialist and the former chairman of the Regional Plan of New York, endorsed Perry's neighborhood unit as self-contained community within boundaries formed by major streets to maintain desirable housing standards and real estate values. It pointed out the importance of the community having as its focal point a group of community facilities centering about the elementary school and that multiple-family dwellings, shopping centers, and commercial establishments be located on or immediately adjacent to boundary thoroughfares. The committee endorsed deed restrictions as the primary means for controlling the physical character of a neighborhood, excluding nonresidential activities, and maintaining real estate values. By 1930 this tool had been widely used by community builders, who were well organized in the National Association of Real Estate Boards, to ensure the long-term preservation of neighborhood values in the communities.¹⁴⁰

With an emphasis on planned communities, the Committee on Subdivision Layout, chaired by St. Louis planner Harland Bartholomew, defined the ideal neighborhood as one protected by proper zoning regulations, where trees and the natural beauty of the landscape were preserved, and where streets were gently curving and adjusted to the contour of the ground. Jacob Crane, Henry V. Hubbard, Henry Wright, and John Nolen were members of this committee. Radburn was offered as an innovative example and the joint report of the committees on city planning, subdivision design and landscape planning and planting was prefaced with a caption of an unidentified picture of Radburn announcing: "Recent developments in subdivision practices are producing desirable homes with ample open spaces at reasonable low cost."¹⁴¹

Spaciousness was viewed as an essential quality of subdivision design and a leading factor in support of the decentralization of residential communities beyond the central core of the nation's cities. The committee concerned with subdivisions stated:

Spaciousness is a controlling principle in good land development for American homes. City conditions have robbed most of us of the great satisfactions once derived from the big yards and public commons of even the primitive early village, and now every good citizen is trying to help us regain some of that lost spaciousness. It can be regained in large measure, without undue cost, if subdivisions are planned carefully to that end. Large lots, or lots large as is economically feasible, are always desirable. The introduction of open spaces is equally important, and they may range from the smallest garden or play areas to huge parks. Any tract of land will, by careful design, yield far more spaciousness in effect and

¹³⁹ Linda Flint McClelland, Paula S. Reed, and Edith B. Wallace, "Revisiting Radburn: 'Where Art and Nature Combine to Make Good Living Conditions,'" *New Jersey History* 123, nos. 1-2 (spring/summer 2005): 89-90.

¹⁴⁰ Report of the Committee on City Planning and Zoning, in *Planning for Residential Districts*, Gries and Ford, eds., pp. 6-11, & 42-44. Delano, a railroad executive from Chicago, had been supportive of Daniel Burnham's Chicago Plan of 1906 and in 1931 chaired the National Capital Park and Planning Commission; he was an advocate for broad regional planning and would be called upon in the New Deal era by his nephew, President Roosevelt, to chair the National Resources Planning; in this capacity he would set up the Central Housing Committee. Thomas Adams, Harlean James, Harland Bartholomew, Charles W. Eliot 2nd, and James Ford were members of this committee.

¹⁴¹ Report of the Committee for Subdivision Layout, in *Planning for Residential Districts*, Gries and Ford, eds., pp. 52-54, 59, & 76. The photograph and quotation appeared opposite the volume's title page.

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in use than thoughtless layout makes possible.¹⁴²

The best practice in designing a subdivision, according to this committee, was coordinating the following in one cohesive plan: the streets, parks, school sites and playgrounds, business districts, public buildings, service garages, as well as a variety of types and sizes of lots. "Each prospective building site should be adjusted to the topography and should be oriented to the sunlight, and should preserve and enhance the elements of natural attractiveness." The committee recommended a hierarchy of streets, consisting of major roads, such as those in the business district, that were wide and secondary roads that were comparatively narrow. Water and sewer mains were to be placed under the road way. Above all, neighborhood planning offered many advantages—for the residents it provided amenities for a satisfying home environment and community life, and for the subdividers it offered opportunities to capitalize on the economies of design and establish a "permanent monument to the subdividers' work."¹⁴³

The profession of landscape architecture was well-represented at the conference, both by planners who had been trained in this discipline and by practitioners with specialized interests in horticulture and gardens. The recommendations of the Committee on Landscape Planning and Planting, chaired by Josephine S. Morgan, acknowledged the involvement of these designers in building the nation's most desirable suburbs and designing civic improvements, such as parks and parkways, which provided pleasure, order, and recreation for those living in or near the nation's burgeoning metropolises. The committee included illustrious members of the landscape architecture profession, many concerned with the planting of suburban home grounds and neighborhoods, including Arthur A. Shurcliff, Myrl E. Bottomley, Rose Greeley, Jens Jensen, Albert D. Taylor, Bremer Whidden Pond, J. Horace McFarland, Warren H. Manning, Earle Summer Draper, and representatives of the American Civic Association, Garden Club of America, Woman's National Farm and Garden Association, National Council of State Garden Club Federations, and government horticulturalists and extension agents. The committee pointed out the value of attractive yard design and landscape plantings for increasing a homeowner's pleasure as well as property values. The text celebrated the beauty of trees and advocated for preserving existing trees, and recommended that new plantings along streets and highways be compatible with existing vegetation and be "made of the same materials, native to the soil and climate, and still better, native to the locality, so that it expresses the locality."¹⁴⁴

The Committee on Design, chaired by William Stanley Parker, president of the Boston Architects' Small House Bureau, examined housing conditions nationwide and called for improvements in small house design, the greater involvement of architects in sound house design, and the arrangement of houses in well-planned groups that benefited from fresh air, sunlight, and outdoor space and avoided the monotonous repetition of houses placed uniformly on crowded narrow lots. Members of the committee were for the most part architects who represented diverse sections of the nation. A number had considerable experience in the design of small houses and garden-city principles, including Frederick Ackerman, Henry Wright, Edmund Gilchrist, Charles Cellarius, and Philip Small. The committee stressed the importance of neighborhood and endorsed the concept of group housing, suggesting that a variety of dwelling designs be offered to suit differing family needs and that several different stock plans be offered for each type. Such variation had been at the root of the success of the small house movement. The committee called attention to the group housing built at Mariemont, Sunnyside Gardens, Radburn and the World War I communities as guideposts for future design. The committee disparaged home

¹⁴² Ibid, pp. 52 & 53.

¹⁴³ Ibid, pp. 53 & 58.

¹⁴⁴ Report of the Committee on Landscape Planning and Planting, in *Planning/or Residential Districts*, Gries and Ford, eds., p. 194.

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building on long narrow lots, as well as the two-family houses where one unit was placed above the other and the dwelling extended deeply into a city lot. Instead the committee encouraged the construction of multiple-unit rows and methods of lowering construction costs while providing for sound design. The committee's recommendations were highly critical of building practices and crowded neighborhoods which resulted from speculative interests and in time would contribute to urban decay and blight.

As a counterpoint to such practices, the committee's report called attention to the advantages of sound architectural design:

A higher standard of design, consistent with economy, exerts a powerful influence for the better on family life. It opens up new vistas in domestic living, contributes towards increased pleasures and happiness, and furnishes a strong incentive towards home ownership. By providing a permanent, finer, and more convenient environment, better design helps to relieve the pressure of life in our towns and cities, rendered discordant as so many of them are by the complexities of industrial activity. In particular, we must plan our districts of low-priced residences properly to take care of the automobile, with regard to its storage and its movement, as is already being done in a few developments.¹⁴⁵

The Committee on Design was not alone in promoting the merits of group housing. The Committee on Large-Scale Operations, chaired by Alfred K. Stern, director of the Julius Rosenwald Fund, examined the design and economics of multi-story apartment houses such as Michigan Boulevard Garden Apartments in Chicago which the Rosenwald Fund had financed to provide moderate-priced housing for African American families, the grouped row houses at Chatham Village sponsored by the Buhl Foundation, as well as the efficiently arranged small houses designed by Henry Wright and Frederick L. Ackerman at Radburn. This committee was largely concerned with housing reform for the nation's poorest groups, and its meetings became a sounding board for the growing concerns for forestalling and eliminating urban blight—concerns that the housing reformers and the social minded New Dealers would continue to debate and attempt to tackle in the years that followed. To a greater extent than other committees, this committee aggressively examined the issue of reducing construction costs while maintaining a healthy standard of housing and encouraged the construction of housing on a large scale for both owner-occupied dwellings and rental housing, including row housing groups and apartment buildings. In the volume of the conference proceedings entitled *Slums, Large-Scale Operations, and Decentralization*, editors John M. Gries and James Ford wrote that the principles of constructing multi-family dwellings were "just as applicable to the production of single-family houses in groups," and were "matters of moment to all developers." The "heavy responsibility for housing," they claimed rested on the "shoulders of business" being essential for "its own security and continued growth" not just the "common good."¹⁴⁶

With an emphasis on cost-analysis, this committee considered a wide range of successful multiple-unit developments that had accommodations for lower-income, working-class residents, including Mariemont, Radburn, Sunnyside, Chatham Village, and even one of the most highly respected World War I examples—Seaside Village. Appended to the committee report were several useful studies, including "Experience with Large-Scale Operations," which examined the nation's experience with large-scale operations and included

¹⁴⁵ Report of the Committee on Design, in *House Design, Construction and Equipment*, John M. Gries and James Ford, eds., vol. 5 (Washington, DC: President's Conference on Home Building and Home Ownership, 1932), pp. 5, 10 & 11. Henry Wright was the committee's research secretary, and it is no coincidence that the committee's report reflected his own analyses and opinions on the matter—many appeared several years later in Wright's *Rehousing Urban America* (1935).

¹⁴⁶ *Slums, Large-Scale Operations, and Decentralization*, vol. 3, John Gries and James Ford, eds., President's Conference on Home Building and Home Ownership (Washington, D.C.: National Capital Press, 1932), p. xv. Many of these issues would be addressed in Wright's *Rehousing Urban America* (1935).

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Henry Wright's exhaustive cost analyses for Radburn demonstrating the advantages inherent in designing a large-scale community on garden-city principles. These cost reductions were shown to result not from mass production or improved techniques of construction, but instead from the orderly layout of a community with only twenty-one per cent of the land being covered by streets and lanes (a reduction of ten percent over the normal amount of land used for roads). Additional savings stemmed from the completion of one part of the community before building up another. Another appendix provided the cost analysis for Chatham Village in Pittsburgh, a housing development for clerical workers financed by the charitable Buhl Foundation.¹⁴⁷

Other committees made recommendations aimed at raising the quality of the nation's housing and encouraging community enhancements. The Committee on Construction devised a score card, which provided the foundation for the rating process later used by architects, realtors, underwriters, and appraisers in determining whether or not a property qualified for Federal mortgage insurance. The Committee on Utilities pointed out the "attractiveness" of a residential area would be marred unless electric and telephone wires and poles were placed underground. The Committee on Farm and Village Housing drew attention to the desperate need for better rural housing and "village planning for individual comfort and social efficiency."¹⁴⁸

The Federal government's interest and involvement in matters relating to housing increased in the years following the President's conference. The creation of the Federal Home Loan Board under President Hoover in 1932 was the first step towards organizing the banking industry to make long-term home mortgages available. It was under the Roosevelt Administration and the New Deal that a number of programs aimed at closing the housing gap were launched. Foremost was the creation of the Federal Housing Administration, which established national housing and neighborhood standards and provided mortgage insurance on privately funded loans to developers and prospective homeowners, and was one of the most enduring outcomes of the President's Conference on Home Building and Home Ownership.

Economists of the day and members of Roosevelt's Brain Trust understood the value of stimulating the home building industry and encouraging private investment in modernizing existing homes, as well as new construction. Measures were introduced to solve the short-term economic crisis by funding civic improvements and engaging various sectors of the unemployed public in meaningful constructive work. Alongside these efforts the Federal government initiated major solutions to the long-term problems of home financing, eliminating urban blight, and creating communities that mirrored the best practices and ideals that had been examined in the 1931 conference. To some degree each of these projects incorporated neighborhood unit planning and was concerned with providing a healthy, sun-filled, environment and establishing community amenities that would bring people together and provide for recreation. Several pieces of legislation affected lasting solutions and became cornerstones of American twentieth-century public policy. Other programs, including suburban resettlement, became controversial and sparked concerns over the legality and constitutionality of their activities.

Despite the favorable terms offered by the new FHA-insured mortgages, few developers were able to invest in large-scale development. Implementing these ideas and demonstrating that the creation of ideal decentralized communities for lower-income Americans was possible became the goal of the Suburban Resettlement program. The design and construction of greenbelt towns occurred at the same time that the FHA was

¹⁴⁷ John M. Gries and James Ford, eds., *Slums, Large-Scale Operations, and Decentralization*. The study on large-scale construction appeared in Appendix I, pp. 96-105. The Chatham Village analysis appeared in Appendix VI, pp. 138-42.

¹⁴⁸ *House Design, Construction, and Utilities*, p. 135, plates facing p. 13.; Bruce Melvin, "Report of the Committee on Farm and Village Housing," in *Farm & Village Housing*, John Gries and James Ford, eds., vol. 7. (Washington, D.C.: President's Conference on Home Building and Home Ownership, 1932). The recommendations of this committee led to the Subsistence Homesteads program of the PWA which was absorbed into the RA's Rural Resettlement program.

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perfecting national standards for neighborhood and small house design, and was promoting its own program of privately financed but federally approved large-scale developments of rental apartments. As a result Greenhills and the other greenbelt towns became the nation's first large-scale residential developments to reflect this formative period in the development of national standards for neighborhood planning and lower-cost, small house development.

The Design of Greenhills and the Other Greenbelt Towns

In 1940, Carleton Sharpe, community manager of Greenhills, reaffirmed the RA's purposes for the planning this new town. In addition to putting men to work, those purposes were:

- (1) To provide good houses in healthful and pleasant surroundings at reasonable rents for moderate income families,
- (2) To provide facilities offering better opportunities for those families to lead a wholesome social, educational and civic life, and
- (3) To demonstrate a kind of community which would combine many of the advantages of both city and country life, so protected from nuisance encroachment that time would not produce another run-down neighborhood.¹⁴⁹

In fulfilling these purposes, Greenhills and the other greenbelt towns represent one of the most significant and controlled American experiments in garden-city planning. Incorporating most of Ebenezer Howard's recommendations for physical design as well as social reform, these towns conformed more closely to the garden-city ideal than any other planned communities in the United States. Each town was comprehensively planned and limited in size and population. The general layout of each greenbelt town was in keeping with Howard's diagram, composed of an administrative and commercial core surrounded by residential areas, interspersed with parks, and encircled with a greenbelt. Each town was held in trust by a single land owner (the Federal government) and its properties rented to tenants until the towns were sold in the 1950s. The people governed each town through municipal incorporation and numerous citizen committees. Finally, the residents organized cooperatives to create and maintain the early businesses and institutions. All of these elements combined to create three towns whose existence presented a radical challenge to fundamental patterns of growth, real estate practice and political organization, in a country where growth and development had historically been based on private investment, initiative, and individualism.

Although all three towns reflect Howard's ideal to a great extent, Greenhills was able to preserve more of its greenbelt than Greenbelt and Greendale. Like Greendale, Greenhills had active farming operations mostly in dairy, poultry and small farming until the Federal government sold the land for development in 1954. Cooperative organizations flourished initially in all three greenbelt towns. The Greenhills Consumers Services opened and operated several businesses in the shopping center until 1950 when the Greenhills Homeowners Corporation purchased the town and took over the management. Other cooperative efforts included the Greenhills Credit Union, the Greenhills Health Association, and the Greenhills Cooperative Dairy. Unfortunately the cooperative dairy operations at Greenhills were short-lived, but Greenhills Consumer Services was still in operation as late as 1971, although in much diminished form.¹⁵⁰

¹⁴⁹ Greenhills, Second Anniversary, 1940 (Greenhills: Greenhills News-Bulletin Association, 1940).

¹⁵⁰ Arnold, p. 181. In 1940 Greenhills had sixty-two farms, while Greendale had sixty-five farms and Greenbelt had seven, according to "Greenbelt Communities," (Washington, DC: U.S. Department of Agriculture, Farm Security Administration, 1940), p. 5. Per the Greenhills 8th Anniversary Booklet, in 1946 Greenhills still had 61 farms; these included 36 full-time farms comprising about 4,000 acres, varying in size from 40 to 216 acres, and 25 home units consisting of 1 to 16 acres, tended by families who had other employment to supplement their incomes.

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The Greenhills Plan

The plan of Greenhills reflects several distinct but related currents in the design of new towns. These currents include principles of Clarence Perry's Neighborhood Unit Plan and the English Garden City as interpreted at Radburn, and Norris, Tennessee, the new town built by the Tennessee Valley Authority in 1933. In keeping with Clarence Perry's neighborhood unit concept, the Greenhills plan focused on family safety and convenience, placing all the housing in the original section within one-half mile of both the school and the village center and setting aside one-third of the land in the original section for parks and recreation (a figure that has been maintained as the village has expanded). Justin Hartzog took into account the site conditions and the population characteristics of Greenhills in his interpretation of the three major elements of the Radburn Idea: measures to safely accommodate the car and provide for pedestrian circulation, cul-de-sacs, and the reverse-front house plans. However, the Greenhills layout could easily be construed as a combination of the Radburn Plan and the pattern developed at Norris, which was a much looser arrangement of curving roads, loops and cul-de-sacs because of its mountainous topography. Norris also had a complete greenbelt, which was only partially realized at Radburn.

The topography of Greenhills was a major factor in its location and the layout of the roads. The site was characterized by rolling terrain but interrupted in places by ravines and punctuated by points of land adjoining the valley of the West Fork of the Mill Creek along the southern edge. However, first the planners had to consider how to deal with existing roads. These were Winton Road, a minor north-south highway, which bisected the site, and Springdale Road, which ran from the southwest directly into the center of the selected area, terminating at Winton Road. The neighborhood unit plan recommended that arterial roads be routed around communities rather than through them. The Greenhills planning staff had assumed it had the freedom to redirect roads on the property to suit their purposes as long as their plan didn't impede regional traffic flow. The December 7, 1935 sketch plan retained the existing Winton Road because it was well-paved, it provided a direct route to both Cincinnati to the south and Hamilton to the north, and topography would not allow it to be moved. Springdale Road was also left in the plan but altered to slow traffic entering the neighborhood and redirected to by-pass the town. In addition, the plan included several new freeways, uniting the five neighborhood units and carrying traffic around them.¹⁵¹

The Hamilton County Regional Planning Commission had other ideas for these roads in its *Main Thoroughfare Plan*. Although not heavily traveled at the time, Winton Road was to be widened to four lanes and Springdale Road was planned to be extended through the town site to become a regional arterial highway in a northeast-southwest orientation. Prior to the construction of I-275, a beltway built in 1958-1979, Springdale Road was viewed as the only existing road suited to bypass downtown Cincinnati in a northeasterly direction. If Springdale Road were extended, it would completely disrupt the neighborhood unit concept by bringing heavy traffic into the center of the community. Greenhills's planners initially sought to create a by-pass for Springdale Road up to Sharon (FKA Cameron) Road, an east-west road north of the neighborhood unit. The commission at first strongly opposed this, but ultimately a compromise was worked out connecting Springdale Road with Damon Road, directing traffic northeast toward Winton Road. At the same time, the regional planning commission was given the right-of-way to building a by-pass in the future which was never completed.¹⁵² Eventually, the county deeded this right-of-way back to the village.

Another issue presented by Winton Road was how to locate the town center. In early plans, the shopping center was located on the west side of Winton Road and the school was on the east side south of a ravine that was reserved for a park. Earle Sumner Draper, town planner and landscape designer, and Tracy Augur, both

¹⁵¹ Leach, p. 137.

¹⁵² Ibid, pp. 142-143.

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advisors to the project, advocated for a new road to be built to take traffic around the business and civic buildings, which would remove high volumes of vehicles from passing directly in front. They also urged that the business center and school be grouped together. Wank, who was responsible for these two elements, had wanted this all along but Hartzog had to be persuaded. Eventually he agreed, and the town center was located on the east of Winton Road. On the west side Winton Road a wide buffer of greenspace was provided to separate housing from this busy artery.

The Greenhills plan has a hierarchical system consisting of a circuit road network connecting both sides of Winton Road, collector streets and narrow residential lanes, many of them cul-de-sacs, which extend outward from the collector streets. The street plan draws from the best practices of subdivision design of the day and integrates a combination of influences—including the cul-de-sacs of Radburn and Norris and long curvilinear blocks that had been inspired by the nineteenth-century designs of Frederick Law Olmsted, and had been improved upon by prominent landscape architects Henry Hubbard, Arthur Shurtcliff, Charles Robinson, Herbert Hare, and Sidney Hare in the twentieth century. The more formal setting of the Community Building and symmetry of the shopping center reflect the principles of the City Beautiful movement.

The Greenhills plan provides pedestrian pathways but the town does not have a network completely exclusive of the automobile circulation system as Radburn does. Sidewalks are found along both sides of all roads and lanes while paved pedestrian pathways lead between yards to small parks and playgrounds on the interior of blocks and also into the greenbelt. These pedestrian pathways provide shortcuts through blocks, but do not provide a traffic-free walk to the school, and village center. Underpasses shown on early plans for Greenhills were not built because Draper believed children would not use them at the locations where they were shown, but more so because of cost. Instead stop signs were placed where collector streets intersect with Winton Road, and buildings were set back from the intersections, providing drivers and pedestrians with wide open views.

Solutions for the design of safe neighborhood streets took on critical importance in the 1930s as public agencies promoted neighborhood unit planning and endorsed designs that, while accommodating increasing automobile use, were deemed safe and convenient for pedestrians. Special provisions for the automobile resulted in special areas designated for parking. The village center provided off-street parking in front of and behind the shopping center on the west side of Enfield Street, while garages and car-length driveways provided parking on residential streets. At the same time Hartzog were working out the street layout for Greenhills, Seward Mott, the chief planner of the Federal Housing Administration's small house program had just published the first standards for neighborhoods that would qualify for FHA mortgage insurance—standards that emphasized a hierarchy of streets, roads built to follow the natural topography, and a carefully planned web of long, curvilinear streets and short cul-de-sacs and courts.

The Greenhills plan is significant for how its residential lanes and courts flow off the collector streets and create quiet enclaves of homes interspersed with land reserved for common parks on the inside of blocks, islands at the ends of cul-de-sacs, and the surrounding greenbelt. Greenhills made use of superblocks in the A, B, and D sections on the west side of Winton Road but the topography caused the plan to be characterized also by numerous cul-de-sacs on ridges in the A and F sections, while flat areas along Farrugut had symmetrical terraces of flats. Thus the community displays a highly varied array of streetscapes, parks, and private yards. Housing is arranged along the residential lanes, leaving spacious yards and broad swathes of open space between housing groups or islands created by "U" shaped and "L"-shaped lanes. Parks are located on the interior of residential blocks made accessible through a network of pedestrian paths.

While the landscape design was not illuminated in Hartzog's final reports, the planting plans produced for Greenhills by landscape architect Joseph Whitney reflect a careful program designed to complement the architectural design, curving streets, and pedestrian paths and create a country-like setting. A Farm Security Administration pamphlet declared: "With the help of time and planting we trust that a charming but very

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simple village atmosphere will be attained."¹⁵³ The planting plans specified the construction of trellises, fences, and the planting of vines, shrubs, hedges, and ornamental fruit trees to beautify the houses and camouflage the garages. There was also a decision made in late 1937 to plant larger trees on house lots to soften the severity of the boxy, flat-roofed S-type rowhouses.¹⁵⁴

The placement of housing in Greenhills derived in part from the recommendations of the 1931 President's conference and was spurred by the increasing interest by landscape architects in designing the grounds of small American homes as the Depression worsened and estate commissions disappeared. The portion of the design visible from the street consisted of a small setback from which a projecting one-story vestibule provided entry to the interior of the utility room and kitchen. Single- and two-family houses also had driveways for their integral garages. Like Radburn, Greenhills used reverse-front house plans for all of its housing types, orienting the service rooms toward the street and living rooms toward parks and open space on the rear. To the rear of each house lay a private yard with space for a vegetable garden, a lawn, and fruit trees. Hedges were used only along the sidewalks on the circuit roads to provide a bit of privacy on these busier streets.

Planning techniques such as situating homes on long narrow lanes, reducing the distance that houses were set back from the street (and therefore reducing the cost of installing utilities), and limiting the width of sidewalks to four feet served also to lower the cost of development. Other measures to reduce costs included clustering courts and cul-de-sacs of various lengths at the edge of parkland, and placing pedestrian paths at the end of the courts rather than along the rear of each private yard. In this way Hartzog ingeniously molded the streets to the natural topography of the site.

Peopling Places: Reducing Costs and Architectural Innovation

In addressing the economic situation and shortage of housing in 1935, Lewis Mumford wrote:

America faces today both a quantitative and a qualitative deficiency in housing. Part of this deficiency is due directly to poverty, and can be remedied only by the industry's provision for a higher income for lower-wage groups, or by governmental subsidy that will meet the difference. The remaining deficiencies are due chiefly to the attempt to make out of the essentially cooperative, communal task of housing, a field for individualistic enterprise and private pro fit....Nothing but a concentrated effort, in a direction exactly opposite to that taken before the depression by business enterprise and realty speculation and urban engineering can overcome our vital deficiencies in housing.¹⁵⁵

Mumford's words reflected the ideology of the RPAA and especially its leader Clarence Stein. To a large extent RA Administrator Rexford Tugwell shared this philosophy finding it compatible with his own opinion about the necessity of Federal intervention in matters concerning housing and residential development. In the early years of the New Deal, Stein visited many offices seeking support for a Federal Garden City policy and for support for several of his projects. In June of 1935 Stein was invited to meet with government housing officials at Buck Hill Falls in Pennsylvania where he had the opportunity to garner support for his ideas. In the autumn of that year 1935, Stein was in Washington as a consultant to the Resettlement Administration laying the groundwork for the rapid execution of the greenbelt towns. He developed a series of reports containing cost analyses relative to the construction and improvement costs for various house grouping schemes, community

¹⁵³ Farm Security Administration, "Greenbelt Communities," p. 3.

¹⁵⁴ FSA, Summary Chronological History of Project Development, Greenhills, Ohio, Nov. 1937.

¹⁵⁵ Lewis Mumford, Foreword, *Rehousing Urban America*, by Henry Wright (New York: Columbia University Press, 1935).

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facilities, and shopping center. He also examined the overall costs of operating and maintaining the community over time and addressed budgetary concerns that affected residents, such as rents and amortization charges. According to Stein, "The purpose of the studies was to indicate a broad and practical method of approach to inter-related problems of social, economic and physical planning. It was felt that they were needed because the conception and design of a complete town to be built quickly were new subjects to most of the technicians involved." This effort was directed toward keeping costs within the scope of the allotted funds for each town, as well as fostering a collaborative relationship in which architects and planners could work together and where architectural concerns were better integrated with the planning concerns of the entire community.¹⁵⁶

Stein's report on the capital costs of house construction included comparative data on relative costs that were highly specific and based on actual floor plans, room dimensions, and interior amenities. The basic dwelling was to consist of the kitchen, bathroom, stairs, dining and living space, one or more one- or two-person bedrooms, and space for heating and storage (e.g. closets). Housing units were to be designed with adequate ventilation, light, sanitation, and cleanliness, and offer space for personal privacy as well as family activities. The cost appraisals took into consideration all aspects of house and yard design, including materials, labor, equipment for the house (e.g. furnace, lighting fixtures, and kitchen appliances), utilities, roads, walks, and gardens to serve the house when arranged in typical groupings. Underscoring the social and practical purposes of the model communities as demonstrations of moderate cost housing, Stein's instructions emphasized the necessity of containing capital costs to "take care of as many as families and persons as possible within the appropriation" and "set standards of planning and building that will be sufficiently economical to serve as a guide to others building in the near future."¹⁵⁷

Realizing the economies inherent in grouping houses was central to the success of the greenbelt town program. Stein examined the relative improvement costs of various schemes of house grouping in a second report to John Lansill. At Radburn, savings resulted from the grouping of houses, staging the construction in phases, reducing the amount of street pavement, and utilizing economies in the installation of utilities. These measures would be set forth and expanded upon in the design and construction of the greenbelt towns. Stein wrote Lansill: "The purpose of these studies is to measure the comparative efficiency of various methods of grouping houses as affecting street, yard, and park improvement costs.... We have compared houses facing on main roads and on lanes with and without vehicular roads; similar lanes of different widths; houses in groups of different lengths with and without garages attached, as well as free-standing houses; houses with [the] long and with [the] narrow side towards the road."¹⁵⁸ These improvements constituted the basic infrastructure of street paving, sidewalk construction, curbing, underground utilities and light standards, water mains and fire hydrants, and landscape planting.

Based on his experience at Sunnyside, Radburn, and Chatham Village, Stein offered some general observations about relative costs that help explain the design standards on which each of the greenbelt towns was to be planned. As well as being least desirable for living, the cost per house of improvements was greatest when houses were built facing a main road. The improvement cost for houses built on lanes was thirty-eight percent less than on main roads and decreased even more as the length of the lane increased. Typically, superblocks 1000 feet in width offered savings over blocks half that width, and generally the greatest savings came from the arrangement of row houses on lanes that had grouped garages at the entrance and did not allow vehicles on the lane. Stein recognized, however, that the planners might "prefer to sacrifice these advantages for the convenience of direct access to each house by automobile and greater ease in the delivery of bulky goods and

¹⁵⁶ Clarence Stein, "Appraisal of Plans," 23 November 1935, as reproduced in Appendix, *Toward New Towns*, p. 228.

¹⁵⁷ *Ibid.*, p. 232.

¹⁵⁸ *Ibid.*

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fuel, and easier fire protection."¹⁵⁹

The Greenhills planners used Stein's analysis and design standards as a guide for sizing rooms within dwelling units and arranging housing on long lanes and superblocks. The Greenhills plan provided integral garages for single- and two family dwellings and a combination of small groups of garages positioned on the street to eliminate the need for driveways and large blocks of garages accessed by non-vehicular lanes. In the complexes of flats on Farragut Lane, the Greenhills planners employed the use of service courts with parking and pedestrian walkways on one side and garden courts on the other, a concept employed by Stein in Radburn; however, the geometric layouts in Greenhills were a free interpretation dictated by site topography and curvilinear roadways rather than directly imitative. And rather than follow the strictly rectilinear and symmetrical layouts Stein outlined in his analysis, Greenhills displays a diverse variety of housing groups on courts, lanes, and streets of different types and lengths, indicating the flexibility the greenbelt town planners had in modifying and combining the schemes and even introducing new schemes if they promised cost-savings.

Stein's involvement in the preliminary planning for the greenbelt towns was not the only direct connection between the work of the RPAA and the RA. Stein's studies were made at the end of 1935 and presented to the teams when the actual design work got underway shortly afterwards. By December 1935, ground had been broken for Greenhills and by January 1936 progress was well under way on the actual plans, drawings and models that would guide the early stages of decision-making and lead to the actual construction plans and specifications. Within each team the designers worked collaboratively with the advice of consultants such as Stein and Wright had worked in the design of Radburn and in consulting on the design of Chatham Village.¹⁵⁴ While Stein's work was completed and he was away traveling in Europe, Henry Wright and two other members of the RPAA, Albert Mayer and Henry Churchill, served respectively as chief planner and principal architects for the Greenbrook, New Jersey, project.

The economies of design and construction inherent in large-scale development had been demonstrated by Clarence Stein and Henry Wright in the City Housing Corporation projects at Sunnyside Gardens and Radburn and the University of Pittsburgh study for the Buhl Foundation Project at Chatham Village, in Pittsburgh. Costs could be minimized through advance planning and cost-analysis and utilizing the economies of acquiring land and procuring materials on a large scale. Wright, whose early work for the WW I housing agencies entailed cost analyses, had just completed his monumental treatise, *Rehousing Urban America* (1935), in which he presented a scientific approach to cost-efficient housing based on his career-long experience, his admiration for the garden city designs of his contemporaries, as well as his recent analysis of European housing developments. Wright's treatise called for an entirely new approach to residential design—one that was deemed comprehensive, "scientific" in its technical details, and ready for implementation.

After their collaboration on Radburn and Chatham Village, the partnership dissolved and Wright began teaching at Columbia University and, with Catherine Bauer, formed the Housing Study Guild, which in the early 1930s engaged him in a study of European developments in high-density, low-income housing. To him the most interesting possibilities were offered by the work of Ernst May at the Praunheim and Romerstadt projects in Frankfurt, the Neubuhl Houses in Zurich, and the *siedlungs* of Berlin. In *Rehousing Urban America*, he brought together his comprehensive understanding of the evolution of the multiple-unit dwelling in the American garden-city planning with the prospects suggested by the wave of modernism and innovation abroad.

Large-scale projects could be carried out with concentrated effort expended over a relatively brief period of time. A large project could be broken into phased stages so that future construction costs could be offset with income from the sale or rent of completed units. Under ideal circumstances, builders and developers (called

¹⁵⁹ Stein, in Memorandum to John Lansill, "studies of the relative improvement costs of various 228 schemes of house groups, 19 November 1935, reproduced in Stein, Appendix, *Toward New Towns*, 232-234.

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"operative builders") could rapidly retire construction loans and move on to new projects. This was the type of development the FHA wanted to encourage through its long-term amortized loans. But in the first few years of its operation, the FHA had few, if any, truly large-scale proposals for neighborhoods of small houses. Instead the FHA turned its attention to working with developers in the creation of large-scale rental housing projects that were privately financed (many by insurance companies) but federally insured. Eventually with more favorable terms for FHA insured loans (under the Act of 1938), an improving economic situation, and the increasing demand for housing in critical defense areas (under the Lanham Act of 1941), the prospects for private investment in home building on a large scale greatly improved. After the war, with a new G.I. housing bill, private investment in housing and activity in the home-building industry finally gained momentum paving the way for the emergence of large-scale developers, such as Joseph Eichler and William Levitt, who in the 1950s became known as merchant builders.

In the 1930s, the greenbelt towns offered planners, architects, and landscape architects the opportunity to expand on the lessons learned at Forest Hills, Sunnyside Gardens, Mariemont, Radburn, and Chatham Village and give material form to the ideas raised at the 1931 President's conference and the theories of master designers such as Stein and Wright. The designers of the new towns set out to experiment with and demonstrate what would become one of the most important institutions of American life, the comfortable, convenient, and well-equipped suburban home. At Greenhills efforts were directed to two basic housing types—the multiple-unit row dwelling and the detached or semi-detached single-family home.

The Multiple Unit Row Dwelling

The economics of house design and planning had equated large-scale operations with the development of group housing. During the 1920s there was a growing dissatisfaction with the design of ordinary apartment houses due to the sharing of entrances, stairways, and corridors and concerns for maintaining common spaces. Designers such as Henry Wright and Clarence Stein sought low-cost alternatives that could offer residents the privacy of a single home while gaining the economic benefits of multiple-unit construction. Many of the World War I defense housing communities had explored variations in two-unit dwellings, called duplexes, and multiple unit rows. But it was the innovations in multiple-unit dwellings introduced in the American Garden City communities—Sunnyside Gardens, Mariemont, Radburn, and Chatham Village—that sparked interest in perfecting "twin" and group rows. The earliest section of Mariemont incorporated row house designs by noted architects Edmund B. Gilchrist of Philadelphia, and Richard B. Dana of New York City and clusters of detached and semi-detached houses by a variety of accomplished architects, including Grosvenor Atterbury of New York (who had designed the houses at Forest Hills, New York), Charles F. Cellarius of Cincinnati, Lois L. Howe and Eleanor Manning of Boston, and Carl Zeigler of Pittsburgh.

In the *Design of Residential Areas* (1934), planner Thomas Adams who had written the Regional Plan for New York and participated in the 1931 President's conference, encouraged further investigation into the development of the row house based on an appraisal of three related factors: "the prevailing demand; the relative costs per room; and the necessity that each home have equally good conditions in regard to light, air, and yards for play." He saw the group or row house as a compromise between the detached house and the apartment house, and he acknowledged that there was "much prejudice against group or row houses." Despite the preference for the single home with its gardens on a park-like street, he argued the merits of the row housing type, saying that with proper landscape and architectural design, such houses could be made more attractive than a group of freestanding single homes. He cited the economic advantages: "the group house may occupy a narrower lot without being undesirable from the point of healthful occupation. This should mean a first saving of fifteen to twenty percent in cost of land and local improvements as compared with a free-standing house providing the same amount of living space." He further estimated that a connected group of six houses having only two exterior walls, one at each end as compared with twelve exterior walls of six detached

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houses, would save an additional savings of five to ten percent.¹⁶⁰

Henry Wright was the strongest advocate for group housing, having been involved for many years in designing many variations in the form of small apartment houses and multiple-unit housing in the context of a garden suburb. In making his case for group housing, Wright argued: "Group planning assembles buildings and land for effective openness without extravagance." He called for a completely different type of arrangement of subdivision in which lots became longer and shallower to accommodate the grouped row and give each unit exposure to sunlight, fresh air, and pleasing garden views. This meant eliminating dark, narrow alleys between buildings, limiting the depth of each dwelling to two rooms, and placing the dwelling in a garden-like environment. He remarked:

The choice of kinds of dwelling space provided should be dictated primarily by considerations of privacy, safety, and good exposure. None of the family dwelling types of the past has met all these requirements satisfactorily. Group housing on the contrary is capable of meeting them under intelligent evolutionary development, and only asks to be freed from artificial restrictions whether of law or mental outlook.¹⁶¹

With an aesthetic basis in garden-city planning and practical emphasis in cost-reduction and large-scale development, the greenbelt towns became one of several proving grounds sponsored by the New Deal government for the development of multiple-unit housing. The others were the projects of the PWA Housing Division in 1933-35, the large-scale rental housing division of the Federal Housing Administration established in 1935, and the developments by local public housing authorities under the Housing Act of 1937.¹⁶² The European modernism espoused by Wright and Bauer can be seen interpreted in the modest row dwellings at Greenhills and Greenbelt, while Greendale houses were highly conventional with their simple references to the Colonial Revival style and orderly, symmetrical appearance.

From the perspective of modern innovation, the designs adhered to the simple principles of reversed design to allow the utilities to be stacked economically to create a variety of dwellings whose principal elevations (service side and garden side) were either symmetrically ordered or informally balanced. The efficient small houses, whether detached or connected in groups, were equipped with the amenities that had become equated with contemporary standards of American life—a modern kitchen (with an electric range and refrigerator), plumbing and electricity, a whole house heating system, provisions for piped-in and softened water, and mechanisms for waste disposal. What appeared as a simplification of form and a minimization of size, in fact resulted from a careful process of planning and analysis of how the modern house was to be used—the groundwork of which had been established by Stein and Wright as well as a group of private research organizations, such as the Albert Farwell Bemis Foundation and John Pierce Foundation.

Two things account for this simplicity—search for low-cost alternatives to traditional house construction, and an emphasis on sound construction, low maintenance, and essential functions of interior space. In his comments at the 1931 President's conference, Secretary of Interior Ray Lyman Wilbur stated: "Beauty is not a

¹⁶⁰ Thomas Adams, *The Design of Residential Areas: Basic Considerations, Principles, and Methods* (Cambridge: Harvard University Press, 1934), pp. 89-91.

¹⁶¹ Wright, *Rehousing Urban America*, p. 30.

¹⁶² The fullest expression of Henry Wright's ideas is probably best represented by the variety of multiple housing dwellings at Greenbelt and the FHA-approved and -insured apartments at Buckingham Communities (NR) in Arlington County, Virginia. Wright consulted on the early planning for the first section of the garden apartment community just before his untimely death in 1936.

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veneer to be applied at added cost, but lies rather in the lines of a house, its proportions, the relations of its parts to one another, and of the whole to its setting. It is demonstrable that quality pays, both by endearing the home to the family and by the enhancement of property and community values.¹⁶³ Style had driven the small house movement of the 1920s, resulting in period revival embellishments to basic floor plans and a variety of house sizes. It had also fostered the growth of allied building industries, such as Curtiss Woodworking which could produce for a substantial cost an architect-designed Colonial or Federal period entrance and doorway frontispiece rendered in finely cut pine.¹⁶⁴ Such practices led to housing costs that were well beyond what the average working-class family could afford.

At the other extreme were shoddily-constructed houses on the small lots of crowded streets in undesirable sections of the urban core, where design was driven by land speculation and profit-seeking interests. Such developments were the object of Mumford's attacks on the building industry and gave impetus to the urgent plea for housing reform by Henry Wright, Catherine Bauer, and Edith Elmer Wood. Participants of the 1931 conference clearly recognized that deteriorating, inadequate older urban housing, as well as poorly built, unplanned new housing, contributed to urban blight which, if left unchecked, would exacerbate the already serious presence of slums in American cities. With the New Deal in place in 1933, the search was on for innovations to reduce housing costs and to bring the comfort of living in a sound house in a healthy, garden-like setting within the realm of the largest sector of Americans—the working class.

Greenbelt, the first town to take form, was almost entirely made up of multiple-unit dwellings laid out in rows, and with longer dwellings often staggered to adjust to hillside sites according to innovations introduced at Chatham Village. The smallest consisted of two semi-detached units arranged side by side as mirror images, called "duplexes." Greendale dwellings of similar function and scale were laid out on the formal courts and rectilinear lanes that made up the flatter areas of the town plan. The two-story, two-unit rows at Greendale were called "twins," and could be expanded to form a three-unit grouping that included a small second-floor apartment. Greenhills had a combination of the two approaches—like Greenbelt the vast majority of its dwelling units were in multiple-unit rowhouses, and with only 24 single-family houses, its resemblance to Greendale was limited.

While numerous floor plans existed, the housing was broken down into basic two and three-bedroom units that could be arranged in pairs as mirror images and then in multiple sets to form four, six, and eight-unit rows. While the floor plans and amenities of each multiple-house unit were similar from one greenbelt town to another, the exterior design and ornamentation varied from town to town. In Greendale, the houses were small, two-story single-family dwellings of concrete block with gabled roofs and Colonial Revival elements. In Greenbelt, the houses were attached two-story dwellings typically arranged in rows of two to eight units. They varied between gable-roofed units with brick facing reminiscent of Colonial Revival and flat-roofed concrete block dwellings with Moderne details such as horizontal banding and flat-roofed porches with pipe column supports. In Greenhills, there is a mix of styles similar to Greenbelt, but the massing and siting are more varied.

There is no question that the multiple-unit dwellings represented a short-lived phenomenon, in response to a specific set of economic conditions, first the uncertainty of the Great Depression and then the urgency for speed of production to meet wartime needs. Stemming from Wright's analyses, the development of the

¹⁶³ Ray Lyman Wilbur, as quoted in *House Design, Construction and Equipment*, caption opposite title page.

¹⁶⁴ David Gebhard, "The American Colonial Revival in the 1930s," *Winterthur Portfolio* 22, no2/3 (Summer/Autumn 1987), pp. 109-148; Linda Flint McClelland, "Gardens for Suburbia: The Colonial Revival, Community Planning, and the National Housing Act of 1934," paper delivered at the Colonial Revival in America Conference, Charlottesville, VA, 2000.

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multiple-row houses in the greenbelt towns represents a formative period in what by the end of the decade would be known as unit-planning. Unit-planning was the basis of much of the modern housing in Europe. Its adoption in the United States substantially reduced the cost of American apartment design and construction.

The greenbelt demonstration projects along with privately funded FHA-insured projects (Buckingham Communities, Colonial Village, and Arlington Forest) provided prototypes for the expansive program of defense housing after 1940 and set the stage for massive suburban development nationwide in the post-war period. The design of the multiple-unit row in many parts of the country ultimately became negatively associated with the low-cost public housing sponsored by local housing authorities. By the end of the 1940s, the multiple-unit dwelling that Adams and Wright espoused would fall from favor as a moderate-priced alternative for housing and was supplanted in the postwar period by complexes of garden apartments and neighborhoods of privately-owned small houses. Unit-planning persisted and radically transformed the home-building industry in the following decades of the twentieth century.¹⁶⁵

Single-family Housing at Greenhills

In contrast to Greendale, in which nearly half (274) of its dwelling units were single-family detached houses, Greenhills had twenty-four single-family homes out of the original 676 dwelling units, while Greenbelt had only six single-family residences out of 885 dwelling units.¹⁶⁶ Local surveys in Cincinnati indicated that two-thirds of those surveyed preferred a single-family home.¹⁶⁷ However, cost prevented the construction of more single-family homes and rowhouses were considered to be more economical. Frank Corder remarked that "The Divisional objective of providing homes for the occupancy of low income families has limited, in part, the freedom of the architectural staff in planning the design, grouping, construction materials, and methods and equipment of units at Greenhills."¹⁶⁸

The single-family detached (as well as semi-detached duplex) residences "add to variety and attractiveness" of the A and B sections. They are larger than the other units—most with four bedrooms—and were intended for families with several children.¹⁶⁹ As previously mentioned, the original single-family houses in Greenhills consist of two types, both in a simplified Colonial mode. The most common is ell-shaped in plan, one-and-a-half stories tall, and capped with a cross-gabled slate roof (Photograph 11, Figures 16 and 17). The principal entrance is on the inside corner where the gable front meets the wing. Each house has an integral garage connected by an enclosed porch. The second type is rectangular in plan, two stories, with a side-gabled roof and an attached garage. They share the reverse-front plan introduced at Radburn with the utility room and the kitchen on the street or service side of the house, and the living room and dining alcove away from the street on the garden side. In the cross-gabled example, two bedrooms are included on the first floor and two additional

¹⁶⁵ Methods of unit-planning were first introduced in 1934/1935 in standards published by the PWA's short-lived Housing Division (under the direction of leading RPAA member Robert Kohn). They were expanded upon by architect and RPAA member Eugene "Henry" Klaber, who had worked for Kohn at the PWA and became the lead designer for the FHA's influential large-scale rental housing program. The FHA-insured Buckingham Communities (1935-1938) in Arlington County, Virginia, was the first rental development to implement unit-planning on a large-scale. Included in Stein's *Toward New Towns*, Baldwin Village (NHL) in Los Angeles was one of the finest rental projects to combine garden-city principles with the practical FHA requirements.

¹⁶⁶ U.S. Department of Agriculture, Farm Security Administration, "Greenbelt Communities," p. 12.

¹⁶⁷ Corder, *Architectural Planning*, p. 12.

¹⁶⁸ *Ibid*, p. 4.

¹⁶⁹ *Ibid*, p. 13.

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bedrooms and single bathroom are located on the second floor. In the side-gabled example, the four bedrooms are all on the second floor along with the bathroom.

The original steel windows were unusually large and numerous in order to provide good light and ventilation. The upper sash swings outward, awning fashion to provide air circulation without worrying about rain. The bottom member swings inward, hopper style, to direct drafts over the heads of seated occupants.

The houses reflect modern ideas about the cost-efficient design, economic use of space, and the effects of rotating or reversing a plan to achieve variety and unity, while achieving a sense of order and permanence. The use of efficient floor plans and the treatment of exterior design reflect emerging ideas about the modern house and changing attitudes about what was essential in a safe, efficient, comfortable, and convenient home. At the forefront of this movement, New Deal-era designers had the opportunity to apply their professional skills in a collaborative and interdisciplinary climate. Free of the conventional practices and market pressures of the profit-driven homebuilding industry, architects were able to experiment with new ideas and work out new solutions.

To a large extent, government architects were inventing the modern house. Within the context of New Deal programs, "modern" was not a reference to the work of European designers such as Le Corbusier, Walter Gropius or Ernst May. Instead the term referred to a process of design based on function, practicality, and efficiency. As explained in the FHA's bulletin *Modern Design* (1936):

The basic characteristics of Modern design lie in the attempt made to (1) create a plan which will provide a functional relation between rooms arranged to suit present day modes of living, to facilitate efficient housekeeping, and to permit an economical use of materials; (2) to permit the exterior treatment to be dictated primarily by the plan and to be an expression, thereof, with little or no regard to traditional concepts; (3) to use materials efficiently, economically, and directly, boldly eliminating decorative features and relying upon texture and color of materials together with skillful arrangement of masses and openings to produce an aesthetic effect.¹⁷⁰

Inevitably the quest for lower-cost construction precipitated a definite trend toward the simplification of house forms and the elimination of the period flourishes that added cost and placed adherence to formal stylistic principles over those of a more practical and functional nature. The Great Depression of the 1930s and the rising social concerns for housing lower-income Americans brought about new strategies to simplify and find inexpensive alternatives to the well-crafted but expensive house forms and embellishments that characterized the small houses of the 1920s. The process of streamlining the American Colonial Revival house began in the World War I defense housing projects and continued at Mariemont and Radburn. The single-family house designs in Greenhills were radically simplified through the use of alternative materials for construction, a program of minimal decoration, and the development of floor plans that followed present day functions and expectations for comfort and functionality. This helped redefine the meaning of "small house" and ushered in a new era in home-building.¹⁷¹

The most innovative change to the design of the single-family homes at Greenhills was the adoption of the reverse-front plan that had been introduced at Radburn. Like the rowhouses, all the single-family detached and

¹⁷⁰ FHA, *Modern Design*, Technical Bulletin no. 2 (Washington, D.C.: Government Printing Office, 1936), p. 2.

¹⁷¹ For a discussion of the small house movement of the 1920s, see Ames and McClelland, pp. 59-60. In addition to Stein and Wright, the highly renowned architect of small houses Frederick Ackerman, also worked on house design at Radburn. Both Wright and Ackerman were influential members of the Committee on Design at the 1931 President's Conference (Wright served as secretary).

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semi-detached duplex houses exhibit reverse-front house plan. The living quarters face rear gardens which are accessed through porches or terraces. Kitchens, delivery entrances and main entrances are reached from the street side. This design feature combined with the elimination of a wide setback from the street resulted in reduced construction costs and gave each Greendale house a larger yard with gardens which could be viewed from the living room.

According to Henry Wright the reversal of the house front was an important step towards the creation of moderate-priced dwellings. He looked at this from a social, as well as a practical standpoint, explaining:

The street is used for service. In the days of leisurely carriages it was pleasant to look up and down the street to follow the town's social life. This is a dubious advantage in these days of the automobile. The street-fronting entrance that began as a convenience survives mainly as useless display....The usual house with its front to the street wastes its opportunity to be well connected with the garden.¹⁷²

The reverse-front design lowered the cost of installing utilities by placing the kitchen, utility room, and bathroom on the service side of the house near the street where the water mains, electric wires, and sewer mains were located. Moreover it had freed designers from the conventions of traditional home-building and allowed for radical redesign of the American home. In Wright's experience what started out as a simple process of "turning the free-standing house around to face the garden instead of the street," actually proved to be rather complicated, requiring lengthy study and evoking considerable resistance from both prospective homeowners as well as bankers. The acceptance of this innovation by the greenbelt town program was a major *tour-de-force* that would radically magnify the design possibilities for moderate-cost housing and by the end of the decade would dramatically influence the FHA standards for small house design.¹⁷³

Greenhills reflects experimentation with the neighborhood of small houses concept being promoted by the FHA and consistent with the standard real estate practices of community builders. At Greenhills the garden-city ideal merges with the conventional building practices of community builders, even though modified into a more economical form. The houses on Alcott and Avenell are set within a neighborhood context with amenities such as turning circles, sidewalks, setbacks deep enough to accommodate a car-length driveway and small lawns. In this small unified grouping of detached and semi-detached houses the designers achieved a practical and aesthetic synthesis of community builders' and garden city ideals. Spaciousness is an overriding characteristic here, reflecting the FHA's interpretation of the moderately priced garden suburb. These streetscapes stand out for their innovative solution that combines the ideas for small houses emerging from the newly established FHA ideas and the vision of garden city proponents. These cul-de-sacs convey a village like atmosphere, sense of spaciousness, and a pleasing arrangement while meeting the needs for privacy, safety, convenience and comfort. It is not surprising that Stein selected the photograph taken by FSA of children on bicycles approaching the end of Alcott Lane (Figure 23).

Innovations in the Use of Prefabricated Components and Manufactured Building Materials

The 1930s was an important period of innovation in the use of prefabricated building components and alternative building materials. The New Deal programs, particularly the rural and industrial communities designed by the Subsistence Homestead program (later the Resettlement Administration) and the Tennessee Valley Authority, were noted for their experimentation with prefabricated materials and methods. Concerned primarily with progress in this area and its application to the private-building industry, the FHA reported:

¹⁷² Wright, *Rehousing Urban America*, p. 45.

¹⁷³ *Ibid.*

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"The present is still largely a period of experiment. Urged on by the desire to meet the demand for new homes, manufacturers are steadily putting out new forms of materials and new methods of using them. These are still in the exploratory stage....Recent progress in the prefabrication field and evidence of increasing effort toward the development of low-cost houses indicates a recognition by capital interests of the possibility for development of this market by large-scale mass production."¹⁷⁴

Roland Wank was especially sympathetic to the goals of housing lower-income and acutely understood the opportunity presented by new materials and methods, in combination with modernistic principles of design, in lowering the material costs of construction, making the construction process more efficient, and improving the quality of lower-cost house design. Shortly after he joined the TVA design team in 1933 and was working on the new town of Norris, he shared his personal philosophy with a local reporter:

"I could never become interested in designing grand homes for the few who can afford them. I always wanted to feel my work was of some public interest and that it will add to the comfort and enjoyment of many.... It seems that only well-organized mass production will bring the "model" house within the means of "the forgotten man, and mass production can only exist when balanced by mass purchasing power."¹⁷⁵

The need to economize on building costs combined with the need to build as many units as possible in order to reach the population required to make Greenhills work as a complete community necessitated efficiency and innovation not only of building design, but also of materials. In Greendale and Greenbelt, the architects turned to concrete block, which is amply discussed in the Greendale NHL nomination. Greenhills did make some use of stuccoed concrete block for multiple-family units, but the cost-saving response in Greenhills was primarily to use a wood frame structural system clad with asbestos-cement siding in the S-Type houses. According to architect Frank Cordner, this was the first large-scale use of asbestos-cement siding in the United States. The pioneering use of asbestos siding in the late 1930s at Greenhills assumes special importance when viewed in the context of the expansive use these materials during World War II for military housing as well as rental housing developments in critical defense areas in the early 1940s.¹⁷⁶ According to Amy Lamb Woods in "Keeping a Lid on It: Asbestos-Cement Building Materials," asbestos-cement is a composite material made of portland cement reinforced with asbestos fibers. While asbestos and cement were each used separately for commercial purposes, asbestos tended to be too coarse and abrasive to be very useful alone. Beginning in the 1880s, experimentation with asbestos fibers resulted in many diverse mixtures, but the pairing of asbestos and cement (typically portland) proved the best for the building industry.¹⁷⁷

Keen on using modern construction materials and techniques, Wank was likely familiar with asbestos-cement products from his European origins and education. The asbestos-cement shingle was created by Czech-born inventor Ludwig Hatschek. Naming his product, "Eternit," he patented the manufacturing process in Europe in

¹⁷⁴Federal Housing Administration, *Recent Developments in Dwelling Construction*, revision (Washington, D.C.: 1940), pp. 4-5. This bulletin was initially published in 1936 and revised annually; its listing of approved new materials and methods would become especially relevant with the passage of the Lanham Act in 194... which provided incentives for the private construction of housing in the critical defense areas identified to support industrial production related to World War Two.

¹⁷⁵ John T. Montour, "R.A. Wank, TVA architect, Sees Workers' Housing as Great Challenge of Tennessee Basin's New Deal," *Knoxville News-Sentinel* (2 December 1933) as quoted and cited in Macy, 37; fn. 34, 49.

¹⁷⁶ Frank Cordner, *Architectural Planning*, Nov 1937, p 25.

¹⁷⁷ Amy Lamb Woods in "Keeping a Lid on It: Asbestos-Cement Building Materials," *Recent Past Revealed: The On-Line Architectural Style Guide and Glossary!* http://recentpastnation.org/?page_id=65, accessed September 1, 2015.

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1901, and the patent was reissued in the United States in 1907. In the early 1920s, American roofing material manufacturers—Johns-Manville, Carey, Eternit and Century—were all selling some sort of asbestos-cement roofing shingle. The incorporation of pigments to create a range of color choices caused sales to explode.¹⁷⁸

Asbestos-cement products had many attractive qualities; they were rigid, durable and fireproof. They would not warp or rot and were resistant to insect damage. Asbestos shingles were valued for being fireproof, especially among those living in turn of the century communities where fire spread was a common concern. While not able to match the endurance of slate, asbestos shingles were expected to last a minimum of 30 years, enhancing their desirability. Their light weight significantly reduced the costs involved with shipping and installation. For decades asbestos roof shingles were considered an invaluable resource offering a superior, inexpensive alternative to traditional roof coverings.¹⁷⁹

Asbestos-cement products were used for exterior cladding and roofing, mostly in the form of individual shingles in square, rectangular, and hexagonal shapes. Long planks resembling clapboards of the type used at Greenhills were offered in the 1930s. The surface of siding produced in the 1920s and early 1930s was smooth, but textured finishes, especially wood-grain patterns, became available starting in 1937. Sears, Roebuck and Co. was one of the first suppliers to introduce asbestos-cement siding with a wavy bottom edge. Before the 1950s, colors were limited to white, gray-pink, and gray-green, and many structures with asbestos-cement siding were eventually painted.¹⁸⁰

Installing asbestos-cement shingles, whether on roofs or walls, was relatively easy, and therefore suited for non-skilled labor used to build Greenhills. Most shingles, typically 12 by 24 inches, were easy to handle and came drilled for nailing. Often, they were applied over existing materials using furring strips. Because of their low cost, easy application, and fireproof properties, asbestos-cement products were considered a miracle building product. However, by the 1940s the harmful effects of asbestos on human health were starting to be recognized and the introduction of asphalt-based shingles the late 1950s, began dominating. In 1989, asbestos became illegal when The Environmental Protection Agency (EPA) issued a ban and phase out rule.

Many buildings in Greenhills retain the original gray-green asbestos siding in good condition and much of it has been painted. The presence of asbestos is not necessarily hazardous unless the material is damaged, thereby releasing fibers into the air. In the demolition of some S-type buildings, the Village of Greenhills has complied with laws governing the removal and disposal of asbestos siding and hired licensed and certified asbestos contractors to do the work.

National Significance and a Comparative View of the Greenbelt Towns

Despite resistance encountered by the Roosevelt Administration's efforts to promote better housing in the nation through the rural and suburban resettlement programs, the greenbelt towns succeeded in their purpose to provide a new model of suburban living for working-class Americans. Despite the long-term failure of these communities to achieve Howard's ideal of a garden city complete with an agricultural belt and industrial components, Greenhills, with Greendale, Wisconsin, and Greenbelt, Maryland, demonstrated advanced ideas of neighborhood planning and home construction. They provided successful models of large-scale, residential

¹⁷⁸ Christophor Jurin, "The Rise and Fall of Asbestos Shingles," <http://roofing.about.com/od/Roofing-Construction-Basics/fl/The-Rise-and-Fall-of-Asbestos-Shingles.htm>, accessed September 1, 2015.

¹⁷⁹ Ibid.

¹⁸⁰ Amy Lamb Woods.

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development at a pivotal time in the evolution of the American home and suburb when the design professions—architecture, landscape architecture, and city planning—had reached maturity. The imperative that professional methodologies coalesce and collaborative strategies be developed for civic improvement and social betterment had never before been realized on such a large-scale.

Since the creation of the greenbelt towns, planners, architects, historians, and architectural critics have recognized the unique achievement of the three greenbelt towns. In 1955, renowned professor of planning Carl Feiss of the University of Pennsylvania was one of the first scholars to recognize the importance of Greenbelt and call for its recognition and preservation as one of the century's most important undertakings. Planning theorist Mel Scott described the great popularity and interest afforded the government-sponsored Garden City projects:

No projects of the Federal government...had aroused so much curiosity or attracted such hordes of visitors as these three towns and the TVA town of Norris. Above all else, foreigners wanted to see Norris, and above all else, Americans wanted to damn or praise the greenbelt towns. In New Deal days almost no one was neutral. As for city planners, all those who had any part in designing or developing these communities are still starry-eyed at the very mention of them."¹⁸¹

In *Tomorrow a New World* (1959), Paul Conkin called the greenbelt towns "the most daring, original, and ambitious experiments in public housing in the history of the United States." Recognizing their international influence, he said: "They rank high among New Deal accomplishments. In the field of public works, they were hardly excelled...in imagination, in breaking with precedent, and in social objective."¹⁸²

Likely more than 100 planned housing developments of varying sizes were sponsored by the U.S. Government during the New Deal. These ranged from the numerous rural resettlement communities which although scattered across the nation, were concentrated in those states most adversely affected by environmental degradation due to overuse of the land, drought, and the dust storms, to the first urban housing projects built under the Public Works Administration (PWA). In *The American City: What Works, What Doesn't* (1997), Alexander Garvin has stated that of these only the three greenbelt towns were "genuine, planned new towns," and, unlike the others "most of which have long since faded into obscurity..., they continue to serve as object lessons in the use of public open space and community facilities to create superior living environments."¹⁸³

The full scope of the greenbelt program can only be fully understood and appreciated by looking at all three communities from two perspectives—collectively as a group sharing common goals and influences, and individually as each reflects a unique collaboration of designers and a distinct response to local and regional needs and conditions. Each greenbelt town had its own multi-disciplinary design team led by design professionals and supplemented by experts in diverse fields such as housing, education, social welfare, agricultural economics and wildlife management.

Each greenbelt town was scientifically planned according to methods of cost analysis recommended by Stein

¹⁸¹Carl Feiss, "Historic Town Keeping," *Journal of the American Society of Architectural Historians* 15, no. 4 (December 1956), pp. 2-6; Scott, p. 335. Although Stein did not include it among his new towns, Norris (NR), which was designed by planners Earle S. Draper and Tracy Augur for the Tennessee Valley Authority, is considered by many to be as significant a Garden City design as the three greenbelt towns.

¹⁸² Paul K. Conkin, *Tomorrow a New World: The New Deal Community Program*. 1959. Reprint (New York: DaCapo Press, 1976), pp. 303 & 305.

¹⁸³Alexander Garvin, *The American City-What Works, What Doesn't*. (New York: McGraw-Hill, 1996), p. 344.

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and Wright) and a variety of surveys that as Scottish planner Patrick Geddes advocated included topography, soil types, wind direction, and weather conditions. The preferences and demographic characteristics of potential tenants figured importantly in the planning of the greenbelt towns, reflecting the growing interest in the United States in regional planning as well as the socioeconomic aspects of housing policy. Each design team employed their collective expertise to address the site conditions and the characteristics of the target population. The result was the creation of three towns, each of which displayed an innovative site plan, abundant parks, and high-quality housing that was modern yet economical in layout and materials. The differences between the greenbelt towns reflect not only differences in site and target population, but also differences in the views and sensibilities of the design team (especially the chief planner), which made each greenbelt town unique.

When Clarence Stein visited the three completed towns in the late 1940s, he singled out Greendale as "superbly related to its natural site," and proclaimed that, "Greendale is destined to play an important part in American history." In his book, *Toward New Towns*, a retrospective account of the American Garden City communities for which he had been either a designer or planning consultant, he affirmed his approval of Greendale and wrote positively about Greenbelt. When it came to Greenhills, however, he offered this faint praise:

The form of the plan was suggested and limited by the rolling ground and many ravines. The latter have been preserved in the open space system as delightful and naturally wooded parks. In Greenhills, the Radburn Idea has been followed but not as completely as at Greenbelt. The turn-arounds of the dead end lanes are better than those at Greenbelt, Greendale or Radburn. Cars entering the lanes may easily return without backing or maneuvering. The arrangement of the elements in the community Center is noteworthy.¹⁸⁴

Stein did not explain specifically how Greenhills had not fully followed the Radburn idea, but his perspective reflects his own bias. When organizing the planning teams for the three greenbelt towns, Frederick Bigger deliberately encouraged each team to approach their project as a unique experiment. Greenhills is its own unique interpretation of suburban planning and the neighborhood plan—the result of the designers' training and ideas about ideal suburban living. The influence of Nolen is key here as well as the alliance between professional landscape architects and community builders that had been strengthening since the mid-1910s (as seen in the development of the garden suburbs such as Forest Hills and Roland Park and country club districts being developed).

Albert Mayer, who designed the ill-fated Greenbrook with Henry Wright, asserted in his article "Greenbelt Towns Revisited," published in the *Journal of Housing* in 1967, that the Radburn plan was not fully worked out in Greenhills because 1) the lack of dividing hedges caused a lack of privacy; 2) the interior path system was not fully realized, and 3) the interior parks were occluded and therefore did not allow a direct system of pedestrian communication and casual surveillance by passers-by of children's activities.¹⁸⁵

As a committed follower of super-block planning and the Radburn idea, Mayer would also have seen Greenhills as inferior. On the plus side, however, he recognized that, "Even at Greenhills, which is possibly the least over-all satisfying of the towns, there is a special quality noted by residents," and that was the greenbelt, which is most intact in Greenhills. Mayer cites a letter from an "excellently qualified judge, who has known Greenhills intimately over a long period." Hamilton County Juvenile Court Judge, B. Schwartz, wrote about his sense that the close contact youngsters have with nature provided by the greenbelt correlated with a lack of

¹⁸⁴ Stein, *Toward New Towns*, p. 162.

¹⁸⁵ Albert Mayer, "Greenbelt Towns Revisited (part 2)," *The Journal of Housing* (February 1967), p. 16.

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juvenile delinquency and also with the success of adults who had grown up there.¹⁸⁶

The greenbelt is an outstanding feature of Greenhills and the one aspect in which it is superior to the other two greenbelt towns. Mayer recognizes that in Greenhills, "there is a special situation worth noting. Greenhills is almost completely surrounded by a large park system—what might be called its conventional or "standard" greenbelt, a substantial portion of which was made available by the federal government and lies outside the city limits. Much of the outer greenbelt is today protected open space due to its designation as a Hamilton County park. No longer in agricultural use, the county park land is not included within the NHL boundaries. Its presence does, however, provide rural character and recreational uses commensurate with the community's garden city origins; for these reasons, it enhances the significance of the historic district and strongly contributes to its integrity of setting.

Inside this major park area, within the city's corporate limits, there is a narrow "inner" greenbelt. Its outer edge abuts the main greenbelt or park land and its inner edge abuts the outer limits of the town's built-up area (mostly, the individual rear garden areas of houses.)" This inner greenbelt is highly valued by the residents as a buffer between them and urban users of the surrounding park system."¹⁸⁷

The inner greenbelt became the subject of a legal battle considered by Mayer to be of "landmark significance." The 360 acres of inner greenbelt were included in the land sold in 1950 by the federal government to the Greenhills Homeowners Corporation, subject to zoning as an inviolable greenbelt. FIENCO, the successor of the GHOC, saddled with paying taxes on this permanently restricted greenbelt area, persuaded the city of Greenhills to rezone 85 acres of the inner greenbelt and built houses on it. It then applied to do the same with 125 additional acres. This time, the city objected and brought legal action. In May 1966, the Ohio Supreme Court decided against FIENCO, declaring that the zoning was valid, specifically on the ground that FIENCO's predecessor had been aware of this zoning and that this land had been taken into account in the original purchase price of the whole complex. In Mayer's eyes, "...this recognition of greenbelt zoning may well be a landmark in land development policy in this country."¹⁸⁸

Greenhills is distinguished by the International-style influence in its architecture, particularly the S-type rowhouses and shopping center. Architect Henry Churchill, who had been an architect on the Greenbrook team, admired the Greendale buildings but considered the architecture at Greenbelt and Greenhills as "competent and undistinguished."¹⁸⁵ A nostalgic fondness for the Colonial Revival cottages of Greendale and a dislike of International-style architecture was expressed by other scholars as well, including Joseph L. Arnold. Not being an RPAA member or closely connected with the greenbelt towns (like Churchill, Mayer, and Stein), Arnold was one of the first to consider the greenbelt towns from a more neutral position. In *New Deal in the Suburbs* (1971), Arnold said: "... Greenbelt and Greenhills are recognizable as institutional type structures while Greendale, even with row houses, looks like a collection of individual homes which happened to grow together into a lovely village."¹⁸⁹ He considered the flat-roofed buildings in Greenhills to be "poor reflections" of the European Bauhaus designs that inspired their exterior appearance.¹⁹⁰

¹⁸⁶ Ibid, p. 17.

¹⁸⁷ Ibid, p. 19.

¹⁸⁸ Ibid, p. 17.

¹⁸⁹ Arnold, p. 103.

¹⁹⁰ Ibid.

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The decision to design buildings in the International Style reflects the influence of architect Roland Wank. In the residential construction, this was mainly reflected in the use of flat roofs on the S-type row houses and flats. The style was more fully realized in the shopping center, with its long horizontal lines expressed in its flat roof and bands of large storefront windows and transoms. In the case of Greenhills, the necessity of controlling construction cost and the functionality of the International Style were congruent.

By comparison, Wank's dams and powerhouses for the TVA, were magnificent examples of Moderne-style public works. Earle S. Draper, then head planner of the TVA, had hired Wank because of his imagination and design capabilities displayed in the Cincinnati's 1931 Union Terminal, which he designed while working for the New York firm of Fellheimer and Wagner. Positioned at the end of a long landscaped mall, the half-domed terminal "symbolized steam power produced from coal, much as the TVA structures would be intended to represent electrical power produced from water." Its monumental rotunda recalled the same cavernous volume of the TVA's future turbine halls. Set off by the village commons, Wank's Community Building in Greenhills shares some of the scale and presence of his other public works.¹⁹¹ It is particularly noteworthy—not only as the work of the nationally acclaimed architect, but also for its public art sponsored by the WPA. Furthermore, it represents the social vision and importance of public education in New Deal ideology. The fact that the building has been little changed indicates the continuing usefulness and value of the facility as center of community education and recreation. Its scale, geographical prominence, and spacious layout and design distinguish it from the community buildings in the other Greenbelt towns; Greendale's has been heavily altered and Greenbelt's is smaller and less dynamic from an architectural perspective.

Upholding the importance of the American experience in community planning, Eugenie L. Birch has identified five distinct stages of the Garden City movement in the United States. She classifies Sunnyside, Radburn, and Chatham Village, as the first generation, and the three greenbelt towns and Norris, Tennessee (built by the TVA) as the second generation. She sees the new towns of the 1960s, including Columbia, Maryland, and Reston, Virginia, as the third generation, and the popular Planning Unit Developments (PUDS) of the 1960s as the fourth generation. Finally, she places the town planning of New Urbanists Andres Duany and Elizabeth Plater-Zyberk, such as Seaside, Florida, as the fifth and most recent expression of what seems to be a persistent need among the design profession to define and redefine Ebenezer Howard's 1898 theories.¹⁹²

Reston, like most other American new towns of the post-World War II era, was financed by a private developer. Robert E. Simon, whose father had been an investor in Radburn, erected Reston outside of Washington, D.C., in 1961-64. Planned by Albert Mayer, and Julian Whittlesey (a draftsman on the original design of Greenbelt and a consultant on Greenbelt's 1955 master plan), Reston displays numerous features clearly inspired by the greenbelt towns and Radburn.¹⁹³ It is made up of seven villages arranged around a commercial and administrative center. Each village was intended to house about 10,000 people, divided into five or six neighborhoods. An elementary school is the focus of each neighborhood. Housing is clustered, and naturalistic green space follows stream valleys through the plan, just as it does at Greendale. The other notable new town of the 1960s, Columbia, Maryland, also exhibits villages composed of school-centered neighborhoods, with clustered housing and linear open space laid out along existing stream valleys. Columbia,

¹⁹¹ Walter L. Creese, *The Search for Environment: The Search for Environment: The Garden City, Before and After*, 1966, expanded ed. (Baltimore: Johns Hopkins University Press, 1992), p. 162.

¹⁹² Eugenie L. Birch, "Five Generations of the Garden City: Tracing Howard's Legacy in Twentieth-Century Residential Planning," in Parsons and Schuyler, eds., pp. 177-79.

¹⁹³ Schubert, p. 132; Kermit C. Parsons, "British and American Community Design: Clarence Stem's Manhattan Transfer, 1924-74," in Parsons and Schuyler, eds., pp. 152-53; Stein, *Toward New Towns*, p. 9. See also "Radburn NHL Nomination" and "Greenbelt NHL Nomination."

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located half-way between Washington, D.C. and Baltimore, Maryland, was built by developer James W. Rouse in 1963-65.¹⁹⁴

Neither Reston nor Columbia was an immediate financial success. Perhaps for this reason, a lull in the construction of new towns followed until the erection of Seaside, Florida. Seaside, planned by Miami architects Andres Duany and Elizabeth Plater-Zyberk in 1982, was the first manifestation of what would become known as the New Urbanism. In contrast to the greenbelt towns and Radburn, New Urbanist communities are formal in layout and reverse the turned-around house plan, substituting streets for pedestrian pathways, and alleys for residential service lanes.¹⁹⁵ New Urbanists draw inspiration from the work of two planners who were very much a part of the Garden City movement, Raymond Unwin and John Nolen.¹⁹⁶ The Charter of New Urbanism, ratified in 1996 at the annual meeting of the Congress for the New Urbanism, shows that New Urbanism shares many of the design principles of the Neighborhood Unit Plan and the American Garden City movement, as represented by the greenbelt towns and Radburn. These common principles can be summarized as follows: first, that development should be based on compact, pedestrian-oriented neighborhoods that have clearly defined centers and edges; second, that the neighborhood should accommodate a diverse mix of activities including residences, shops, schools, workplaces and parks; third, that the neighborhood should be no more than one-quarter mile from center to edge and laid out so as to encourage pedestrian activity; fourth, that the neighborhood should incorporate a wide range of housing types to attract families of different incomes and compositions; fifth, that parks, playgrounds, squares and greenbelts should be provided in convenient locations throughout the community; sixth, that the neighborhood center should include a public space, such as a library, church or community center, as well as a transit stop and retail businesses; and seventh, that civic buildings, such as government offices, churches and libraries, should be sited in prominent locations.¹⁹⁷

From the Greenbelt Towns to Postwar Suburbs

Greenhills and the other greenbelt towns represent the highest expression of the ideal in suburban and neighborhood planning principles of the 1930s. Tugwell's vision of hundreds of well designed, conservationist, government-built and cooperatively owned towns ringing America's urban centers, providing better homes for low-income families and promoting a participatory democratic community, was left unfulfilled. This failure turned on a pivotal question of the twentieth century: What should be the role of the Federal government in housing? Before the Great Depression and the 1931 President's conference, the role of the Federal government was limited to providing emergency wartime housing, establishing technical standards for building materials, and recommending the use of standard planning and zoning statutes. Previously it had not intervened in either the home-building industry or the process of mortgage lending, and had not provided housing assistance to the needy. The American system of *laissez-faire* capitalism looked to private industry to provide housing, and to private and religious charities to help the poor. By the early 1930s, it had become evident that private industry could not build adequate housing for everyone; there was no profit in erecting housing for the poor, and there were too many low-income families competing for the older housing that "trickled down" as those with higher incomes moved into better units. It had also become clear that local and state government efforts to improve slum housing through zoning ordinances and other regulations were not working.

In June 1933, President Roosevelt's New Deal administration initiated two distinctly different approaches to

¹⁹⁴ Parsons, "British and American Community Design," p. 153.

¹⁹⁵ William Fulton, "The Garden City and the New Urbanism," in Parsons and Schuyler, eds., p. 166.

¹⁹⁶ Ibid, p. 165.

¹⁹⁷ Birch, pp. 185-86.

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address the housing crisis. The first was to intervene in the housing market indirectly by creating the Home Owners' Loan Corporation, which introduced long-term, low-interest, self-amortizing loans for existing homeowners. The second approach followed the European model of low-cost housing built or funded directly by the government; this was Title II of the National Industrial Recovery Act, which created the Federal Emergency Administration of Public Works (PWA), which set up both urban and rural housing programs. The National Housing Act of 1934 (48 Stat. 1246) built on indirect intervention, by establishing the Federal Housing Administration (FHA), which established national housing standards as a basis for providing Federal insurance for privately financed, long-term, self-amortizing mortgages for owner-occupied houses, residential subdivisions, and rental housing. Amendments to the NHA in 1938 (52 Stat. 8) and 1941 (55 Stat. 31) together broadened the incentives for home building and home ownership by making low-interest, long-term mortgages affordable for an increasing segment of the population. With planning assistance from the FHA the first private large-scale housing developments took form prior to World War II. In contrast, the creation of the Resettlement Division in 1935 expanded on the direct intervention approach, and the greenbelt town program, intended for working families with moderately low incomes, represented the government's greatest encroachment into the housing market. Public housing drew vocal opposition from the powerful real estate lobby, and the greenbelt town program, the New Deal's most visible housing program, was the lightning rod.¹⁹⁸

The National Association of Real Estate Boards (NAREB), the Chamber of Commerce of the U.S., and the U.S. Building and Loan League, leaders in the real estate lobby, argued that public housing in general, and the greenbelt towns in particular, represented unfair competition to private efforts and were not only unnecessary, but detrimental to the real estate market, because the low rents of public housing would reduce demand for new construction and delay the recovery of the private homebuilding industry. Walter S. Schmidt, president of NAREB, articulated this view: "It is contrary to the genius of the American people and the ideals they have established that government become landlord to its citizens... There is sound logic in the continuance of the practice under which those who have initiative and the will to save acquire better living facilities, and yield their former quarters at modest rents to the group below."¹⁹⁹

Opponents also denounced the greenbelt towns as socialist, their unsubstantiated charges convincing many Americans that the towns, with their cooperatives and their communitarian spirit, were exercises in state socialism. The Chamber of Commerce of the U.S. declared the greenbelt town program "an experiment in state control of far-reaching proportions," while NAREB called the program "undiluted socialism."²⁰⁰ Others criticized the overall construction costs. Some members of the press added fuel to the fire, printing articles about the towns under headlines such as, "First Communist Town in U.S. Nears Completion," "Tugwell Abolishes Private Property," and "The Sweetheart of the Regimenters: Dr. Tugwell Makes America Over."²⁰¹ The last article inspired a nickname for New Deal planners, "the Make-America-Over Corps."²⁰²

¹⁹⁸ Ames and McClelland, pp. 30-31; Robinson and Associates, Inc. and Shrimpton, pp. 20 & 58-62. The issue of home financing was treated in the second volume of the proceedings of the 1931 President's Conference on Home Building and Home Ownership. The Hoover Administration created the Federal Home Loan Bank (47 Stat. 725) in 1932, which served as a credit reserve and provided advanced funding secured by home mortgages to banks and savings and loan associations. The 1941 law was also known as the Lanham Act.

¹⁹⁹ Quoted in Robinson and Associates, Inc., and Shrimpton, p. 51.

²⁰⁰ Quoted in Cady, p. 298.

²⁰¹ Articles in the *Chicago American*, 28 October 1936; *New York American*, 29 October 1936; *American Mercury* 9 (September 1936), p. 78; all quoted in Arnold, p. 197

²⁰² Wright, *Building the Dream*, p. 222.

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The negative publicity Tugwell and the greenbelt towns engendered aroused public sentiment against direct government intervention in the housing market. Subsequent public housing legislation was enacted only with great difficulty, and with severe restrictions placed on the role of the Federal government and the cost of the program. The United States Housing Act of 1937 (also known as the Wagner Act) established the U.S. Housing Authority (USHA) as a permanent public housing program for very low-income families, but did not permit the USHA to directly build or manage public housing. The USHA was to act as the financial agent and to provide technical advice, but all other responsibilities were given to local housing authorities. Senator Harry Byrd, demanding assurances that the public housing program would not duplicate the "extravagant" expenses of the greenbelt towns, attached a rider to the Act that prevented the USHA from spending more than \$5,000 per dwelling unit.²⁰³ The debate over the role of Federal government in the housing market had ended. Thereafter, government policy was primarily one of indirect intervention, promoting and protecting capitalist investment by guaranteeing mortgages and providing building credit for developers through the FHA and the Veterans Administration loan programs.²⁰⁴

The physical design of Greenhills and the other greenbelt communities is their most enduring legacy. Even the National Association of Real Estate Boards, which supported both the private building industry and high standards for community building, lauded the three towns for their "excellent design," at the same time it was condemning all public housing projects.²⁰⁵ On this front, the communities overwhelmingly succeeded in their demonstration of desirable standards for neighborhood planning, efficient large-scale methods of construction, accommodations for increasing automobile ownership and use, and the design of convenient and comfortable low-cost dwellings. These communities provided an immediate response to the housing crisis and need for employment. In the process they entered a previously uncharted field—the design and construction of an entire community of neighborhoods, and a successful residential suburb built on innovative principles of large-scale construction. For designers—planners, architects, and landscape architects—they offered an unprecedented opportunity to perfect the American suburb, to employ new methods and materials of construction, and to apply their skills and knowledge on a grand scale. They succeeded in providing a model for regional planning by locating towns outside the urban center, preserving natural systems (woodlands and streams), and linking the communities with metropolitan systems of parks and parkways—which provided access to places of employment as well as expanded areas for recreation and conservation.

The greenbelt town demonstration projects became one of the most comprehensive proving grounds for the Federal standards of neighborhood planning, large-scale development, and durable low-cost suburban housing that became the basis for project approval by the Federal Housing Administration's program of Federal mortgage insurance. Most important they established an ideal in the form of what became FHA's "most desirable" standards for neighborhood planning and small house construction at a time when few private development interests could find the down-payment to qualify for long-term amortized mortgages that could be insured by the U.S. government. From the beginning the FHA standards emphasized the importance of planning residential neighborhoods, suggesting measures for developers to follow based on many of the recommendations of the 1931 President's conference, the best practices of community builders of the 1920s, who were closely allied with the NAREB, and to some extent the Radburn innovations.

Advance planning provided economic advantages for the developer and the home owner, but it was also seen as essential for the stability of long-term real estate values. The first edition of FHA's *Planning Neighborhoods*

²⁰³ Robinson & Associates, Inc., and Shrimpton, pp. 56-57.

²⁰⁴ Schaffer, p. 226.

²⁰⁵ Quoted in Arnold, p. 104.

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for *Small Houses* (1936) stated:

In the building and owning of a house, land is the first item of cost; environment is the final source of value. Whether from the point of view of economy, or of satisfaction with a property, or of marketability, no individual dwelling or class of dwellings may be considered apart from the land they occupy and the surrounding features which tend to make the land retain its value for residential purposes.²⁰⁶

These standards set forth general principles of design; many parallel the principles followed by in the greenbelt towns, including Greenhills. These include the need to ascertain the need for housing; selecting a site suitable for the proposed type of development; insuring accessibility to transportation, schools, commercial centers, and places of employment; and planning for the installation of utilities and street improvements. Neighborhood character, for the first time, was defined as an important aspect of blight-resistant residential design. Large-scale operations were encouraged for their economic advantages but also their potential in supporting nearby commercial services.

At the FHA, Seward H. Mott, formerly of Pitkin and Mott, a Cleveland landscape design firm that specialized in subdivision design, was responsible for devising the neighborhood standards as well as perfecting the design of streets for neighborhoods of detached, small houses that would qualify for FHA loan approval. For cost-efficiency, attractiveness, and safety, neighborhoods were to have a hierarchy of streets and a variety of street types. Major and minor roads were to be differentiated. Minor residential lanes and cul-de-sacs were to be incorporated and designed to closely fit the natural topography (avoiding costly cut-and-fill construction). In hilly areas, such streets offered multiple advantages "with the result that an attractive and unforced curvilinear layout is secured at reduced improvement cost, creating interesting vistas and doing away with the monotony of long, straight rows of houses." Blocks were to follow the flow of traffic, four-way intersections were to be avoided, and minor streets were to meet major streets at right angles. The planting of street trees was encouraged, and the services of a landscape architect were to be secured to obtain attractive landscape effects.

It is not surprising that FHA's *Successful Subdivisions*—the first of a set of land planning bulletins the agency introduced in 1938—advised developers and builders that streets should fit the contours of irregular land, traffic should flow toward thoroughfares, minor streets should enter major streets at right angles, and residential lots should be protected from major street traffic. Parks were to be viewed as a neighborhood asset and were to be placed in "rough wooded areas that are difficult to develop." On the value of the natural attributes of a building site, the bulletin stated: "Natural features of the site should be preserved... Each lot within a new subdivision should constitute a good house site, planned as to size, shape, and orientation to take full advantage of desirable views, slope of land, sunlight, prevailing winds, shade trees, and adjoining public spaces."²⁰⁷

Although the relationship between the RA and FHA designers who were working on similar design problems has not been determined, it is evident that a closer relationship than previously recognized existed between the designers of the Suburban Resettlement program and those of the FHA. For the designers of both agencies, the mid-1930s was a period of experimentation with many of the ideas that had coalesced in the 1931 President's conference and stemmed from the mandate for better lower-cost housing and safe, healthy neighborhoods. The initial purpose of the greenbelt towns, spurred in large part by Tugwell's visionary ideas as well as the deeply held principles of the RPAA, was to present a new paradigm of town planning and community development;

²⁰⁶ FHA, *Planning Neighborhoods for Small Houses*, Technical Bulletin no. 5 (Washington, D.C.: Government Printing Office, 1936), p. 1.

²⁰⁷ *Successful Subdivisions*, pp. 14-18.

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the FHA from the beginning set out to pursue more modest goals. Although these are similarities in their adoption of the Neighborhood Unit Plan and innovative principles of small house design, the essential distinction exists that the Suburban Resettlement program was focused on creating an entire community, while the FHA's purview extended only to house design and the planning of residential subdivisions.²⁰⁸

The two programs started out with two vastly different approaches to house design and construction. Providing a counterpoint to PWA's housing program that had been disbanded the previous year, the first publication of FHA standards *Principles of Planning Small Houses* (1936) was prefaced by the caveat that the bulletin did not "presume to offer a solution to the housing problem" or "infer that under existing conditions suitable new dwellings may be produced for all classes of families." Instead, it clarified: "It seeks only to demonstrate...what is presently possible, without resort to change in methods or materials, or other wide diversion from customary traditions in the home building field." Five basic house designs were suggested ranging from a minimal one-story house to a larger two-story, three-bedroom house. Likely as a result of its overwhelming endorsement by the 1931 President's conference, the innovations introduced at Radburn appeared in the standards among other more traditional practices for house and neighborhood design.²⁰⁹

Once they were built, the FHA officials could hardly ignore the successful innovations of the greenbelt towns. This influence would find its way into the revision of its standards for planning small houses in 1940. The revised edition of *Principles of Planning Small Houses* emphasized the goals of livability and low cost, the importance of beginning with a plan, and the necessity of a well-balanced design where "a maximum amount of usable space, with as much comfort, convenience, and privacy as possible, must be obtained for a minimum amount of money." Simple, expandable floor plans were suggested and an entirely new system of house design was introduced designing each home with an efficient interior layout and siting it on a cul-de-sac, taking into account the orientation of each room to sunlight, prevailing winds, and the view. Design of single, detached houses was not to be repetitive, but varied within a streetscape. Variations were encouraged by varying the roof types, and alternately orienting or revolving houses to the side of each lot or to front on the streets. [The houses in the Dillon Subdivisions of Greenhills conform with the one-and-one-half story model, which could accommodate two additional bedrooms in the attic.] Small additions could be added as porches, vestibules, utility rooms, dens, or additional small rooms. Versatility, variety and expandability became underlying principles for FHA-approved house design. Any plan could be oriented to take advantage of sunlight, prevailing winds, or garden views, simply by rotating the plan or reversing it and relocating the entrance door and living room windows.²¹⁰

Greenhills was particularly noteworthy for its demonstration of a variety of solutions for safe, convenient, and attractive neighborhood streets with access to nearby parks. Greenhills gained special praise in *Pencil Points* in 1936 for two aspects of design that distinguished it from the other greenbelt towns. The first was the layout of the town with naturalistic curvilinear streets that followed the natural contours of the land. The second was the innovative design of cul-de-sacs of detached and semi-detached homes proposed for terminal points where the roads extended along ridges and above wooded slopes. These innovations were in large part derived from

²⁰⁸ Special considerations for the presence of local zoning regulations and the requirement that protective covenants and deed restrictions be attached to the sale of homes gave the FHA leverage and control over potential deteriorating influences; because of the initial government-ownership, these factors were not considered in the planning of the greenbelt towns.

²⁰⁹ FHA, *Principles of Planning Small Houses*, Technical Bulletin no. 4 (Washington, DC: Government Printing Office, 1936), p. 1. The PWA's Housing Division had already been disbanded.

²¹⁰ FHA, *Principles of Planning Small Houses*, Technical Bulletin no. 4, revised ed. (Washington, DC: Government Printing Office, 1940), pp. 3 and 13.

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principles of landscape architecture long practiced in the design of upper-income suburbs – many like Roland Park in Baltimore and Myers Park in Charlotte, North Carolina, were the product of collaboration of developers and prominent designers who considered themselves town planners as well as landscape architects. More importantly, however, they fulfilled the requirements of spaciousness, cost-effectiveness, and safety called for in the President's 1931 conference. The cul-de-sacs designed for Greenhills were among the first successful designs of their type to apply high *quality* of professional standards to the design of neighborhoods of moderate-cost dwellings. As innovative prototypes they would inform the FHA standards for neighborhoods of small houses that would qualify for government-insured mortgages, shaping the design of American neighborhoods of moderate-priced homes for decades to come.²¹¹

Many have asked why the greenbelt towns have not been emulated more widely. Stein succeeded in publicizing the greenbelt towns along with other projects he had had a definite hand in the making, including Sunnyside Gardens, Radburn, Hillside Homes, Chatham Village, and Baldwin Hills (A FHA insured large-scale apartment community). Drawing international attention to the achievements of the American Garden City movement. Stein's book *Toward New Towns for America* was published first in England in 1950, and then in America several years later. While advocates Bauer and Mumford continued to call for garden-city planning, Stein continued to seek Federal support for new towns legislation, unsuccessfully in a country where private business interests once again flourished. Many argue with good reason that suburbs flourished in the 1950s due to the increasingly favorable terms of the FHA and G.I.-insured mortgages. In the process of becoming successful, the large-scale housing industry adopted standards that became formulaic and produced neighborhoods that were attractive but commonplace. Such efforts lacked the professional involvement, concerns for coordination on a regional scale, and the idealistic direction of the 1930s, which had been a golden decade as far as housing was concerned—a time when designers and policymakers embraced the Neighborhood Unit Plan and looked to new methods of construction to solve the Nation's most serious social issue, the housing of its citizens. Architect Robert Stern has reminded us of what was possible when the highest professional standards and the nation's finest designers were involved in the design of America's suburbs. In 1978, bemoaning the triviality of what had become the ubiquitous modern American suburb, he stated: "Our best architects have abandoned the suburbs to the ordinary practitioner and to the speculative builder. And the discipline of town planning has been allowed to die. For the past thirty years, there have been very few efforts made towards understanding the suburb and suburban architecture."²¹²

Conclusion

Greenhills is a physical expression of the aspiration of American urban planners of the New Deal era to provide a humane, pedestrian- and family-oriented environment that would encourage the residents to form a democratic and cooperative community. Greenhills, Greendale, and Greenbelt are as important for the model they continue to provide to urban planners as they are for their importance in American urban history.

Greenhills and the other greenbelt towns embodied the influence of the garden city model, yet were uniquely American. The towns embodied the foremost principles of architectural design, landscape architecture and town planning of the 1930s, which had developed over a twenty-five-year period and built on the synthesizing of the American planning traditions of informal, naturalistic subdivision design and formal City Beautiful urban centers with garden-city planning principles, which had first appeared in the U.S. in 1908. This synthesis was refined through the defense housing projects developed for the Federal government during World War I,

²¹¹ Dreier, 404, 417.

²¹² Robert Stern, "The Suburban Alternative for the 'Middle City,'" *Architectural Record* (August 1978), pp. 98-100, as quoted in Creese, pp. 359-360.

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and reinvigorated through the work of the RPAA, as exemplified by the plan for Radburn, New Jersey.

The greenbelt towns were experimental in so far as they were one of a set of previously untried approaches for stimulating the economy during the Great Depression and finding a solution for financing the development and long-term management of pleasing communities of low-cost small homes. The range of arrangements for funding, ownership, and managing public and private New Deal housing developments through the various Federal housing initiatives can be viewed as experimental. The experimental nature of building, financing, and managing large-scale housing development was indicative of Roosevelt's willingness to consult many of the nation's experts and implement a number of different approaches in hopes that collectively they could provide employment for a wide spectrum of skilled and unskilled workers. At the same time, these efforts would foster economic stability and advance progressive national goals, such as resource utilization, land-use planning, rural betterment, community development, the elimination of urban blight, and public recreation. That the nation's professional talents were tapped for their professional expertise, skill, and knowledge indicates a deep respect for the societal values as well as pragmatic skills and expertise shared by architects, landscape architects, planners, and artists and a willingness on the part of government officials to work with the professional organizations such as the American Civic Association, the American Society of Landscape Architects, the American Institute of City Planning, as well as the Regional Planning Association of America.

The 1930s reflects a period in which garden-city planning and improved house design were seen as venues for reducing urban blight (and the subsequent need for slum clearance) and solving urban social and economic problems. Rexford Tugwell's Utopian vision for self-sustaining, cooperative communities was perceived as radical and failed, and efforts to institutionalize the Neighborhood Unit Plan through state-approved planning statutes proposed by Clarence Perry and Harland Bartholomew failed. Despite persistent efforts, Clarence Stein failed to affect long-term Federal support for garden-city town planning. These failures were the result of a number of factors. Economic factors forced the original community plans to be scaled back and modified to remain within budget; the average income of those able to afford the rents in greenbelt towns exceeded that projected by the early planners. Opposition to what critics perceived as New Deal paternalism and Tugwell's radical views resulted in his departure from Washington and the reassignment of the RA programs to the Farm Security Administration at the U.S. Department of the Agriculture. Legal challenges to the government's acquisition of land resulted in the abandonment of the Greenbrook (New Jersey) project and threatened the legality and constitutionality of the whole resettlement idea. Finally it was the challenge issued from the home-building industry itself and the powerful leaders of the National Association of Real Estate Boards, with their allies in the Federal Housing Administration, which marginalized the government-supported, greenbelt town model in favor of long-term Federally-insured housing investments that were privately owned, mortgaged, constructed, and managed. Such projects, whether designed for large-scale rental purposes or to be sold as private homes, would conform to Federal standards and benefit from the terms of long-term Federally insured mortgages.

Whether viewed as experimental, visionary, or practical demonstrations, the greenbelt towns represent to an unprecedented degree what was possible when the minds and talents of the nation's brightest and most visionary designers, economists, and social reformers were brought together with public backing, funding, and labor. The suburban resettlement program provided an unprecedented opportunity for designers to work in an environment free of profit-driven motives and to respond to the call for better housing as a means for promoting social welfare and creating wholesome communities at a time when the home building industry, which had flourished in the 1920s, came to an abrupt halt. This was a time when the interdisciplinary talents that had convened in 1931 to forge a bright future for home building and home ownership found themselves unemployed and their recommendations unheeded.

Despite their socially minded purpose, the greenbelt towns and other American Garden City projects would come under attack by critics. Most vocal was journalist Jane Jacobs, who in the 1960s blamed the Garden City

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movement for America's post-World War II suburban sprawl, its lack of character, and the fragmentation of community identity. Railing against the decentralization of the residential suburb, she contended that Ebenezer Howard had "set spinning powerful and city-destroying ideas."²¹³

Timely lessons sprang from the experience of designing and constructing the greenbelt towns; the story of Greenhills' creation and its continuing role as a model Garden City community are testaments to a multitude of important factors that coalesced in the mid-1930s and would help define the American suburb of the mid-twentieth century. These include professional collaboration, a multitude of ideas for methods of large-scale development, the value of economic studies and interdisciplinary planning, coordination with regional and state planning, increasing influence of the automobile on American life, and increasing recognition of the socio-economic values of suburban living. By putting all these factors into play, the greenbelt towns, each unique in character but dedicated to common set of ideals, form an irreplaceable legacy—model communities that still attract scholars and students, planners, architects, historians, sociologists, and economists who ponder the question of whether good and thoughtful design can make both a healthy home and a livable community.

²¹³ Jane Jacobs, *The Life and Death of American Cities*, as quoted in Fulton, p. 164.

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Previous documentation on file (NPS):

- Preliminary Determination of Individual Listing (36 CFR 67) has been requested.
 Previously Listed in the National Register.
 Previously Determined Eligible by the National Register.
 Designated a National Historic Landmark.
 Recorded by Historic American Buildings Survey: #
 Recorded by Historic American Engineering Record: #

Primary Location of Additional Data:

- State Historic Preservation Office
 Other State Agency
 Federal Agency
 Local Government
 University
 Other: Village of Greenhills, Ohio

10. GEOGRAPHICAL DATA

Acreage of Property: ~375

UTM References: **Zone Easting Northing**

A	16	713597	4349696
B	16	713770	4349684
C	16	714331	4349432
D	16	714183	4349134
E	16	714299	4349691
F	16	714299	4348848
G	16	714466	4348848
H	16	714510	4348666
I	16	713965	4348356
J	16	712756	4348396
K	16	712695	4348690
L	16	713036	4349105
M	16	713253	4349198

Verbal Boundary Description:

Beginning at a point on the north lot line of 6 Damon Road 30 west of the northeast corner of said lot, the boundary runs west following the rear lot lines of the properties on Damon Road. At the southwest corner of the lot associated with Damon, the boundary crosses Springdale Road and continues along the rear lot lines of properties on Damon to a point on the north lot line of 70 Damon Road and corporate limit of Greenhills; continuing west along that corporate limit to the side lot line of 141 Bayham Drive, then south to a point on the

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rear lot line of 5 Bradnor Place, then west along the rear lot lines of Bradnor Place to the northwest corner of the lot associated with 10 Bradnor Place, then southeast to the northwest corner of the lot associated with 11 Bradnor Place, then southwest along the rear lot line of that property. At the west corner of the lot associated with 11 Bradnor Place, the boundary continues straight across Beckford Drive along the rear lot line associated with 54 Burley Circle, continuing to a point on the rear lot line of 22-23 Briarwood Place, then west along rear lot lines associated with Briarwood Lane to the west corner of 13 Briarwood Lane. From this point, the boundary continues west along the rear lot lines associated with Bayham Drive to a point on the rear lot line associated with 57 Bayham Drive, then northwest to the southwest corner of the lot associated with 53 Bayham Drive, then southwest to the corporate limit of Greenhills, then southeast, southwest, south, southeast and east, south, east, north and east across Winton Road following the corporate limit of Greenhills along the southern boundaries of parcels 597-0040-0038-90 and 597-0040-0030-90 to the southeast corner of 597-0030-0028-90, then west approximately 573 feet, then north to the southeast corner of the lot associated with 7 Hadley Road, then northwest along the rear lot lines on Hadley Road. From here the boundary crosses to the north curb line of Farragut Road at the southwest corner of the lot associated with 154 Farragut, then continues along the curb line of Farragut Road to Gambier Circle, where it crosses the street and continues along the west curb line of Ingram Road to the southeast corner of Ingram Road and Enfield Street. From here, the boundary crosses to the north curb line of Ingram Road and continues along the side lot line associated with 449 Ingram Road, then east along the rear lot lines associated with 449-437 Ingram Road, to the northeast corner of the lot associated with 437 Ingram Road, then north along the rear lot line associated with 11000 Winton Road to a point approximately 20 feet north of the southwest corner of the rear lot line associated with 13 Ireland Avenue, then west along the south line of parcel 597-0010-0254-00 across Winton Road to the west curb line of Winton Road, then north approximately 73 feet along the curb line of Winton Road, then west 170.81 feet along the north lot line of parcel 597-0060-0179-90 to the northeast corner of the lot associated with 42 Dayspring Terrace, then south to the rear lot line of 6 Damon, then east and south along the rear and side lot lines of 6 Damon Road to the north curb of Damon Road.

Boundary Justification:

The boundaries of the Greenhills National Historic Landmark District enclose all the resources that are historically associated with the development of Greenhills during the period of Federal ownership, 1935 to 1950, and lie within the Village of Greenhills plan as designed by Hartzog and Wank in 1936 and laid out between 1936 and 1938. These resources include the complete circuit road network—Cromwell, Damon, Farragut and Ingram, which was a defining feature of the plan and set in place with pavement, curbs and utilities in the community's initial phase of construction from 1936 to 1938. In order to include the circuit road, it was necessary to include 49 additional noncontributing homes and commercial buildings on the inside of Farragut and Ingram that were built in 1952 to 1958. Other residential subdivisions developed after 1950 beyond the circuit road in the northeast quadrant of the village were excluded. On the north, the boundary ends with the 1816 Whallon House at 11000 Winton Road, which was used as a field office by the RA planning staff. On the west, the boundaries include contiguous portions of the inner greenbelt as much as possible, which involved including seven noncontributing resources—a former school at 70 Damon Road built in 1955, enlarged in 1967 and subsequently converted to a nursing home in 1982; a cluster of apartments built in 1962 at 63 Cromwell Road; and five single-family homes built in the 1950s and 1960s at 64, 66, 68, 70, and 72 Cromwell Road. Two clusters of cul-de-sacs built in the 1960s in the "B" and "D" sections were excluded; they are Beckford and Bayham drives, Deerhill Lane and Dayspring Terrace.

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ACCOMPANYING DOCUMENTATION**List of Photographs**

Greenhills Historic District

Photographs by Beth A. Sullebarger

Date: 2015

Digital files at the Ohio Historical Society

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- 2 of 22. Shopping Center front, looking northeast
- 3 of 22. Rear of Shopping Center with Farmer's shed, looking northwest
- 4 of 22. Commons and Community Building, looking east
- 5 of 22. Community Building, looking northeast
- 6 of 22. Swimming Pool, looking northwest
- 7 of 22. Adelle Walk looking northeast
- 8 of 22. Bachman Park, looking north
- 9 of 22. Little Burley Park pathway, looking northeast
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- 11 of 22. 3 Alcott Lane, looking southwest
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- 15 of 22. 7-9-11-13 Brompton Lane, looking southwest
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- 18 of 22. 39-43-47-51 Drummond Road, looking, north
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Figure 3. Plan of Greenhills, Ohio, 1937. Courtesy of Village of Greenhills, Ohio.

Figure 4. Aerial photograph of Greenhills, Ohio, circa 1948, showing development of single-family houses on Damon Road on left and Gambier Circle on right. Shopping center is only half built. Courtesy of Village of Greenhills, Ohio.

Figure 5. Map of Winton Woods Park, the expanded greenbelt of Greenhills. Courtesy of Great Parks of Hamilton County.

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Figure 11. Gymnasium in Community Building, circa 1938. Courtesy of Library of Congress Prints and Photographs.

Figure 12. Library in the Community Building, circa 1938. Courtesy of Library of Congress Prints and Photographs.

Figure 13. Renderings and floor plans of typical house types. Courtesy of Library of Congress Prints and Photographs.

Figure 14. View of Damon Road, looking northwest, circa 1938. Courtesy of Library of Congress Prints and Photographs.

Figure 15. View of Andover Road, looking west, circa 1938. Courtesy of Library of Congress Prints and Photographs.

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Figure. 16. Elevations and plans for typical single-family house. Courtesy of Library of Congress Prints and Photographs.

Figure. 17. View of single-family house, circa 1938. Courtesy of Library of Congress Prints and Photographs.

Figure. 18. Elevation and plans for typical 4-unit row house. Courtesy of Library of Congress Prints and Photographs.

Figure. 19. View of 4-unit row house, circa 1938. Courtesy of Library of Congress Prints and Photographs.

Figure 20. View of living room interior, circa 1938. Courtesy of Library of Congress Prints and Photographs.

Figure 21. View of kitchen interior, circa 1938. Courtesy of Library of Congress Prints and Photographs.

Figure 22. Aerial view of Farragut Road, looking southwest, circa 1938. Courtesy of Library of Congress Prints and Photographs.

Figure 23. View of 36-37 Avenell Lane, looking southeast, circa 1938. Courtesy of Library of Congress Prints and Photographs.

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NATIONAL HISTORIC LANDMARKS PROGRAM
December 21, 2015

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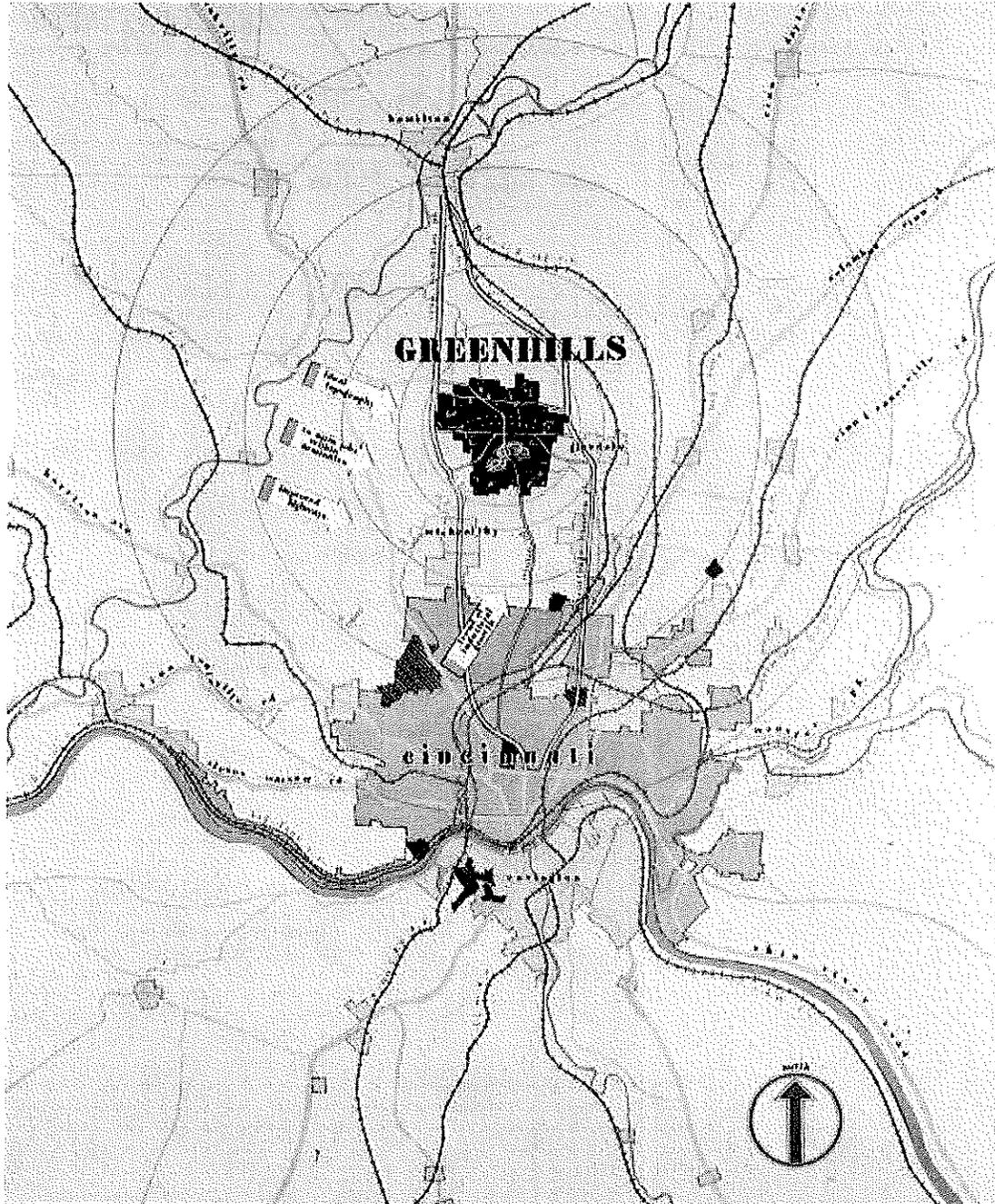


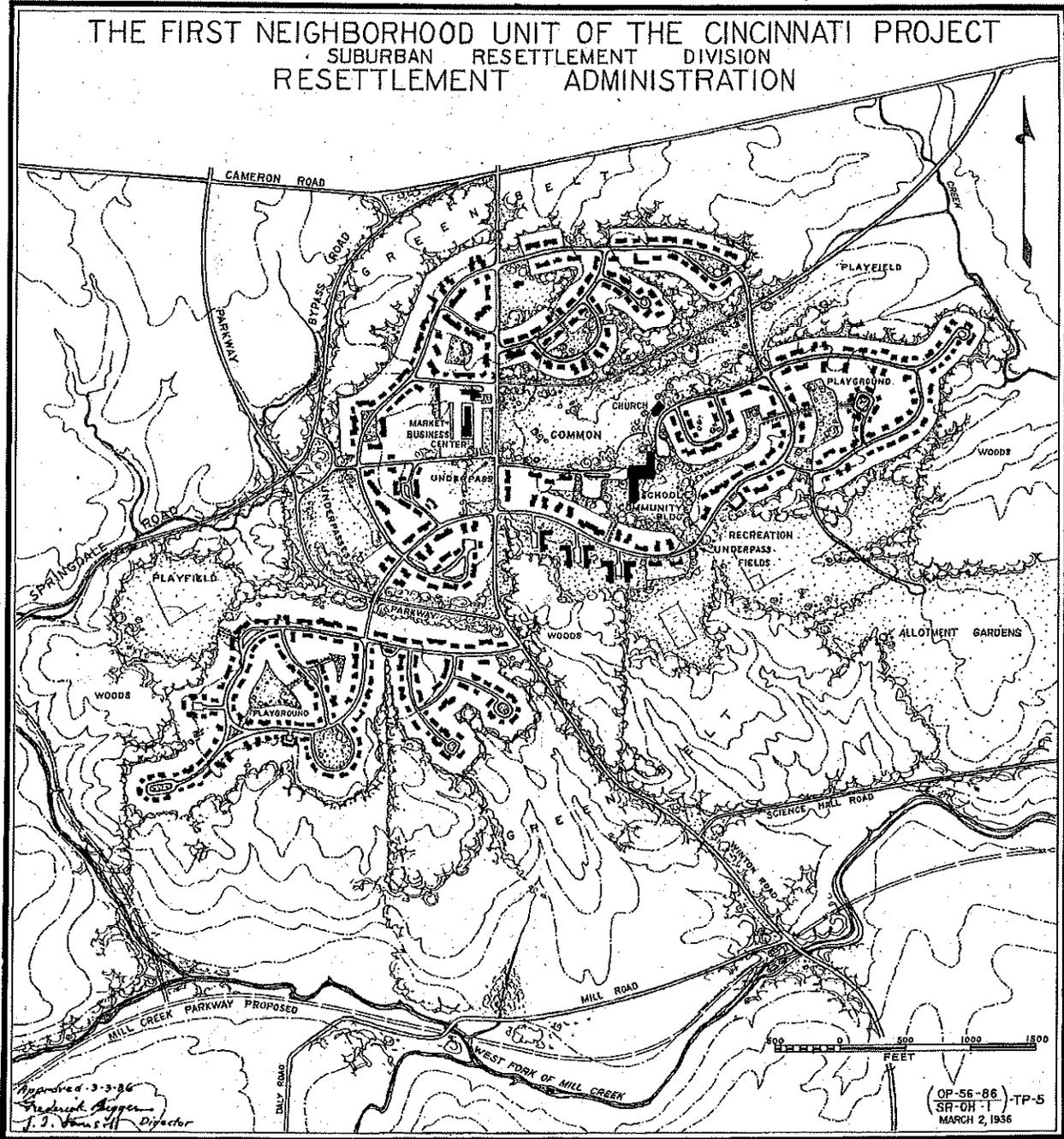
Figure 1: Regional map, Greenhills, Ohio, circa 1938.
Courtesy of Library of Congress, Prints and Photographs.

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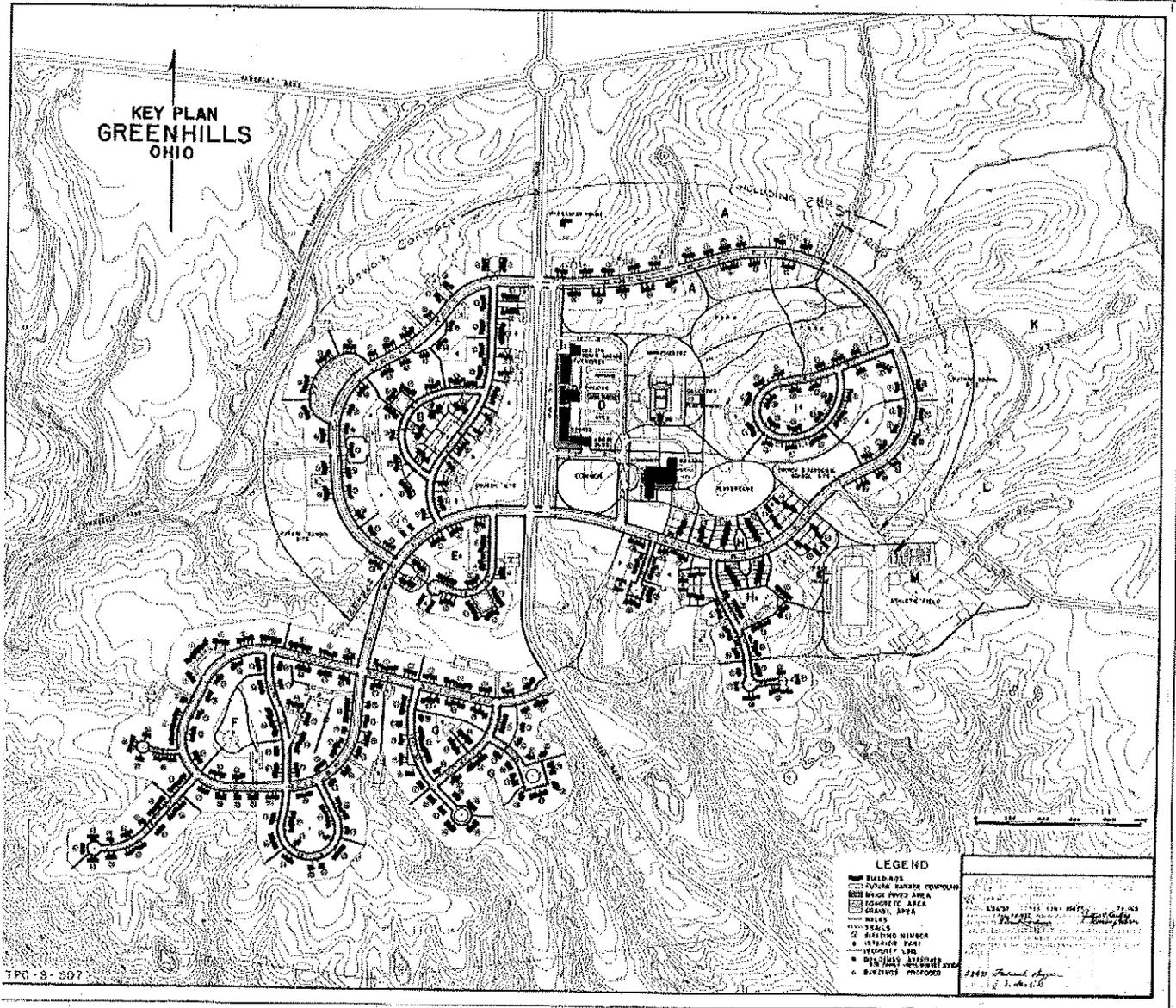
Figure 2. Plan of Greenhills, Ohio, March 2, 1936.
 Courtesy of Village of Greenhills, Ohio.

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Figure 4. Aerial photograph of Greenhills, Ohio, circa 1948, showing development of single-family houses on Damon Road on left and Gambier Circle on right. Shopping center is only half built.
Courtesy of Village of Greenhills, Ohio.

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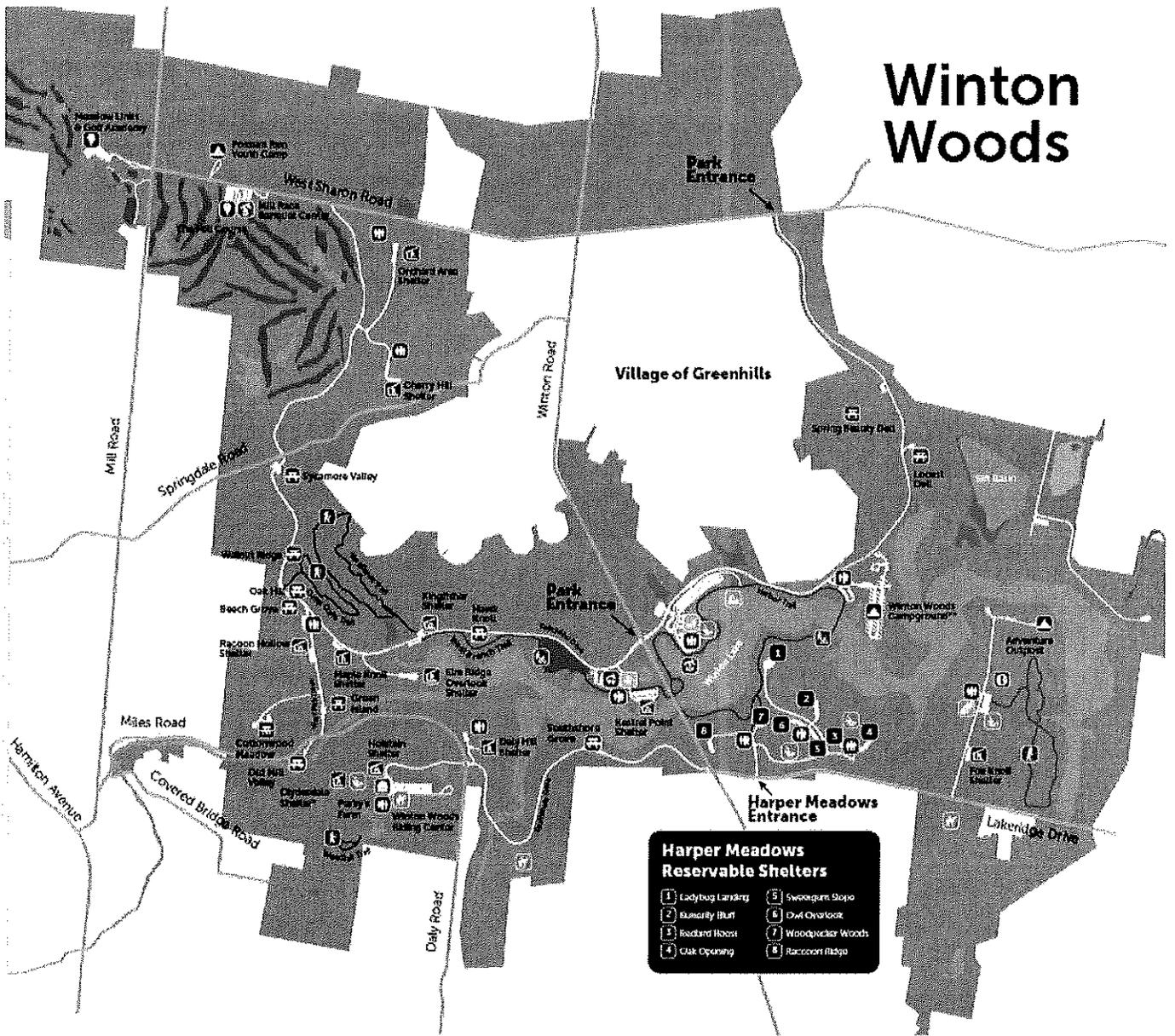


Figure 5. Map of Winton Woods Park, the expanded greenbelt of Greenhills. Courtesy of Great Parks of Hamilton County.

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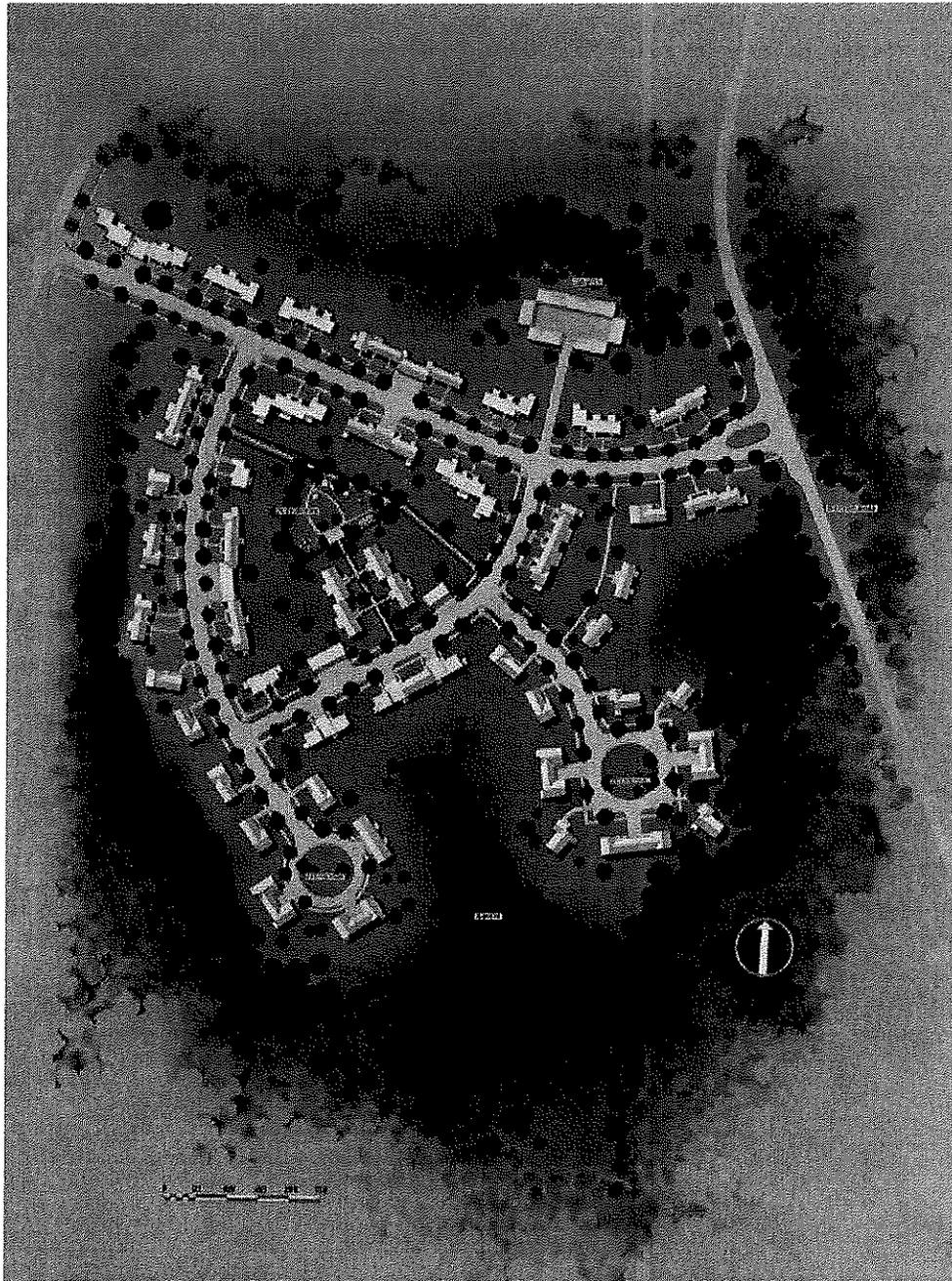


Figure 6: Block plan for the A section (Andover, Ashby, Alcott, Avenell).
Courtesy of Library of Congress.

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Figure 7: Municipal Management Building, circa 1938.
Courtesy of Library of Congress Prints and Photographs.

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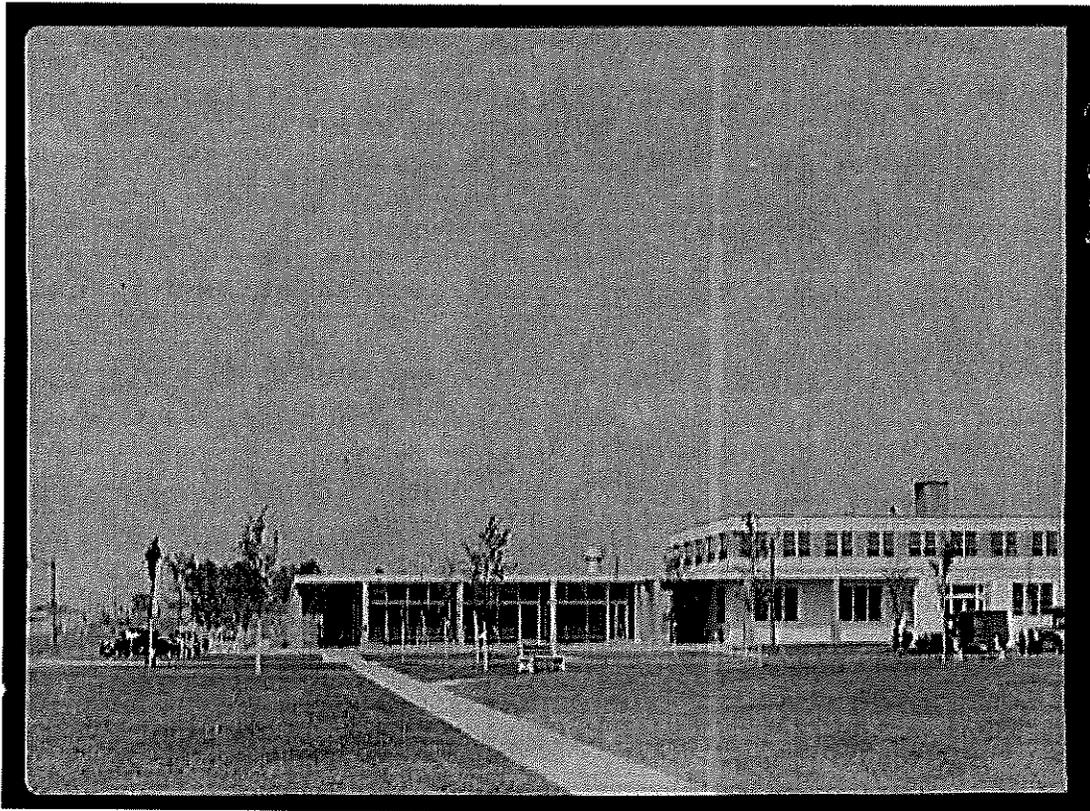


Figure 8: Shopping Center and Municipal Management Building, circa 1938.
Courtesy of Library of Congress Prints and Photographs.

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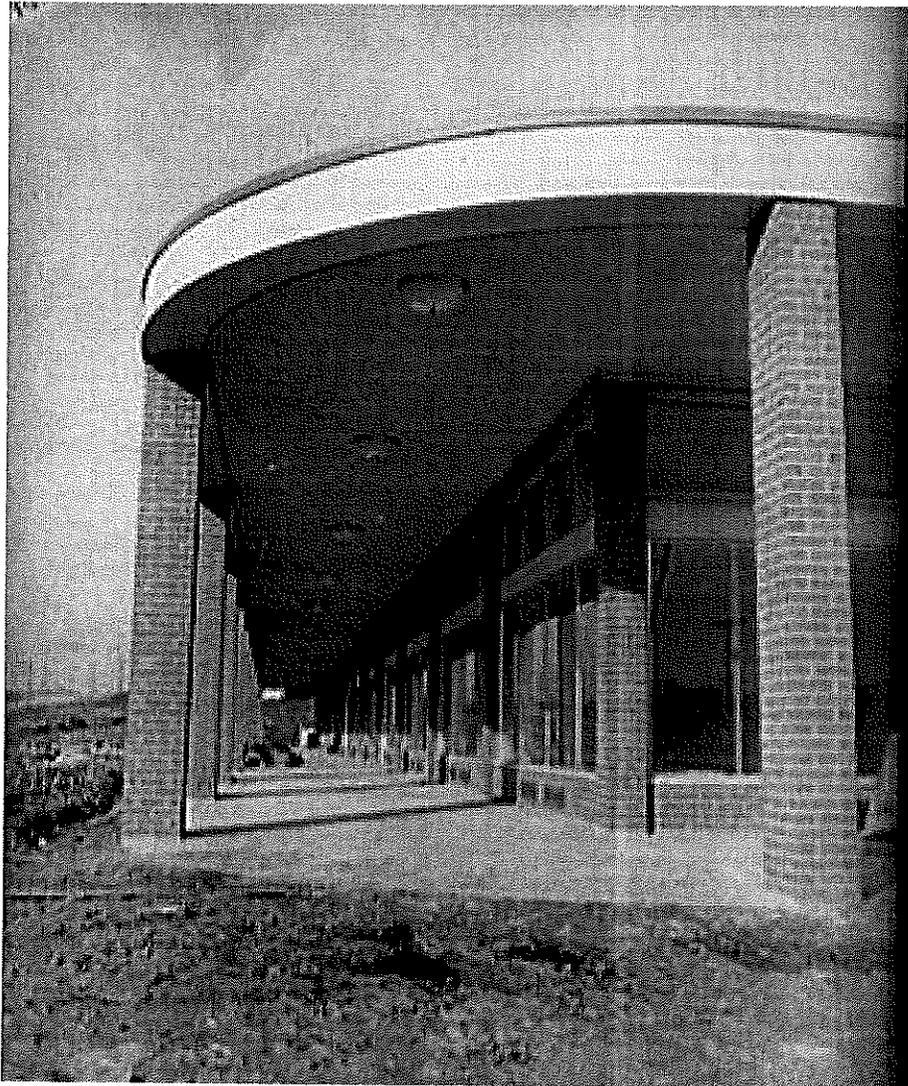


Figure 9: Shopping Center under construction, 1938, looking north.
Courtesy of Library of Congress Prints and Photographs.

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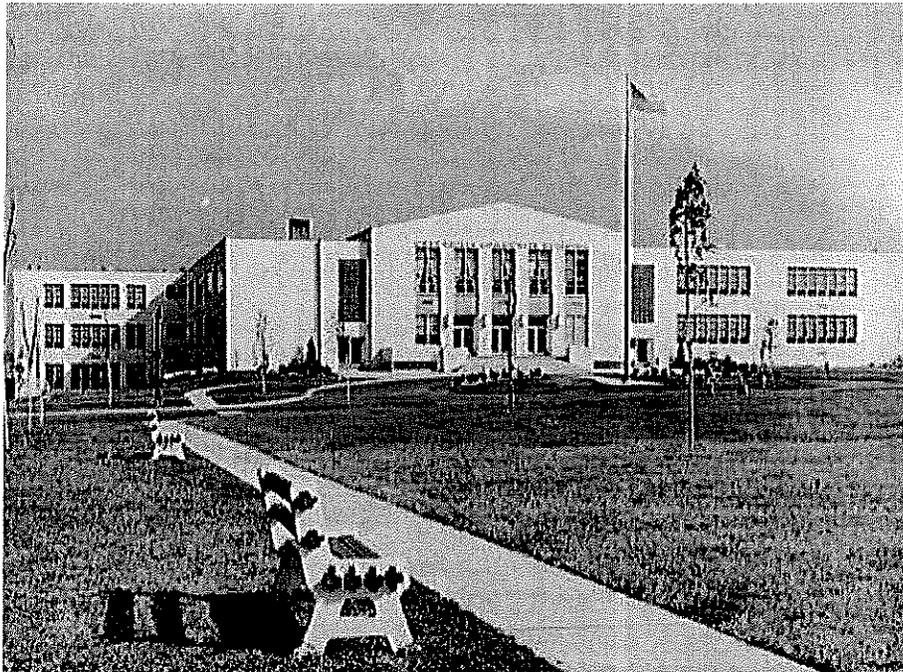


Figure 10. Community Building, circa 1938.
Courtesy of Library of Congress Prints and Photographs.

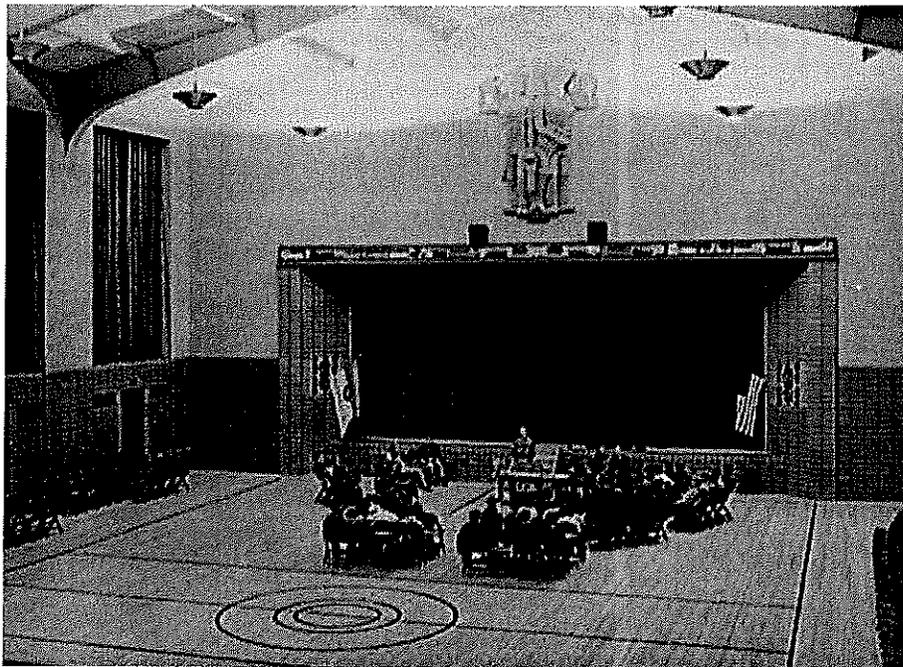


Figure 11. Gymnasium in Community Building, circa 1938.
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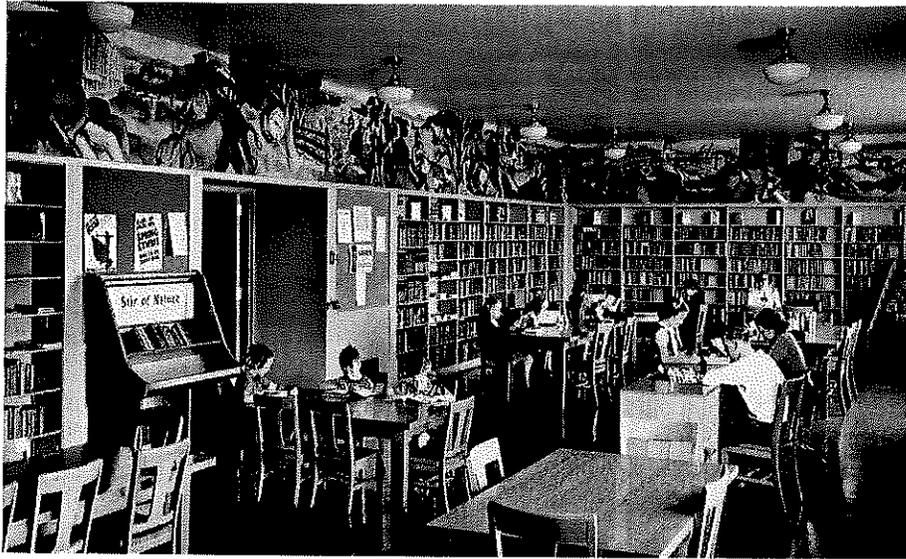


Figure 12. Library in the Community Building, circa 1938.
Courtesy of Library of Congress Prints and Photographs.

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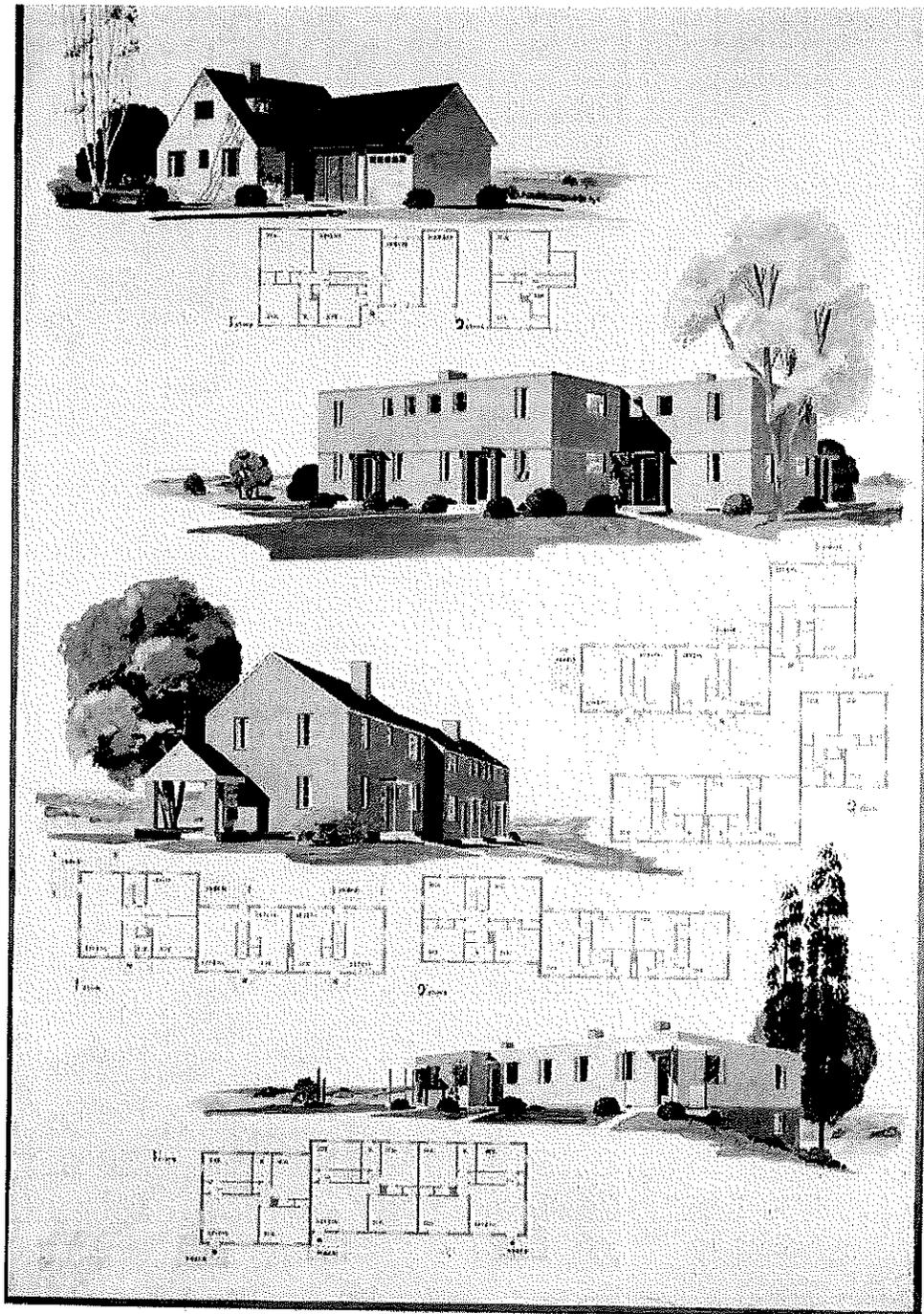


Figure 13. Renderings and floor plans of typical house types.
Courtesy of Library of Congress Prints and Photographs.

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Figure 14. View of Drummond Road, looking northwest, circa 1938.
Courtesy of Library of Congress Prints and Photographs.



Figure 15. View of Andover Road, looking west, circa 1938.
Courtesy of Library of Congress Prints and Photographs.

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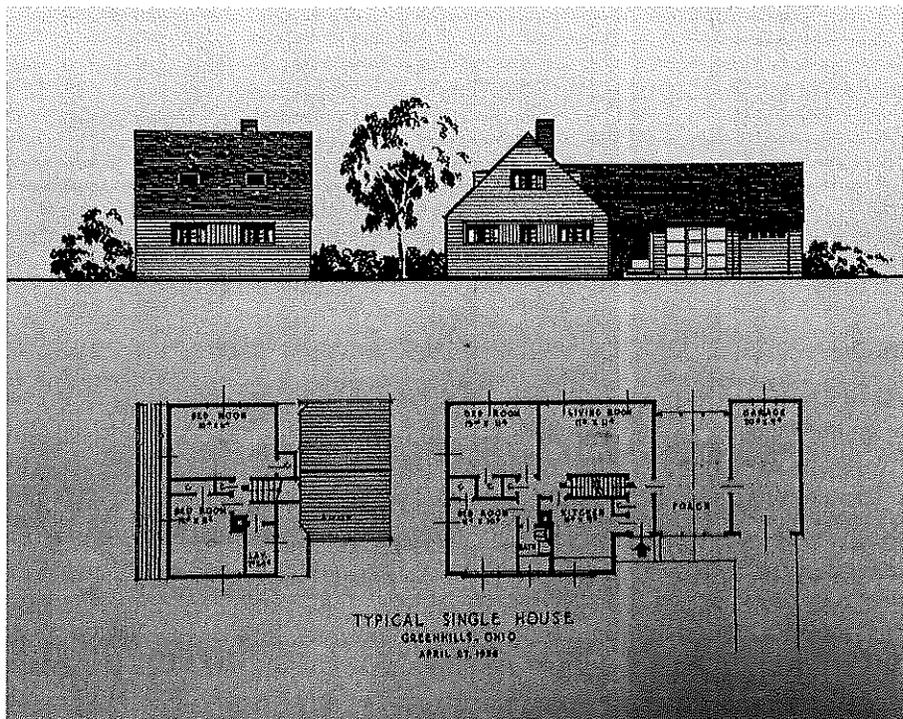


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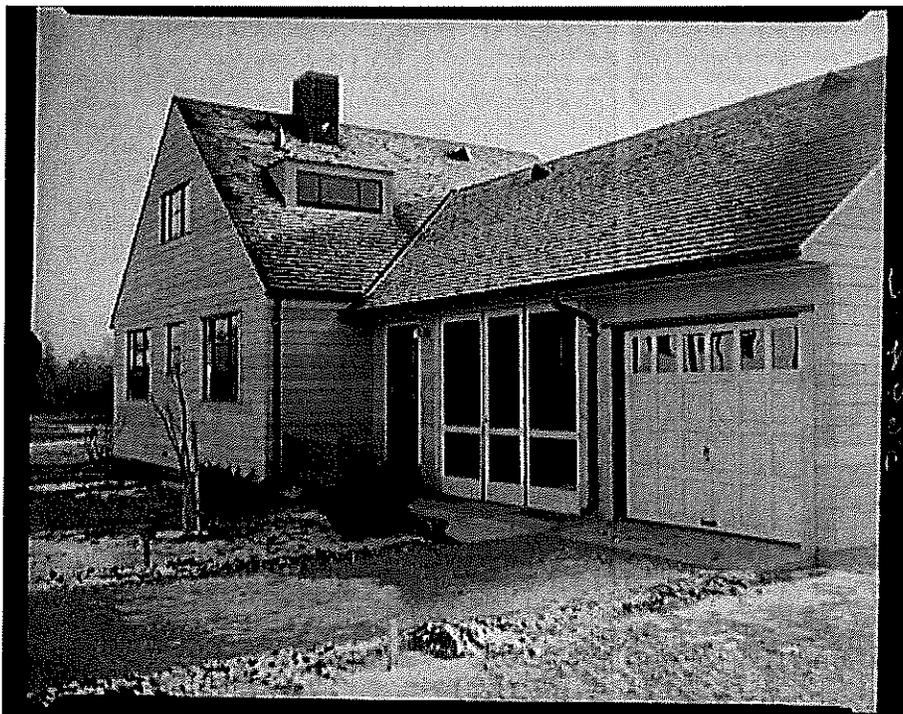


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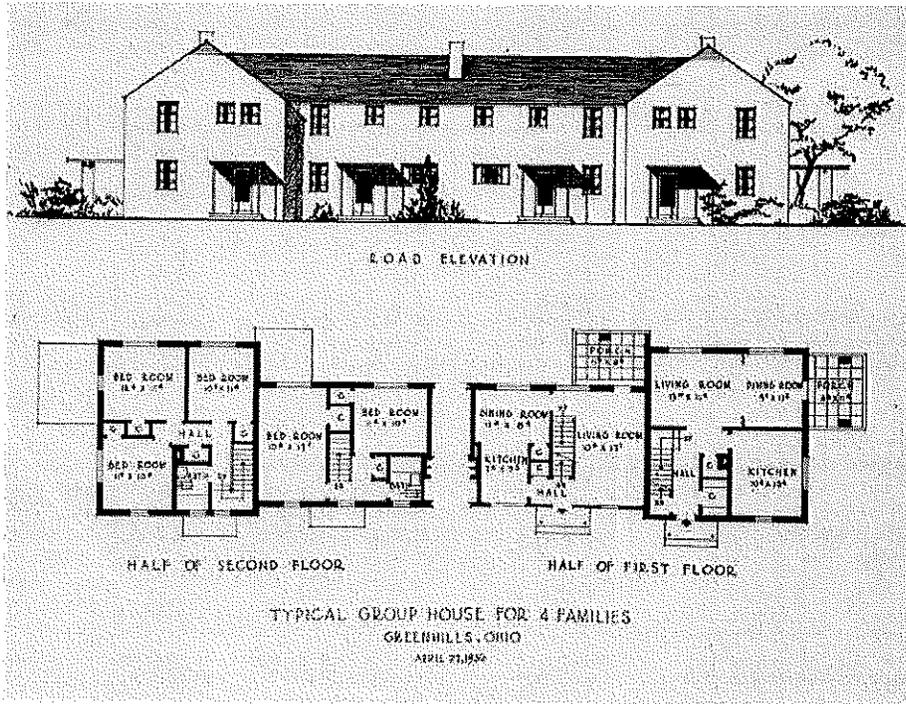


Figure 18. Elevation and plans for typical 4-unit row house.
Courtesy of Library of Congress Prints and Photographs.



Figure 19. View of 4-unit row house, circa 1938.
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Figure 20. View of living room interior, circa 1938.
Courtesy of Library of Congress Prints and Photographs.



Figure 21. View of kitchen interior, circa 1938.
Courtesy of Library of Congress Prints and Photographs.

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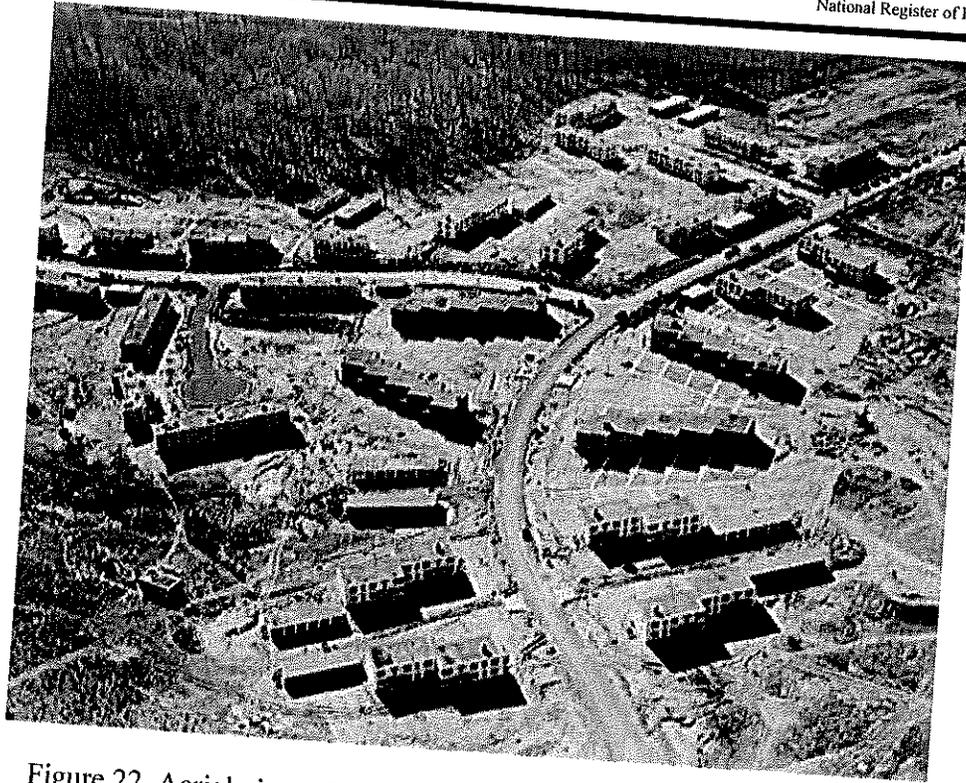


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Courtesy of Library of Congress Prints and Photographs.

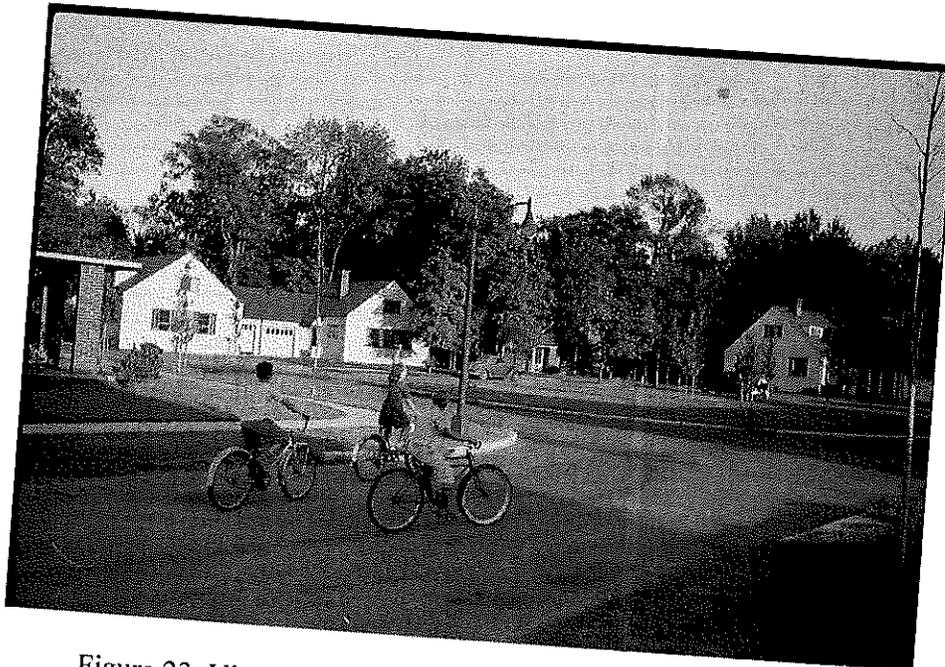


Figure 23. View of Alcott Lane, looking southeast, circa 1938.
Courtesy of Library of Congress Prints and Photographs.