URBAN REDEVELOPMENT AND EARTHQUAKE SAFETY

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prepared by

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FORWARD

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INTRODUCTION

Although urbanization has been both a causative and resultant force of the strong economic growth experienced by the United States through much of the 1900s, urbanization has also been characterized by decay, unchecked obsolescence, urban crowding, growth of inner-city slums, irresponsible civic management, and inadequate housing. These problems have caused federal, state, and local governments to support urban redevelopment programs throughout the U.S. during the entire century.

Urban renewal or redevelopment became most active after the urban crisis of the 1960s. During this period, federal governments became increasingly involved in promoting the development of public infrastructure and regulating the development process of the cities. These efforts have been called district replanning, urban renewal, and urban redevelopment. The concept was to rebuild extensive areas affected by urban decay by replacing old or underused commercial and industrial facilities, and poor substandard neighborhoods and housing with modern commercial and housing centers.

Typically state and local governments have operated urban redevelopment programs. Local governments would acquire the land, demolish older structures, replan and redevelop the land with new infrastructure and public amenities, and sell the land at a discount to private developers, who, with tax subsidies and other financial inducements, would invest in the construction of new facilities.

However, these extensive state and local redevelopment programs had a high public cost. Billions of dollars were channeled from the federal government to state and local governments. As a result large scale urban renewal became increasingly controversial and expensive in the 1960s and early 1970s. By 1974 federal aid for large urban redevelopment programs were reduced or disappeared entirely. Remaining programs were consolidated into community development block grants.

During this period a new concept of federalism emerged. The federal government transferred responsibility to local governments to finance needed development projects. Reforms made during this period focused on decentralizing governmental activities. As a result local governments had to rely on their own resources to fund urban redevelopment programs. While urban redevelopment expanded and then declined, earthquake safety programs never became part of any local urban redevelopment program.

The primary focus of local attention in terms of earthquake mitigation has been individual buildings. Traditionally, the prevailing view has been that when earthquake mitigation is used, the effects of an earthquake on the total urban fabric would be the aggregate of the damage to individual buildings. In reality the total effect may be multiplied considerably due to the interactive responses of not only individual buildings but urban systems, as well.

It is also frequently assumed that earthquakes are primarily confined to the West Coast; the familiarity of the great San Francisco earthquake of 1906 and the two recent earthquakes in Los Angeles and San Francisco attest to this fact. However, about 40 of the 50 states as well as may U.S. territories are at some risk from earthquakes. In fact, three of the more severe sets of earthquakes in the United States occurred in the eastern U.S. at Charleston, South Carolina (1886); Cape Anne (Boston), Massachusetts (1755); and New Madrid (St. Louis-Memphis), Missouri (1811-12).

In spite of this well documented vulnerability many cities have not considered adopting earthquake safety measures to resist the effects of earthquake hazards. Earthquake safety is almost universally not considered during the urban redevelopment process in spite of the fact that the redevelopment process offers many opportunities to include urban earthquake safety measures.

It earthquake safety measures can be successfully integrated into the existing urban redevelopment process, dramatically increased seismic safety and protection can be achieved for the urban environment at a reasonable effort and cost.

SCOPE

This report focuses on the relationship between urbanization, urban redevelopment, and earthquake safety. It identifies early urban patterns and the formation or urban blight as exacerbating factors of earthquake risk. It focuses on urban redevelopment programs established by federal and local governments for the abatement of both, urban blight and earthquake risk. In addition, the report identifies the planning tools and financial resources available at local levels to introduce earthquake safety in areas having large numbers of substandard buildings. Finally, the report highlights opportunities to introduce urban earthquake safety measures within the redevelopment process.

For this purpose numerous interviews were conducted and large numbers of documents collected and examined from organizations involved in urban redevelopment. During field trips meetings were conducted with representatives of local governments and their specialized agencies. The redevelopment process, the planning and regulatory development process; and local requirements for redevelopment were identified. In addition, alternative approaches used by local governments to manage, promote, and fund physical redevelopment activities were documented.

Integral to this report was the study of several cities in the U.S. vulnerable to earthquakes where different redevelopment programs have been implemented in order to either overcome urban blight or to respond to earthquake disasters. For case study selection the following conditions were considered: cities that do provide earthquake safety within their planning process; cities that are currently in the process of expanding their earthquake safety programs; and cities that are responsible for developing state-of-the-art earthquake safety programs within their planning and redevelopment process. The cities of Charleston, South Carolina; Memphis, Tennessee; Salt Lake City, Utah; and Santa Cruz and Santa Rosa, California illustrated these broad scenarios.

This report describes a range of redevelopment scenarios applicable to local communities and identifies the range of seismic mitigation strategies that could be effectively integrated into these activities.

This report has been divided into four major sections: Part I, The Urban Redevelopment Process; Part II, Urban Earthquake Safety; and Part III, Integrating Urban Redevelopment and Earthquake Safety; and Part IV, Case Studies.

Chapter 1 highlights early redevelopment programs; the causes and effects of urban decay; reviews major urban, and social, and economic trends that may have an impact on increasing earthquake vulnerabilities; and discusses the implications of a deteriorated urban stock for earthquake safety. The chapter also includes relevant socio-economic data that illustrates significant trends and configuration patterns of inner-cities.

Chapter 2 analyzes major urban trends and redevelopment programs during the mid and late 1900s, and their implications in terms of seismic safety. The chapter evaluates the current approach of local governments to urban redevelopment.

Chapter 3 examines the criteria and characteristics of a seismically safe urban environment. This includes the use of adequate building codes, patterns of land-use, and locations of public and critical facilities. These areas are explored in the context of achieving both a viable urban system and one that is seismically safe.

Chapter 4 reviews a number of federal programs which constitute a national framework and current funding source for earthquake safety programs.

Chapter 5 has a twofold objective. First, it identifies how several jurisdictions can use earthquake provisions within their existing planning process and how such provisions can be used beyond present efforts. Second, the chapter describes a number of mechanisms that can be adopted by local governments to generate or increase their revenues for redevelopment programs with earthquake safety provisions.

Chapter 6 identifies a number of available disaster strategies that can be used to protect the lives and investments in a local community. A number of strategies have been chosen to represent the range of alternatives available for promoting urban redevelopment programs. The classification system attempts to offer some sense of organization to the integration of two complex programs.

Charleston and Memphis *case studies provide directions to adopt comprehensive planning, zoning ordinances and subdivision regulations in concert with earthquake safety provisions. While volumes of research information has been produced by universities and research centers, these cities do not include this data as part of their normal urban planning programs. Both case studies identify the development process of these cities, construe the role that public and private agencies can play in adoption of earthquake safety programs, and suggest opportunities to expand the agendas of local governments to introduce earthquake safety and mitigation measures as an integral component of their redevelopment programs.*

The **Salt Lake City** *case study highlights the development of Salt Lake City, the potential damage that a medium size earthquake can cause on the built environment, major redevelopment programs undertaken by the city, and a number of ordinances presently developed by Salt Lake County and City in order to diminish the potential of earthquake damage. This case study can be useful to other cities throughout the country, that albeit located in seismic prone areas are not presently enforcing ordinances to reduce their vulnerability to earthquake hazards.*

Santa Rosa and Santa Cruz *case studies highlight urban redevelopment programs that have taken place in the aftermath of major earthquakes. The Santa Rosa case study highlights the approach undertaken by the local officials in the aftermath of the 1969 earthquakes which devastated major portions of the downtown area. The uniqueness of this case study in relation to others included in this report is that Santa Rosa experienced two consecutive major earthquakes while there was still federal funding for large scale urban redevelopment programs. In the case of Santa Cruz, the study focuses on damage caused by the 1989 Loma Prieta earthquake to the downtown area, the participatory process that preceded the adoption of the urban redevelopment program for the reconstruction of the damaged area, and how local officials are still striving to fund redevelopment in the absence of large federally funded urban redevelopment programs.*

Potential users of this report include redevelopment agencies; departments of planning and zoning, taxation, community and economic development, public safety, emergency services and risk management; architects, engineers, planners, developers and their associations; federal agencies including HUD and FEMA; and the general public, especially those involved in committees and civic/religious organizations involved in urban programs.

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EXHIBITS

ACRONYMS

AASHTO	American Association of State Highway and Transportation
ASCE	American Society of Civil Engineers
BAYREPP	Bay Area Regional Earthquake Preparedness Project
BOCA	Building Officials and Code Administrators International
BSSC	Building Seismic Safety Council
CALDAP	California Disaster Assistance Act Program
CDBG	Community Development Block Grant
ICMA	International City Managers Association
FEMA	Federal Emergency Management Agency
GIS	Geographic Information Systems
HUD	U.S. Department of Housing and Urban Development
ICBO	International Conference of Building Officials
ISO	Insurance Service Office
MHA	Memphis Housing Authority
NBC	National Building Code
NCEER	National Center for Earthquake Engineering Research
NEHRP	National Earthquake Hazards Protection Program
NFPA	National Fire Protection Association
NIBS	National Institute of Building Science
NIST	National Institute of Standards and Technology
SBA	Small Business Administration
SEAOC	Structural Engineers Association of California
SBC	Standard Building Code
SBCCI	Southern Building Code Congress International
SCSSC	Southern Carolina Seismic Safety Consortium
SRO	Single Room Occupancy
UBC	Uniform Building Code
UDAG	Urban Development Action Grant
ULI	Urban Land Institute
USGS	U.S. Geological Survey
URM	Unreinforced Masonry Building

PART I: THE URBAN REDEVELOPMENT PROCESS

CHAPTER 1
URBAN DECAY AND EARTHQUAKE RISK

INTRODUCTION

Urban redevelopment programs have universally been accepted as the best solution for the elimination of the decayed and blighted areas in inner-cities. Redevelopment has been defined as a combination of slum clearance, demolition and urban renewal. However, the term redevelopment, in its true sense, conveys a more far reaching concept which encompasses opportunities for adoption of efficient processes and technologies to improve, in a sustainable manner, the pre-existing conditions of urban sites as well as to increase the capacity of such sites for economic development. Redevelopment, in terms of earthquake safety, provides many interesting opportunities. Land clearance that takes place during urban redevelopment and renewal allows for the rebuilding of structures with adequate earthquake provisions. In Santa Rosa, one of our studied cities, major redevelopment programs took place after large portions of the downtown area were devastated by the earthquakes of 1969. Stringent earthquake provisions became an integral part of the redevelopment programs making Santa Rosa less vulnerable to earthquake hazards in the future.

Urban decay, namely, deterioration of neighborhoods and concentrations of a large stock of substandard housing, can increase the vulnerability of earthquake prone sites as poor construction is more susceptible to earthquake damage. Large-scale construction programs that took place during the early industrialization period, after the depression era, and during War World II, by and large, were built with either no regulations or under a variety of codes and regulations which, in the best of cases contemplated only minimal earthquake provisions. Initial earthquake provisions were solely adopted by the State of California following the 1933 Long Beach earthquake and were extensively disregarded in the rest of the U.S. Furthermore, socio-economic forces and patterns of urban development, such as the concentration of urban poverty, have accelerated the deterioration of large neighborhoods in inner-cities. As a result, the nation has a large inventory of buildings highly exposed to earthquake risks.

Urban decay and the need to assess the effectiveness of urban development in the context of earthquake safety are central to this study. This chapter highlights early redevelopment programs; the causes and effects of urban decay; reviews major urban, social, economic trends that may have an impact in increasing earthquake vulnerabilities; and construes the implications of a deteriorated urban stock in terms of earthquake safety.

This chapter also includes relevant socio-economic data that illustrates significant trends and configuration patterns of inner-cities. However, particular regional and city trends are not included. For example, it is a well known fact that in the 1970s growth and concentrated poverty affected major cities in the Northeast and Midwest while the South and the West were affected to a much lesser degree. For this study, the most relevant trend is that during this period urban conditions worsened by and large, as five of the largest cities -- New York, Chicago, Philadelphia, Newark, and Detroit -- accounted for two-thirds of the increase in poor people living in extreme poverty during the 1970s and 1980s.

PATTERNS OF URBAN DECAY

The presence of urban decay in inner-cities is not a modern phenomenon. As early as 1892, the U.S. Congress recognized the existence of slums and passed a resolution that provided a special allocation of funds to investigate urban blight in cities over 200,000 population. In 1908, a commission was appointed by the President of the U.S. to examine the problems of slums in Eastern cities that had become the entry point for masses of immigrants. The commission recommended the condemnation and wholesale federal purchase of slum properties, along with direct federal loans to finance the construction of entire new sections of some cities.

Historically, the presence of urban decay in inner-cities is highly concentrated and correlated with specific ethnic groups. The different types of urban concentrations which had occurred in the past and continue to occur in the present constitute a complex phenomenon widely studied by many scholars. A detailed analysis of the subject goes beyond the scope of this study; however, a few words on this topic are necessary to understand how certain types of urban concentrations increase the potential earthquake risk.

Among the most frequently cited causes for high urban concentrations are the configuration patterns that emerged following the industrialization era. In early America, colonial towns were centers founded to fulfill functions related to mercantile activities. The scale of business generated by the distribution of goods and retail activities did not demand a separation of major economic activities. The nineteenth century brought a more diversified urban structure. Manufacturing and political administration were added to trade. As these functions began to increase, specialized congregations around these economic activities became distinctive elements of the urban fabric; however, an incoherent separation remained present until mechanical transportation became widely used in 1830, for the most advanced cities, and in 1850, for most of the other urban centers.

Between 1870 and 1920, large-scale urbanization transformed vast areas of the U.S. In 1880 the urban population was estimated to be 13,185,000 and by 1920 it had increased to 54,304,000 people[1]. Exhibit 1 shows that almost all major cities existed before the turn of the century. Some scholars have called this phenomenon the opening of the rural-land frontier to industrial development. (Elazar, 1987) New construction technology and materials facilitated the development of vertical units in central-cities which, since then, have become the most well-known skylines of modern America.

At the same time that a new landscape reshaped many urban centers, urbanization became increasingly characterized by substandard construction, decay, unchecked obsolescence, urban crowding, and the growth of inner-city slums. As industrialization took place toward the end of the nineteenth century, a larger labor force was required in the cities. Masses of low-cost housing were built within a relative close distance to work-places. This new stock of housing and high levels of urban concentration produced large numbers of substandard neighborhoods in central cities.

Since then, there has been a continuous struggle to eliminate this urban blight and improve housing conditions and neighborhoods in center cities. Federal action -- some times combined with private sector initiatives -- has been oriented toward the implementation of large urban programs. Early initiatives, such as the ones undertaken in 1918, included the authorization by Congress of loans to real estate firms to provide housing for people employed by the shipbuilding companies. Also that same year, Congress authorized the Bureau of Labor to work with the U.S. Housing Corporation to provide additional housing for war workers. (Willmann, 1967 and Jacobs, 1986)

As industrialization triggered a concentration of large numbers of people in relatively compact and dense settlements, different enclaves emerged, composed many times, of distinctive ethnic groups who carried out a particular trade activity. For instance, highly segregated neighborhoods of Jewish, Italian, Spanish, German, Chinese, and Afro-Americans were common during the late nineteenth and early twentieth centuries in major cities. Some of these concentrations have persisted while others have disappeared, especially as transportation allowed the formation of the suburbs, which are lesser ethnical-based formations (but a much more highly stratified community in terms of class). Without going into great detail, many socio-political forces have accounted for the concentration of certain ethnic groups. For instance, there were legal constraints for segregated residential patterns for Afro-Americans, mostly in the South but also elsewhere and for certain Asian groups in California and the West in general. These restrictions, together with the needs of community security became fundamental factors in the formation of clustered communities.

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[1] Census Bureau

LARGEST U.S. TOWNS AND CITIES 1790-1950
(in thousands)

Exhibit 1

1790

Rank	Town	Population	Rank	Town	Population
1	New York	33.1	11	Porthmouth, N.H.	4.7
2	Philadelphia	28.5	12	Brooklyn	4.4
3	Boston	18.3	13	New Haven	4.4
4	Charleston	16.3	14	Taunton, Ma.	3.8
5	Baltimore	13.5	15	Richmond	3.7
6	Salem	7.9	16	Albany	3.4
7	Newport	6.7	17	New Bedford	3.3
8	Providence	6.3	18	Beverly, Ma.	3 2
9	Gloucester, Ma	5.3	19	Norfolk	2.9
10	Newburyport, Ma	4.8	20	Petersburg, Va.	2.8

1870

Rank	Town	Population	Rank	Town	Population
1	New York	942.2	11	Pittsburgh	139.2
2	Philadelphia	674.0	12	Buffalo	117.7
3	Brooklyn	719.9	13	Washington	109.1
4	St. Louis	310.8	14	Newark	105.0
5	Chicago	298.9	15	Louisville	100 7
6	Baltimore	276.3	16	Cleveland	92 8
7	Boston	250.5	17	Jersey City	82.5
8	Cincinnati	216.2	18	Detroit	79.5
9	New Orleans	191.4	19	Milwaukee	71.4
10	San Francisco	149.4	20	Albany	69 4

1950

Rank	Town	Population	Rank	Town	Population
1	New York	7,891.9	11	San Francisco	775.3
2	Chicago	3,620.9	12	Pittsburgh	676.8
3	Philadelphia	2,071.3	13	Milwaukee	637.3
4	Los Angeles	1,970 3	14	Houston	596.1
5	Detroit	1,845.5	15	Buffalo	580.1
6	Baltimore	949.7	16	New Orleans	570 4
7	Cleveland	914.8	17	Minneapolis	521 7
8	St. Louis	856.7	18	Cincinnati	503.9
9	Washington	802.1	19	Seattle	467.5
10	Boston	801.4	20	Kansas	456.6

Source: Census Bureau in Vance, in the Contemporary Metropolitan America, 1976

However, central to this study is the continuous presence of less privileged groups, such as the Afro-American, and later, the Hispanics, as well as other minorities of more recent arrival, in highly segregated and substandard neighborhoods who have remained trapped in inner-cities as a result of urban poverty. Vance in the *American City, A Workshop for a National Culture*[2] provides important insights on the subject, *"I think*

[2] In Cities of the Nation's Historic Metropolitan Core, 1978

it is nearly as certain that poverty leads as well to the needs for congregation, as is always the case with poverty, its exactions, even for congregation, are grinding. The wealthy can live anywhere, but can the poor? The supporting activities for the poor are so very much more critically needful that is seems unlikely that they can. Differences in welfare practices, availability of food stamps, public charity hospitalization, remedial education, an a number of other institutional situations are certainly more important to the poor than to the middle and upper classes for the simple and obvious reason that the poor have little chance either to find other solutions or to live without those institutions. Thus, the importance of class or ethnic congregation, in a peculiar fashion, may well be greatest at the bottom of the economic pile."

Poverty is an important factor in the acceleration of urban decay and both elements play a substantial role in the vulnerability of a large number of earthquake prone cities. The presence of large number of people living in poor inner-city neighborhoods is shown through exhibit 2. According to this exhibit, the city of Memphis (one of the studied cities) has 28.0 and 12.9 percent of its population living in poor and extremely poor tracts, respectively. Among the major causes that have perpetuated the presence of underprivileged groups and poverty in center cities is the fact that, traditionally cities have been providers of low-income and substandard housing. Since the 1930s and through the 1970s it was common public policy to provide low-income housing in slum neighborhoods by locating high- rise projects in poorer and minority sections of central cities. (Lynn and McGeary, 1990) Nearly 20 million new houses and apartments were constructed in metropolitan areas between 1948 and 1967, (Netzer, 1970) an amount which without doubt, has increased the housing inventories of decayed urban areas, and thus their exposure to earthquakes. The great paradox however is that these projects were intended to improve urban patterns and boost the economic-base of central cities; but, in absolute terms, the goals of federal-assisted housing fell short and in turn produced many undesirable effects. By the end of the 1950s it was estimated that 27 percent of the poor lived in central cities in substandard housing and decayed neighborhoods. (Lynn and McGeary, 1990)

Evidence of expanding urban decay has been well documented through different periods and has been ascertained by much socio-research. Clawson and Hall (1973) described the situation of cities during the 1950s building upon early patterns of deterioration. They estimated that a fourth or more of the cities' building stock had been constructed before 1900, some of it long before that date. Much was substandard already for the accepted standards of the late 1940s; in 1950 only 64 percent was not dilapidated and contained private toilets, baths and hot water. In much of the housing, common spaces and rooms were too small for effective use, too few windows, no plumbing, no electricity, and no central heating. In addition, many were badly crowded. Indeed, census data shows that for 1940, 29 percent of all families living in rental housing lived under crowded conditions. Such conditions become exacerbated by the limited rehabilitation and maintenance that on the one hand, were provided by low-income home-owners or tenants, and on the other hand, by the lack of federal funding supporting such programs.

In reality, data evaluating the structural soundness of buildings nationwide is not available. Census measurements of housing quality have been crude and incomplete. However, the risks for cities exhibiting large stocks of older buildings remain enormous. Recent reminders were the destruction of large numbers of single room occupancies (SROs) which followed the Loma Prieta earthquake in Santa Cruz and Watsonville, California.

POPULATION LIVING IN POVERTY TRACTS
IN MAJOR EARTHQUAKE PRONE CITIES
(1990)

Exhibit 2

CITY	POPULATION AT RISK	RESIDENTS IN EXTREME POVERTY	%	RESIDENTS IN POVERTY	%
Los Angeles	3485,398	230,338	6.6	1415,445	40.6
Memphis	981,747	126,866	12 9	274,893	28 0
St. Louis	2444,099	60,842	2.5	249,338	10.2
Boston	2870,650	28,738	1.0	252,109	8.8
Seattle/Tacoma	2559,164	34,971	1 3	147,968	5.8
San Francisco/Oakland/San Jose	7253,311	30,753	0.42	401,867	5.5
Salt Lake City	1072,227	1,515	0.14	58,315	5.4
Charleston*	506,875	-	-	-	-

*Data is not available
Based on Census Bureau data and Kasarda (1992)

CHAPTER 2
URBAN REDEVELOPMENT

INTRODUCTION

Early attempts to eliminate urban decay were isolated initiatives. Large-scale urban projects, whose imprint can still be found in the configuration of modern cities, were enacted after the depression era. These projects were the results of accumulated dissatisfaction with the proliferation of blighted areas in major urban centers. Between 1934 and 1974 the federal government undertook the most vigorous financial support of publicly-assisted housing ever attempted. These initiatives were embedded in several Housing and Urban Development laws enacted during this period which provided for enormous investments for the purchase and clearance of downtown property.

However, by the end of the 1970s it became obvious that these large investments in inner-cities were not producing expected results. Many urban trends and studies suggested that the condition of cities were worsening in spite of continuous increases in federal and local funding. By 1980 major urban redevelopment programs ceased or dramatically decreased. Local authorities were faced with a great reduction in federal funding at the same time that tax revenues from central cities significantly declined. And what is most important, local governments were faced -- more than ever -- with the need to undertake new redevelopment programs due to the deterioration exhibited by large numbers of urban centers throughout the nation.

This chapter analyzes major urban trends and redevelopment programs during the mid and late 1900s, and their implications in terms of seismic safety. In addition this chapter reviews the current approach of local governments to support urban redevelopment as federal funding and support has evaporated.

GROWTH OF URBAN REDEVELOPMENT

The first of the major post-depression urban redevelopment program was enacted through the Housing Act of 1934 which was directed toward improving existing urban conditions. Between 1931 and 1933 it was estimated that half of the nation's single family homeowners were in default and thousands of mortgage foreclosures took place due to the large rates of unemployment. In 1932, nationwide unemployment reached between 12 and 15 percent. In many cities these percentages were still larger. For example, in New York City one million people were estimated to be unemployed, 600,00 in Chicago, 298,000 in Philadelphia, and 178,000 in Pittsburgh. Some neighborhoods in Boston, as of 1934, reported unemployment as high as 43 percent. (Willmann, 1967). The Housing Act of 1934 introduced the government insurance of mortgages through the establishment of the Federal Housing Administration. More than one million home loans for distressed owners were refinanced from 1933 to 1936. This law provided mutual mortgage insurance on homes, and low-cost housing loans up to 80 percent of appraisal value with a period of up to 20 years for amortization. Delinquent borrowers were given monthly payment loans at liberal rates of interest and the opportunity to save their homes.

Three years later another major post-depression law was enacted --the Housing Act of 1937 -- which created the foundation for future massive urban redevelopment and renewal programs. Through this act loans, capital grants, and annual contributions were authorized for local public housing agencies to assist in the development, acquisition, or administration of low-income housing and slum clearance projects. Slum-clearance efforts during this period consisted mainly on demolishing dilapidated houses in crowded city neighborhoods and replacing them with subsidized public housing.

During World War II, many cities experienced a sustainable economic growth triggered by war-related industries. They became the center for manufacturing war materials and the location for major military and naval installations. During this period, the demand for affordable housing peaked. Large labor forces moved from farms and small towns into already crowded industrial centers. (Willmann, 1967) Legislation during this

period was basically directed toward national defense efforts, and as a result, several housing programs were carried out to accommodate industrial workers, such as those emanating from the 1940 Landham Act. Also in 1941, Congress enacted a defense housing amendment, providing liberal mortgage insurance clauses to encourage builders to construct massive housing in critical defense areas.

However, the results of these initiatives were, many times, rapidly and poorly constructed housing units. Furthermore, construction rates for new buildings remained lower, in general terms, than the decade before while almost no maintenance was provided to the existing housing stock. These facts, plus a scarcity of construction materials and labor, caused significant housing shortages and the proliferation of substandard neighborhoods which deteriorated very rapidly during the following decades.

After the war years a large number of booming cities lost a great number of manufacturing jobs; rail-yards, factories, and warehouses were abandoned and economic districts showed a dramatic decline in market vitality. Estimates during this period show that urban housing was becoming obsolete five times as fast as it was being replaced. Gallion and Eismer (1980) recounted the situation very vividly. They expressed that cities *"have been caught in the cross-fire of traffic, transition, and neglect. Their energy has been sapped and their quality drained away. They are the twilight zones in the urban patterns. Block after block of old houses and apartments, laced with traffic streets, have been reduced to a full order of mediocrity. Into this urbanized vacuum a haphazard and indiscriminate mixture of commercial uses has been drawn. They have not entirely deteriorated into slums but have lost their vitality as residential neighborhoods."*

To this lack of housing created by the fast deterioration of the housing stock during the post-war period, a new demand for housing was generated by several million men demobilized from armed forces in a period of little more than a year, workers with savings enough to make down payments, and the interest in creating large numbers of new families. As new demands outpaced the existing stock of housing, the formation of satellite cities --- which began in the 1920s -- accelerated. The working class began massively moving from the cities to the suburbs, a trend that still continues today. Beside the fact that adequate housing was scarce in central cities, the exodus of the middle and upper-middle class was also in great part based on the dissatisfaction generated by some of the social consequences of city life and the search for a more secure and stable environment. As a result of these urban flows most central business districts in older cities consolidated their positions as large enclaves of urban poor and exhibited a stock of building and infrastructure increasingly difficult to support through the local economy. Bernard J. Frieden in *The Future of Old Neighborhoods* (1965) synthesized this situation, *"Large numbers of rural people are going to the big cities, while earlier city dwellers move to suburbia. The poor, the elderly, and racial and ethnic minorities, concentrated in central cities, are moving into old neighborhoods that the more affluent have left behind. As these groups lay claim to the old neighborhoods in their search for a place to live, city governments are experimenting with policies and programs to speed the rebuilding of these same areas."*

During the post-war period it became obvious that the present rates of construction of public housing could not replace inner-city slums. This fact unveiled the need for a larger public action. In response to the deplorable conditions of many cities, Congress passed the Housing Act of 1949 which is one of the most far reaching pieces of legislation in U.S. housing policy history. Title I of this legislation created the urban redevelopment program and authorized massive slum clearance for urban development. Under this law, local governments bought and cleared land in blighted areas and then transferred it to private developers or public agencies at a much lower cost, approximately one-fourth of its market value. The federal government covered two thirds of the *write down* of land values, which typically comprised the cost of buying the land, relocating the occupants, razing the buildings, and the resale price. Local government participation included cash and/or the construction of public facilities, and labor. As a condition of federal aid, local governments had to prepare a *workable program* for providing the temporary relocation for families displaced from project areas and the permanent provision of replacement housing at prices and rents within their financial means. This act also provided a greatly expanded federal low-rent housing program and subsidies for the assembly of land in blighted areas for urban renewal. (Jacobs, 1986)

The initial urban programs of the 1930s were very small programs which only housed a few poor people. These projects were similar to private housing and most of the people they housed were the *temporary poor* of the working class left unemployed during the depression. The projects that followed the Housing Act of 1949, however, were large-scale public housing projects, and as many agree, of the wrong type. Their main purpose was to increase the supply of housing units for the poor and to demolish the most deteriorated slums in central cities. The underlying theory was that it was less expensive to build large projects of high-rise buildings than individual housing. Since then, public housing has tended to be clusters of large, high-density high-rise apartment blocks, separated by open spaces.

Under early urban redevelopment programs entire city blocks were razed, thousand of acres of city land were cleared, whole cores of downtown were transformed into parking lots or remained empty spaces, and residents and businesses were moved to new suburban locations. For instance, in Memphis, one single land-clearance program at Beale Street involved the demolishing of 300 substandard buildings and various historic structures (see Memphis case study). When land-clearance was finished a tremendous open gap was created. According to Sigafoos (1979), the area resembled *"a bombed-out Berlin of 1945."* Many other similar examples existed across the nation. Several authors stated that by late 1960s St. Louis looked as if a bomb had struck it, and downtown Syracuse had never fully recovered from its own planned self-destruction."

The impacts of urban renewal programs are highly controversial and opinions on the subject are many times unreconcilable. Jacobs (1986) illustrates this point by providing some of the extreme outcomes of these programs. On one hand urban renewal was able to replace slums and rundown areas with new housing and productive commercial areas which brought much-needed tax revenues to city treasuries. On the other hand, during the implementation of these programs, cities ran out of money and redevelopment plans were halted after the land was cleared, leaving large tracts of vacant land as a visible remainder of the programs' failures. Shannon in his book entitled *Urban Problems* (1983) provides further examples of the negative impact of urban renewal programs on the poor. He suggests that the notion of improving urban conditions for the poor was not necessarily associated with the supply of new housing since much of the demolished units were not replaced with new housing but rather by convention centers, universities, and parking lots. The neighborhoods destroyed were not even the worst slums, but working class ethnic neighborhoods. The results were the displacement of low-income people, reduction in the supply of low-income housing, destruction of potentially salvageable neighborhoods, and the construction of only a relatively modest amount of low-income housing.

As massive urban redevelopment took place, populations in inner-cities became more unstable. This situation was still further exacerbated by the extensive use of new technologies. The increased production of automobiles and the construction of large numbers of expressways allowed for the proliferation of the suburbs. Census data shows that from a dozen of the largest cities in 1950, eleven lost population between 1950 and 1960. Several major cities lost more than a quarter of their population-base during a period of 30 years. Leading this phenomenon was St. Louis (-47.1 percent), Buffalo (-38.3 percent), Pittsburgh (-37.4 percent), Cleveland (-37.3 percent), and Detroit (-34.9 percent).

This situation exhibited by a large number of urban centers called for further federal action. The Housing Act of 1954 was enacted extending the clearance programs authorized by the 1949 Housing Act. Under this new act, urban redevelopment was retitled *urban renewal* and specifically required that redevelopment projects be part of comprehensive city planning. Among the important elements of this program was an increased role for the private sector and for citizen participation. This act required that communities would prepare a workable program for the prevention and elimination of slums and blight prior to receiving federal assistance. The act also supported the use of long term Federal Housing Administration (FHA) mortgage insurance for designated older areas. (Jacobs, 1986 and ICMA, 1988)

THE GROWTH OF CITIES BY CLASS: 1920-1990
(in thousands)

Exhibit 3

Year	Great Cities T. Po.	% of total Popul.	Large Cities No.	% of total T. Po.	Po.	No.
1920	10,146	9.6	3	10,765	10.2	22
1930	15,065	12.3	5	13,720	11.2	32
1940	15,911	12.1	5	14,285	10 8	32
1950	17,404	11.5	6	17,429	11 6	36
1960	17,484	9.8	6	21,877	12.2	46
1970	18,742	9.2	6	30,859	15.0	50
1980	17,530	7.7	6	23,061	10.2	49

Year	Medium Cities T. Po.	% of total Popul.	Small Cities No.	% of total T. Po.	Po.	No.
1920	11,784	11.2	119	12,110	11.5	608
1930	14,032	11.4	154	15,523	12.6	791
1940	15,137	11.5	162	17,384	13.2	878
1950	18,410	12.2	191	20,675	13.7	1030
1960	25,488	14.2	282	32,519	18.1	1566
1970	31,009	15.2	340	39,234	19.3	1903
1980	38,845	16.2	364	51,113	22.6	1786

Source: The U.S. Census Bureau, in Elazar (1987)[3]

It is of particular importance to indicate that in spite of the fact that major federal initiatives were not oriented to the potential exposure of cities to earthquakes, from this period on, some federal projects would create certain conditions beneficial for earthquake safety. A good example is the Housing Act of 1954. This act provided extensive federal subsidies favorable to earthquake safety for rehabilitation of neighborhoods. It created several new alternatives including the rehabilitation of areas in the process of deteriorating, the conservation of older neighborhoods, and encouraged the adoption and enforcement of housing codes.

In 1961, another Housing Act was enacted making important revisions to the urban renewal program and creating the first operating-subsidy program for public housing authorities which could not cover operation costs with rent payments. This act broadened the Federal Housing Administration's responsibility to cover all low-and moderate-income families and authorized the insured condominium finance program. Loans with below market interest-rates were made to nonprofit and limited-dividend organizations, cooperatives, and public bodies to finance projects for low- and moderate-income and displaced families.

During this period most cities of the U.S. were showing the effects of the civil rights movement. From the summer of 1965 to the Spring of 1968, none of the major metropolitan areas escaped some form of

[3] Great Cities 1,000,000 +
Large Cities 250,000 - 999,999
Medium-size cities 50,000-249,999
Small cities 10,000-49,999

disruption. The Kenar Commission[4] counted 164 disturbances during the summer of 1967, eight of which were substantial enough to activate the military. Only six weeks after the report was issued, the last round of major riots occurred following the assassination of Dr. Martin Luther King. Riots resulted in millions of dollars of damages in the inner-cities. In the midst of large urban renewal programs, a survey prepared by the Kenar Commission, showed that forty-five percent of the respondents believed that the lack of decent housing was the main cause of the riots.

By the late 1960s it became increasingly apparent that public housing projects were not providing enough housing for the poor. The reaction of federal and local officials was to push forward their efforts to ameliorate the conditions of the cities. In 1965 the U.S. Department of Housing and Urban Development (HUD) was created, an institution that would play, in the years to come, an important role in the configuration of urban centers (especially in terms of commercial centers and low- to moderate-income neighborhoods), in the rehabilitation of older public buildings and housing, and, to a certain extent, in the financing of major redevelopment programs after major natural hazards (see Santa Rosa case study). The Housing and Urban Development Act of 1965 was the most comprehensive federal urban development and housing program since 1949. It provided rent supplement payments for those below the local poverty level, loans at 3 percent interest for low- and moderate-income families, and subsidies for an additional 240,000 low-rent public housing units. The program provided subsidies to individual families, conceivably twice as great as those in public housing. Such subsidies were tied, for the first time, to the family and not to the housing unit.

In 1966, HUD initiated one of its first housing initiatives, the Model Cities Program. This program was created at a time when urban riots were spreading across the nation and the urban renewal programs were no longer viable. This program reflected the social conditions of the time in which it was enacted. This particular period witnessed a growing sensitivity to issues of civil rights, community involvement, and equity. Through the program, residents of subdistricts designated a Model City District and created their own quasi-political organizations, identified their own problems and priorities, and proposed their own means of arriving at solutions. These organizations and their proposed programs were then funded by the federal government. This program was embedded in the Metropolitan Development Act of 1966 and to this day is still an important part of almost every urban redevelopment program.

In 1973 a moratorium on all subsidized housing programs was imposed and a large number of urban redevelopment programs were terminated and replaced by a system of community development based on decentralization and federal revenue sharing. Within this framework, a major landmark bill was passed a year later: the Community Development Act of 1974. This new program combined old categorical programs, including Urban Renewal and Model Cities into a new Community Development Block Grant (CDBG) program. Larger cities and urban counties complying with program requirements received funding automatically through a formula. Through CDBG programs, cities with over 50,000 population qualified for entitlement funds. The objectives of the CDBG programs were, and still are today, primarily oriented toward low- and moderate-income communities for the prevention or elimination of slums and blight. They attempt to provide for neighborhood revitalization, economic development, and the provision of improved community facilities and services.

At this point it is important to note that CBDG and other programs enacted by HUD following CDBG have directly or indirectly supported earthquake safety programs. Chapter 4 describes the levels of funding available through CDBG and other community development programs that can have application for earthquake safety programs. The potential impact that CDBG can exert in terms of earthquake safety can be perceived from the following illustration which shows the amount of funds allocated in this particular program versus other HUD programs.

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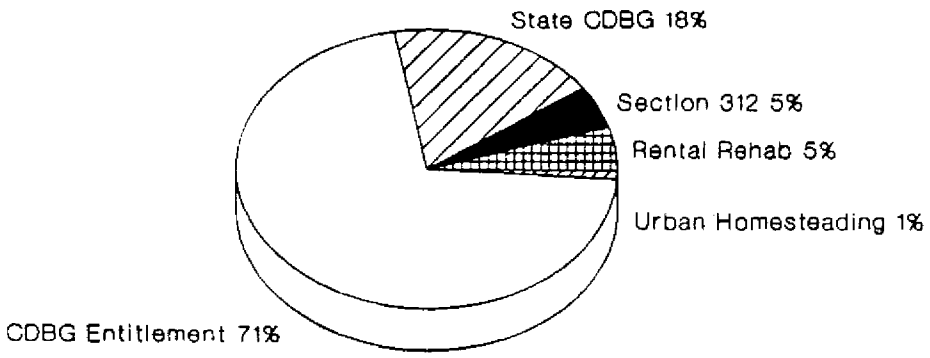
[4]The National Advisory Commission on Civil Disorders, better known after its Chairman Otto Kenar, former Governor of Illinois.

FUNDING FOR HOUSING REHABILITATION
CDBG ENTITLEMENT - 1991

Exhibit 4



Source: HUD (1992)

DECLINE OF URBAN REDEVELOPMENT

By the time that CDBG and other urban programs became operational, large scale urban redevelopment programs had, by and large, elapsed. Indeed, by 1980, large scale federally financed programs had become increasingly controversial.

The period from 1934 to 1980 was one of steady growth in federal grant programs, largely devoted to housing and community development. The primary foci of federal programs were subsidizing the initial financial outlay for land and construction of housing; making mortgage credit cheaper and more readily available; changing factors that affected the cost of construction and land, and thus price, at which a newly completed, unsubsidized housing unit could be sold or rented; and reducing the tax burdens borne by housing occupants and investors in housing.

The cost of these assistance programs climbed steadily. Billions of dollars were channeled from the federal government to state and local governments. The levels of provided federal assistance can be understood by looking at the number of projects and funding that took place during this period. Federal grant programs increased from 50 in 1960 at a cost of $7 billion, to over 500 in 1980 at a cost of $83 billion. By the end of the 1970s, virtually every component of local government was supported by a counterpart federal aid program. At the same time, city officials became increasingly concerned about the debt service defaults as well as the financial implications of the inflationary increases in subsidies required over the forty year life of the project mortgages. Estimates indicate that in a twenty year expenditure period -- from 1948 to 1967 -- local governments invested about $200 billion in new public facilities in metropolitan areas. (Netzer, 1970)

However, in spite of the large amounts of federal assistance funnelled to central cities, urban and economic conditions did not improve in most urban centers. Indeed, this was a period of great disillusionment in terms of the urban environment. For instance, a 1973 study by the Harvard-MIT Join Center for Urban Studies showed that in all areas of the country the total number of families living in physically inadequate housing was 6.9 million and the number of families living in overcrowded housing was .7 million. About 70 percent of those in overcrowded housing were metropolitan residents. In addition, it was estimated for the same period that an annual construction rate of 2.3 million new housing units would be required to meet the need for additional and replacement housing. (Shannon, 1983)

By 1980 the census showed that 48 of the 100 largest American cities lost population between 1970 and 1980. By 1980, it was estimated that 2.0 percent of all U.S. non-Hispanic white people, 21.1 percent of all Afro-Americans, and 15.9 percent of all Hispanics lived in poor and substandard neighborhoods. Also, fiscal stress experienced by many American cities worsened in the early 1980s. Residential and commercial disinvestment occurred in almost all of the older, larger central cities, far exceeding any type of reinvestment. The national unemployment rate edged over 10 percent as many steel, auto industry, and farm implement industries either closed or significantly cut back production. (Lynn and McGeary, 1990)

By analyzing the economic stagnation and urban conditions of a large array of cities across the nation during this period, some observers reached the conclusion that the situation of inner-cities was irreversible and that the future trend, in many ways, did not depend upon federal aid. Many observers placed the blame on the poor and their increasing dependency to the welfare system. Arguments that the poor were lazy and lacked entrepreneurial abilities were shared by many economic and political sectors and by an increasing number of middle- and upper income taxpayers. However, other arguments under a different framework supported the notion that the limited impact of federal programs was extensively related to the lack of a coherent national policy oriented to improving urban conditions. Supporting evidence showed that contrary to the general belief, a good part of government housing subsidies favored the affluent and not the poor. For instance, in addition to the argument which ascertains that during the period of large federal expenditure only a small amount of the housing had reached the urban poor, data also indicates that the single most costly part of the federal programs is the income-tax deduction allowed for the cost of interest on a mortgage, combined with deductions for state and local property taxes. The cities's major source of operating revenue has traditionally been the real estate tax. In 1981, the cost to the federal government, in terms of lost taxes, of these deductions came to almost $25 billion a year. This disparity has become greater as housing budget reductions take effect and income inflation pushes homeowners into higher tax brackets. (Shannon, 1983)

By the early 1980s, large numbers of housing programs had retrenched or had been phased out. Urban-directed programs were cut by 10.6 percent, followed by another 8.1 percent in 1983. By the end of the decade new construction of rental housing had virtually come to a standstill in many metropolitan areas and housing starts fell to a thirty six year low. (ICMA, 1988)

URBAN TRENDS

Together with the period of retrenchment in federal aid came a significant restructuring of the fiscal system. Federal funding decreased dramatically, and programs were shifted to the states and municipalities. By 1978, at the peak of federal aid programs major urban policies were oriented to both capital and labor subsidies in the form of tax incentives, especially for businesses located in areas with high unemployment. These policies were intended to promote entrepreneurship and business formation, as well as jobs creation in the inner-cities. Federal assistance represented about 26 percent of own-source revenue for cities and 19 percent for counties. However by 1985 it had declined to 13 percent and 9 percent respectively. (Bland, 1989) This descent continued throughout the end of the decade and is still present today.

As federal aid decreased, state-assistance did not replace lost federal aid at the local levels. On the contrary it established restrictions on the ability of local governments to spend by imposing ceilings on local

property tax rates. This opposition on the part of the State to increased taxes was founded in a growing resistance from voters to any tax increases. Many cities began experiencing serious fiscal difficulties in performing their traditional functions and in dealing directly with a number of social problems. The need for funding to meet traditional expenditures became more critical for older central cities which were experiencing slow growth in their tax base related to their general economic decline. For instance, as early as 1968, tax bases per capita had declined in the center cities to less than 60 percent of their former size. (Netzer, 1970)

Currently, the unsolved urban problems have a clear tendency to escalate. According to Kasarda (1993) poverty has become the most fundamental feature of the urban environment in the 1990s. His research based on 100 cities, shows that as the poverty population grew, it also became more concentrated in poor neighborhoods. By 1990, more than one-third of the population in the studied cities resided in poverty tracts; more than two of five poor Afro-Americans resided in these poverty tracts. The number of Hispanic residents in cities climbed in 1990 and the number of Hispanics who were poor expanded faster in the cities (see exhibit 3).

At this point in our history it is worthwhile to question the validity and effectiveness of urban program in inner-cities and ask a series of questions, What is next? Are the capacities of the cities being eroded so far that they are to become mass centers for the poor instead of a place of economic value and opportunity? Are the cities doomed to disappear and pass on to another type of development in which suburbia becomes the new urbanized unit? Is urban redevelopment a valuable tool to eradicate poverty, urban blight and to introduce sound construction practices when new development takes place?

These and other questions are persistently raised by policy-makers and socio-economists. However, the responses and solutions to the complexities of the urban dilemma are extremely difficult. The period of massive federal aid to central cities took place during a period of relative abundance which no longer exists. For instance, between 1950 and 1973 American GDP per capita grew by an annual average rate of 2.2 percent; since then it has grown only by about 1.5 percent a year. After 1945 productivity growth soared to as much as 4 percent a year, but by the mid-1970s it fell to 2 percent. Moreover, the prosperity of 1945 created a huge pool of well-paid low-skill jobs, which in turn lifted family incomes to unprecedented numbers. Somewhere around 1973 the upward movement in family incomes stalled when the era of prosperity came to a sudden halt after the oil crisis of the 1970s affected most of the economies, worldwide. In the 1990s the economy has been affected by a recessionary period which became most evident after the Gulf War. At present there is a period of readjustment as America struggles to deliver the prosperity that most Americans consider a birthright.