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Home Building Patterns in Metropolitan Areas

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Abstract

The level of new housing construction activity in large American cities – as measured in numbers and share of building permits – has been rising since the recession of the early 1990s, and as of 1998 has almost caught up with the peak of the real estate boom in 1986. The gains in metropolitan-area homebuilding are distributed unevenly: half of the large cities in the 39 largest metropolitan areas had a smaller portion of all the permits issued in their metropolitan area in 1986 than in 1998, while just over a quarter gained a greater share of permits. The great majority of new homes are built outside the urban core in suburban and exurban locales. In general, compact, densely developed cities are constructing much less housing than spacious cities that include substantial amounts of undeveloped land. Only two compact cities, Seattle and Orlando, issued more than 1000 permits and had more than 10 percent of all permits issued in their metropolitan areas in 1998. A comparison of the 39 large cities by their land size shows which cities, by 1998, had “hot” and “cold” housing construction markets. The hot markets are: Seattle, Orlando, Boston, Miami, Columbus (OH), Portland (OR), Tampa, New York, San Francisco, San Antonio, Phoenix, Houston, and Dallas. The cold markets are: Baltimore, Providence, St. Louis, Sacramento, Detroit, Philadelphia, New Orleans, Chicago, Kansas City, and Los Angeles.

Home Building Patterns in Metropolitan Areas

by

Alexander von Hoffman

Homebuilding in America: City Revival or Endless Sprawl?

The unprecedented period of sustained economic growth that the United States is currently enjoying has led to a surge in new home construction. A growing economy spurs job growth, which leads to population shifts, which in turn bring about a demand for additional housing. The demand for more homes rises as people form new households, migrate from elsewhere, or seek new, usually more expensive, homes. Even as the national economy grows, however, some regions, and some places within regions, do better than others, and the amount of home construction is distributed unevenly among the cities and suburbs of our metropolitan regions.

The question of where in metropolitan areas new home construction occurs is of particular interest to policy makers and others. On the one hand, many government officials have been trying to trigger economic activity and population growth in America's cities for decades. The National Association of Home Builders recently has pledged to construct 100,000 homes a year in cities over the next decade. On the other hand, fears that uncontrolled suburban growth will degrade the environment and engulf the neighboring countryside have made the issue of "suburban sprawl" a national political issue. In 1998, concerned citizens placed on ballots more than two hundred initiatives to preserve green spaces and curb real estate development. In 1999, Vice-President Al Gore announced a federal effort to control sprawl by encouraging construction within central cities. Recently the states of Maryland and Georgia enacted measures aimed at containing urban growth.

To measure the patterns of urban growth, the extent of the urban revival, and the intensity of suburban sprawl in the United States, the Joint Center for Housing Studies of Harvard University has investigated patterns of home building in American cities at the national, regional, and metropolitan levels over the economic boom, bust, and revival of the last fifteen years.

This report analyzes data on dwelling units for which building permits have been issued. The housing permit data has been tabulated in two ways. The first data set covers

residential building permits in the thirty-nine largest American urban regions at the peak of the last housing cycle in 1986, the trough in 1991, and the expansion years 1996 and 1998. (We have chosen two recent years for data points to determine whether the trend established in the early part of the current expansion has continued.) These data illuminate the extent and proportion of new housing construction in large cities and their surrounding metropolitan areas.¹ The second data set tabulates county permits for 1997 and identifies the location of new construction by areas of varying population density in the four regions of the United States. Although not as precise as the metropolitan area data, the county data sheds light on the extent of suburban and exurban sprawl.

To understand the significance of this data, remember that the characteristic differences between American suburbs and cities within metropolitan regions should produce far more home construction in outlying areas than in core large cities. Suburban areas usually cover much greater area and contain more sparsely settled and undeveloped land than do large cities. Large urban centers, on the other hand, frequently have less territory, most of which is relatively more developed and densely settled, and numerous buildings (including old warehouses and office buildings) that can be renovated or remodeled for residential purposes.

According to permit data for new housing construction in the years 1986, 1991, 1996, and 1998, home construction in large cities in the United States is well on the road to recovering from the effects of the recession of early 1990s and may soon rise to the lofty levels of the 1980s boom. Furthermore, large cities on average have already garnered close to the same portion of new homebuilding in their metropolitan areas that they had in 1986.

Nonetheless, there are wide disparities between cities in the number of new homes built and their share of home construction compared to their suburban areas. In some cities new home building has stagnated, while in others—notably spacious cities—it is booming. Much of this construction probably occurred on suburban and undeveloped lands within the city boundaries, not in the inner urban areas. Yet in such cities as New York, Seattle, Orlando, and Boston, the numbers of permits and the city share of metropolitan area permits reflect a robust and growing amount of residential development in the urban core.

¹ The permits analyzed here are permits for new construction, as opposed to rehabilitation. Permits for rebuilding a substantial portion of a building, however, were counted among the permits for new construction and similarly reflect demand for new housing. Some cities may have had only limited new construction but still had significant levels of repair and remodeling.

At the same time, sprawl is alive and well. The data for each of the years examined here shows that, with the exception of San Antonio, the suburbs, small cities, and towns outside large cities consistently attract the majority of new home building.

Home Building in the Thirty-Nine Largest Metropolitan Areas

Large Cities Are Climbing Back from the Housing Crash

Housing permit data from the nation's thirty-nine largest metropolitan areas illuminates recent patterns of home building² (see Figure A, Population and Area of 39 Largest Metropolitan Areas). In 1990 these metropolitan areas each had a population of more than one million people and together were home to half of the population of the United States. The combined population of the large cities of these metropolitan areas comprised 15 percent of the total national population. Data from the years 1986, 1991, 1996, and 1998 illuminate trends in new housing construction over time.

The term "large city," used by the Joint Center for Housing Studies in this and other research on urban centers, refers to the largest city and any others with a population of more than 200,000 within a metropolitan area. We prefer this term to the more commonly used "central city," which the U. S. Bureau of the Census and Office of Management and Budget define as the largest city and, if they exist, any other cities of more than 250,000 people in each designated metropolitan area.³

Taken as a whole, the home building data for metropolitan areas and their large cities indicates that suburban areas are the sites for more new homes than urban centers. The data shows that since the sharp drop after the speculative building boom in 1986, housing construction in large cities has not recovered as quickly as it has in cities' outlying regions. The large cities issued 29 percent fewer permits in 1998 than they did in 1986, lagging

²The term "metropolitan area" in this study refers to the standard geographic classifications of the Office of Management and Budget (OMB). Metropolitan area refers to the Consolidated Metropolitan Statistical Area (CMSA) where the OMB has defined one and the Metropolitan Statistical Area (MSA) where it has not. The definitions are those in effect as of 1983, except for New England categories which uses the boundaries in effect for the year of data collection. The Boston metropolitan area includes only the following parts of the Boston CMSA: Boston Primary Metropolitan Statistical Area (PMSA), Lawrence PMSA, Lowell PMSA, Manchester, New Hampshire, PMSA, and Nashua, New Hampshire, PMSA.

³ As Michael Carliner points out in his recent essay "Home Building in Central Cities" the central city definition is full of anomalies. It includes 208 places with less than 50,000 people and fifteen with less than 20,000 as central cities and excludes thirty-seven cities with a population of more than 100,000. See *Housing Economics* (Feb. 1999), 8-17.

somewhat behind the total metropolitan areas, which issued 24 percent fewer permits in 1998 than in 1986 (see Figure B, Total Housing Permits for 39 Largest Metropolitan Areas, and Figure C, Housing Permits for Large City and Outside Large City).

The large cities' *share* of the home building in their metropolitan areas has not changed dramatically between 1986 and 1998. At the peak of the boom, large cities took a 19 percent share of all permits in the metropolitan areas, then fell to a less than 15 percent share in 1991, and have since climbed back to almost 18 percent (see Figure D, Large City Share of Housing Permits).

Cities are gaining momentum in residential construction even without the boom in multi-family buildings promoted by various tax incentives (such as accelerated depreciation tables and loose restrictions on declaring losses) that existed in the 1980s. The number of multi-family permits issued in both large cities and metropolitan areas has more than doubled since the market bust in the early 1990s. In 1986, large cities issued 132,500 permits, as developers and investors rushed to develop multi-family buildings before a new tax law went into effect and eliminated housing investment tax shelters. In 1998, large cities issued only 80,000 multi-family permits, but this figure reflects real demand more accurately than does the number from the year of the tax shelter rush.

Home Construction Patterns Vary Widely in Different Cities

Diverse trends among individual metropolitan areas and large cities lay behind the seemingly small changes in the large city share of metropolitan home construction. Between 1986 and 1998, half of the large cities in the 39 largest metropolitan areas lost permit share in their metropolitan area to suburbs and small cities, while only about a quarter gained a greater share of permits. To be precise, in 1998 nineteen cities' share was smaller than it was in 1986; eleven cities gained share, and nine held about the same share (figure changed less than one percent); (see Figure E, Large City Share of Permits for 39 Largest Metropolitan Areas: 1986, 1998; also, see Figures F and G for Large City Gains and Losses in Share of Housing Permits).

The amount of new construction in large cities has waxed and waned according to general economic trends. As the housing industry put the brakes on building in 1991, only six of the thirty-nine large cities issued more permits than they had in the flush year of 1986. The permit numbers in the other thirty-three cities dropped precipitously. As the economic

recovery took hold, however, the figures for new home construction climbed. Between 1991 and 1996, twenty-eight cities—or over two-thirds of the total— increased the number of residential construction permits; twenty-seven cities issued more permits in 1998 than in 1996. Eighteen cities increased the number of permits issued in 1996 as compared to 1991, and 1998 as compared to 1996.

Within the twelve-year period from 1986 to 1998, the large cities' share of housing construction in their metropolitan areas varied widely. Between the boom of 1986 and the crash of 1991, twenty-three cities lost their share of their metropolitan area's permits, while ten cities gained a greater share, which suggests that economic downturns affect cities more than their suburbs. Between the recession year of 1991 and the recovery year of 1996, seventeen cities gained a greater share of their total metropolitan area's permits, eight stayed the same (less than one percent change) and fourteen lost their share of permits. As the economic recovery persisted between 1996 and 1998, the share of the metropolitan area's permitting rose in twenty cities, stayed about the same in eleven, and fell in eight (see Figure H, Permits and Large City Share for 39 Largest Metropolitan Areas).

Eight cities increased their share of metropolitan area permits in both 1996 and 1998, and three cities that increased their share of permits in 1996 maintained close to that share in 1998. Five cities lost their portion of construction in relation to surrounding communities in 1996 and held the same share two years later. Only two cities, Cincinnati and Sacramento, lost their share of metropolitan permits in both 1996 and 1998.

Land Area Makes a Difference

What can explain this variation in the numbers and share of residential permits? Not regions. No clear trends emerge in cities' number of permits for home construction and share of the metropolitan area when sorted by the four major regions of the country.

On the other hand, knowing the size of cities helps make sense of the diverse patterns of home construction. Sorting the cities by their land area distinguishes between giant cities, such as Phoenix and Dallas, which contain significant areas of undeveloped land, and small, intensely developed metropolises such as Hartford and Miami. Furthermore, it produces a clear pattern of residential development⁴ (see Figure A, Population and Area of 39 Largest

⁴ The permit figures are not available for Charlotte. The figures listed under Charlotte are based on available data for Mecklenburg County. Thus, although listed here in the largest city size category, these figures reflect

Metropolitan Areas).

Sorting the list of cities into two size categories—those with land area greater than or less than 150 square miles—reveals that spacious cities have a strikingly larger share of housing construction than that of compact cities. Of the twenty-two cities whose areas are less than 150 square miles (ranging from tiny Hartford’s 17 square miles to Cleveland/Akron’s 140 square miles), only four cities had *more* than 10 percent of their metropolitan areas’ housing permits last year. Of the seventeen cities whose land area exceeds 150 square miles, only Chicago and New Orleans held *less* than a 10 percent share of the total metropolitan area in any of the years examined here; only New Orleans had less than a 10 percent share of metropolitan area housing permits in 1998 (see Figure H, Permits and Large City Share for 39 Largest Metropolitan Areas).

Breaking the list into four size categories makes the pattern even clearer. Cities whose area covers less than 100 square miles—that is, cities with a large proportion of developed land—issued far fewer permits and held a much smaller share of metropolitan-area home building than the giant cities. For the entire period between 1986 to 1998, the ratio of number of permits issued in these cities to permits in their metropolitan areas lagged far behind that of the largest cities. In 1998 the group of cities of less than 100 square miles commanded an average of 6 percent of the permits in their total metropolitan areas—three times their share of the metropolitan territory but less than a quarter of the shares of permits received by the largest cities.

At the other end of the spectrum, extremely large cities, those with more than 200 square miles of territory, all had over 10 percent of their metropolitan area permits, and the ratio of permits to square miles was higher in the extremely large cities than in cities of under 200 square miles. Of course, the far-flung boundaries of these cities contain large tracts of suburban and undeveloped land (see Figure I, Large City Share of New Metro Permits by Large City Land Area).

Within the land area categories, some cities are doing very well and others very poorly. To highlight their progress—or lack of it—these cities have been assigned to hot and cold zones—depending on the number of permits, ratio of permits to city size (permitting

housing development in the county not the city.

density), and share of the metropolitan region's total permits (see Figure H, Permits and Large City Share for 39 Largest Metropolitan Areas and Figure J, Permitting Density for 39 Largest Metropolitan Areas).

Cities less than 100 square miles

In the Hot Zone: Seattle, Orlando, Boston, Miami

Of cities less than 100 square miles in size, only two, Seattle and Orlando, issued significant numbers of permits and consumed over 10 percent of their metropolitan areas' housing permits in 1998.

Seattle, one of the hottest homebuilding areas in the country, issued 4064 permits, by far the most permits in its size category and more than those issued in fourteen larger cities. Seattle's average number of permits per square mile (permitting density) for the years 1986, 1991, 1996, and 1998 was 48, the highest of all thirty-nine cities examined in this study. Although Seattle occupies only 1.4 percent of the territory in its metropolitan area—only four other cities had a lower percentage of metropolitan land—Seattle garnered 15 percent of 1998 metropolitan area housing permits, a figure exceeded only by cities with far greater territory.

Orlando, Florida, packed into 67 square miles, is almost as hot an area of housing construction as Seattle. In 1998, Orlando had the second highest ratio of permits to land (41) of the thirty-nine cities and followed Seattle in the number (2748) and share of permits (12.3) in the under 100 square mile category.

Among the smallest cities—under 50 square miles—Miami and Boston are the leaders in housing construction. Both have been increasing their number of permits recently, and may soon crack 1000 units a year. (Despite its high percentage of metropolitan area permits, Buffalo has issued a relatively small number of permits.) With a comparatively small land area of 36 square miles, Miami's 1998 permitting density was a torrid 27. In Boston, an old built-up eastern city, the ratio of permits to area was a remarkable 16.

In the Cold Zone: Baltimore, Providence, St. Louis, Sacramento

Despite Baltimore's urban renaissance projects such as the Harborside festival marketplace and CamdenYards baseball complex, homebuilding there has come to a virtual standstill. A city of 81 square miles—3 percent of its metropolitan area—Baltimore only managed to produce 64 permitted units in 1998, or 0.8 permits per square mile. Its share of its

metropolitan area was a measly 0.6 percent, down from 1 percent in 1996.

(Perhaps a revival in housing construction will come soon. Not far south of Baltimore, Washington, D. C., was unable to produce a single permit in 1996, but two years later the nation's capital issued permits for 429 units, a ratio of 7 permits per square mile.)

Providence, Rhode Island, a revival city, is not attracting new housing construction either. It only issued 39 permits last year, less than half the number of two years earlier, which gave it a permitting density of 2.1.

In the Midwest, the city of St. Louis has lost population to its suburbs for the last seventy years, despite almost continuous urban renewal and development programs. Judging from the drop in the number of permits (from 395 to 162), share of metropolitan area permits (from 3.2 to 1.4), and ratio of permits to area (from 6.4 to 2.6), the Gateway City's slump is persisting.

But even a western city can be in the cold zone. Sacramento, California's 96-square mile capital city, has seen the number of permits fall and its share of metropolitan permits shrink in 1991, 1996, and 1998.

Cities of 100-200 Square miles

In the Hot Zone: Columbus, Portland, Tampa

In cities with territory of more than 100 but less than 200 square miles, Columbus had the greatest number and share of permits. After a dip in construction in 1991, Columbus issued more than 4000 permits and captured over a third of its metropolitan area in both 1996 and 1998.

Portland, Oregon, where metropolitan growth controls have been implemented to concentrate urban development close to the city, stands out on the housing permit list. Of the 39 largest metropolitan areas, it was one of only three whose central cities increased their share of residential building permits issued in their total metropolitan area in 1986, 1991, 1996, and 1998. The other two cities are not comparable to Portland. (Buffalo derived its recent gains from a drop in the number of suburban permits rather than a rise in the city's. Houston occupies 540 square miles, the third largest land area of the great cities, takes up 7.5 percent of its metropolitan territory, and contains large amounts of suburban and undeveloped lands.)

Portland is a good-sized but not enormous city—at 125 square miles, it is the twenty-second largest in area of the large cities studied. Yet it gained a progressively larger share of metropolitan permits in 1986, 1991, 1996, and 1998 despite robust growth in the number of permits in its suburban territory. Portland did far better in numbers and share of permits than did other cities of its approximate size—Atlanta, Philadelphia, Salt Lake City, and Minneapolis. Portland’s 26 permits per square mile ranked the seventh highest of the 39 cities.

In the Cold Zone: Detroit, Philadelphia, New Orleans

The intermediate-size class of cities studied also included losers. In 1998 Detroit had a measly 1.5 percent share of total metropolitan housing construction, even though it holds a 2.7 percent share of the land.

Philadelphia is located in the same chilly construction climate of the mid-Atlantic seaboard as Baltimore and Washington, D.C. In 1996 the City of Brotherly Love mustered a small number and share of permits, which then declined in 1998. In that year Philadelphia’s ratio of permits to land area was a weak 3.4.

Even in Sunbelt cities, housing construction can stagnate. New Orleans regularly holds a significant share of the permits issued within its metropolitan area, but in 1998 its numbers plummeted, from 991 in 1996 to 335 – a number almost as low as in the downturn year of 1991. Its 335 permits produced a 1.9 permitting density that was lower than all the other cities, save Baltimore.

Cities of 200-500 square miles

In the Hot Zone: New York, San Francisco, San Antonio

In general, the housing permit data for the giant cities of more than two hundred square miles in territory reveals little about the issue of development in the urban core versus the suburban periphery. Such enormous expanses usually include all types of land and land uses, so it is difficult to differentiate between the activity in the city and its metropolitan area.

The exception to the rule is New York City. It stands in contrast to its mid-Atlantic neighbors (Philadelphia, Baltimore, and Washington) and, for that matter, every other city in the country. Despite the most densely settled population in the country, New York has ranked in the top six cities in number of permits in 1986, 1991, 1996, and 1998. Its 9000 permitted units in 1996 and more than 11,000 permits in 1998 comprised over a quarter of the total for

its metropolitan area. And although the New York category (including Newark and Jersey City) covers a territory of 348 square miles we know that most of the housing development took place in densely packed urban areas. With more than 3300 permits in 1996 and more than 3800 permits in 1998, the borough of Manhattan not only led all the boroughs and cities in the New York category but also two-thirds of the other 39 large cities.

Although much of its residential construction may be in suburban types of environments, San Francisco is a significant hot spot. Builders in the city by the bay received over 7400 permits in 1998, one quarter of the permits in its metropolitan area, or 27 permits per square mile.

San Antonio is also building significant numbers of new homes. In 1998 it issued more than 6600 permits, a whopping 73 percent of its metropolitan region's permits. The city's 333 square miles occupies 13 percent of the total land area.

In the Cold Zone: Chicago, Kansas City

In the tepid zone, to be accurate. Both Chicago and Kansas City are increasing production of housing but at a slow rate. Chicago had the lowest share of metropolitan permits in its size class, although the share and number of permitted units have been rising since 1991.

Kansas City has also been fighting to get back to the number (4273) and metropolitan share of permits (23.3) it had in 1986, and its ratio of permits to land area is 8.2, a low number for its category of city size.

Cities more than 500 square miles

In the Hot Zone: Phoenix, Houston, Dallas

The vast cities with more than 500 square miles of territory are almost regions in themselves: they are able to produce urban sprawl within their own city limits.

Phoenix/Mesa leads this group in share of the metropolitan region's total permits (37 percent) and permitting density (32) and all 39 large cities in number of permits, with more than 16,700 in 1998. Houston follows close behind with a 35 percent share of metropolitan area permits, a permitting density of 30, and just under 16,300 permits issued.

Another behemoth, Dallas (including Fort Worth and Arlington), issued about 15,400 permits in 1998, giving it a 29 percent of the metropolitan share and a respectable 22 in the ratio of permits to land area.

In the Cold Zone: Los Angeles

Los Angeles, it is worth noting, is apparently still absorbing the massive numbers of units produced during the real estate boom of the 1980s—there were an astounding 38,419 permits issued in 1986! Multi-family investors were busy here: 34,765 units were in multi-family permits that year. In the late 1990s, the number of permits has dropped to 4,350—a low number among the huge cities—and about 10 percent of the metropolitan share. The ratio of permits to square miles in the City of Angels was an extremely modest 6.5.

Sprawl Lives: Construction by Counties

Only a Small Share of New Home Building is in High Density Urban Counties

Despite the indications of urban revival, a snapshot of building permit activity that took place in counties during 1997 indicates that the pattern of suburban sprawl that has dominated American urban growth since the nineteenth century will persist in the twenty-first century. The share of permits for dwelling units in high density counties, which are the most urban, lags behind the share of the total population and far behind less densely settled types of counties. The share of permits in both medium density counties, which encompass cities and suburbs of varying size, and low density counties, which usually contain suburbs and small towns (but not cities), exceeds their population share (see Figure K, Location of New Residential Construction: 1997 and Figure L, New Permits By Region and County Density).

Permits in Low Density Counties Indicate Sprawl

The regional distribution of permits suggests that building activity tends more toward urban sprawl than urban infill. The Northeast, the oldest and most urbanized region of the country, has about a third of new home building in high density counties, a greater proportion than the other three regions. The bulk of the Northeast's permits and about half of those in the Midwest and South are for housing located in medium density counties, which encompass cities and suburbs of varying size. The West, which contains large sparsely populated areas, generated half of its permits in low density counties. Another indication of sprawl is that almost two-thirds of the permits in the West and more than 40 percent of the permits in the Midwest and South, the two most populated regions, were issued in low density or non-metropolitan counties.

Regional county data, like central city data discussed above, obscures the actual location of home

building. Since land uses can vary greatly within counties, especially large counties, it is difficult to say what precisely occurs in any given locale. Furthermore, in the south and west, there are cases of counties spread out over large land areas that include entire metropolitan areas. Maricopa County, Arizona, for example, contains both the city and metropolitan area of Phoenix. Averaging the population for such extensive counties over their entire territories places them in low density categories.

Conclusion

The data concerning homebuilding permits in metropolitan areas reveals an urban revival in the late 1990s that is close to the achievements of the 1980s' boom. The recent surge in homebuilding, however, is spread unevenly among different cities. Some urban centers, especially the larger geographic cities, are capturing most of the new construction. Other cities are still languishing. Meanwhile, permit data for both metropolitan areas and counties demonstrate that the pattern of sprawling suburban development persists.

From a policy perspective, the data indicate that the National Association of Homebuilders' goal of constructing 100,000 new homes in cities annually is an ambitious one. To meet their goal, the homebuilders will have to focus most of their efforts on the cities where there is a vigorous demand for new housing. Most of such new homebuilding in large cities will have to take place in the undeveloped, suburban-looking tracts in spacious metropolises such as Phoenix or Dallas. Among smaller cities, the urban core of hot real estate market cities such as Boston and Seattle will absorb new residential construction long before similar locales in other cities. For the present, it will be difficult to sell significant numbers of new homes in such sluggish markets as Baltimore or Detroit.

The question that remains for policy makers is how to generate new home construction—or how to encourage the forces that generate new home construction—in areas where there is little demand. The problem is twofold. First, in economically vital metropolitan regions—such as in Los Angeles and St. Louis policy makers must devise ways to channel job and population growth to central urban areas. Second, in cities whose regions are economically stagnant, the cities will have to act as an economic catalyst.

In order to limit suburban sprawl, it seems likely that government officials will have to impose measures that limit development on the periphery of metropolitan areas and encourage more intense development in the inner cities and those parts of the suburban ring that are already developed. To revitalize economically depressed cities, officials will have to make dramatic improvements in

infrastructure and services, such as schools, and find ways to increase the number of jobs accessible to residents of the urban cores.

Figure A: Population and Area of 39 Largest Metropolitan Areas

Metro Area	1990	1990	1990	Large	Populat	Metro	City	City	Metro	Metro	
	Large	Balanc	Metro	City	ion	Populat	Pop.	Density	Area	Area	Land
	City	e		Popula	Pop.	ion	(000)	(000/sq.	(sq.	(sq. mi.)	in City
				tion	(Thous	(Thous	(Thous	mi.)	mi.)		(%)
				(Thous	ands)	ands)	ands)				
Hartford	140	984	1,124	133	977	1,110	7,688	17.3	1,527.0	1.1	
Providence	161	1,262	1,423	153	1,268	1,421	8,270	18.5	935.0	2.0	
Salt Lake City	160	912	1,072	173	1,045	1,218	1,587	109.0	5,311.0	2.1	
Orlando	165	908	1,073	174	1,057	1,231	2,585	67.3	2,528.0	2.7	
Rochester, NY	232	771	1,003	222	805	1,027	6,201	35.8	2,966.0	1.2	
Buffalo	328	861	1,189	311	864	1,175	7,660	40.6	1,590.0	2.6	
Cincinnati	364	1,380	1,744	346	1,491	1,837	4,482	77.2	2,620.0	2.9	
Pittsburgh	370	1,873	2,243	350	1,862	2,212	6,295	55.6	3,851.0	1.4	
St. Louis	397	2,047	2,444	352	2,139	2,491	5,687	61.9	5,311.0	1.2	
Miami	359	2,834	3,193	365	3,149	3,514	10,253	35.6	3,261.0	1.1	
Sacramento	369	1,112	1,481	376	1,256	1,632	3,904	96.3	5,149.0	1.9	
Atlanta	394	2,439	2,833	402	2,993	3,395	3,050	131.8	5,140.0	2.6	
Charlotte	396	766	1,162	441	880	1,321	2,530	174.3	3,392.0	5.1	
Kansas City	435	1,131	1,566	441	1,231	1,672	1,416	311.5	5,031.0	6.2	
New Orleans	497	742	1,239	477	789	1,266	2,641	180.6	2,488.0	7.3	
Portland, OR	437	1,041	1,478	481	1,235	1,716	3,857	124.7	4,361.0	2.9	
Tampa/St. Petersburg	519	1,549	2,068	521	1,678	2,199	3,103	167.9	2,529.0	6.6	
Seattle	516	2,043	2,559	525	2,298	2,823	6,257	83.9	5,902.0	1.4	
Washington, DC	607	3,317	3,924	543	3,673	4,216	8,844	61.4	3,967.0	1.5	
Boston	574	3,896	4,470	558	4,005	4,563	11,529	48.4	2,423.0	2.0	
Milwaukee	628	979	1,607	591	1,052	1,643	6,150	96.1	1,793.0	5.4	
Minneapolis/St. Paul	641	1,824	2,465	618	2,056	2,674	5,738	107.7	5,085.0	2.1	
Columbus	633	745	1,378	657	828	1,485	3,442	190.9	3,580.0	5.3	
Norfolk	654	742	1,396	664	822	1,486	2,198	302.1	1,747.0	17.3	
Baltimore	736	1,646	2,382	675	1,799	2,474	8,354	80.8	2,634.0	3.1	
Cleveland/Akron	729	2,031	2,760	715	2,096	2,811	5,136	139.2	2,917.0	4.8	
Indianapolis	731	518	1,249	747	613	1,360	2,065	361.7	3,072.0	11.8	
Denver/Aurora	690	1,158	1,848	750	1,375	2,125	2,624	285.8	4,503.0	6.3	
Detroit	1,028	3,637	4,665	1000	3,751	4,751	7,210	138.7	5,184.0	2.7	
San Antonio	936	366	1,302	1068	393	1,461	3,207	333.0	2,527.0	13.2	
San Diego	1,111	1,387	2,498	1171	1,484	2,655	3,614	324.0	4,261.0	7.6	
Philadelphia	1,586	4,314	5,900	1478	4,492	5,970	10,940	135.1	5,446.0	2.5	
Phoenix/Mesa	1273	849	2,122	1504	1,107	2,611	2,846	528.5	9,155.0	5.8	

Houston	1,631	2,080	3,711	1744	2,487	4,231	3,230	539.9	7,193.0	7.5
Dallas	1,716	2,169	3,885	1828	2,578	4,406	2,552	716.3	7,012.0	10.2
San Francisco	1,878	4,375	6,253	1941	4,664	6,605	7,081	274.1	7,434.0	3.7
Chicago	2,784	5,282	8,066	2721	5,694	8,415	11,976	227.2	5,681.0	4.0
Los Angeles	4,702	9,830	14,532	4822	10,673	15,495	7,214	668.4	34,007.0	2.0
New York	7,826	10,127	17,953	7878	10,445	18,323	22,664	347.6	7,062.0	4.9
									190,575.	
Total	39,333	85,927	125,260	39,916	93,104	133,020	5,186	7,696.7	0	4.0

Notes: All population data are for 1996. Metropolitan area definitions as of 1984. Large metropolitan areas defined as those with population over 1 million in 1990. Cities include the named central city and all other cities with population over 200,000 in 1990. Dallas includes Ft. Worth and Arlington. San Francisco includes San Jose and Oakland. Los Angeles includes Long Beach, Anaheim, Santa Ana, and Riverside. New York includes Newark and Jersey City.

Source: U.S. Bureau of the Census, Estimates of the Population of Cities with Populations of 100,000 and Greater, July 1, 1996, Estimates of the Metropolitan Areas, July 1, 1996, and County and City Databook, 1994.

Figure B

Total Housing Permits for 39 Largest Metropolitan Areas

Year	Metro Area	Large City	Outside Large City	City Share of Metro (%)
1986	1,040,961	198,441	842,520	19.1
1991	446,755	65,376	381,379	14.6
1996	662,646	104,568	558,078	15.8
1998	793,042	141,466	651,576	17.8

Notes: 1998 data are preliminary. Large cities include the named central city and all other cities with populations over 200,000 in 1990. Data are summed from place-level data to match 1983 metropolitan area definitions, except New England where the metro area definitions are those in effect for the year of data collection.

Source: U.S. Bureau of the Census, Current Construction Reports, Series C-40.

Figure C

Housing Permits for Large City and Outside Large City

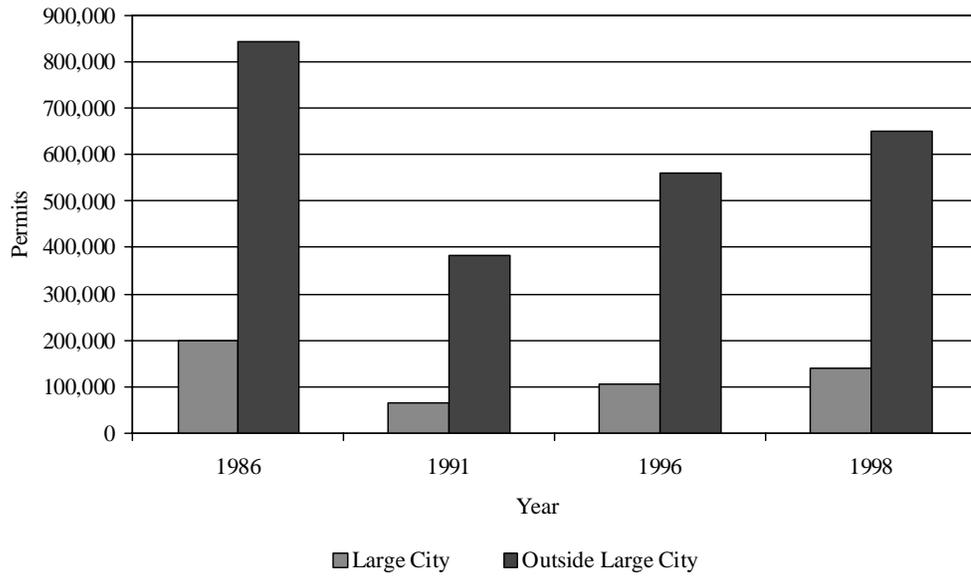


Figure D

Large City Share of Metropolitan Area Housing Permits

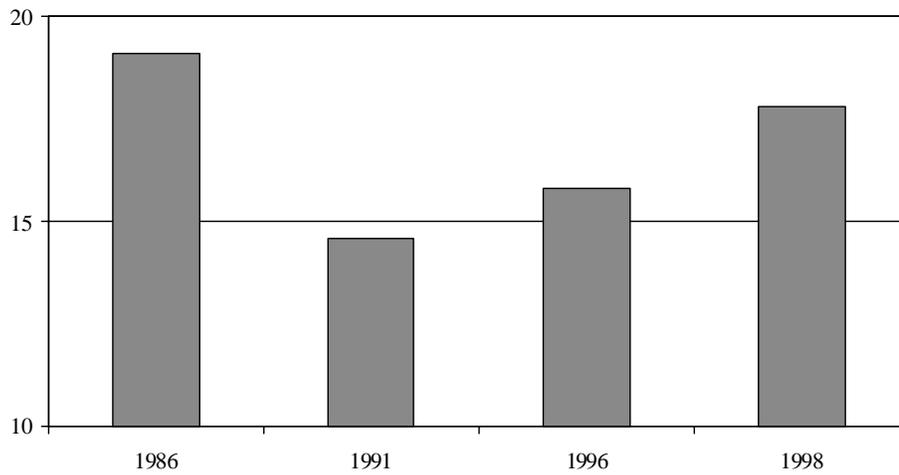


Figure E: Large City Share of Permits for 39 Largest Metropolitan Areas: 1986, 1998

Metro Area	Permits Issued 1986			City Share of Metro (%)	Permits Issued 1998	
	Large City	Large City	Outside Large City		Large City	Outside Large City
Cities Under 100 Sq. Mi.						
Hartford	322	94	4,291	2.1	94	4,291
Providence	322	39	2,848	1.4	39	2,848
Miami	801	962	22,432	4.1	962	22,432
Rochester, NY	183	119	2,146	5.3	119	2,146
Buffalo	93	298	2,114	12.4	298	2,114
Boston	2,511	757	12,287	5.8	757	12,287
Pittsburgh	358	245	5,310	4.4	245	5,310
Washington, DC	640	429	33,088	1.3	429	33,088
St. Louis	210	162	11,788	1.4	162	11,788
Orlando	3,873	2,748	19,529	12.3	2,748	19,529
Cincinnati	314	219	11,649	1.8	219	11,649
Baltimore	158	64	11,130	0.6	64	11,130
Seattle	2,694	4,064	22,946	15.0	4,064	22,946
Milwaukee	792	607	7,456	7.5	607	7,456
Sacramento	3,681	415	13,997	2.9	415	13,997
Total	16,952	11,222	183,011	5.8	11,222	183,011
100-200 sq. mi.						
Minneapolis/St. Paul	1,219	490	18,767	2.5	490	18,767
Salt Lake City	1,054	473	10,167	4.4	473	10,167
Portland, OR	646	3,233	14,485	18.2	3,233	14,485
Atlanta	2,346	2,272	52,620	4.1	2,272	52,620
Philadelphia	2,056	457	21,769	2.1	457	21,769
Detroit	207	385	25,680	1.5	385	25,680
Cleveland/Akron	562	827	10,338	7.4	827	10,338
Tampa/St. Petersburg	4,065	2,485	16,410	13.2	2,485	16,410
New Orleans	637	335	3,561	8.6	335	3,561
Columbus	8,309	4,131	7,463	35.6	4,131	7,463
Total	21,101	15,088	181,260	7.7	15,088	181,260
200-500 sq. mi.						
Chicago	3,504	3,974	33,154	10.7	3,974	33,154
San Francisco	6,622	7,416	22,008	25.2	7,416	22,008
Denver/Aurora	4,840	5,295	21,900	19.5	5,295	21,900
Norfolk/Virg. Beach	10,983	2,468	5,281	31.8	2,468	5,281
Kansas City	4,273	2,646	10,974	19.4	2,646	10,974

San Diego	18,995	5,210	6,681	43.8	5,210	6,681
San Antonio	5,074	6,627	2,454	73.0	6,627	2,454
New York	10,152	11,143	30,879	26.5	11,143	30,879
Indianapolis	7,451	5,626	10,045	35.9	5,626	10,045
Total	71,894	50,405	143,376	26.0	50,405	143,376
More Than 500 Sq. Mi.						
Phoenix/Mesa	19,926	16,720	28,620	36.9	16,720	28,620
Charlotte	7,489	11,993	8,074	59.8	11,993	8,074
Houston	1,285	16,295	30,744	34.6	16,295	30,744
Los Angeles	38,419	4,350	38,073	10.3	4,350	38,073
Dallas	21,375	15,393	38,418	28.6	15,393	38,418
Total	88,494	64,751	143,929	31.0	64,751	143,929
Total for all Cities	198,441	141,466	651,576	17.8	141,466	651,576

Notes: 1998 data are preliminary. Large cities include the named central city and all other cities with populations over 200,000 in 1990. Data are summed from place-level data to match 1983 metropolitan area definitions, except New England where the metro area definitions are those in effect for the year of data collection. The Boston metropolitan area includes only the Boston, Lawrence, Lowell, Manchester, and Nashua PMSAs. Data for Charlotte are drawn from Mecklenberg County; permit data for Charlotte were not available. (Land area of Mecklenberg County is 527 sq. mi., land area of Charlotte is 174.3 sq. mi.) San Francisco includes San Jose and Oakland. New York includes Newark and Jersey City. Los Angeles includes Long Beach, Anaheim, Santa Ana, and Riverside. Dallas includes Ft. Worth and Arlington.

Source: U.S. Bureau of the Census, Current Construction Reports, Series C-40.

Figure F

Large City Gains in Share of Metropolitan Area Housing Permits, 1986-1998

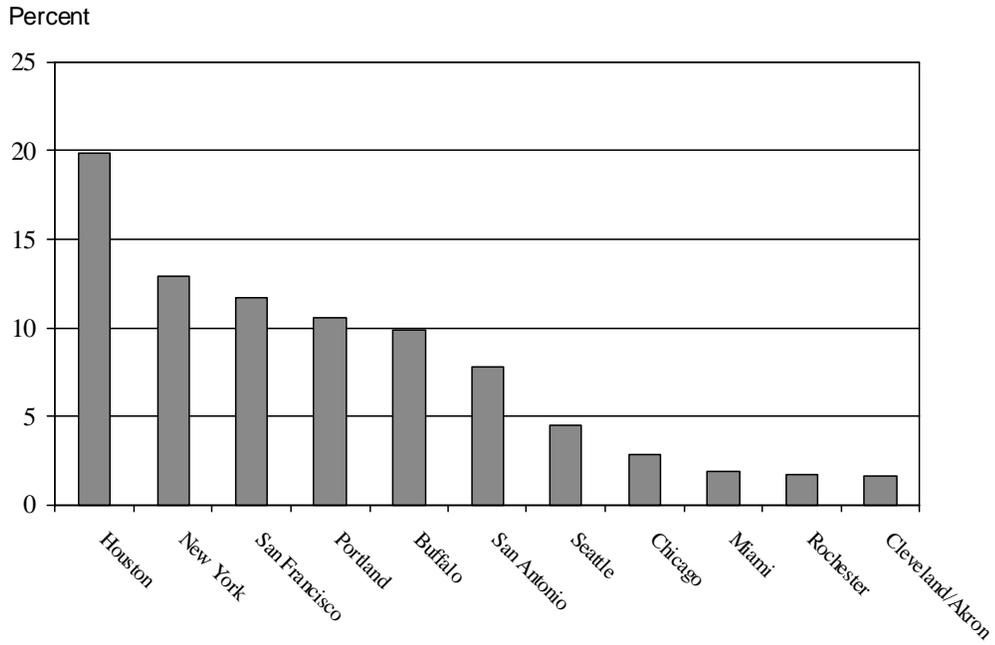
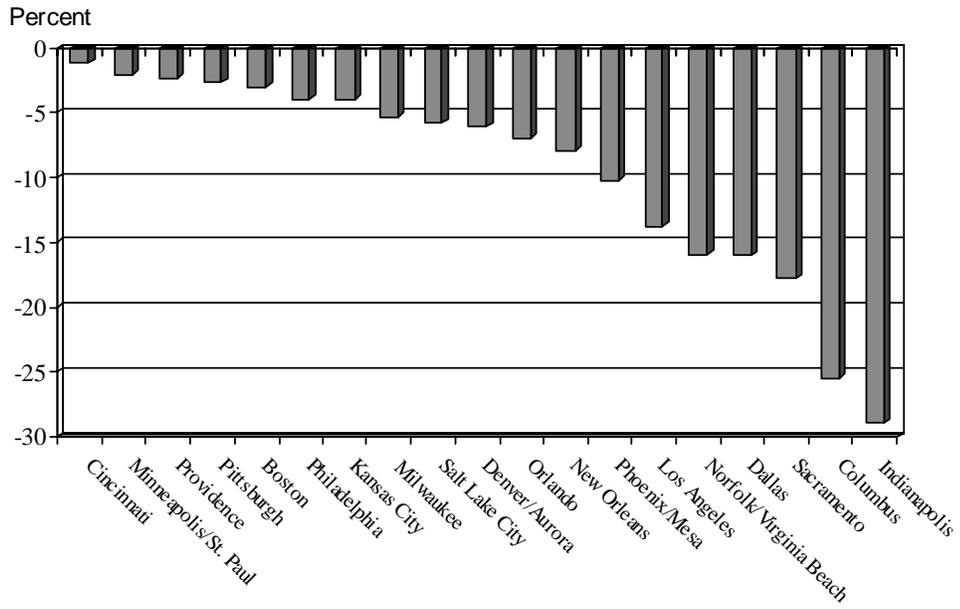


Figure G

Large City Losses in Share of Metropolitan Area Housing Permits, 1986-1998



		1994				1998				Permits Issued 1986				Permits Issue								
Metro	Large	Metro	Large	Metro	Large	Metro	Large	% in Outside	City	Metro	Large	% in										
Area	City	Area	City	Area	City	Area	City	City	Share of Metro (%)	Area	City	City										
2	215	27	2,800	1	254	20	2,723	4	260	23	2525	66	750	28	10,616	322	3.0	10,294	3.0	2,279	29	1.
29	328	44	2,617	53	259	18	2,383	32	438	48	2728	21	159	18	8,690	322	3.7	8,368	3.7	2,512	73	2.
77	4,985	374	16,744	79	10,292	828	13,386	46	7,584	690	14151	35	9243	927	36,767	801	2.2	35,966	2.2	14,048	451	3.
49	255	30	2,530	53	757	10	2,344	94	642	21	1673	56	592	63	5,140	183	3.6	4,957	3.6	2,950	79	2.
85	586	123	2,313	78	737	147	1,961	67	1,012	213	1399	71	1013	227	3,717	93	2.5	3,624	2.5	2,717	208	7.
44	760	119	10,676	51	1,016	211	9,596	46	1,728	181	10539	88	2505	669	28,656	2,511	8.8	26,145	8.8	7,741	163	2.
107	972	150	4,609	116	568	46	3,700	102	712	64	3868	112	1687	133	5,109	358	7.0	4,751	7.0	4,825	257	5.
83	3,078	250	23,231	96	4,818	114	20,254	0	7,332	0	24991	255	8526	174	41,467	640	1.5	40,827	1.5	18,146	333	1.
29	1,026	92	11,545	39	1,311	95	10,204	80	2,111	395	10063	138	1887	24	18,131	210	1.2	17,921	1.2	8,350	121	1.
321	4,362	2,184	10,195	394	3,993	648	9,804	410	3,645	1,138	12077	442	10200	2306	20,030	3,873	19.3	16,157	19.3	13,392	2,505	18.
163	3,019	307	9,041	353	3,038	169	9,335	217	2,678	153	9486	123	2382	96	10,492	314	3.0	10,178	3.0	9,842	470	4.
244	1,759	286	10,783	185	1,803	0	9,322	70	1,419	37	8214	64	2980	0	19,406	158	0.8	19,248	0.8	11,159	530	4.
433	4,754	1,710	13,388	407	5,414	1,110	12,235	464	7,623	1,904	14023	530	12987	3534	25,609	2,694	10.5	22,915	10.5	14,610	2,143	14.
716	2,771	405	4,996	66	2,858	137	4,327	72	3,049	110	4482	73	3581	534	6,164	792	12.8	5,372	12.8	6,695	581	8.
888	2,175	161	8,535	429	727	55	8,096	412	878	130	10765	349	3647	66	17,763	3,681	20.7	14,082	20.7	9,825	1,049	10.
															257,757	16,952	101	240,805	6.6	129,091	8,992	9
144	1,641	60	14,077	177	2,816	100	13,982	129	2,942	62	15568	203	3689	287	27,345	1,219	4.5	26,126	4.5	13,630	204	1.
70	199	111	7,085	149	1,643	254	9,161	264	3,689	145	8139	208	2501	265	10,357	1,054	10.2	9,303	10.2	4,756	181	3.
672	2,887	444	11,045	977	5,747	308	10,882	1,133	7,012	1,468	11055	1,155	6663	2078	8,474	646	7.6	7,828	7.6	10,277	1,116	10.
296	1,831	444	31,299	324	8,286	767	35,643	377	10,492	2,839	43443	449	11449	1823	53,557	2,346	4.4	51,211	4.4	23,442	740	3.
148	1,470	218	18,399	233	1,417	202	16,353	214	2,274	460	18940	40	3286	417	34,352	2,056	6.0	32,296	6.0	14,643	366	2.
130	3,393	209	17,075	36	4,150	351	19,750	670	4,453	762	20518	84	5547	301	26,086	207	0.8	25,879	0.8	15,233	339	2.
188	1,455	221	8,709	417	1,992	473	8,391	597	2,586	492	8730	451	2435	335	9,732	562	5.8	9,170	5.8	8,130	409	5.
620	3,296	637	10,998	1,023	3,762	1,225	10,006	755	4,674	1,322	11658	971	7237	1514	32,438	4,065	12.5	28,373	12.5	11,137	1,257	11.
147	138	4	3,506	215	504	14	3,539	350	1,044	641	3226	324	670	11	3,860	637	16.5	3,223	16.5	2,450	151	6.
2,030	2,252	1,594	8,055	1,964	3,891	2,202	8,049	329	4,667	164	7923	1979	3671	2152	13,629	8,309	61.0	5,320	61.0	8,429	3,624	43.
															219,830	21,101	129	198,729	9.6	112,127	8,387	9
466	6,253	827	29,234	959	7,812	1,635	27,450	830	10,490	2,263	27998	1,225	9130	2749	44,365	3,504	7.9	40,861	7.9	26,335	1,290	4.
999	6,854	2,813	13,483	1,088	5,027	2,087	14,235	2,445	7,197	3,050	17483	2,307	11941	5109	49,206	6,622	13.5	42,584	13.5	17,706	3,812	21.
716	253	159	14,322	544	5,028	1,297	14,274	1,550	5,401	910	17774	2656	9421	2639	18,911	4,840	25.6	14,071	25.6	7,768	875	11.
1,381	1,514	511	6,472	1,579	1,838	324	5,940	1,482	1,647	631	6383	1613	1366	855	23,006	10,983	47.7	12,023	47.7	7,302	1,892	25.
829	794	275	9,077	1,005	1,620	225	9,507	1,348	2,600	392	9957	1219	3663	1427	18,319	4,273	23.3	14,046	23.3	7,435	1,104	14.
1,367	2,526	1,174	5,203	1,615	1,705	981	5,831	1,765	1,017	655	9012	2819	2879	2391	44,130	18,995	43.0	25,135	43.0	7,891	2,541	32.
1,227	56	41	6,088	3,986	3,052	2,869	9,627	4,414	6,886	2,554	8169	5,752	912	875	7,783	5,074	65.2	2,709	65.2	1,986	1,268	63.
1,439	6,086	3,537	24,028	1,131	8,100	3,514	21,778	1,408	13,334	7,772	26261	1,196	15761	9947	74,569	10,152	13.6	64,417	13.6	22,626	4,976	22.
2,072	935	427	9,543	2,729	1,921	1,291	10,353	2,677	2,610	770	12230	3820	3441	1806	11,500	7,451	64.8	4,049	64.8	7,335	2,499	34.
															291,789	71,894	305	219,895	24.6	106,384	20,257	23
3,839	1,070	594	27,365	6,562	6,375	3,191	28,508	6,798	10,113	4,197	34404	5,593	10936	5590	42,302	19,926	47.1	22,376	47.1	14,910	5,879	39.
3,413	1,534	874	10,218	5,458	3,546	2,782	12,515	6,341	5,943	4,102	15759	8,637	4308	3356	12,396	7,489	60.4	4,907	60.4	8,438	4,287	50.
1,146	3,699	1,985	15,528	2,072	6,277	3,490	19,253	2,779	4,682	2,448	25247	3,957	21792	12338	8,656	1,285	14.8	7,371	14.8	15,588	3,131	20.
2,326	15,882	6,276	26,778	1,652	9,056	1,559	25,463	1,533	7,124	1,607	32476	2,561	9947	1789	160,308	38,419	24.0	121,889	24.0	40,755	8,602	21.

3,493	3,989	2,348	22,036	4,188	11,352	4,249	25,333	4,583	13,165	6,570	31,696	6,488	22,115	8,905	47,923	21,375	44.6	26,548	44.6	19,462	5,841	30.			
																		271,585	88,494	191	183,091	32.6	99,153	27,740	16
32,428	101,052	32,045	483,626	42,483	144,762	38,998	485,493	46,887	177,153	51,383	555,033	58,130	236,899	77,758	1,040,961	198,441	725	842,520	19.1	446,755	65,376	57			

city and all other cities with populations over 200,000 in 1990. Data are summed from place-level data to match 1983 metropolitan area definitions, except New England, Lowell, Manchester, and Nashua PMSAs. Data for Charlotte are drawn from Mecklenberg County; permit data for Charlotte were not available. (Land area of Mark and Jersey City. Los Angeles includes Long Beach, Anaheim, Santa Ana, and Riverside. Dallas includes Ft. Worth and Arlington.

C-40. 1993 metropolitan area definitions are used.

Data for Charlotte are drawn from Mecklenberg County; permit data for Charlotte were not available.

Figure I

Large City Share of Metropolitan Area Permits by Large City Land Area

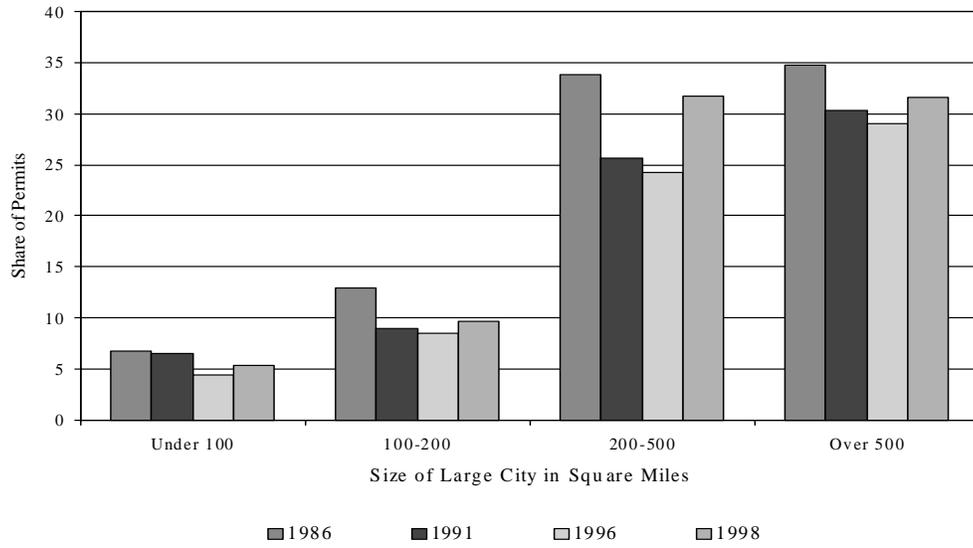


Figure J

Permitting Density in Large Cities: 1998

Large Cities	Permits Per sq. mi.	Large City Share of Metro Permits (%)
Cities Under 100 sq. mi.		
Baltimore	0.8	0.6
Providence	2.1	1.4
St. Louis	2.6	1.4
Cincinnati	2.8	1.8
Rochester, NY	3.3	5.3
Sacramento	4.3	2.9
Pittsburgh	4.4	4.4
Hartford	5.4	2.1
Milwaukee	6.3	7.5
Washington, DC	7.0	1.3
Buffalo	7.3	12.4
Boston	15.6	5.8
Miami	27.0	4.1
Orlando	40.8	12.3
Seattle	48.4	15.0
Total	12.8	5.8
100-200 sq. mi.		
New Orleans	1.9	8.6
Detroit	2.8	1.5
Philadelphia	3.4	2.1
Salt Lake City	4.3	4.4
Minneapolis/St. Paul	4.5	2.5
Cleveland/Akron	5.9	7.4
Tampa/St. Petersburg	14.8	13.2
Atlanta	17.2	4.1
Columbus	21.6	35.6
Portland, OR	25.9	18.2
Total	10.6	7.7
200-500 sq. mi.		
Norfolk/Virg. Beach	8.2	31.8
Kansas City	8.5	19.4
Indianapolis	15.6	35.9
San Diego	16.1	43.8

Chicago	17.5	10.7
Denver/Aurora	18.5	19.5
San Antonio	19.9	73.0
San Francisco	27.1	25.2
New York	32.1	26.5
Total	18.2	26.0
More than 500 sq. mi.		
Los Angeles	6.5	10.3
Phoenix/Mesa	31.6	36.9
Dallas	21.5	28.6
Charlotte	22.8	59.8
Houston	30.2	34.6
Total	21.7	31.0
<u>Total for all Cities</u>	17.6	17.8

Notes: 1998 data are preliminary. Large cities include the named central city and all other cities with populations over 200,000 in 1990. Data are summed from place-level data to match 1983 metropolitan area definitions, except New England where the metro definitions are those in effect for the year of the data collection. The Boston metropolitan area includes only Boston, Lawrence, Lowell, Manchester, and Nashua PMSAs. Data for Charlotte are drawn from Mecklenberg County; permit data for Charlotte were not available. (Land area of Mecklenberg County is 527 sq. mi., land area of Charlotte is 174.3 sq. mi.) San Francisco includes San Jose and Oakland. New York includes Newark and Jersey City. Los Angeles includes Long Beach, Anaheim, Santa Ana, and Riverside. Dallas includes Ft. Worth and Arlington.

Source: U.S. Bureau of the Census, Current Construction Reports, Series C-40.

Figure K: Location of New Residential Construction: 1997

	Population (Thousands)	Permits (Thousands)	Share of Regional Population (Percent)	Share of Regional Permits (Percent)	Permits Per 1000 Population
Northeast					
Metro					
Low Density	4,284	12.6	8.3	8.9	2.9
Medium Density	24,044	85.7	46.6	60.5	3.6
High Density	17,858	26.3	34.6	18.6	1.5
Nonmetro	5,402	17.0	10.5	12.0	3.2
Northeast Total	51,588	141.6	100.0	100.0	2.7
Midwest					
Metro					
Low Density	10,105	64.9	16.2	21.6	6.4
Medium Density	21,919	139.5	35.1	46.5	6.4
High Density	13,865	32.5	22.2	10.8	2.3
Nonmetro	16,571	63.1	26.5	21.0	3.8
Midwest Total	62,460	300.0	100.0	100.0	4.8
South					
Metro					
Low Density	21,992	187.1	23.3	29.4	8.5
Medium Density	41,944	326.3	44.5	51.3	7.8
High Density	6,371	31.9	6.8	5.0	5.0
Nonmetro	23,880	91.1	25.4	14.3	3.8
South Total	94,187	636.4	100.0	100.0	6.8
West					
Metro					
Low Density	19,642	180.8	33.1	50.0	9.2
Medium Density	18,338	104.5	30.9	28.9	5.7
High Density	13,051	26.1	22.0	7.2	2.0
Nonmetro	8,369	49.9	14.1	13.8	6.0
West Total	59,400	361.4	100.0	100.0	6.1
National					
Metro					

Low Density	56,024	445.4	20.9	30.9	7.9
Medium Density	106,245	656.0	39.7	45.6	6.2
High Density	51,145	116.9	19.1	8.1	2.3
Nonmetro	54,222	221.2	20.3	15.4	4.1
TOTAL	267,636	1439.5	100.0	100.0	5.4

Note: Metropolitan areas defined using 1993 definitions. Low density counties are those with population density of less than 260 per square mile; medium density have between 260 and 1825 population per square mile; high density have 1825 people per square mile. Totals are summed from place level data and may differ slightly from official national totals.

Source: Joint Center county database; Census Bureau county population estimates, and Census Bureau Series C-40, Hous Authorized by Building Permits.