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The Historical Origins and Causes of Urban Decentralization in the United States

Alexander von Hoffman
John Felkner

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I. Introduction

Over the last three decades the phenomenon known as urban or suburban sprawl has become the subject of enormous controversy. Critics have condemned unwanted urban growth as wasteful and unsightly. They charged that sprawl destroys the natural environment, causes traffic congestion, undermines a sense of community, and contributes to decay and concentration of poverty in inner-city neighborhoods. To prevent unwanted development, planners and government officials have proposed and in a few cases implemented such measures as "managed growth," "smart growth," and New Urbanist town plans.

Whether sprawl has intensified or simply become more obvious, more people are paying attention to it than ever before. Since 1995, according to one study, the use of the term “sprawl” as a type of urban growth has doubled in newspapers, magazines, and journals (Hess et al., 2001). The public outcry against sprawl has grown so loud that while running for the presidency in 2000, vice-president Al Gore raised sprawl as a national campaign issue.

Despite its notoriety, there is no commonly accepted definition of “sprawl.” Since it first appeared in the 1940s (OED, 2001), the term sprawl has been a pejorative term used to describe forms of development, usually occurring in suburban or rural locales, deemed undesirable for a variety of reasons. Although most writers on the subject characterize sprawl as “low density development” (Sierra Club, 1999; GAO, 1999; Lockwood, 1999; Popenoe, 1979; Burchell and Listokin, 1991; Burchell, 1998; Black, 1996; Moskowitz and Lindbloom, 1993; Orfield, 1997; Gordon and Richardson, 1997), some conceive of it as “continuous” (Harvey and Clark, 1965; Ewing, 1997), either in the form of concentric rings extending from the urban core (ASCE, 1999; GAO, 1999; Altshuler and Gomez-Ibanez, 1993; Lockwood, 1999; Harvey and Clark, 1965) or in ribbon patterns that run alongside major highways (Altshuler and Gomez-Ibanez, 1993; Harvey and Clark, 1965; Ewing, 1997). Others, in contrast, feel that an attribute of sprawl is discontinuity (Clawson, 1962:95), in which development “leap-frogs past undeveloped land to leave a patchwork of developed and undeveloped tracts.” (Altshuler and Gomez-Ibanez, 1993: 67; Burchell and Listokin, 1991; Burchell, 1998; Mills, 1980; Mieskowski and Smith, 1991; Gordon and Richardson, 1997; Harvey and Clark, 1964; Ewing, 1997). Still other writers believe that the defining characteristic of sprawl is the dispersion of places of employment—offices, factories, and institutions—and retail stores, especially those in commercial strips. Writers and more frequently people in everyday speech refer to sprawl as aesthetically displeasing, an ugly form of suburban development.

Whatever definition of sprawl they adopt, all commentators on the subject implictly or explicitly tie sprawl to decentralized patterns of urban growth. They conceive of sprawl as the opposite of compact development (Gordon and Richardson, 1997), whether in a single urban core or in dense nodes.

The dispersion of settlements outside an urban center is hardly new—Geoffrey Chaucer wrote of “suburbs” in *The Canterbury Tales*—but it is in the United States that suburbs and a decentralized arrangement of residences, businesses, commercial enterprises, and institutions emerged as the prevailing form of urban development.

Decentralized patterns of urban growth first appeared in the United States in the early 1800s, creating, as it were, early forms of sprawl. Throughout the nineteenth century, the forces encouraging the dispersion of urban land uses and population gathered strength. During the twentieth century, these forces were reinforced and new impetuses—including federal legislation—for decentralized urban growth emerged.

The full results of these forces for decentralization did not become apparent until the latter twentieth century. By 1970 the majority of Americans lived in suburbs, rather than in cities or rural areas. Such areas became increasingly independent of their urban cores: only one-third of those who live in suburbs commute to jobs in the central city. (Mitchell, 2001). In the United States suburban areas have become "the dominant American cultural landscape" (Hayden, 2000a) and American metropolitan areas are less dense and more "suburbanized" than metropolitan areas in other high-income countries (Mieszkowski & Mills, 1993).

An analysis of the history of urban decentralization is crucial to the understanding of twentieth-century development patterns. Many contemporary causes and patterns of urban growth have their roots in the American past. Moreover, a study of two hundred years of American metropolitan development makes it possible to distinguish which causes, influences, and challenges are unique to recent urban decentralization and not just continuations of an older pattern.

The following essay traces the origins, history, and causes of decentralized patterns of urban growth in the United States. It is the product of an extensive review of scholarly and journalistic works relevant to the subject of decentralized urban growth. The essay is organized chronologically and topically. Each of the three major sections of the essay is devoted to a chronological period—the nineteenth century, the twentieth century up to 1970, and 1970 to the present. The causes of urban decentralization in each time period are divided into six categories: physical, cultural, demographic, transportation, economic, and governmental.

This essay was undertaken to set the framework for a project done in cooperation with the United States Geological Survey entitled "Patterns and Process of Sprawl: Quantitative Measures, Typologies, and Case Studies of Urban Growth." This research project will identify distinct types of overall urban growth that characterize individual metropolitan areas, trace changes in socio-economic residential patterns and land use throughout metropolitan areas, and illuminate the precise reasons for significant changes in land use.

II. Urban Decentralization in Nineteenth-Century America

Physical Patterns of Urban Development

In 1800 the young republic of the United States was overwhelmingly agrarian. Only five cities, all located along the eastern seaboard, held populations greater than 20,000: New York, Philadelphia, Baltimore, Boston, and Charleston.[1] Although only a fraction of the nation's population lived in these small urban centers, the port towns wielded great influence. As distributing, producing, and marketing centers, they dominated their hinterlands and shipped goods around the world. (Callow, 1969). The towns were densely settled. As in European cities of the time, activities related to commerce and marine trades clustered on the waterfronts, and specialized industrial quarters were located close by (Warner Jr., 1969). Although small in size, the functions and physical plan of these embryonic cities set the stage for the growth of vast urban metropolises over the next two centuries.

Throughout history topography has greatly influenced physical patterns of urban development. The presence of major geographic features—such as large bodies of water, mountains, and bluffs—in effect forced cities to grow in certain directions and prohibited them from expanding in another. At the same time, city builders strove to overcome topographical conditions. To increase the amount of usable land in towns, they have extended shore lines into adjoining seas and rivers, filled in lakes and streams, and cut down hills. The great cities of today—from New York to Los Angeles—occupy land which was originally under water or too high and steep to build upon.

In the early decades of the nineteenth century, American cities multiplied and expanded, slowly at first and more rapidly thereafter, and as they expanded, geography influenced their evolving physical plans. Most of the important roads in nineteenth-century Boston were first established in the seventeenth century and therefore wound erratic courses around topographic features and local waterways (von Hoffman, 1994). In later years, after construction equipment allowed for the creation of straighter roads, these original courses persisted, thereby establishing the framework for the development around them. The land use patterns that evolved in nineteenth-century cities conformed to existing topography. Factory owners built their plants along waterways to use the water for industrial processes, drainage, or transport. Industrial workers often settled nearby to be near their jobs. Low-income housing developed in relatively inexpensive damp lowlands, which were most prone to flooding and unsanitary conditions. Prime residential areas, on the other hand—as in Cincinnati, Providence, or St. Louis—occupied the hills, which were drier and had better views. Up and down the valleys between hills were situated the residential areas of craftsmen, laborers, and artisans, often in two- or three-story buildings with shops on the bottom floors and residential quarters above or in back (Blackmar, 1989; Chudacoff, 1975; Rosenwaike, 1972).

[1] In 1800 the U.S. Bureau of Census reported that New York, with a population of 60,515, was the largest U.S. city, followed by Philadelphia with 41,220, Baltimore with 26,514, Boston with 24,937, and Charleston with 18,824 (Gibson, 1998).

As the towns grew, economic activities previously confined to the dense centers spread outwards, creating a strikingly mixed pattern of land use in the peripheral areas. Large landholders—predominantly farmers and estate owners—preserved agricultural territories, while the arrival of white-collar commuters gave sections of outlying neighborhoods a "suburban" cast. At the same time, the presence of other local population groups such as artisans, shopkeepers, small manufacturers, and laborers foreshadowed a more urban future (von Hoffman, 1994). Expansion of business and industry contributed to this chaotic and incoherent environment (Ward, 1969). Sometimes referred to as the "borderlands" (Hayden, 2000a; Stilgoe, 1988), the peripheral areas developed both enclaves for middle- and upper-class residents wishing to escape the compact city-centers and industrial areas which contained manufacturing plants and housing for the people who worked in them. Both the residential and industrial functions of the periphery continued to evolve in subsequent decades, eventually creating what we might today consider urban and suburban neighborhoods.

Cultural Causes

In the early nineteenth century cultural ideas emerged that would flower as the American suburban ideal, thereby encouraging dispersed patterns of urban growth in the United States. These ideas were articulated by a few influential individuals but became ingrained in philosophical and political values of the nation. By the end of the twentieth century, they had become almost unconscious: a central tenet of the "American dream."

American attitudes regarding the use of the land begins, perhaps, with the "prairie philosophy," the perception that the land needs to be tamed and is available in unlimited supply for development: "a notion of boundless space" (Moe, 1995). The same mentality that pushed back the American frontier has been linked to the drive behind the massive urban expansion that occurred concurrently (Burchell & Listokin, 1995; Downs, Linneman, & Richmond, 1995). In effect, this attitude provided a justification for uninhibited development of the urban periphery.

Just as important, perhaps more so, was the emerging ideal of the single-family residence. In the colonial period most townsfolk, including wealthy merchants, conducted business in their homes. By the early nineteenth century, American city dwellers who could afford to do so separated their workplaces from their houses and lived in their houses only with their own families and dependents (Blackmar, 1989). Even artisans longed for an independently owned house. Until the luxury apartment building came into vogue, the shared dwelling, especially the boarding house seemed declassé or a sign of immaturity.

From the 1830s onwards a flood of books, articles, and pamphlets stressed that the family and the home were key to a moral Christian life and encouraged the emergence of what historians call the cult of domesticity (Cott, 1977; Ryan, 1981; Clark, 1986). According to the nineteenth-century reformers, in the domestic division of labor men functioned as public figures and breadwinners and women as superintendents of domestic affairs. Increasingly these writers argued that the American family should live amidst a properly designed and domesticated landscape in the country or the suburbs.

As the century progressed, the cultural ideal of the suburb took form. Americans incorporated European, particularly British, notions of a moral landscape into the newly developed suburban areas. Fishman has traced the roots of modern suburbia, which he dubbed "the bourgeois utopia," to the late-eighteenth-century English suburban villas and their landscaped grounds outside London (Fishman, 1987). Fishman and others have argued that the architects of the evolving suburban form in America drew from English landscape designs, and followed a naturalistic or romantic approach inspired by the large English open spaces. This aspect in particular contrasted with the formal French and Italian landscape designs with their easily recognizable geometric schemes or Asian landscapes which sometimes used a tiny lawn to display small plants or sculptures (Fishman, 1987; Jackson, 1987).

From a philosophical perspective, the essence of both the British and the evolving American ideal was a desire for greater integration with nature, an expression of the romantic movement in Western society. The ideal envisioned a pastoral setting where an educated middle- or upper-class man of means could raise his family in a natural environment that was aesthetically, naturally, morally, and physically more healthful for the soul and mind. It allowed a removal from the ills of urban existence, such as pollution, congestion, and stress (Hayden, 2000a). The ideal elevated the benefit of the "aesthetic and moral nature," a linking of the "life contemplative with the life practical" (Fishman, 1987). Landscape designs stemming from English landscape gardens were seen as means of uplifting the minds and souls of American urban dwellers, elevating the moral faculties of the public, and improving aesthetic taste (von Hoffman, 1994).

The spread of these ideals was advanced immeasurably through the writings of several important authors. Among the foremost was Andrew Jackson Downing, the most literate and influential architectural critic of his generation and the most influential individual in translating the rural ideal into a suburban ideal (Lewis, 1996; Schuyler, 1996). He urged the multiplication of well-designed suburbs, which he defined as tastefully designed homes situated on lots with romantic-style landscaping, similarly styled parks, and curvilinear roads that followed the natural topography. He argued that the beneficial aspects of such suburbs were morally superior for the raising of families – an aspect of the American suburban ideal that would continue to be fundamental through the twentieth century. Other influential architects and landscape architects, such as Frederick Law Olmsted and Calvert Vaux, followed in Downing's footsteps and expressed these ideals in a number of extremely influential park and suburban designs.

Catharine Beecher, another popular writer of the time, stressed the moral reform of the family through domestic arrangements, particularly in the running of the family home (Beecher, 1842; Beecher and Stowe, 1869; Jackson, 1987). Author of a *Treatise on Domestic Economy* in 1842 and co-author of *The American Woman's Home* in 1869, she urged women to efficiently design and organize their houses and garden and run their homes in such a way as to nurture the spiritual and moral character of the members of their families (Beecher, 1842, Hayden, 2000a). Like Downing, Beecher encouraged American families to situate their houses in natural settings and bring nature—in the form of plants and sunny windows—into their homes.

By the 1850s, these values found expression in specific suburban communities and developments, including the appearance along country roads of Gothic and Greek Revival houses with lush landscaping. Architects and landscape architects began to

design entire new suburban communities, which featured curvilinear roads, landscaped house lots, and reserved parklands. New Jersey's Llewellyn Park, designed by Downing's collaborator, Alexander Jackson Davis, in 1853 and Riverside, Illinois, which straddled a rail line nine miles west of the Chicago loop, laid out by Frederick Law Olmsted and Calvert Vaux, were influential prototypes of the new suburb. After the Civil War, cities across the country developed landscaped upscale suburban communities such as Scarsdale, Swarthmore, Shaker Heights and Mariemont (Mitchell, 2001). Such developments were featured heavily in contemporary newspapers and magazines as models of American life, and similar landscaped enclaves designed by the Olmsted office from Atlanta to Buffalo set a standard for other architects and builders for decades to come (Hayden, 2000a). Fishman described the creation of these suburbs as the "triumphant assertion of middle class values" accompanied by "the alienation of the middle classes from the industrial world they themselves were creating" (Fishman, 1987).

Wunsch has criticized major historical analyses of the development of the American suburban ideal – those by Jackson, Fishman, Stilgoe, and Garreau (Garreau, 1991) – as failing to recognize that suburbs in the nineteenth century, from the beginning, contained not just the elite but the working classes as well as industrial developments (Wunsch, 1995). Nonetheless, the articulation of the suburban ideal and its realization in specific communities furthered patterns of urban decentralization in two fundamental ways. First, it provided an incentive for the urban elite to move to outlying areas and help to redefine them as "suburban." Second, it set an example of suburban living that over the next hundred and fifty years would evolve, be copied, and made available in one form or another to households across a spectrum of income groups.

Demographic Causes

Nineteenth-century urban growth and metropolitan development were caused in part by the pressures of demographic waves of migration and immigration. During the nineteenth century, the population of major American metropolitan areas grew at a rate that has never been equaled in American history. During the three decades prior to the Civil War, the number of urban residents grew by 64 percent from 1830 to 1840, and by 92 percent from 1840 to 1850. The population continued to grow dramatically in cities after the war (Chudacoff, 1975).[2]

Across the country geographic mobility was quite high in the nineteenth century, as many people were forced to move, while many others moved in search of a better life. It has been estimated that between 1830 and 1840 a total of 35,775 households, out of a total population of 61,000 in 1830, moved into and out of Boston. Thus, only two in every five residents in 1830 were likely to remain in Boston a decade later. Evidence indicates that other cities underwent similarly extensive turnovers (Knights, 1971). The attendant high mobility of farmers, artisans, and entrepreneurs resulted in "the

[2] For example, between 1800 and 1850, New York City's population increased eight-fold from 60,615 to 515,547. During the same period, Philadelphia increased from 41,220 to 121,376, Boston from 26,514 to 136,881, and Baltimore from 26,514 to 169,054, according to official U.S. Census figures (Gibson, 1998). During the 1850 to 1880 period, New York's population still expanded massively, more than doubling to 1,206,299, while Brooklyn's more than quintupled from 96,838 to 566,663 (Rosenwaike, 1972).

amplification of social complexity," especially in areas peripheral to major city centers (Chudacoff, 1975). The swelling of the urban population and the attendant population mobility resulted in the dramatic expansion of the densely urbanized areas.

There were two main sources for the enormous expansion of and turnover in urban population: massive waves of foreign immigrants and large migrations of rural Americans to city centers and city peripheries (Chudacoff, 1975; Nash, 1988; Palm, 1981; Ward, 1969). During the 1850s, the number of foreigners entering the United States was more than two million and the numbers continued to climb each decade. In 1900 the number of foreign-born in the United States exceeded ten million and first- and second-generation immigrants comprised a fifth of the American population. During the first half of the nineteenth century, most immigrants hailed from Ireland and Germany. In the latter decades of the century the newcomers came primarily from southern and eastern Europe, the middle East, and Asia.

Many of the immigrants poured into America's growing cities to take advantage of the economic opportunities. When the Civil War broke out in 1861, half the inhabitants of Chicago, Milwaukee, and St. Louis were immigrants. By the early twentieth century, three-quarters of the populations of New York, Chicago, Cleveland, Detroit, and Boston were comprised of immigrants and their children (Higham, 1984).

The flood of immigrants into the cities frightened middle-class American city dwellers, many of whom were migrants themselves from the American countryside (von Hoffman, 1994). The Irish who arrived in the first wave were associated with drunkeness and violence and their adherence to the Roman Catholic faith, something many Protestant Americans disdained. In the latter nineteenth century, the immigrants' alien languages and dress marked them apart from the native-born population. Many of the urban immigrants were poor, and crowded into scandalously crowded inner-city slums, which the middle-class considered breeders of disease and crime. The Haymarket bombing in Chicago in 1886 further associated urban immigrants with the specter of anarchy and revolution (Riis, 1890).

The perception that slums endangered the health and order of American society contributed to the dispersion of the urban population into the lands surrounding the central city. Throughout the nineteenth and early twentieth centuries, reformers urged that the slums be broken up and their residents moved to better housing, ideally single-detached houses with lawns and yards located in the suburbs. The movement of the working classes to middle-class style suburbs would have to wait until the latter twentieth century, but the specter of the slums encouraged many middle- and upper-class urban residents to forsake their city dwellings and move to the quieter, greener, and more sparsely settled regions on the city's rim.

Transportation Causes

Innovation and developments in transportation have been credited as the most powerful causes leading to urban decentralization in the nineteenth century (Lewis, 1996; Warner Jr., 1987). The introduction of such means of transport as ferries, rail lines, and cable cars encouraged metropolitan expansion by increasing economic links with peripheral communities and allowing the movement of workers from the city center to

the periphery. New forms of transportation helped enlarge and shape nineteenth-century metropolitan areas and facilitated urban decentralization in a way that no other innovation had done before (Chudacoff, 1975).

Although nineteenth-century metropolitan history has often been categorized according to transportation improvements, the development of the early-nineteenth-century "borderlands" preceded mechanized transport. In the years following the American Revolution, roads—including straight-line turnpikes built in the late eighteenth and early nineteenth centuries—and bridges linked cities with the surrounding countryside and the world beyond. Nonetheless, until the 1850s the settled areas of even the largest cities–including New York, Boston and Philadelphia–rarely extended beyond two miles from the city-center, the average distance a person could walk in half an hour. Thus, historians have labeled this early configuration *the walking city* because of its size and mode of conveyance (Binford, 1985; Chudacoff, 1975; Jackson, 1987). The limitations of walking largely contributed to the compactness of the early-nineteenth-century cities.

In terms of economic theory, the history of technological innovation in transportation systems is one of reducing cost and increasing speed and efficiency for the transportation of goods and people (LeRoy & Sonstelie, 1983; Mieszkowski & Mills, 1993). These increases can help mitigate the loss of "agglomeration efficiencies" brought about by urban decentralization. Cities have traditionally been characterized by the dense clusters of people and goods, which facilitates economic interactions that benefit from the close physical proximity of goods and information – termed "agglomeration efficiencies" (Glaeser, 2000). Consequently, there is a fundamental price to pay for physical decentralization in economic terms: a decrease in agglomeration efficiency. However, technological breakthroughs in transportation systems (or in communication systems) can mitigate or overcome agglomeration pressures, thus allowing decentralization (Beeson, 1992; Burchell & Listokin, 1995).

The advent of mechanized transport had a powerful impact on a number of cities. As described by Jackson, the introduction of regular steam ferry service between Brooklyn and New York in 1814 transformed Brooklyn into a major urban place over the following decades by attracting huge numbers of residents who sought refuge from the congestion of Manhattan (Jackson, 1987).

In general, population growth and the pressure for expansion in cities "was so substantial that it outmoded pedestrian movement as a workable basis for organizing urban space" and led to "the establishment of ground transportation networks" (Jackson, 1987). The subsequent advent of various forms of mass transit – first the omnibus, then steam commuter railroads, the horse railway, and the cable car – made access to peripheral communities possible for commuters. These transportation lines followed the extant major roads and encouraged further building along them, resulting in urbanized "spokes" of relatively dense development radiating outward from the center city and periodically reaching clusters or "nodes" of residences and stores which often had previously served as old village centers. As these networks enhanced property values along these networks, they encouraged further growth (Jackson, 1987; Lewis, 1996; von Hoffman, 1994; Warner Jr., 1973, 1987).

Railroad tracks often were laid out on new routes that followed the low and flat terrain. Trains were used by commuters to travel to work, thus the railroad encouraged

the development of residential areas for prosperous suburban commuters, including the elite railroad suburbs built up along the Main Line outside Philadelphia and through Westchester County outside New York City. (Fishman, 1987). Just as important to the development of the urban periphery was the work of the railroad carrying freight to and from the factories, also located in the lowlands and connected to the trunk lines by short spurs. The industrial development that the railroad lines fostered soon led to the building of workers' housing nearby. The building of transit lines reinforced the heterogeneous patterns of urban growth that were characteristic of nineteenth-century cities.

As railroad and streetcar service became more frequent in the late nineteenth century, increasing numbers of people traveled in and out of outer city and suburban neighborhoods for work, recreation, and even worship. In his research on outer city development in Boston, von Hoffman (1994) discovered that the practice of crosstown commuting—travel between homes and jobs, stores, and other destinations in outer neighborhoods and suburbs (rather than downtown)—dated from at least as early as the 1860s, long before the automobile highway era.

Economic Causes

Economic forces, including the commercial revolution of the eighteenth and early nineteenth centuries and the industrial revolution of the nineteenth century also fueled the dispersion of urban centers. In the process, these forces created enormous numbers of jobs and entrepreneurial opportunities and attracted immigrant and rural workers (Chudacoff, 1975), influencing the ways in which peripheral communities were developed.

During the first half of the nineteenth century, the northeastern U.S. shifted from an agricultural to an industrial economy as towns and cities became major producers of textiles, shoes, furniture, and other products, which they exported to growing American regional markets (von Hoffman, 1994). Consequently, rapid industrial growth, the generation of capital, technological innovations and cheap land combined with relatively high wages made the geographic expansion to peripheral land areas both necessary and achievable. This process has been called "a phenomenal realignment of urban society" and increasingly affected rural peripheral communities (Jackson, 1987; Nash, 1988).

The primary economic shift that occurred was the development and evolution of industry, much like what happened earlier during the industrial revolution in England. Initially, the open expanses of the periphery, located well away from residential areas, were considered a more suitable location for "noxious" industries—such as tanning and chemical manufacturing (Binford, 1985; von Hoffman, 1994). Also, some manufacturing required water or large spaces, both of which were often more available on the periphery. As noted above, when industries moved to peripheral areas, they attracted unskilled workers and the building of low-scale worker housing.

The districts beyond the cities also offered an advantageous location to entrepreneurs who wished to process hinterland goods for urban markets. Farmers oriented their production to the city market, and entrepreneurs processed hinterland materials for city buyers in cattle yards, slaughterhouses, grain mills, and other facilities. Others took advantage of inexpensive land on the periphery and operated foundries,

machine shops, brickyards, and other factories that produced goods for the urban economy (von Hoffman, 1994).

This increasingly diverse range of economic activities in peripheral areas included "glassworks, tanning, chandlery, brickmaking, butchering, processing of hinterland goods, leather manufacture, shoe factories, machine shops, rope walks, carpet production, rubber companies, iron foundries, breweries, soap plants and chemical factories." Not surprisingly, the growth of diverse economic activities resulted in a greatly reduced agricultural sector: between 1840 and 1850 the percentage of people employed in agriculture in Jamaica Plain, outside Boston, dropped from 66 to 10 percent. At the same time, entrepreneurs, craftsmen, and factory workers found a home in the outer city (von Hoffman, 1994).

During the second half of the nineteenth century, dramatic economic growth reshaped American cities. Technological improvements including the increasing ability to tap electric power expanded industrial capacity. National railroad and telegraph networks accelerated the speed of transportation and communications, bringing cities in closer and more rapid contact with one another and their increasingly productive hinterlands. Regional and national economies exploded, while commercial transactions in urban downtowns multiplied exponentially. American cities emerged as great manufacturing centers and immense clearinghouses of wholesale and retail goods for regional, national, and international markets.

The burgeoning economic activity spilled out of the inner cities into the outlying neighborhoods and suburbs. Building on the precedents of the first part of the century, the owners and managers increased and expanded the manufacturing plants, retail stores, and such services as real estate and insurance offices in the commercial and industrial corridors of the urban periphery.

With the rise of commuting and mass transit networks, professionals began to move from the central districts of the city to the periphery. Their presence encouraged the extension of financial credit, including the provision of credit for real estate development, beyond downtown into the outer neighborhoods. Most city investment banks in major American cities in the first half of the nineteenth century were devoted primarily to large-scale commercial and manufacturing enterprises, and small-scale suburban entrepreneurs had to look to individual investors for capital. But, with the participation of small investors, suburbs began to act as small capital-exchange zones including real-estate financing, a natural step since most early small-scale business or personal loans were secured with property as collateral (von Hoffman, 1994).

Historically, real estate in most residential neighborhoods had not been as valuable as prime downtown areas, but during boom periods in the nineteenth century, "neighborhood" real estate development could yield large profits. A study of Chicago land values during the late nineteenth century showed that upswings in real estate cycles lured many ordinary citizens and small operators to speculate in neighborhoods (Hoyt, 1933). Increasingly from the 1820s onward, neighborhood real estate businesses began to produce full-time specialists, many of whom had made money in individual trades before moving into real estate. The subdivision of land parcels and the construction on the resulting lots created new opportunities for investment in both lots and buildings, and in many cases contractors were local residents with small firms (Jackson, 1987; von Hoffman, 1996).

Although initially the increase in the diversity of peripheral economic activities led to increasing fragmentation of the borderlands, subsequently outlying communities began to assume more of the economic functions once reserved exclusively for inner cities. The expansion of economic activities out of the cities and the attraction of new economic opportunities in the periphery further promoted urban decentralization.

Governmental Causes

During the nineteenth century the political definitions of identity for the "city" versus the "neighborhood" evolved, and this was played out particularly in the political development of peripheral municipalities. These municipalities, as they grew in strength and population, were both strongly attracted to the resources of the central city governments, but they also wrestled with issues of local political autonomy that stemmed from deeper American political values. The evolution of these tensions directly affected the pattern of urban decentralization, initially resulting in city expansion through the power of annexation and later in reinforcing municipal political authority. This latter trend contributed, eventually, to a higher degree of municipal political autonomy in the United States as compared to other developed countries (Razin, 2000).

Local political identity was originally established during the colonial period with the characteristic small town government. These towns were established independently, carved out of harsh natural environments, and were granted individual charters by the provincial assemblies originally and newly formed state legislatures after the American Revolution (Callow, 1969; Rutman, 1969). Widespread support for small, local governments – founded on the concept of local representation – over regional government entities is a powerful and deeply rooted American political value (Baldassare, 1992).

As these towns grew and became part of larger metropolitan areas, a conflict arose between local loyalty and the metropolitan egalitarianism inspired by a functioning democracy (Binford, 1985; Rutman, 1969; Warner Jr., 1972). The growth of the peripheral communities led to problems with the provisions of services: schools, sewers, utilities, and police and fire departments. Jackson identifies four different possible approaches to this problem: cities could simply expand their boundaries by annexing newer sections into the municipal corporation; new municipalities could be created within the suburban ring; special taxing districts could be established to provide for one or more important functions; and county governments could expand their powers by becoming more like cities themselves (Jackson, 1987).

Throughout the nineteenth century, the first alternative, the expansion of boundaries by annexing, prevailed. For example, between 1850 and 1910 a dozen major U.S. cities expanded their boundaries by more than 500 percent through the addition of more than 800 square miles of land (Jackson, 1987). The most significant annexations in the nineteenth century involved the nation's three largest cities: New York, Chicago, and Philadelphia. Philadelphia annexed 130 square miles in 1854, Chicago 133 in 1889, while New York annexed Brooklyn, Queens, Staten Island, and additional parts of Westchester County that came to be known as the Bronx, increasing the size of the city

from 44 to about 300 square miles and increasing the population by almost two million (Ebner, 2000).

Gradually, however, the wealth and strength of peripheral communities grew, and the inherent autonomous tradition reasserted itself. During the second half of the nineteenth century, this localist feeling was encouraged by a stronger neighborhood and municipal self-consciousness and by improvements in local services and utilities (von Hoffman, 1994). Opposition to annexations increased. The first significant defeat for the consolidation movement was the rejection of annexation by Brookline in Boston in 1874. While Boston since 1868 had annexed, in turn, the cities and towns of Roxbury, Dorchester, Charlestown, West Roxbury, and Brighton, Brookline's successful rejection was not a rejection of growth or development but rather an expression of political autonomy, an expression by residents of "a determination to control the physical and social environment in which they lived" (Binford, 1985).

After Brookline spurned Boston, successful rebuffs of major eastern and midwestern cities followed, including Oak Park and Evanston in Chicago, Brighton and Irondequoit in Rochester, and Alameda County in Oakland (Palm, 1981). The desire to resist the control of central city governments stemmed partly from a reaction to the influx of immigrants into the city centers, creating sharper ethnic, racial, and class distinctions between the city and the peripheral communities, and the upper-middle class hostility to the urban political machines, which were seen as corrupt and dependent on lower-class votes. Hence, the desire for autonomy was both political and philosophical, offering the promise of greater "moral" control. As described in an antiannexationist editorial in the Morgan Park *Post*, a suburban Chicago weekly, in 1907:

> "The real issue is not taxes, nor water, nor street cars – it is a much greater question than either. It is the moral control of our village…Under local government we can absolutely control every objectionable thing that may try to enter our limits – but once annexed we are at the mercy of city hall." (Lewis, 1996)

While the large annexations expanded urban decentralization by increasing the city territory enormously, the resistance to annexation by the peripheral municipalities and their relative political strengthening also encouraged the growth of the peripheral areas by solidifying municipal identity. Thus, both processes were – at different times in different cities – responsible for urban decentralization and peripheral development.

This tension between localist autonomy and greater government integration reveals inherent, sometimes contradictory, American ideological principles. The American conception of property rights is based on the laissez-faire claim that the state exists only to protect those rights. At the same time, however, the concept of an overriding public interest can be used to justify central-city government control and annexation and restrain individual property rights that infringe on a larger communal good (Blackmar, 1989).

These conflicting impulses have been described by Altshuler as competing "ideo-logics". On the one hand, an American communal instinct highlights values such as equality, integration, and democracy and provides a rationale for government intervention to prevent market failures. On the other, the primacy of individual rights stresses

personal property ownership, the freedom to choose one's associates, the efficiency of market allocation, and the perverse effects of big government (Altshuler, 1999).

It can be argued that the annexation debates of the nineteenth century laid the foundation for the more elaborate set of local prerogatives that municipal communities possessed by the end of the twentieth century (Doyle, 2001; Rothblatt & Carr, 1986). In any case, by the close of the nineteenth century, the political foundations of independent communities within a metropolitan region were well established.

III. Urban Decentralization in Twentieth-Century America

Historian Jon Teaford points out that at the turn of the twentieth century in America "virtually all observers agreed that the age of the city had arrived" (Teaford, 1986). At that time economists, civic reformers, and many other observers concurred that the tremendous increases in city size that had taken place in the last half of the nineteenth century would continue. Yet, in retrospect, the twentieth century has not been the century of the city but of the suburb. The sprawling suburbs with their detached single-family homes often outpaced central cities as areas of most dynamic growth. Nonetheless, many of the trends, patterns, and processes that emerged in the nineteenth century evolved or continued relatively unchanged.

Physical Patterns of Urban Development

Geography seemed to exert less of an influence on the patterns of urban development in the twentieth century than it had in the prior century. Technological advances gradually gave Americans the tools to overcome all but the greatest geographic limitations, making what were physical barriers for the first American towns unimportant. Technology has mitigated the problem of trying to build in swamps, as modern construction equipment makes it easy to fill them in (leading, ironically, to legislation in recent decades to protect wetland areas). Increasingly complex (and affordable) building technologies allowed construction on steep slopes or in canyons, if that was desired.

The construction of the enormous metropolitan areas in the desert areas of the American west and southwest, including Los Angeles, Phoenix, Las Vegas and El Paso demonstrates that physical geography of the land is no longer an insurmountable problem. These cities and their recent urban decentralizations have been made possible by enormous infrastructure systems supplying water and electricity to regions previously incapable of sustaining large populations.

Luckingham has described how early settlers to the Phoenix area were almost wiped out by drought in 1900 when thousands of acres of land went uncultivated (Luckingham, 1982). It was the construction of water storage and transport systems on an enormous scale that allowed Phoenix and other desert cities to grow and become sustainable. Once the technology for large-scale storage and aqueduct systems existed, the problem became political and financial. To acknowledge that Phoenix's future depended on a consistent and plentiful water supply and to take advantage of the National Reclamation Act of 1902 designed to provide money for projects in the arid west, Phoenix residents formed the Salt River Valley Water User's Association and pressed the federal government for assistance. As a result, the Roosevelt Dam was built in 1911 with federally borrowed funds. In Los Angeles, the 200-mile long Owens River aqueduct was completed in 1907, with great pipelines springing over hills as large as mountains to bring water from the north to southern California.

The real challenge was the political and financial problem of negotiating water rights and obtaining capital to finance the construction (Fogelson, 1967). In subsequent

decades, the battle over water in the west centered on the preservation of existing water systems (rivers and groundwater) and their management for a sustainable future.

During the twentieth century, many of the spatial patterns of urban decentralization that were established in the nineteenth century persisted, but at a larger scale. Suburbs continued to grow and multiply outside central city districts. This expansion was often accompanied by city-center decay, and increasingly the most dynamic metropolitan regions were on the periphery.

The first major suburban expansion of the twentieth-century occurred in the 1920s. The decade saw a tremendous growth: in seven years between 1922 and 1929, new homes were begun at the rate of 883,000 per year, a pace more than double that of any previous seven-year period. Block after block turned into the American dream: one-story frame houses "with chain-link fences, white ruffled curtains, and wrought-iron posts holding up small front porches…" (Jackson, 1987). New suburbs sprang up on the edges of every major city. Between 1920 and 1930, the suburbs of the nation's 96 largest cities grew twice as fast as the core communities (Mills & McDonald, 1992).

The postwar period saw an even greater wave of suburban expansion than had the 1920s. Between 1950 and 1970, 1.2 million housing units were built each year, the vast majority as suburban single-family dwellings, and the nation's total housing stock increased by 50 percent, or 21 million units (Fishman, 1987). The new suburbs were characterized by more remote peripheral locations and relatively low density. Between 1946 and 1956, about 97 percent of all new single-family dwellings were completely detached, surrounded on every side by their own plots (Warner Jr., 1987). While large-scale new housing construction also occurred in Europe during this time, the American low-density pattern was a marked contrast to the European concentration on apartment buildings. In the U.S. postwar suburban expansion dwarfed urban growth: by 1950 the national suburban growth rate was ten times that of central cities.

Physically, this expansion was facilitated by the construction after World War II of major highway systems that often formed "belts" running in circular or semi-circular patterns through the developing peripheral areas. These highway belts served as new axes of residential and industrial growth. The size of subdivisions grew larger while at the same time they were targeted to ever-narrower income groups. The introduction of the automobile-oriented shopping center in Kansas City's exclusive Country Club District in the 1920s heralded a new physical plan for retail shopping which would in time overtake the old ribbon-shaped commercial strip (Worley, 1990). Industrial and commercial parks fed by the highways multiplied in the postwar era.

The suburban territory contained most of the same elements of the late-nineteenth-century outer city, but the patchwork quilt of land uses and population groups was now so large and far-flung as to leave the impression that the metropolitan landscape was an altogether new phenomenon.

Cultural Causes

The suburban ideal developed during the nineteenth century remained as a powerful American cultural vision in the twentieth century as well. However, the emphasis on the home increasingly replaced commercial values for moral ones as the

century progressed. The home became a marketable commodity, and the American suburban ideal was exploited and re-packaged for the masses in order to complete the sale of millions of suburban homes.

Inherent in this promotional and reform vision of the middle-class house was the idea that the family home – as a retreat protected from the instability of a competitive, capitalistic world – could serve as the central, stabilizing force for American democratic society (Clark, 1986). This ideal that a single-family home would protect and strengthen the family, shore up the foundations of society, and instill the virtues needed to preserve the republic was reflected in magazines and advertisement after 1900. It helped fuel a suburban construction boom in the 1920s and thus furthered urban decentralization.

Yet this cultural ideal changed after 1900. New theories of sanitation and efficiency, especially as they applied to domestic life, were trumpeted in popular magazines and newspapers of the time. This emphasis developed into a crusade, with magazines such as *Good Housekeeping*, *Cosmopolitan*, and *Hearth and Home* urging that the house be made more healthful. During the 1920s, the bungalow, preferably with its open-air sleeping porch, was championed as the best choice for a new suburban house. Particular attention was paid to kitchens and bathrooms, and the new ideal for these, according to Katharine C. Budd of *Outlook* magazine, combined the latest in household appliance technology and sanitation (Teaford, 1986). The new rendition of the suburban ideal followed in a similar spirit: planned community services and expertly managed expansion (Hayden, 2000a).

The end of World War II in 1945 launched a wave of suburban expansion heretofore unseen, urged on by federal financing programs and by post-war euphoria, creating a period of "suburbia triumphant" (Teaford, 1986). Clark describes a post-war "exuberant chorus of optimistic voices" (Clark, 1986). Twenty years of depressed hopes and wartime restrictions melted away and were replaced by a new vision of the ideal home – the "Dream House of the Future" – that differed substantially from its bungalow and Neo-colonial predecessors. New designs and visions of "ranch" or "contemporary modern" homes filled magazines and suburban tracts, and the marketers' and magazines' eager descriptions of them matched the powerful optimism of the time. Housing design and construction emphasized mass production techniques, speed, efficiency, and the latest in technology, planning, and building materials. Leading architects complained of a lack of emphasis on aesthetics.

With the baby boom, America and its housing industry became focused on the needs of the consumer-family. Advertisements and marketing for suburbs proclaimed the availability of design features conducive to raising children, such as "family rooms," "play rooms," and large backyard patios with barbeques. Manufacturers of appliances and cleaning products created the image of housework as "easy and fun" and appealed to women consumers looking to technological innovation to free them from the hard work of "domestic economy." (Clark, 1986; Hayden, 2000a). The American suburban ideal had now become big business, and the suburbs were marketed on a mass-basis and sold accordingly. With the ever-expanding growth of consumer culture and choice, the home became a reflection of personal taste and accomplishment.

Yet the nineteenth-century ideal of the home as a stabilizing force in an otherwise chaotic society endured, and continues to endure, although it is less steeped in the moral, pastoral philosophy. The home had become not so much a moral as a psychological

haven. Suburban home marketers more frequently used terms to convey this sense of psychological well-being: "comfort through convenience," "livability," "character," and "fun." (Clark, 1986).

Demographic Causes

The populations of central cities continued to grow during the first few decades of the twentieth-century until about 1950, when extensive suburban construction and migration to suburban areas spurred a decline in city populations. For example, New York's population more than doubled from 1900 to 1950 – from 3,437,202 to 7,891,957 – and then leveled off, reaching only 7,894,862 by 1970[3].

This increase in population was supported by shifts in the flows of peoples to the cities. The number of immigrants to the cities decreased markedly after 1920. During middle and late twentieth century, European immigrants and their descendants (known as ethnics) assimilated and moved to the peripheral areas – often suburbs. In their stead came black and white migrants from rural areas in the South who were attracted by the urban industrial jobs created by the economic expansion accompanying World War I. Spurred by the mechanizing of agricultural labor, African-Americans fled the rural south to escape racial segregation and economic and political oppression. Mexicans, Puerto Ricans, Cubans, and other Hispanics also went north to the cities in significant numbers. As the racial minority groups expanded their settlement areas out of the inner-city ghettos and into the outer city, the whites who lived there previously often decided to move to locales further out. Thus, the continual ethnic flux further encouraged urban decentralization.

In addition to the rise of intraregional migration to U.S. cities, postwar suburban expansion was radically enhanced by the population explosion, known as the "baby-boom," that began in the mid-1940s and lasted for two decades later. After the war, both marriage and birth rates rose and remained high. First the return of soldiers from World War II and subsequently the "baby boom" created an immediate and pressing need for new housing, spurring on massive suburban construction. The result was an unprecedented suburban expansion: housing starts between 1946 and 1955 doubled over the preceding 15 years, and between 1950 and 1960 suburban areas grew by 46 percent (Zukin, 1991).

While middle-class whites filled the suburbs after World War II, black ghettos in the cities endured and even expanded, supported by discriminatory and exclusionary practices, until the 1960s in some places and later in others. Only in the closing decades of the twentieth century—with the gains afforded by the Civil Rights movement and economic mobility--would middle- and upper-class African Americans obtain the American suburban dream in noticeable numbers.

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[3] During the same time period, Chicago increased from 1,698,575 in 1900 to 3,620,962 in 1950, and then actually reported a decrease by 1970 down to 3,366,957. Philadelphia, Detroit, Baltimore and numerous other large cities also reported decreases in city population between 1950 and 1970, after increasing steadily since 1900 (Census, 1975).

Transportation Causes

Perhaps the technological innovation that had the greatest impact on metropolitan form during the twentieth century was the automobile. The automobile changed the lives of average Americans. Unlike European manufacturers who concentrated on expensive cars for the rich, American entrepreneurs turned at once to the production of economical vehicles that could be mass-produced. In 1908, twenty-four American companies were producing simply constructed automobiles. By 1920, there were thirteen Americans for every registered car; by 1960, this number had dropped to three (Mitchell, 2001).

The automobile provided unprecedented freedom of mobility for Americans, and this directly affected metropolitan decentralization. With this mobility, more Americans had the ability and the financial means to move to the suburbs and commute. Moreover, urban expansion and suburban construction were freed from their dependence on fixed rail transport and the cable car, which forced development to cluster along rail routes and at the junctions of transit lines.

Concurrent with the growth of automobile ownership was the increase in the use of trucks for the movement of supplies and goods. The ratio of trucks to cars grew from 1 to 55 in 1905, to 1 to 6 by 1935 (Census, 1975). Goods could now be moved to wholesale distribution centers on the periphery, allowing the decentralization of wholesale distribution centers (Baldassare, 1992; Warner Jr., 1987).

The explosion of automobile and truck use would not have been possible without a simultaneous enormous investment in road construction. Early in the century, special interest groups lobbied for new streets, as the automobile quickly became an integral part of the entire economy. To avoid congestion, "expressways" were soon created in most major U.S. cities.[4] The federal Interstate Highway Act of 1956 created a new generation of high-speed automobile roads, many of which connected the central cities with far-flung suburban locales. The newly built federal interstate highways encouraged the development of new suburban homes and businesses within easy access of the roads—a situation which left old businesses without customers, as humorously exemplified by the Bates Motel in Alfred Hitchcock's 1960 movie, *Psycho*.

Economic Causes

From 1900 to 1970, the U.S. experienced tremendous technological and economic development. Urban decentralization occurred in several waves of expansive construction which paralleled periods of general economic growth. Advances in techniques for the mass construction of housing, the increasing ability of the middle class to purchase homes, and population growth all fueled huge increases in the number of people seeking to purchase single-family homes in urban periphery areas. This process

[4] William K. Vanderbilt's Long Island Motor Parkway (1906-1911) was the world's first thoroughfare restricted solely to the automobile, and especially designed for its needs (Jackson, 1987). Soon, numerous others followed. In New York, for example, the Bronx River Parkway was begun in 1906 and completed in 1923, the Hutchinson River Parkway was completed in 1928, the Saw Mill River Parkway in 1929, and the Cross County Parkway in 1931 (Jackson, 1987).

was accompanied by a general decentralization of urban industrial centers, which in turn provided employment centers for peripheral suburban residents (Baldassare, 1992).

New industrial and commercial decentralized forms accompanied suburban expansion. Due in large part to the mobility offered by the automobile and the truck, the pressures for industry and manufacturing to move out of the urban core increased considerably, furthering urban industrial decentralization. Between 1920 and 1930, the proportion of factory employment located in central cities declined in every city of more than 100,000 residents in the United States." (Jackson, 1987; Sassen, 1990). Warehousing and distribution activities followed the factories to the urban edges, where almost all new industrial construction took place after 1925 (Baldassare, 1992).

During the years of the Great Depression, the housing boom of the previous decade came to an abrupt halt. Between 1928 and 1933, the construction of residential property fell 95 percent, and expenditures on home repairs fell by 90 percent (Jackson, 1987). Yet the Great Depression saw the beginnings of development of the inexpensive mass production of housing, epitomized by the work of Levitt and Sons of Long Island. Constrained by the severity of the depression, yet seeking to expand home-ownership, the Levitts created numerous tract housing developments. Island Trees, later named Levittown, near the Town of Hempstead, New York, begun in 1946, was their most famous, ultimately encompassing more than 17,400 separate houses and 82,000 residents, and catering to large numbers of GIs returning from the war. The intention was to meet a pressing housing need for young families and to provide the best shelter at the lowest price (Chung, Hoben, Chalder, & Eigen, 1999).

The tremendous postwar suburban expansion was driven by a number of economic forces. Among them was the rising standard of living for the masses of Americans, and the attendant emergence of a consumer culture and economy. Another factor was the growth of the military-industrial complex, which originated in the economic mobilization for World War II but which grew exponentially during the Cold War. The construction of defense-related plants in peripheral areas and the infrastructure to supply them helped generate further growth in the urban hinterland.

Soon the entire range of economic activities could be found as easily outside the cities as within. By 1970, in nine of the 15 largest metropolitan areas, suburbs were the principle places of employment (Jackson, 1987; Warner Jr., 1987). Between 1950 and 1970, manufacturing became increasingly dispersed, with many enterprises relocating to suburban "industrial parks" or to the less expensive South and West. At the same time, insurance companies, branch banks, regional sales staffs, and doctors offices reduced their costs and increased their accessibility by moving to suburban locations (Baldassare, 1992).

Concurrently, the proportion of manufacturing and industrial jobs in the American workforce gradually declined after World War II, while the percentage of those in services increased (Kotkin & DeVol, 2001; McArdle, 1999). This continuing decentralization of a vast range of economic activities as well as massive suburban construction guaranteed urban decentralization in America after 1900.

Governmental Causes

In the twentieth century, unlike in the nineteenth century, the federal government helped to shape, encourage and – most importantly – finance American suburban expansion and thus metropolitan decentralization. Significantly, the excruciating circumstances brought about by the Great Depression in 1929 resulted in a fundamental shift in the American attitude toward government intervention in the housing market and in metropolitan growth policy (Jackson, 1987).

Federal government policy and expenditures have influenced where people live in many ways besides direct intervention in housing markets. For example, federal tax codes have encouraged businesses to abandon old structures before the end of their useful life by permitting greater tax benefits for new construction than for the improvement of existing buildings. These policies, in effect, put older cities at a disadvantage, as is evidenced by the investment-tax credit for new machinery that has adversely affected a large number of industrial plants in the Northeast and Midwest. Thus, the government accelerated the rate at which economic activity is dispersed to new locations (Jackson, 1987).

Other tax incentives – including detached-home living mortgage interest and real estate tax deductions from gross income – have been instrumental in financing single-family suburbs. Federal highway subsidy programs and reimbursement formulas for water-line and sewer construction have essentially financed urban decentralization, taking the cost away from the families and firms that would otherwise find movement to the periphery more expensive (Sierra_Club, 2000).

However, through federal housing policies that began primarily in response to the Great Depression and the resultant collapse of the housing markets, the government directly financed massive suburban expansion in a pattern that continued for the remainder of the century.

Prior to 1930 federal agencies were reluctant to intervene in the purchase of homes because people felt that the purchase of a home was an individual's responsibility, thrift was important, and subsidization of rental units would smack of socialism (Chudacoff, 1975). But with the advent of the Depression, this attitude changed quickly. Perhaps the first of the major post-Depression federal housing programs was the Greenbelt Town Program, explicitly intended to foster the deconcentration of the urban populace. Two other innovations of the New Deal were much more successful, however, and made more lasting and important contributions to the development of suburbs: the Home Owners Loan Corporation (HOLC) and the Federal Housing Administration (FHA). The creation of these programs was also supported by the banking industry as a response to the economic conditions of the early 1930s.

Supported strongly by the banking industry, the HOLC refinanced tens of thousands of mortgages in danger of foreclosure, and even granted low-interest loans to permit owners to recover homes lost through forced sales. Despite HOLC's impact, the subsequent FHA program was even more effective in financing suburban development all the way into the 1960s. Both the FHA and the subsequent growth of mass tract-housing construction reflected the need to reduce costs in order for the housing industry to survive in a drastically reduced housing market: the severity of the situation called for major increases in finance capital and construction efficiency (Kleinberg, 1997).

With the advent of FHA and HOLC policies, housing starts began to accelerate rapidly in 1936. They rose to 332,000 in 1937, compared with 93,000 in 1933. After World War II the numbers increased even more dramatically. By the end of 1972, FHA had helped nearly 11 million families to buy houses (Jackson, 1987). It should be noted that, from the beginning, the FHA was primarily geared towards aiding in the purchase of single-family, rather than multiple-unit, structures (twentieth century federal subsidy of multiple-unit structures has been relatively scant). Thus, largely through financing, federal policy helped directly in bringing about urban decentralization.

Emboldened by his second-term landslide victory, Roosevelt gave his personal support to public housing in the spring of 1937. That summer, the United States Housing Act (also known as the Wagner-Steagall Act) passed, and it marked the first time the federal government accepted permanent responsibility for the construction of low-cost homes. Subsequent federal acts – including the institution of Veterans' Administration subsidies after World War II, the Federal National Mortgage Association (popularly known as Fannie Mae), the Government National Mortgage Association (popularly known as Ginnie Mae), and the 1961 National Housing Act – combined to produce the astounding statistic that more than 50 percent of suburban houses constructed after World War II were financed in part by federal mortgage instruments (Kleinberg, 1997).

Other federal policies also played a role in encouraging suburban construction and metropolitan decentralization. Kleinberg has documented the tremendous growth of metropolitan peripheral areas brought about by Defense Department construction of war plants during World War II (Kleinberg, 1997). More so than in other developed countries, since World War II U.S. tax codes have allowed deduction of mortgage payments and provided favorable conditions for the treatment of capital gains from home sales (Bereuter, 2000; Doyle, 2001; Hanchett, 2001; Hayden, 2000a). Federal subsidies for infrastructure and transportation networks – such as through the landmark Interstate Highway Act of 1956 – took the cost of suburban expansion away from metropolitan and municipal governments as well as from the individuals who used the networks and facilitated rapid urban decentralization (Cashin, 2000; GAO, 1999; Katz, 2000).

Local and municipal government also played an integral role. Once peripheral communities became established, they often welcomed new growth as a boon to their tax bases. Many municipalities after World War II have tended to rely heavily on property taxes to balance their budgets, and they often viewed new development as a way to revitalize local economies through increased tax revenue for the improvement of municipal services (Miller, 1981; Peterson, 1981; Retsinas & Vigier, 2000). These policies have encouraged the relocation of firms in the cities to the peripheral areas.

At the same time, municipalities have often worked to control development through zoning. Beginning with a New York City ordinance in 1916, zoning was designed to protect the interests of all citizens by limiting land speculation and congestion. A 1926 U.S. Supreme Court decision in *Village of Euclid, Ohio v. Ambler Realty Co.* provided legal precedent for local governments to pass zoning laws in order to separate land uses, such as the exclusion of multi-family housing from single-family neighborhoods. In effect, this Supreme Court decision provided a federal mandate for strong autonomous municipal land-use control.

Zoning is an effective tool for keeping people out of a community, segregating a community (by socio-economic or even ethnic group), or for attracting particular kinds of

residential or commercial development. For example, minimum lot sizes in different zoning categories can lead to income segregation of suburban areas (Burchell, 1998; Cervero, 1991; Downs, 1999; GAO, 1999; Orfield, 1997; Sierra_Club, 1999). Schneider and Logan have documented how income stratification can be self-perpetuating, as affluent communities channel their tax resources into improving local services, which in turn attract more high-status migrants (Schneider, 1980; Schneider & Logan, 1981; Schneider & Logan, 1982).

Exclusionary zoning is one method of promoting homogeneity of municipalities or neighborhoods. Furthermore, the avoidance of local redistributive taxes and homogenous demands for local public goods within a community (as a function of similar tastes or incomes) further encouraged the income stratification of communities (Doyle, 2001; Mieszkowski & Mills, 1993). After World War II, zoning and fiscal policies were used to preserve segregation of neighborhoods (Baldassare, 1992; Tiebout, 1956). In general, American municipalities have developed far greater zoning powers than their foreign counterparts, and they have used this power to reinforce low-density housing and achieve other land-use goals (Doyle, 2001). Thus, municipal political autonomy in cities has both encouraged urban decentralization and contributed to the segregated land-use patterns of metropolitan areas.

IV. Urban Decentralization in the United States, 1970 to the Present

In the last thirty years, the expansion of American urbanized areas into outlying territories has continued unabated. The 1970 census was the first in U.S. history that showed more people living in suburbs than in cities (Census, 1975). By the 1990s, sprawl had become an issue of national importance, and alarming examples of unforeseen metropolitan growth were cited in the media. For example, "sprawl" was estimated to claim two million acres per year (1.2 million acres of farmland), and by 2000 Atlanta had a metropolitan area bigger than the state of Delaware, (Mitchell, 2001; Sierra Club, 2000). In April 2001, the *New York Times* reported the existence in the South of massive areas of suburban sprawl over hundreds of miles across multiple states (Firestone, 2001).

Yet the literature on this topic indicates that main causes of urban decentralization prior to 1970 continued to be major determinants. These same causes have sometimes taken subtle new forms, however, and a number of authors have argued that we are witnessing the expression of distinctly new forms of metropolitan development (Calthorpe, 2000a; Fishman, 1994; Kotkin & DeVol, 2001; Pivo, 1990).

In recent years, public awareness of the problems of uncontrolled growth has increased, and specific legislation aimed at controlling it has been passed. In the 1970s, the Clean Air Act and the Clean Water Act forced cities to take substantive and expensive steps towards reducing metropolitan pollution. The "Smart Growth" movement – which rests upon the assumption that sprawl can be curbed by building better kinds of new communities (which include a mix of housing types), by fixing up and filling in the old ones, by preserving large tracts of open space, and by utilizing innovative codes and restrictions – has gained considerable support (Blumenauer, 2000; Chen, 2000; Danielsen, Lang, & Fulton, 1999; Kushner, 2000; Leinberger, 2001). In November 2000, referenda authorizing bonds or tax increases to pay for land conservation, neighborhood redevelopment, or mass transit passed overwhelmingly:

voters approved seven of every ten growth-related initiatives in state and local elections (Myers & Puentes, 2001).

The story of Oregon's growth rings – established by the 1973 state legislature which enacted stringent laws mandating urban growth boundaries for 240 of Oregon's cities – has been widely discussed in the media as a qualified success story (Phillips & Goodstein, 2000; Weitz & Moore, 1998). In 1991, Congress granted localities more flexibility in using federal highway dollars for mass transit and other non-highway transportation (Mitchell, 2001).

Physical Patterns of Urban Development

Since 1970 in the U.S., growth patterns and the degree of urban decentralization have varied from region to region. Western metropolitan areas have continued to grow the fastest, while many northeastern cities have declined in population (Glaeser, 2000). More specifically, in the 1990s U.S. population and employment have grown most quickly at the lower density fringes of metropolitan areas and in certain non-metropolitan locations such as the Rocky Mountain west. On the other hand, many areas in the Great Plains, Appalachia, and the Mississippi Delta have continued to experience net losses and an aging population.

The constraints of geography have been overcome to a greater degree than ever. Once water, power, and people can be brought in through increasingly efficient transport and utility systems, the cost of developing previously unavailable land is greatly reduced. This has occurred particularly in western cities such as Las Vegas, Plano, and Scottsdale, which have experienced massive urban decentralization and the largest population growth rates of any U.S. cities (Glaeser, 2000).

Yet geographic constraints continue to define the metropolitan form of even the most modern cities. Satellite imagery studies of the developed metropolitan areas of Phoenix and Atlanta have revealed that Phoenix's development has been largely contiguous and has a high-density boundary around it relative to Atlanta, despite similar population increases. Phoenix's development has been constrained by aridity and the slope of the land, but Atlanta, with no such barriers, has grown at a much lower density with development "leap-frogging" over large parcels of empty land (Firestone, 2001).

Peripheral communities today need less connection to central city cores and to waterways than they did in the past. For example, researchers have identified bands of suburbs that have started to merge with each other along transportation corridors in the South, in some cases forming almost unbroken chains of medium-density areas hundreds of miles long – from Atlanta, GA, to Raleigh, NC, along Interstate 85; or from Washington, D.C. to Norfolk, VA (Firestone, 2001). These converging bands of suburbs are beginning to rival in area, if not in density, the great metropolitan corridors of the Northeast and industrial Midwest. But, unlike those existing areas, these newer population clusters are not centered on great ports or waterways as in previous eras. Instead, they are suburbs of interstate highways, fully suburban megapolises.

Not surprisingly, metropolitan forms have also evolved along automobile transportation networks. Numerous social scientists and analysts have documented the rise of "freeway corridors" characterized by low-density office, industrial, and retail

development along freeway routes (Baerwald, 1978; Berry, 1959; Filion, 2001; Garreau, 1991; Goldblum & Wong, 2000; Hoover, 1968; Hughes & Sternlieb, 1986; Manners, 1974; Pivo, 1990). Cervero has formulated this pattern into a theory of metropolitan development in which the freeway corridors, or "office corridors," develop driven by the economic benefits of public visibility, accessibility to labor, clients, and contacts (Cervero, 1986a; Cervero, 1986b).

Simultaneously, industrial and office development has also tended to spread from airports as they replace sea and rail ports in providing the crucial place for trade from which a city can grow. Authors have argued that regional or rural airports – if sufficiently developed – will continue to serve as seeds for new urban growth (Kotkin & DeVol, 2001).

Others have argued that telecommunications and the Internet reduce further the need for clustering of manufacturing in cities and facilitate geographic dispersion of economic activities, spurring the creation of "local industry clusters linked to the global business community" (Kotkin & DeVol, 2001). They hypothesize that these systems will lead to further geographic changes in metropolitan industrial layouts and result in new spatial forms that will maximize productivity and efficiency. While this will reduce the need for manufacturing clustering, it will increase the need for more regional and national distribution centers (to reach a much broader, geographically dispersed customer base).

This process has been described as an extension of the geographic spatial dispersion of different economic sectors over time – technological innovation moving to the suburbs, marketing and graphics moving to the city-center, manufacturing and services also moving to the suburbs, etc. (McArdle, 1999). As different municipalities experience vastly different growth rates, new spatial patterns emerge that accommodate the geographic specialization. For example, Burchell and Listokin describe "edge cities" at the intersections of interstate roadways, "string" beltway employment corridors, "bedroom" counties (driven by the decrease in land prices moving outwards from the original city core), and radiating road "spikes" (Burchell & Listokin, 1995).

"Nodal" – or "multi-nuclei" – theory, first proposed in 1945 by Harris and Ullman, posits that large-scale manufacturing complexes established outside central cities have often served as important growth nodes in suburban development with residential areas growing up within commuting distance of these places of employment (Campbell & Dollenmeyer, 1975; Cervero, 1986a; Cervero, 1986b; Erickson, 1983; Gottdiener, 1983; Hawley & Rock, 1975; Hoover, 1968; Ullman, 1962). According to the theory, once a node begins, it attracts workers, retail customers, etc. (Cervero, 1986a; Cervero, 1986b; Kleinberg, 1997). Thus, employment outside the city becomes increasingly focused on a restricted number of magnet areas in which locational advantages associated with agglomeration play a key role (Lewis, 1996). This same argument has been applied in recent years to "high tech" nodes or centers, which are oriented as much to services as to manufacturing (Burchell & Listokin, 1995; Calthorpe, 2000b; Henry, Schmitt, Kristensen, Barkley, & Bao, 1999; Kleinberg, 1997; Lessard, 2001; Lewis, 1996).

Lax municipal regulation has also been credited with encouraging nodes to develop. For example, industrial parks often face few location constraints and therefore tend to gravitate towards interstate highway intersections on the periphery of the core, thus fostering new nodes or mini-cities (Burchell & Listokin, 1995).

Cultural Causes

The suburban single-family home has remained part of the American dream in the 1990s. The owning of a single-family home today is as much a goal as ever. Hayden describes the 1990's focus on the house as the culmination of a movement begun in the early twentieth century that idealized the house while separating it from its neighborhood (Hayden, 2000a). Yet there are some new variations on the theme of the American suburban ideal – such as a desire for "green space" – that have developed during the last 30 years. For example, many metropolitan and municipal ordinances and zoning systems have been implemented to preserve, create, or perpetuate "green space," and often certain minimum amounts are required in new development, as in Las Vegas (Mitchell, 2001). Increasingly architects, planners, and designers have explored new metropolitan planning designs that incorporate green space elements, such as riparian buffers and golf courses (Lewis, 1996). Perhaps the most famous example of a radical new plan to limit growth and preserve open green spaces is that of Oregon's growth rings.

This desire for green space is an expression of a larger environmental and cultural attitude that has arisen since the 1960s and is often expressed through the propensity of voters to favor government acquisition of undeveloped land for urban and suburban parks and nature preserves (Nasser & Overberg, 2001). Building on the environmental movement of the 1970s and the passing of the landmark Clean Air and Clean Water Acts as well as the creation of the Environmental Protection Agency, this respect for nature and the desire to preserve it distinguishes post-1970 American metropolitan culture.

Much has been written about the rise of "technology cities," sometimes referred to as "emerging-technology cities," "technology nodes" or the "technoburb," and their accompanying culture (Cortright & Mayer, 2001; Kotkin & DeVol, 2001; Townsend, 2001). According to a number of authors, these relatively small, emerging technology centers provide a more relaxed environment with lower costs of living, dynamic local governments, and new and innovative firms and industries that offer the potential for a nurturing environment without city stresses.

Fishman has referred to the culture of these vast new suburban areas as the culture of the "new city," or "exurbia":

> "the consequent breakaway of the urban periphery from a central city it no longer needs, the creation of a decentralized environment that nevertheless possesses all the economic and technological dynamism we associate with the city, can be called 'exurbia', or 'new city.' The true center of the new city is not in some downtown business district but in each residential unit – from that central starting point, the members of the household create their own city from the multitude of destinations that are within driving distance." (Fishman, 1994)

This freedom is appealing, and it draws people into the suburbs at the same time that they decry their homogeneity. This freedom of location is the culmination of the separation of workplace and home that began in the early nineteenth century suburbs. The appeal of this freedom accords with other American ideologies which tend to reject regional control in favor of individual autonomy, harking back to American colonial roots (Altshuler, 1999).

Demographic Causes

The suburban population expansion and the mass building of suburban homes after World War II continued after 1970. For example, in 1950, 70 million Americans lived in the nation's urban and suburban areas, covering 13,000 square miles. But by 1990 the urban-suburban population had more than doubled, and the area occupied had quintupled to more than 60,000 square miles (Teaford, 1986). This growth has varied regionally, however, as cities in the rapidly expanding Southwest, Northwest, and South grew fastest. Since 1970, many cities have experienced population declines, while some areas of the country have had a "rural renaissance" with many rural areas showing population increases and hence higher densities.

Much of the suburban growth after 1970 has been fueled by the coming of age of the baby-boom generation. Many of the baby-boomers began purchasing homes during the 1970s and 1980s, and thus the baby-boom population surge led to a home-buying surge, further expanding metropolitan fringes (Dunphy, 1997). This baby-boom housing increase paralleled a corresponding increase in the number of people of driving age, increasing the number of cars and traffic congestion. At the other end of the spectrum, the 1990s has witnessed the "graying" of the suburbs, as many of the baby-boomers have reached retirement age, resulting in a growing number of elderly people with sufficient economic resources moving to high-amenity locations, thus encouraging further sprawl of metropolitan areas (Frey & Alden Speare, 1992).

The racial/ethnic make-up of the United States has changed considerably in the last 30 years, especially in urban metropolitan areas. Urban decentralization into peripheral areas has been energized by the presence of greater numbers of minority ethnic groups. These changes were made possible by immigration legislation in 1965, which overturned national origin quotas that favored European immigrants and replaced them with a more open system that emphasized immigrant family reunion (Frey, 2001; Frey & Alden Speare, 1988).

The new influx of immigrants has been drawn heavily from developing countries in Latin America and Asia, and has been made up primarily of unskilled workers. During the 1970s, ethnic diversity within metropolitan neighborhoods increased, and all-white census tracts became less common, while tracts with multiple groups became more common (Denton & Massey, 1991). Frey found that racial and ethnic minorities made up 27 percent of suburban populations in 2000, up from 19 percent in 1990 (Frey, 2000). Specifically, a striking development since 1970 has been the increasing movement of the black middle class to the suburbs: for example, the black population of Prince George's County, outside of Washington, D.C., jumped from 14 to 63 percent between 1970 and 2000 (Frey, 2000). By contrast with other ethnic groups, Asians are more likely to live in major metropolitan suburbs than in cities, while almost half of Hispanics now live in suburban areas, compared to 39 percent of blacks.

Immigrants and migrants have also played important roles in regional growth variations. Since 1970 migrants from the Northeast and other regions and foreign-born immigrants have largely been responsible for growth in many western cities (Joint Center for Housing Studies, 2000).

Transportation Causes

In the post-1970 period, the "age of the automobile" has continued at a record pace. The total number of cars and the number of cars per person and per eligible driver were at their highest at the end of the 1990s. In fact, since 1970 the number of cars and trucks in the U.S. has grown twice as fast as the population. The number of vehicle-miles traveled (VMT) has jumped by an astounding 41 percent, while the population grew by only four percent. The number of eligible drivers is higher than ever even though by 1990 the number of vehicles per household had exceeded the number of eligible drivers per household (Dunphy, 1997). Furthermore, a decrease in the use of public transportation, lower rates of carpooling, and continued fuel costs far lower than prices paid in other developed countries have all reduced the cost of and encouraged decentralization (Dunphy, 1997).

Yet Pivo has cited the desire of employees for *shorter* commutes as a factor leading to sprawling decentralization. The cycle begins when an industrial, service, or other employment center decides to move to a suburban location, perhaps to obtain a more pleasant environment, to be closer to a large suburban base of customers, distributors, or suppliers, or at the urging of employees. Once the employer makes the move, employees who live closer to city centers might decide to follow the employer to the suburbs in order to shorten their commute (Pivo, 1990). Pisarki has demonstrated that, beginning in the 1980s, commuting to work within the suburbs became more common than either central-city-to-central-city or suburb-to-central-city commutes (Pisarki, 1987).

In addition to automobile travel, air travel has increasingly become a dominant form of transportation. In the 1990s, increased air travel, made possible in part by considerable airfare decreases, has resulted in high levels of airport congestion and record numbers of delayed flights (Firestone, 2001; Hayden, 2000b). Air travel has become essential for business interactions. The increasing nationalization and globalization of businesses – linked to an ever-expanding network of clients and customers through telecommunications and digital links – has extended client/customer bases to whole regions or the entire nation, rather than a single metropolitan community (Lessard, 2001).

Kotkin and DeVol have described the "fifth wave" of development of transportation infrastructure linkages centered around airports and air travel. According to this theory, airports are replacing seaports as air freight increases and becomes more global in scope (Kotkin & DeVol, 2001).

Economic Causes

In general, the U.S. economy has grown consistently over the last 30 years, culminating in the longest postwar period of unbroken growth during the 1990s (Firestone, 2001). Recently released data from the United States 2000 Census long form shows the highest rates ever for education, percentage of the population owning homes, median home-size, percentage of people owning a vehicle, and average work commute (Frey, 2001). The rise in the percentage of the population that owns homes and vehicles has played an integral part in recent urban decentralization. Also, American metropolitan

expansion during both the 1980s and 1990s has continued to benefit from low energy costs.

Despite the overall economic growth, since 1970 Americans have experienced a number of significant economic slowdowns and shifts that have constrained urban decentralization or have influenced regional metropolitan development. Most notably, these slowdowns have included the mid-1970s "energy crisis" and economic recessions in the early 1980s and 1990s. In each case, these economic dips have resulted in slow-downs in the urban decentralization and home building trend (McArdle, 1999).

Frey has reviewed a range of theories to explain particular patterns of metropolitan growth and sprawl in the 1970s and 1980s (Frey & Alden Speare, 1992). He includes "period" explanations, describing how recessions resulted in substantial declines in manufacturing primarily in the large northern metropolises with high energy costs and the concurrent gains in the South and West (Fuguitt, 1985; Kasarda, 1980; McArdle, 1999; McGeary & Laurence E. Lynn, 1988). Certain authors have argued that during upswings in the economy, the suburbs, rather than the city, receive more of the employment growth because the majority of new investment occurs in the suburbs (Birch, 1979a; Birch, 1979b; Birch, 1987; Bollens, 1988; Cameron, 1973; Manson, Howland, & Peterson, 1984).

Perhaps most important has been the simultaneous decentralization of housing, industry, specialized services, and office jobs in recent decades. Although this trend has been notable since 1970 (and has adopted certain innovative and significant features that distinguish it from the past), it is also a pattern that has occurred since the beginning of the first American suburbs in the early 1900s, as described in Sections I and II. This long-term trend has seen a steady increase in the share of total employment located outside of core cities[5] (Dunphy, 1997).

It has been argued that this decentralization of employment centers has been driven by a shift in the percentage of the workforce employed in manufacturing to "information" occupations, or "producer services," including finance, insurance, real estate, business, and professional services (Baldassare, 1992; Frey & Alden Speare, 1988; Riebsame, Gosnell, & Theobald, 1996). Unlike manufacturing, services are less dependent on specific locations (access to waterways, optimal road networks, cheap labor) thus have a greater freedom of mobility. When this freedom is combined with dramatic improvements in telecommunications networks, the result has been described as a "radical" or "fundamental" restructuring of metropolitan America, resulting in a corresponding increase in office space located outside of downtown areas (Armstrong, 1979; Clark, 1982; Fulton, 1986; Glaeser, 2000; Pivo, 1990; Sassen, 1990). In some cases, central city manufacturing jobs have been completely removed as domestic products have been replaced by foreign-made goods when multinational corporations

[5] Of the 18.5 million people added to the work force during the 1980s, 7.2 million (39 percent) found work in suburbs, 6.5 million (35 percent) found work in central cities, while the remainder found work in nearby metropolitan regions or outside metropolitan boundaries. In the 35 metropolitan areas with populations of one million or more in 1983, the share of workers commuting to jobs in their central city has steadily fallen: from 48.4 percent in 1970 to 43 percent in 1980, to 38.3 percent in 1990. Since 1960, five of every six jobs added to the economy were located beyond the city limits, and by 1994, nationwide suburban office vacancy rates dipped below those for downtowns for the first time (Dunphy, 1997).

move their U.S. operations to less expensive overseas locations (Baldassare, 1992; Feagin, 1985; Shelton, Rodriguez, Feagin, Bullard, & Thomas, 1989).

Improvements in the telecommunications systems – including the rise of the Internet and the growth of computer networks – have been cited as a factor facilitating this decentralization, particularly in the 1990s (Berry, 1981; Clark, 2000; Duranton, 1999; Kain, 1975; Kotkin & DeVol, 2001; McArdle, 1999; Townsend, 2001). These authors argue that radical changes in telecommunications systems in recent years have greatly increased the ability of firms to do business at greater geographic distances than previously: telecommunications allow access to remote customers, suppliers, and subsidiary offices or employees. In effect, telecommunications improvements reduce the cost and inconvenience of distance, bringing the cost of decentralization within affordable realms.

These hypotheses regarding the successful rebellion of decentralization against the "tyranny of distance" have often been discussed in the context of standard economic theory of increased economic efficiencies brought about by "agglomeration" benefits (Beeson, 1992; Black & Henderson, 1999; Burchell & Listokin, 1995; Duranton, 1999; Glaeser, 2000). Duranton, for example, defends the proposition that urban growth has been limited by the economic cost of distance while this cost has been reduced over time by technological progress, which, by fostering greater mobility, allows for larger cities while simultaneously "reinforcing economies of agglomeration." However, he also acknowledges that technological progress in telecommunication and digital networks challenges the traditional rationale for city agglomerations by allowing more economic interactions to take place at arm's length (Duranton, 1999).

Glaeser argues that agglomeration effects are operating in "edge cities" which, although they may not look like the older, denser cities of the northeast, nonetheless confirm the importance of agglomeration. He further cites the continued demand for urban proximity in the path of real estate prices and the fact that dense urban labor markets are still attractive to both firms and workers in service industries (Glaeser, 2000). Duranton discounts predictions of the demise of cities arguing that distance benefits from telecommunications will only constitute a continuation of the historical pattern of technological innovation facilitating metropolitan expansion, arguing that the "tyranny of proximity" will provide a strong glue to keep future cities together (Duranton, 1999).

Given these factors, a number of economists, planners and designers have begun to argue that the modern "cities" now function at a trans-metropolitan regional scale, and that planning strategies should take this into consideration. The new regional form reflects a movement away form a central-city to a multiple-cities constellation (Lessard, 2000) Within this regional city, however, there are important variations at the level of individual municipalities or communities. Different neighborhoods often pursue different economic specializations (an aspect that has been a focus of sociological urban ecology theory since the early twentieth-century), and different metropolitan areas differ greatly in their rates of economic growth (Baldassare, 1992; Mills & McDonald, 1992; Sanchez, 2000).

Governmental Causes

By 1970, government support at local and federal levels of metropolitan decentralization through federal suburban housing and transportation subsidies and supportive tax codes was a firmly established pattern that was decades old. Since 1970, many of these forms of government financial support have continued unabated, supported by the majority of Americans. Government subsidizing and backing of mortgage loans, favorable tax policies encouraging home ownership, and government support of major infrastructure projects, for example, are certainly major stories of the last 30 years in American political history. It is in large part due to the ingrained continuation of these policies that massive home construction and metropolitan expansion have continued.

Numerous authors have described the direct impact of federal, state and local subsidies on shaping the form of sprawl since 1970. For example, transportation subsidies transfer the costs to the government rather than users, making sprawl cheap (Burchell & Listokin, 1995; Chen, 2000; Kleinberg, 1997; Lee, 2000; Shinbein & Adler, 1995; *Boston Herald*, 2000; Vojnovic, 2000). Two separate studies—by the Brookings Institution and the Maryland Public Interest Research Group—have found that new subsidized infrastructure networks have a "magnet effect" that tends to attract new development (Boarnet & Haughwout, 2000; Heavner, 2000). The subsidizing of new roads, water and sewer lines, schools and emergency services, encourages sprawl by increasing the attractiveness of municipal communities and by reducing the cost to local firms and individuals (Chen, 2000). Uneven municipal government investment in schools and utilities has led to wide disparities in municipal community land uses and income levels (Downs et al., 1995). Financial incentives can also come in forms that are not direct subsidies, such as tax benefits for new business to attract growth (Sierra_Club, 2000). For example, in Texas, officials and citizens have recently been considering a proposal to spend $17 billion on water-related infrastructure, such as dams and reservoirs, over the next 50 years. Such actions can greatly encourage and accelerate further decentralization.

Political fragmentation of suburban communities in recent decades has been blamed for many problems found today in metropolitan areas – including chronic fiscal strain in central cities, traffic congestion, lack of affordable housing in suburban communities, inefficient local service delivery, and racial and income segregation (Baldassare, 1992; Bollens, 1988; Kasarda, 1980; Schneider, 1980; Schneider & Logan, 1981; Schneider & Logan, 1982). The problem of different municipalities pursuing their own zoning, subsidy or planning programs points to the general problem of fragmented metropolitan government structures. This phenomena has been cited by many authors since 1970 as contributing heavily to the disaggregated, unorganized jumble of land uses, income levels and unpredictable aesthetic qualities of many modern American metropolitan areas (Arizona Republic, 2000; Black & Henderson, 1999; Burchell, 1998; Calthorpe, 2000a; Calthorpe, 2000b; Downs, 1999; Fang, 2000; Lessard, 2001; Moskowitz & Lindbloom, 1993; Orfield, 1997). Bereuter has cited the inability of city governments to annex neighboring municipalities as a source of problems (Bereuter, 2000). Callahan has described how separate municipal governments allow developers to

pit one municipality against another (Callahan, 2000). Johnson cites discontinuities between the federal government and local municipalities that actually control growth, as localities do not always have the manpower and expertise to take adequate advantage of federal programs (Johnson, 2000).

Frequently stated in many of the critiques of fragmented metropolitan planning is the need for a clear regional planning "vision" – or at least a coordinated vision across multiple municipalities. Sanchez, for example, cites the widespread heterogeneity of municipal planning agendas, with too much unregulated planning, and the consequent disparity in local planning agendas as prohibiting coordinated regional planning visions (Sanchez, 2000). Chen criticizes planning agencies for failing to stick with articulated plans, and for maintaining overly complex and restrictive building codes that become outdated and encourage private development firms to become overly specialized to meet them (Chen, 2000).

Yet this fragmented control has occurred because that is the way Americans have wanted it. Voters have frequently turned down regional government proposals (Campbell & Dollenmeyer, 1975) and recent surveys have found strong opposition to intra-county regional government and single purpose agencies to address metropolitan-wide problems such as environmental pollution (Baldassare, 1989). These attitudes represent suburban values that emphasize distrust of large, urban government bureaucracies, and exhibit a preference for decentralized public services and a strong desire for local rule (Baldassare, 1989; Fischer, 1984; Popenoe, 1985). Such perceptions by municipal residents are part of a long American tradition stretching back to American colonial towns, and are expressive of deeper American political views on the importance of local municipal autonomy (as described in Sections II and III).

On the other hand, the period after 1970 is also a period where policies have arisen to curtail or contain growth. Specifically, these have included legislative action at both local and national levels for environmental protection, historic preservation, city-center renewal and "smart" or managed growth. In general, while powerful environmental protection laws have been passed at the national level, much of the actions designed to constrain development or channel it along managed pathways have taken place at the state and local levels.

Perhaps most significantly, the passage of landmark environmental protection laws in the 1970s, such as The Clean Air Act, the Clean Water Act, and the Endangered Species Act, provided a powerful national mandate for the constraint of development in favor of environmental protection. These acts helped strongly to encourage the passage of other environmental protection laws at state and local levels, and gave federal authority to pollution clean up efforts and restriction on development for habitat preservation, greatly constraining development on wetlands and in wildlife habitats and watersheds. New industries have been created that serve to help firms and individuals meet the new environmental protection laws through, for example, the development of Environmental Impact Assessments, or the replacement of wetlands.

Clearly such legislation had, and continues to have, a powerful impact on shaping the pace and form of urban decentralization. Other significant legislative acts, such as the passage in 1976 of an income tax deduction to reward historic preservation of older structures, contrast starkly with political legislative approaches prior to 1970 that were almost always designed to encourage development.

In addition, municipal and metropolitan legislators have begun to explore methods to provide subsidies that will result in a more desirable form of growth. For example, Austin, Texas, has initiated an innovative system for attempting to focus development subsidies in a more managed direction. Entitled the "Smart Growth Criteria Matrix," the program assesses new projects using a checklist that gives points to proximity to transit, access for pedestrians, availability of existing infrastructure, mix of uses and redevelopment of abandoned industrial sites. Projects that accumulate enough points receive benefits, including expedited granting of permits, waiving of development fees, provision of new infrastructure by the city, and purchase of parkland and streets within projects (Chen, 2000). Such efforts have also occurred on the state scale: in 1997 Maryland approved its Smart Growth and Neighborhood Conservation initiative, which provides funding for older neighborhoods, depressed districts and small towns.

The problem of a lack of regional planning has become a frequent topic of public discussion: concern about the deleterious sprawl effects has prompted increasing calls for regional planning and governance, at metropolitan and even state scales (Arizona Republic, 2000; Chen, 2000; Fang, 2000; Lessard, 2001). For example, The Arizona Republic has criticized the state for failing to assign any real planning authority to a regional governing body (Arizona Republic, 2000), and a lack of state-wide planning has been widely discussed as a source of sprawl in Oregon, specifically in reaction to the creation of "bedroom" towns outside of Portland's growth rings (Murphy, 2001).

Specific actions have been taken, and the momentum for further action is growing. State and local governments have increasingly been implementing smart-growth plans that preserve open space and redevelop urban areas. For example, over the past two years, New Jersey has set aside 81,000 acres of farmland and open space, and the ultimate goal is one million acres (Chen, 2000). This effort reflects a trend of the purchasing of development rights – often referred to as conservation easements – from farmers to prevent development: property owners remain free to continue working their lands or even to sell their parcels, so long as the land is never developed.

Meanwhile communities are changing outdated codes in favor of the construction of new pedestrian-friendly and mixed-use neighborhoods, such as the Transit-Oriented Development ordinance in Sacramento County, California, and the Rural Village ordinance in Loudoun County, Virginia (Musser, 2000). Other innovative efforts across the country include: location-efficient mortgages, which provide better loan terms based on a home's proximity to public transportation or city-centers; impact fees, charged to developers to pay for new infrastructure; mandating that new infrastructure be fully paid for before new development can occur; split-rate property taxes, which encourage development in existing communities by taxing buildings at lower rates than land; cutting of subsidies for low-wage industries and by setting specific requirements such as wage floors (at local market levels) as well as low or no pollution levels (Sierra Club, 2000).

On a physical level, the development of vacant lots or decaying properties to encourage urban infill, conversion of old shopping malls to parks or other non-shopping uses, and the blending of ordinary real estate forecasting measures with demographic analysis and marketing techniques to help sell urban infill and New Urbanism-style developments (Chen, 2000).

V. Conclusion

This examination of the origins and causes of decentralized urban growth in the United States over the last two hundred years demonstrates that the penchant for dispersing urban functions and populations across regions is deeply imbedded in the American psyche, laws, and customs. A long train of events, practices, and thought has reinforced the development of decentralized urban regions.

The history of cultural attitudes toward home and community teaches us that beneath the reasons that Americans today choose to live in suburban and exurban locales—such as consumer taste, status anxieties, and desire for high-quality services (such as schools)—lies a moral imperative inherited from the past. Deep in the American consciousness is a belief that semi-natural suburban environments are better for us.

The course of economic development in the United States also encouraged decentralized urban growth. The dispersion of economic activities began early in the nineteenth century when the downtowns and inner-city warehouse and industrial districts were still vital and growing. Ever since places of employment, such as manufacturing plants, administrative centers, medical facilities, and professional offices, have spread ever further afield. During the twentieth century the field of finance has made some of the most important economic contributions to the development of extensive metropolitan regions, including especially credit mechanisms that lowered the barrier to the purchasing of homes.

Since the early 1800s one means of transportation after another was developed to accommodate the expansion of urban economic activities and residential areas. In this regard, the automobile, which has had such a profound impact on urban form, is a response to demand and an improved technology that allows the residents of the ever-growing metropolitan area to travel greater distances more quickly to places of work, shopping, and recreation.

From the earliest days of the United States, the organization of government, particularly the legal autonomy of municipalities, has been conducive to urban decentralization. The traditions of communal self-government are ancient and sacred in American history, and during the twentieth century they were buttressed with new tools, such as zoning, which have helped foster suburban development, segregate land uses and population groups, and obstruct attempts to curtail such growth.

Clearly any effective efforts to reverse the long-standing practice of dispersing urban functions and populations must take into account the historical layers of ideological, demographic, economic, and political causes which have promoted decentralized urban growth over the last two centuries.

Yet if we know that the overall tendencies toward dispersion are powerful and long standing, we still lack precise information about the evolution of land use and settlement patterns and how they vary within metropolitan areas and from one urban region to another.

As this historical survey has suggested, modern metropolitan areas are, contrary to the image of the homogeneous postwar suburb, diverse and ever-changing patchworks of land uses and neighborhoods—like their nineteenth-century predecessors but ever

more vast. The development of industrial areas, business office districts, medical and educational complexes, government buildings, commercial places ranging from shopping strips to regional super malls, highways, and airports redefined land and continues to stimulate further growth, thereby further extending the suburban landscape. The building up of the urban periphery has produced disparate enclaves of such social groups as the very wealthy, the young middle-class, blue-collar workers, immigrants, African-Americans, and retirees. As before, population mobility changes the character of certain places, so that some older inner suburbs, for example, are declining in wealth, and in some cases experiencing racial transition.

Metropolitan areas have grown dramatically, but unevenly. In many inner-city neighborhoods--especially those of old industrial cities such as Philadelphia, St. Louis, and Detroit--population has declined precipitously, the amount of empty land has increased, and population densities have fallen. Yet old downtown business districts and industrial waterfront areas in cities ranging from Seattle to New York have been recaptured for residential use, raising population densities at the center.

Meanwhile, the construction of multi-family units--including mid- and high-rise town homes and condominium complexes located near large highway belt roads and exchanges--has raised population densities in suburban regions. Orange County, south of Los Angeles, for example, has become one of the most densely settled regions in the nation. The emergent urban zones have received relatively little notice, but are of great significance to the evolving structure of metropolitan areas.

Indeed, patterns of urban development including suburban sprawl vary from one metropolitan area to another. New development outside Chicago, for example, proceeds at a much faster pace to the west and north than it does in the south, while the intense urban development surrounding Los Angeles was led by the explosive growth of Orange County to the south. The urban development of the metropolitan regions of such cities as Seattle, Phoenix, St. Louis, Atlanta, Miami, Boston, and New York differ in direction, location, intensity, and rate.

As we have seen, the overall tendency toward decentralization in urban areas of the United States is so deeply rooted as to make it extremely unlikely that they can ever be totally reversed. A more practical response to urban decentralization is to manage the pace, location, and character of urban development. In several regions—the best-known example is Portland, Oregon—government officials and citizens have made notable attempts to control urban development. Not surprisingly, the efforts to control growth have become entangled with other issues, including the rights of property owners and the access of low-income households to affordable housing.

An essential key to controlling urban development and resolving disputes related to urban growth is understanding precisely—in ways scholars have not yet done—the diverse patterns and causes of land use and population distribution as they have evolved in the recent past. That is the goal of the ongoing research project being carried out by the Joint Center for Housing Studies with the United States Geological Survey entitled "Patterns and Process of Sprawl: Quantitative Measures, Typologies, and Case Studies of Urban Growth."

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