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Assessing urban freeway deconstruction : a survey of 21 cities with case studies of San Francisco and Milwaukee.

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ASSESSING URBAN FREEWAY DECONSTRUCTION: A SURVEY OF 21 CITIES WITH CASE STUDIES OF SAN FRANCISCO AND MILWAUKEE

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To Rika, Abi and Nino.

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This was a great journey of trials and triumph. Charles Dickens said it best:

> "It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair... (A Tale of Two Cities)"

ABSTRACT

ASSESSING FREEWAY DECONSTRUCTION: A SURVEY OF 21 CITIES WITH CASE STUDIES OF SAN FRANCISCO AND MILWAUKEE

Doddy Aditya Iskandar

May 9, 2014

This study evaluates the effect of urban freeway deconstruction on the local economy. Scholars for years debated the role of urban freeway on the local economy. Those who found a positive effect of urban freeway use national data to support their finding. However, other scholars found the effect of urban freeway on the local economy mixed. Four major questions are raised in this study: What are the key factors of the city that affect the decision to remove urban freeways? What are the similarities and differences between cities that choose to remove their urban freeways? Does freeway deconstruction bring about the intended results, as measured through property values? If not, what are the causes? What type of institutional arrangement and political support ensures the initiative for freeway deconstruction can be implemented?

Twenty-three cases of urban freeway deconstruction in twenty-one U.S. cities are used as the unit of analysis. I develop seven causal conditions from two distinct characteristics of the city: a post-industrial city and a declining, transitional industrial city. Qualitative comparative analysis (QCA) is utilized to identify possible combinations

of causal conditions that lead to the decision to remove urban freeways. I use case studies of urban freeway deconstruction in San Francisco and Milwaukee to illuminate the economic effect of the project on the local economy and identify actors, motives, and rationales behind the decision to remove urban freeway. A hedonic price model is used to test the economic impact of urban freeway deconstruction on the local economy. A descriptive comparative analysis is employed to reveal actors, their role in the decision-making process, and coalition building that affect the decision to remove urban freeways.

I found out that urban freeway deconstruction did not always bring a positive economic impact on the local economy, measured by the increased property value. Only a post-industrial city experienced this positive economic impact while a declining, transitional industrial city did not. Further, the local growth coalition in a post-industrial city is characterized by broad support from various actors, while in a declining, transitional industrial city, it was the local political elites who drives the process. This in turn significantly affects the economic outcome of the process.

In conclusion, I present recommendation for future research, and implications for place-making strategies and framework for reinvigorating cities.

TABLE OF CONTENTS

	PAGE
ACKNOWLEDGMENTS	iv
ABSTRACT	v
LIST OF TABLES	xi
LIST OF FIGURES	xiii
CHAPTER	
I. INTRODUCTION	1
Introduction	1
Research Topics	4
Research Objectives	10
Organization of the Study	13
II. LITERATURE REVIEW	15
Freeway Deconstruction	16
Urban renewal, social movements and freeway deconstruction	17
Rationale for freeway deconstruction	22
Freeway deconstruction in the U.S. and around the world	26
Globalization and Characteristics of the City	28
Post-industrial city	29
Declining transitional industrial city	31
Changes in the demographic and economic structure	34
Changes in the spatial configuration and individual preferences	37
Jobs or Amenities: Assessing development strategies in the global economy	39
The Role of Power in the Decision-making Process	41
Growth Coalitions and Development Strategies	44
Power and Planning in Urban Freeway Deconstruction: A theoretical framework	47
Research Questions and Propositions	54
Conclusion	57
III. METHODOLOGY	58
Comparative Analysis	58
The Application of Comparative Analysis	60
Qualitative Comparative Analysis, Causal Conditions and Coding	60
San Francisco and Milwaukee: A comparative analysis	73
Hedonic Price Model to Estimate the Effect of Freeway Removal on House Prices	77

Identifying Local Growth Coalitions through Comparative Analysis 82

IV. ASSESSING THE EFFECT OF CHARACTERISTICS OF THE CITY ON THE DECISION TO REMOVE FREEWAYS USING QUALITATIVE COMPARATIVE ANALYSIS (QCA) 85
Characteristics of the City as C ausal Conditions that Affect the Decision to Demolish Freeways 86
cs/QCA with Complex Solution 98
cs/QCA with Intermediate Solution 102
Characteristics of Cities that Influence the Decision to Remove Urban Freeways: Summary and discussions 114

V. EVALUATING THE ECONOMIC IMPACT OF URBAN FREEWAY REMOVAL IN SAN FRANCISCO AND MILWAUKEE 115
Urban Freeway Removal in San Francisco and Milwaukee 116
Economic Impact of Urban Freeway Removal in San Francisco 117
Economic Impact of Urban Freeway Removal in Milwaukee 124
Summary and Discussions 133

VI. FREEWAY DECONSTRUCTION AND LOCAL GROWTH COALITIONS IN SAN FRANCISCO AND MILWAUKEE 138
San Francisco and Milwaukee: post/declining industrial cities in motion 138
Assessing Freeway Deconstruction in San Francisco and Milwaukee: Similar policies with different rationales 142
Freeway Revolt and Urban Freeway Removal in San Francisco 145
Urban Freeway Removal in Milwaukee: Race and economic decline 153
Urban Freeway Removal in San Francisco and Milwaukee: A historical comparative assessment 157
Power in the City: Conflict and coalitions in the decision-making process 158
The Supporter of Urban Freeway Removal 158
The Opponent of Urban Freeway Removal: Political figures and business association 160
Contentious Politics in Urban Freeway Removal: Ballots and compromise 162
Race and Ethnicity as the Determinant Factor 164
Actors and Their Role in the Decision-making Process 167
Economic Restructuring as the Driver for Change 170
Inter-governmental Relation as a Determinant Factor 175
Freeway Deconstruction in Retrospect 180
Summary and Discussions 186

VII. POWER, PLANNING AND UR BAN FREEWAY DECONSTRUCTION: A CONCLUSION 190
The Characteristics of the City and Urban Freeway Removal 191
Power and Planning in the Deconstruction of Urban Freeway 193
A Cautionary Note: Learning from case studies 195
Implications for Academic Research 196
Implications for Place-Making Strategies 199
Recommendation: A framework for reinvigorating cities 200

REFERENCES 202
APPENDICES 215
CURRICULUM VITAE 257

LIST OF TABLES

		PAGE
2.1	List of cities in the U.S. with urban freeway removal proposal	49
2.2	Variables, indicators, sources of data and methods of analysis	52
3.1	Detailed demographic and economic data of 21 cities with urban freeway removal proposal	64
3.2	The expected effect of causal conditions on ur ban freeway deconstruction	65
3.3	Coding results of 21 cities	72
3.4	San Francisco and Milwaukee in a snapshot	75
3.5	Variable name and definition, data source, descriptive statistics and predicted sign	81
4.1	Detailed data sets of the 21 cities	90
4.2	Coded causal condition with a positive outcome	92
4.3	Coded causal condition with a negative outcome	93
4.4	Truth table showing possible combination of seven causal conditions of the deconstruction of urban freeways in 21 cities	95
4.5	Truth table analysis with Quine-McCluskey algorithm	99
4.6	Urban amenities, workers in FIRE industries, and economic data in cities with urban freeway removal proposal	109
5.1	Hedonic price model for predicting residential property value near Embarcadero corridor in San Francisco, 1986-2005	121
5.2	Hedonic price model for predicting residential property value near Central Freeway/Octavia Boulevard corridor in San Francisco, 1987-2007	123
5.3	Hedonic price model for predicting residential property value near Park East Freeway using 2002 property sales data	126
5.4	Hedonic price model for predicting commercial property value near Park East Freeway using 2002 property sales data	127
5.5	Hedonic price model for predicting residential property value near Park East Freeway using 2005 property sales data	128
5.6	Hedonic price model for predicting commercial property value near Park East Freeway using 2005 property sales data	130
5.7	Hedonic price model for predicting residential property value near Park East Freeway using 2008 property sales data	131
5.8	Hedonic price model for predicting commercial property value near Park East Freeway using 2008 property sales data	132
5.9	Historical snapshots of San Francisco and Milwaukee	135

List of Table (cont'd)

6.1	Population in San Francisco and Milwaukee, 1940 - 2010	141
6.2	Percentage of the black population in central city and metro level	142
6.3	Freeway removal proposal in San Francisco and votes' results (1986-1999)	152
6.4	Liberalism, Environmentalism, Populism and Overall Progressivism in San Francisco Precinct as a function of Race/Ethnicity, Sexual Orientation, Home Ownership, and Socioeconomic Status (SES)	166
6.5	Actors and their roles that shape the decision-making process	168
6.6	Population breakdown between central city and suburbs in Milwaukee and San Francisco MSA	171
6.7	Share of manufacturing employment in San Francisco and Milwaukee city, 1970-2010	174

LIST OF FIGURES

		PAGE
2.1	Conceptual model of the policy process for freeway deconstruction	49
2.2	Conceptual model to analyze the effect of characteristics of the city on the decision to remove freeways	50
2.3	Conceptual model of the political dimension in urban freeway deconstruction	51
5.1	House Price Index for Milwaukee MSA 1997-2008	133
6.1	Part of the Proposition H that was put in the November 1997's ballot	150
6.2	Milwaukee County Freeway segments on referenda questions, November 5, 1974	154
6.3	Property value assessments around former site of Park East Freeway (based on 2004 constant price)	185

CHAPTER I

INTRODUCTION

This chapter serves as an introduction to this study. It outlines the overall picture of the research study, including the research topics, questions and objectives, followed by hypothesis and brief descriptions of the chapters that follow.

Introduction

Freeways are important to local and regional economies as they stimulate inter- and intra-regional commerce by connecting one region to another. Numerous studies have evaluated the impact of freeways on local economies; however, the results are mixed (Karnes, 2009; Boarnet & Chalermnpong, 2000; Boarnet, 1995). Not only are the findings concerning the effects of freeways on the local economy inconclusive, but scholars also point to the unintended impacts that the urban social fabric was disrupted and racial composition changed drastically.

Baum-Snow (2007:800) in his study found that had freeways not been built, central city population would have grown 8 percent between 1950 and 1990. Boarnet (1998) even argues that although he agrees that, at a national level freeways contribute to economic growth, at a local level they encourage firms to move from one location to another location closer to newly constructed freeways.

Building freeways reinforces asymmetrical relations between a city and its surrounding regions. Scholars have argued that freeway construction has decentralized jobs (Glaeser & Kahn, 2001) and this brings a significant impact to the city. City population declines over time partially because of freeway construction and this erodes the local tax base. While demographic decentralization is something that the city cannot avoid, this creates fiscal problems for the city. Because of excessive freeway construction cities face considerable problems. Economic growth is always associated with the need for more land for development. Yet, land available for development becomes increasingly scarce. Thus local government faces a big question: How do they obtain enough space for future development?

Freeway removal provides an opportunity for cities to redeem not only ample spaces for future development but also to create positive impressions on local communities. Tearing down freeways is something akin to reversing the urban renewal rationale, implemented a half century ago. Just like any other development policy, freeway deconstruction brings resistance, but it also might garner some support from various groups. Against this

background, building and tearing down freeways can be interpreted as an example of developmental policy that sparked a heated debate among interest groups and requires a thorough assessment concerning the impacts on local economies and urban social structure.

During the 1960s and 1970s, freeway construction sparked debate and oppositions from many American communities, especially among the urban poor and minority groups. Two decades later, debates still linger, although this time it is about freeway removal. Objections and support for tearing down freeways came from various groups and institutions. Freeway opponents cited the fact that after the 1970s freeways did not create value added to the city. Moreover, empirical evidence pointed to the fact that traffic jams still occurred even though cities kept adding new freeways to their road networks. Urban scholars also criticized freeways as they create racial tension, not only between the central city and surrounding suburbs but also within the central city itself. Those in favor of building freeways argued that removing freeways will create traffic jams, local businesses will lose customers and city may lose the ability to attract firms and businesses.

Despite these contradictory arguments, the number of U.S. cities removing freeways from their road networks is increasing. In European and Asian countries, some cities also replaced freeways with natural and man-made amenities. This approach perhaps was spurred by the notion that cities can act as an entertainment machine (Clark 1994, 2000).

Clark's thesis posits that the local economy is driven not only through the production side but also via the consumption side, something that many scholars neglected for years. He suggests that in order to bolster the local economy cities can provide urban amenities to increase local consumption. Florida (2002, 2005) advances Clark's thesis that a combination of urban amenities and the so-called 'creative class' are the key ingredients for successful local economic development.

The notion that freeways act as a crucial driver for the local economy because they provide access to greater market has also been challenged. This challenge stemmed not only from bitter experience of urban redevelopment, but it also stemmed from the fact that they split communities and encourage the relocation of employment centers from one location to another (Boarnet, 1998).

Research Topics

Because a common assumption holds that freeways are important for the local economy, any initiative to tear down freeways will be seen as a r adical experiment (Kang & Cervero, 2009). If a city demolishes its freeway, one might inquire about the fate of the local economy. Would the demolition of the freeway affect goods' and passengers'

mobility, especially within an urban region? One might attempt to argue that decreasing mobility in the city will affect the local economy, as local economies often depend on the flow of goods and services. Despite these arguments, a movement where cities create specific development strategies as a means to achieve a world class status is surging and aggressively influencing urban development policy. Inherent in this approach are the ideas that cities should attract knowledge workers and high-skilled labors and this can be accomplished by providing urban amenities and an inviting physical environment. One indicator of whether cities achieve the 'world class' status or not is the presence of advanced service sector, and very often these industries are located in the urban area where there is a high concentration of knowledge workers and high-skilled labors.

At the same time, the allure of the so-called "creative class" thesis partially affects the course of urban development (Florida, 2002). Florida argues that in the future, local economies will depend on the presence of this creative class. Rather than focusing on the freeway development, cities should invest in an infrastructure capable of attracting this creative class. The following issues become the framework for me to explore. Specifically I am interested in the attributes of cities and their decision to demolish freeways as well as the characteristics that allow for a successful deconstruction.[1]

[1] San Fransisco, CA falls under beta+ world city category and was ranked 12 in 2010, while Milwaukee, WI is categorized as highly sufficient city in 2010 (see details in Beaverstock, Smith & Taylor (1999) http://www.lboro.ac.uk/gawc/rb/rb5.html#t1, and last accessed in September 24, 2013 for the 2010 rank and Foreign Policy report on The Global Cities Index 2010 http://www.foreignpolicy.com/node/373401, for the 2010 report). Alpha, beta, gamma and sufficient are categories used by the Globalization and World City (GaWC) research group to assess cities in terms of their advanced producer services using the interlocking network model (Taylor, 2001). Sufficient city refers to cities that are not world cities but they

This leads to the question of whether a global city or a world city still needs freeways to expand its local and regional economy or not. In other words, what constitutes basic infrastructure for a world class city or a city in pursuit of world city status? This comes from the fact that not every city is destined to be a world city or global city, as the definition of global city or world city is ambiguous and suffers from a loose meaning (Savitch 2010: 42). As cities embrace global competition, and not all cities are destined to be a world city or as a global city, one might inquire about whether there is a development strategy capable of bolstering the economies of these cities. Florida provides a suggestion that in order to revive local economies, cities should emphasize "creative classes" as the main driver for the economic development policy (2002). His argument is provocative and alluring for policy makers, especially as they face problems in crafting a development strategy suitable for the global economy. The admiration for a world-class status where the economy predominantly consists of advanced service sector makes policy makers try to reproduce many policies of a post-industrial city (such as amenities driven development or 'creative class' driven development). However, these policy makers often fail to recognize various historical and economic contexts that precede the strategy. As for the case of cities pursuing freeway demolition, almost all of them are integrating the concept of creative class, either partially or wholly, as part of the development strategy.

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have sufficient services so as not to be overtly dependent on world cities (http://www.lboro.ac.uk/gawc/gawcworlds.html).

This brings us to the central topics of my investigation. If cities are starting to reorient their development strategy by demolishing their freeways, does the strategy guarantee a successful result? While changes in urban development strategies have been discussed at length, there are different perspectives in looking at how transportation infrastructure affects the economy of an urban region. Although scholars agree that freeways contribute significantly to the national economy; there is disagreement, however, over whether localities will also reap similar benefits from freeway development (Boarnet, 1998). Yet, empirical evidence shows that cities are rushing to add freeways to their road networks, on the basis that not only will it reduce congestion but it will also increase flows of goods and passengers, something deemed vital to local and regional economies.

Given the fact that cities are still rushing to build freeways, it can be assumed that many still accept the notion that freeways are able to stimulate the local economy. Yet, the San Francisco case proves otherwise. After the 1989 earthquake, several freeways[2] were damaged, and many were afraid that these disrupt the flows of traffic. In reality it was far from that, which in turn strengthened the City of San Francisco's decision to tear down the Embarcadero Freeway and replace it with a boulevard and public amenities. Another freeway removal took place several years later in San Francisco and by the end of the 1990s San Francisco has steered towards an "amenities driven" development strategy.

[2] There were at least seven freeways affected by 1989 earthquake in San Francisco: (1) San Francisco – Oakland Bay Bridge, Interstate 80, (2) Cypress Street Viaduct/Nimitz Freeway, Interstate 880, (3) Embarcadero Freeway, California State Route 480, (4) Southern Freeway, Interstate 280, (5) Central Freeway, U.S. Route 101, (6) State Route 17 and (7) State Route 1. Of these, the Embarcadero Freeway was the only freeway that was proposed to be demolished before the earthquake. Local residents opposed the proposal because they feared congestion and business loss.

New York City and Portland also pursued similar policies and it is no coincidence that these three cities reveal similar economic traits. These cities are post-industrial cities with the advanced service industries as the predominant sector, a characteristic frequently found in a global city or a world-class city. Hence, my proposition is that freeway deconstruction can only be truly successful in a post-industrial city.

This brings us to my second topic of investigation. Given the fact that there are 21 cities in the U.S. involved in freeway deconstruction (and several more in European and Asian countries), one might inquire whether the pursuit of such projects benefits downtown businesses only or the city/metropolitan region as a whole. One possible explanation is that by demolishing freeways (in many cases elevated freeways) downtown businesses and those who have a stake in the downtown land uses might reap the benefits as the flow of traffic and the physical environment change. Molotch (1976) and Logan & Molotch (1987) pointed to the fact that in every city there is a growth coalition with an interest in seeing an increase in land and property values, either by preserving the existing uses from changing into other uses or by pushing for changes if such changes can provide development opportunities for those whose properties will gain significant value.

Incorporating local "growth machine" thesis into my research helps address the notion of why some cities are successful in pursuing freeway deconstruction. Molotch (1976) argues that because cities are often associated with specific interests, it is important to investigate various interests of those whose properties gain value when growth takes

place. In observing the decision-making process behind urban freeway deconstruction, I posit that local growth coalitions are also at work in shaping the decision to demolish the freeways. That is, "growth coalitions" may sometimes turn against short term growth (like freeway construction) in order to promote long term development (like freeway deconstruction and amenity driven strategy).

The last topic I investigate is whether such experimentation brings significant changes in land value and improved urban spatial structure. In their study, Kang & Cervero (2009: 2789) found that freeway demolition that took place in Seoul, South Korea increased property values. This was achieved by removing the elevated freeway and replacing it with an "urban stream" and linear park[3]. They argue that replacing an elevated freeway with an urban stream and park positively affects commercial and residential property values (ibid, p. 2790). This approach is seen as the antithesis of freeway construction heralded decades ago as the driver for economic growth. Freeway construction brought not only economic impacts, but also unintended consequences such as increased social segregation. Currently, debates still linger about freeway demolition and its subsequent cost and benefits. Hence, it is pertinent to explore whether freeway deconstruction leads to positive economic effects, as measured by residential and commercial property value.

[3] Urban stream is defined as waterway that flows through a heavily populated area. It can be man-made or natural waterway.

Research Objectives

This study focuses on the rationale behind freeway deconstruction in two very different cities, San Francisco and Milwaukee. In conducting this study I posit three objectives.

The first objective is to understand key characteristics of a city that deconstructs a freeway. Many cities and regions compete to attract businesses to relocate to their areas, and one of the incentives is by building freeways. Local governments have incentives to promote freeways because they are supposed to create more jobs and lure investments to their regions. Yet in reality, freeway construction only creates seasonal jobs during the construction period (Boarnet, 1998). And the notion that freeways will create jobs in an urban region is debatable, as industries and businesses move from one region to another.

Even though freeway construction is often touted as a prerequisite for the local economy to grow, scholars are less sanguine about this claim (Cervero & Kang, 2008; Cervero, 2006; Boarnet, 1998). Globalization has triggered significant changes in the demographic and economic structure of the city, which in turn affect whether cities really need freeways. Outsourcing in manufacturing industries coupled with high investment in research and development has changed the economic base of the city (Bivens, 2005). As advanced service sector has replaced manufacturing industries, a number of cities were starting to restructure their local economies. Rather than relying on the manufacturing

industries, these cities chose to adapt to this change by turning to post-industrial employment, the commodification of culture, hotels, restaurants, tourism and other ways of stimulating consumer demand. Consumption becomes a new paradigm in understanding how cities work (Clark, 1994). From this point of view, it can be argued that those living in post-industrial cities tend to value urban amenities more than the presence of freeway. The declining, transitional industrial city on the other hand tends to value freeways more than urban amenities since this city relies heavily on freeways to transport manufactured goods.

The second objective is to analyze whether freeway deconstruction can bring the intended economic impacts to the city. I am interested here in whether freeway deconstruction actually brings added value to affected, nearby neighborhoods as well as to the city at large. Kang & Cervero (2008) argue that changes in the uses of land, from elevated freeways into urban green space can bring a positive impact to property values. Controlling for other factors, such as demographic and political aspects, it is possible that similar situations can also be found in U.S. cities. Further, if property values reflect a city's prosperity, then freeways may not be useful for enhancing economic growth. Even if there is variation among cities that remove their freeways, it is still important to investigate why such variation exists and what kind of determinants might affect such variation.

The third objective is to investigate local political conditions (institutions, coalitions) in the decision making process of freeway deconstruction. A local growth machine has a stake in boosting property values (Molotch, 1976; Molotch & Logan, 1987). Notwithstanding the evident role of a growth machine, changes in the cities' demographic and economic characteristics also contribute to shaping a rationale for building or deconstructing a freeway. However, a local growth machine can push a specific development agenda in order to create economic growth. As land is the key to ensuring whether an economy can thrive or not, a local growth machine will drive the development initiative towards the best uses of land (either through freeway construction or through urban amenities development). Further, changes in the demographic composition might alter the power structure of a city which then shapes the rationale for any growth oriented policy. In this case, a large number of innovative persons will influence the economic development strategy of the city[4]. Thus, cities can use their creative classes to formulate a post-Fordist strategy that places an emphasis on consumers, the rise of service and white-collar workers (Florida 2005: 13). I therefore suggest that any development strategy chosen will be linked to both the presence and the nature of a city's "creative class", a rising affluent middle class and its growth coalitions (growth machines).

[4] Innovative person here refers to those who work in the advanced-service sector, in particular research centers, think-tank organizations and universities.

Organization of the Study

This chapter provided the foundation of the study and subsequent chapters that follow. Chapter 2 discusses the trajectory of freeway construction and the literature of city-region development, outlining the historical significance of highways in shaping the economic development of the metropolis. It also discusses the effects of urban freeways on local and regional economies, and how they stimulate the decentralization of jobs leading to asymmetrical relations between central cities and suburbs. Chapter 3 outlines the framework in implementing the study. It details the rationale and theories as well as the descriptions of the research methods used in this research. Data collection, coding and analysis are also detailed in this chapter.

Chapter 4 provides an assessment of whether certain characteristics of cities may have affected the decision and the outcome of freeway deconstruction. By analyzing 21 cities using qualitative comparative analysis, this chapter provides an argument that certain characters of a post-industrial city can affect the decision to demolish freeways, whereas certain characters of a declining, transitional industrial city can affect the outcome of freeway deconstruction.

Chapter 5 establishes the argument that after the 1970s, with the advent of new post-industrial economies, freeways ceased to create added value to the local economy.

Building from this argument, this chapter demonstrates that constructing or removing freeways will not affect the local economy, and that any changes in land values are caused by other factors. A hedonic price model is used to establish the relationship between various independent variables and land values as the dependent variable in San Francisco and Milwaukee.

Chapter 6 provides a description of San Francisco and Milwaukee, focusing on the political system, institutional arrangement and decision-making processes. An attempt is made to connect the theoretical topics covered in the literature review and the changing conditions of both cities. Each case of freeway deconstruction in each city will be discussed and analyzed. The discussions and analysis contain historical accounts leading to the decision to demolish freeway in each city and the effects generated by the decision. This study will delve into the question of who launched the initiative and what are the stakes and effects on land uses, urban form and economic performance.

Chapter 7 concludes the study by presenting the findings obtained in previous chapters in a general form. This also includes a normative argument about whether any city should redirect their development strategy in order to rejuvenate their economic viability and to compete with other metro areas in the global economy and competition.

CHAPTER II

LITERATURE REVIEW

This chapter outlines the theoretical background pertaining to freeway deconstruction and local growth coalitions. In doing so, it delineates the historical trajectory of urban renewal and freeway construction and their impacts on central city and metropolitan areas. Central to the discussion is the role of local governments and actors in addressing whether freeways would stimulate local economies without disrupting the existing urban social fabric. In line with the historical discussion of freeway construction, one section focuses on the dynamics of the controversies that evolved around freeway construction and removal between 1960 and 2000. A general examination will focus on freeway deconstruction trends in a number of cities in the U.S. and abroad. This section culminates in a closer examination of theories of urban politics that gave impetus to the development of local growth coalitions.

Freeway Deconstruction

Freeway deconstruction is a project to remove a part or section of elevated freeways in central cities. The first city to remove its elevated freeways was New York City followed by Portland, Oregon. Although the reasons behind the decision to remove elevated freeways varied in both cities, nevertheless it sparked a new movement as a response to the impact that urban renewal and freeway construction have engendered. Local communities, politicians, planners, and social activists have produced plans to remove elevated freeways and replace them with various uses in more than twenty cities in the U.S. In European cities like Paris and Madrid, they also embarked on this path (Kimmelman, 2011; Samuel, 2010). The same pattern also emerged in the Asian city of Seoul, South Korea. This approach to remove elevated freeways challenges the common assumption that freeways stimulate the local economy. Histories revealed that elevated freeways ease mobility but they also decreased land value nearby and promote migration to suburbs, leaving the central city with economic challenges (Baum-Snow, 2007). Further, elevated freeways erode social capital as they split neighborhoods and created distinct spatial and economic segregation.

Social movements that challenged freeway construction, which erupted in the mid 1950s until early 1970s, were the byproduct of an exclusionary decision-making process that restricted local community involvement. At that time political leaders acted under the assumption that any decision built upon technical considerations would be accepted without resistance. Anti-freeway movements also reflected changes in the relationship

between federal and state governments on the one hand and local governments on the other, as the latter were often influenced by local pressures and various interest groups. Hence, it is pertinent to situate urban renewal in accordance with freeway construction in the historical perspective as it reflected not only the transformation of urban form, but also the way local growth coalitions took a critical role in shaping the fate of the city.

Urban Renewal, Social Movements, and Freeway Deconstruction

The debate on the merit and disadvantages of freeway construction can be traced back more than a half century ago when local governments with support from federal government aggressively implemented urban renewal in U.S. cities. Implemented between the 1950s and early 1970s, urban renewal was intended to rejuvenate the economic performance of central cities and to beautify the urban environment. The program was born out of concerns over the dwindling economic attractiveness of central cities as urban population exploded after the boom of industrialization in the U.S.

Prior to 1940, a number of local governments recognized the problem of overcrowding and degradation of environmental quality. Milwaukee, for example, conducted a comprehensive and revealing study about the nature of suburbanization in 1946. The results revealed suburban residents' dissatisfaction concerning city life at that time which led to leapfrog development patterns beyond city limits. Respondents cited the following as their reasons for leaving the central city: the suburban environment was better for children because the air was cleaner and there was less congestion, and the available

parcels in suburbs were larger than the ones in the central city (McCarthy 2009: 123). Coupled with the fact that cities lacked affordable housing at that time, these factors combined affected the attractiveness of the city. As a result, those who could afford to opted to move to the urban fringe. The continuing deterioration of central business districts in most cities exacerbated this situation and this forced manufacturing industries to relocate elsewhere (Gotham 2001: 286; Mollenkopf, 1983). Central cities started to lose population as manufacturing industries moved to the suburbs and their workers followed because of its close proximity to work locations and suburban attractiveness. Local businesses gradually followed this trend. Against this background, local businesses in particular downtown associations voiced their concerns to local governments about the degradation of the central city and possible economic losses in the future, and urged local governments to lobby for federal assistance to reverse this trend. The federal government responded to these problems by rebuilding central business districts and by providing affordable housing in central cities. Starting in 1937, several Housing Acts were enacted to address the aforementioned concerns (Edson 2011: 3-4).

The 1949 Housing Act and its subsequent act (1954 Housing Act) received wider acceptance not only from local governments but also from business communities. This was caused by the notion that Title I of the 1949 Housing Act encouraged the private sector to lead the efforts to rebuild cities. The 1949 Housing Act was designed with the rationale that there were millions of families still living in slums and more than three

million still living with other families[4]. Many saw this as a big opportunity for business communities to provide affordable housing and to revitalize downtown areas in many U.S. cities. Downtown associations and real estate boards welcomed federal assistance in stimulating the local economy, as the federal government designed this policy under the belief that it was "the American way" for private enterprises to build cities. In other words, the federal government provided enormous support to enable the market to function freely (McCarthy 2009: 120-21). Bolstered by this act, local governments created coalitions with local businesses to get federal assistance for urban redevelopment in their areas. However, this public-private coalition turned out to be not what many had expected before, largely due to the political and social factors that were embedded in the decision-making process at that time.

Although the 1949 Act stipulated a need for affordable housing provision as part of urban redevelopment, the words 'urban renewal' did not appear until the federal government enacted the 1954 Housing Act. This act provided a legal basis for a concerted effort to eradicate and to prevent slums and urban blight through commercial redevelopment instead of public housing (Flanagan 2007: 265). Slum clearance intensified as municipal governments perceived predominantly black and urban poor neighborhoods in central cities as hurdles for creating an attractive city and thus designated these areas for slum clearance. Many of these neighborhoods were located in close proximity to downtown and were considered prime locations for commercial development. Public officials at that

[4] As quoted in Harry S. Truman: Annual Message to the Congress on the State of the Union. January 5, 1949. Online by Gerhard Peters and John T. Woolley, *The American Presidency Project*. (http://www.presidency.ucsb.edu/ws/index.php?pid=13293#axzz1uG4q2KxE)

time often made the decision to relocate the urban poor and demolished the neighborhoods without proper public hearings. This left a devastating effect on central cities. By the end of 1963, more than 609,000 people were forced to relocate (Goodwin, 2009). At this point, it became apparent that the idea of urban redevelopment was oriented towards sanitizing downtowns and demolishing slums rather than rejuvenating the existing neighborhoods.

The 1949 and 1954 Housing Acts created a vehicle for reshaping urban environments by replacing poor neighborhoods with commercial and upper class residential use. Both Acts also incorporated a need for increased mobility from the central city to surrounding suburbs and vice versa, due to the increased consumption of automobiles. Automobile industries increased their production capacities as the economic growth increased, and combined with changes in consumers' preferences, households and individuals dependency on automobiles became a new norm in the urban lifestyle. In 1955 alone, Americans bought 7.4 million new cars (Wards Auto, 2011); a new record for the automobile industry, beyond the existing 61 million vehicles already clogged the nation's roadways (Mohl, 2002). Municipal governments, fearing that businesses would flee from central cities, pushed for freeway construction, that not only connected cities to one another but also cities to surrounding suburbs.

Freeway construction was implemented with little or no attention to social problems that might arise. During a meeting with the President's Advisory Committee on a National Highway System one proponent of freeway construction, Robert Moses from New York,

argued that freeways should go right through cities, and not around them, in order to achieve the intended goal, "the stabilization of trade and values in the principal or central business district" (Mohl 2002: 29). Urban planners and transportation engineers at that time rarely incorporated social and economic factors into their models. As a result, many urban neighborhoods were demolished to make way for new freeways. It is estimated that during the height of freeway construction each year more than 63,000 housing units were demolished. Although urban renewal projects assured that these losses would be replaced with other uses with higher added value, empirical evidence shows that three decades after massive urban redevelopment projects in U.S. cities, municipal governments lost their tax bases and never regained them (Boustan, 2010; Gotham, 2001).

The rate of freeway construction increased considerably between 1950 and 1970. Whereas in 1950 the total length of urban freeways (including those that penetrated cities) was only 480 miles (Schwartz, 1976), in 1970 the number increased to 22,478 miles (Highway Statistics 1971). This increased the freight volume transported via interstate highways, and at the same time also encouraged housing development in adjacent suburbs. Although scholars lauded the effect of freeway construction in enhancing the national economy, there were criticisms raised with regard to the way local governments and the private sector obtained the land for development (Gioielli, 2011; Mohl 2004).

After the 1970s, the rate of freeway construction gradually dropped as the federal government enacted new laws concerning the effects of federal projects on the

environment. In addition, due to increased opposition from minorities especially black communities, new pressures mounted questioning whether it was ethical or not to use federal money for urban redevelopment which in turn created social problems. Oil crises in the mid 1970s and urban fiscal crises in the 1970s further complicated the situation as it became more difficult for local governments to use federal money to finance local development projects.

After more than two decades, freeway construction demolished vibrant urban neighborhoods and forced poor residents to relocate to other areas to make way for more space (Highsmith, 2009; Mohl, 2002). At the same time, it also encouraged the white middle-class to move from central cities to suburbs because of lower land prices. As central city tax bases eroded and cities continued to struggle to provide decent services, freeway construction now seems like an empty promise. As the economic attractiveness of central cities continued to decline, many city residents started voicing their concerns the local economy and urged local governments to take drastic action. Recent empirical evidence challenged the notion that freeway construction contributes to local economies, and planners are seeking new approaches (Cervero et al., 2009; Baum-Snow, 2007; Glaeser & Saiz, 2001; Boarnet, 1998)

Rationale for Freeway Deconstruction

Freeway construction was criticized because it encouraged affluent individuals and households as well as local businesses to move to suburbs rather than stimulating the

local economy. As a co nsequence, tax bases of central cities eroded and many cities struggled to find additional sources of revenue. Even though a plethora of studies supported the claim that freeways contribute to economic growth (Nadiri & Mamuneas, 1996; Sen et al. 1998; Rephann & Isserman, 1994), these studies usually measured the effects of freeways on the national economy and not the effects on the local level. Those who criticized freeway construction argued that if freeway construction did not create stimuli for local economies, then cities should pursue different strategies instead. Given the opposition from local neighborhoods and community activists, as well as the difficulties in tapping federal funding after the 1970s, many cities have partially abandoned their plans to build more freeways. Past experiences made central cities contemplate ways to enhance local economies without disrupting the existing social fabric.

The first rationale for freeway deconstruction is the notion that freeways did not stimulate the local economy. Although freeways induce higher mobility and stimulate national and regional economies, studies found mixed results about the effect on the local economy. Boarnet, using California data at the county level from 1969 to 1988 (1998), points out that freeway construction in one location tends to draw production away from other locations (1995, 1998). Using retail and manufacturing employment data, he shows that as the length of the highways in one county is increased, the number of people employed and retail sales increase. However, this growth has an adverse effect on nearby counties as retail sales in these areas decrease and people move to the county with the newly constructed freeway (1998: 381). In other words, if there are no n ew additional jobs

created at the national level, at the local level freeways only creates a negative spillover effect as it encourages business and industrial establishments to move from one area to another area closer to freeways. What appears to be a job created in one city is a lost job in another city (Boarnet 1998: 382; Bartik 1991).

The second rationale is the idea that cities should pay more attention to creating attractive amenities rather than focus on building freeways. Clark (1994, 2000) presents a persuasive argument concerning how city should pursue economic development policy. He points out that for years scholars have neglected the consumption side of the city and instead focused more on the production side as the driver for the local economy. Florida (2002, 2005) pushed Clark's thesis further by arguing that in the globalized era, cities should no longer build freeways but rather they should invest in building other types of infrastructure that have the capacity to attract the "creative class." Florida argues that there is a high association between the availability of universities, research centers, and urban amenities such as parks, museums, and sport stadia in a city and the presence of the creative class. He notes that in an area with a high concentration of the creative class the rate of economic growth is higher compared with the areas with a lower concentration[5].

The third reason is the fact that after cities removed freeways and replaced them with urban amenities, property and land values increased. Kang (2009) examined the effect of

[5] There were criticisms directed to "creative class" thesis (see for example Malanga, 2004; Peck, 2005 or MacGillis, 2009 for their criticism and Florida 2012 for his counter argument) and while many of these criticisms have merits, it did not dissuade cities to continue using "creative class" thesis to bolster the local economy.

replacing a freeway with an urban stream[6] in Seoul and found out that property and land value increased. Because property value increases, the demographic structure in the city gradually changes as a result. Among others, highly educated workers often inquire about the availability of urban cultural amenities. For this group, it is inherent in their lifestyle to consume urban cultural amenities frequently, along with other urban services. This leads to additional demand for urban services, including urban amenities. This argument is in line with Clark's thesis (1994) and Florida's argument about the importance of urban amenities provision to stimulate the local economy (2005).

Although these reasons provide a compelling argument for not building urban freeways in central cities, there pale in comparison with the narrative about how central cities kept losing population due to freeway construction. Baum-Snow (2007) provides a convincing argument by pointing out that central cities lost eight percent of their population between 1950 and 1990 because of freeways. Even without federal government funding, state and local governments kept building urban highways and thus exacerbated the situation (2007: 781). Further, as freeways induce mobility, firms also decide to relocate their establishments to suburbs as they provide not only lower land expenses, and therefore lower tax rates, but also because of close proximity to the interstate highways, which is vital for freight transportation (Raphael & Stoll, 2010). Between 1970 and 2000, while central city population declined by more than 18%, suburban population grew by more than 100%. The fact that the population of central cities shrunk and local economies faltered even after urban renewal and freeways were constructed excessively is a sign that

[6] Urban stream here is defined as natural or man-made waterways that flow through a heavily populated area.

a different approach needs to be used to reverse this trajectory. A number of cities gradually accepted freeway removal as a solution to create an attractive urban environment (Cervero, 2011).

Freeway Deconstruction in the U.S. and around the World

Freeway construction has been criticized for a number of reasons, ranging from its immediate negative effect on the local economy and its long term impacts on the demographic structure of a city. Coupled with urban renewal, it brought bitter experiences to cities and residents, and, as a consequence, many opposed the idea of building more freeways and instead urged cities to consider other development alternatives, including removing existing freeways and replacing them with other uses, including urban amenities. There are at least 21 cities in the U.S. and several cities in other part of the world that have removed or are considering removing their freeways from existing road networks.

Table 2.1 shows the list of cities in the U.S. that have removed or are considering removing their freeways from their road networks. By looking at this table, we can see that a number of cities removed their urban freeways and experienced decreased percentages of commuters driving alone between 2000 and 2010, although this is not always the case. Portland, San Francisco, and New York fall within this pattern although Milwaukee and many other cities demonstrate a different pattern.

Table 2.1 List of cities in the U.S. with urban freeway removal initiative

state	city	No. of population		% driving alone		Name of freeway/expressway removed (proposed for removal)	Removal status
		city	suburbs	2000	2010		
MD	Baltimore	651,154	1,866,002	54.7	60	Jones Falls Expressway	-
NY	New York (Bronx)	8,008,278	1,252,880	25.4	23.4	I-895/Sheridan Expressway	-
NY	Buffalo	292,648	821,870	65.4	68.5	Route 5	-
IL	Chicago	2,896,016	4,883,879	52.6	51.8	Lakeshore Drive	-
OH	Cleveland	478,403	1,647,863	67.8	69.3	Shoreway	-
CT	Hartford	121,578	1,018,365	56.3	N/A	Aetna Viaduct	-
KY	Louisville	256,231	731,764	80.8	82.4	I-64	-
WI	Milwaukee	596,974	838,942	68.8	70.4	Park East Freeway	Removed (2002)
TN	Nashville	545,524	616,971	78.5	78.5	Downtown Loop	-
CT	New Haven	123,626	360,279	55.7	N/A	Route 34 Connector	-
LA	New Orleans	484,674	827,357	60.3	69.2	Claiborne Expressway	-
NY	New York	8,008,278	1,252,880	25.4	23.4	West Side Highway	Removed (1973)
NY	Niagara Falls	55,593	821,870	N/A	N/A	Robert Moses Parkway	Removed (2001)
OR	Portland	529,121	1,245,328	66.3	58.8	Harbor Drive	Removed (1974)
OR	Portland	529,121	1,245,328	66.3	58.8	I-5	-
CA	San Francisco	219,773	878,428	49.5	46.7	Embarcadero Freeway	Removed (1991)
CA	San Francisco	776,733	954,450	49.5	46.7	Central Freeway	Removed (1999)
WA	Seattle	776,733	954,450	61.7	59.2	Alaska Way Viaduct	-
NY	Syracuse	563,374	1,650,185	65.9	64.6	I-81	-
NJ	Trenton	147,306	556,237	N/A	N/A	Route 29	-
	Washington, D.C.	85,403	265,358	46.8	43.5	Whitehurst Freeway	-
OK	Oklahoma City	506,132	452,828	80.4	83.1	I-40	-
RI	Providence	173,618	678,999	60.5	60.5	I-195	-

Source:

1. http://www.preservenet.com/freeways/FreewaysTear.html, last accessed on December 2, 2010;
2. Spivak, Jeffrey. 2011. *Top 10 Metro Highway Removal Projects*. Urban Land September 13. http://urbanland.uli.org/Articles/2011/September/SpivakTopTenHighway;
3. Jaffe, Eric. 2011. *The Death Row of Urban Highways*, part 1. the Atlantic Cities November 2. http://www.theatlanticcities.com/commute/2011/11/death-row-urban-highways/411/#slide9;
4. Jafe, Eric. 2012. *The Death Row of Urban Highways*, part 2. the Atlantic Cities February 8. http://www.theatlanticcities.com/commute/2012/02/death-row-urban-highways-part-2/1170/;
5. population data is obtained from HUD State of Cities Data Systems (SOCDS) http://www.huduser.org/portal/datasets/socds.html.

Globalization and Characteristics of the City

Globalization swept cities and regions all over the world; as a result, global competition emerges as a new paradigm. Cities not only compete with other cities in the same country, they also compete with other cities from other countries. This makes the economic competition more intense. However, because globalization is indicated by the high mobility of labor and capital supported with advanced technology, it provides windows of opportunity for cities that can reposition themselves. Cities with abundant resources and ample political supports are able to position themselves in the international marketplace (Savitch & Kantor, 2002), whereas cities with lesser economic and political resources may not be able to compete.

The above paragraph becomes the basis of my argument in which I differentiate cities based on t heir socio-economic characteristics. This categorization is useful in understanding why cities pursuing similar development policy arrived at a different result and outcome. Two distinct but somewhat related categories are 'post-industrial city' and 'declining transitional industrial city.' Post-industrial city is a concept, which seeks to explain a city where the advanced service sector produces more wealth than manufacturing or other sectors combined. This is a concept loosely derived from Bell's seminal work (1974) and Habermas (1970). Both see that rapid development of technology changes the mode of production and in turn this also changes the demographic, economic and eventually, political structure of the city. Whereas a post-industrial city is indicated by the presence of advanced service industries as the

predominant sector, a declining transitional city is indicated by the decline in the manufacturing industry, high unemployment rate, and the inability of the local government to replace the manufacturing industry with other potential industries as the economic base. In the following section, I will outline characteristics of each city and their influence on the decision-making process.

Post-industrial City

By the end of the 1960s and early 1970s, information technology reached its apex and this continues in subsequent decades. Economic competition that emerged between different political ideologies and countries have stimulated considerable progress in technology. Businesses incorporated the advancement in technology in the production process to streamline the process and this lead to capital becomes mobile and transferrable to any place in the world regardless of political boundaries.

Hence, globalization is understood as a process in which political and economic borders are opened, and society is gradually exposed to various norms and values that may differ from what they believed and understood. This does not mean globalization that engulfed almost the whole world forces cities and regions in the South to accept norms and values from the North. Rather, globalization creates a situation in which cities develop their own characteristics utilizing local resources to advance their standings in the global competition. Local resources here can be defined as the political, economic, and even social capital that a city possesses.

Short (2004) differentiates the impact of globalization on cities and regions into several aspects. One of these aspects is the way globalization shapes the role of cities in the global economy. He argues because of globalization, a number of cities have the privilege to act as command centers, indicated by the presence of stock exchanges, headquarters of multinational corporations and head offices of major banks (Short 2004: 12). In other words, a concentration of financial and advanced service sector in a city reflects the size of the city's economic and political influence in the global economy. There is a correlation between the concentration of advanced service industries in a particular city with its role in the political and economic realm. The higher the concentration, the higher the role a city plays.

Globalization has pushed these cities forward, leaving other cities behind in their trails. As financial and advanced service industries gradually replaced the manufacturing industry as the main driver of the local economy, significant changes emerge in urban spatial structure. Many industrial cities with manufacturing industry as the economic base with a large portion of the middle class working in this sector underwent economic and physical transformation. This transformation is reflected in the fact that the majority of land use in these cities is for the financial and advanced service sector with strong presence of financial and multinational corporation headquarters in the downtown area. Moreover, white-collar jobs are predominant in the local economy. These are common traits of the so-called post-industrial city.

Sassen (1991) and Hall (1997), among others point out that such transformation from an industrial city to a post-industrial city is the result of cities responding to a new international division of labor, where the majority of workers work in advanced service industries (including creative and cultural industries) between 1970 and 1990. However, the 1990s shows these cities underwent another form of economic transformation. Advanced service industries are being restructured and downsized by lean minded management seeking economies, with the result that they were suffering massive job losses (Hall 1997: 317). As a response, firms and companies decided either to relocate to lower cost locations or to smaller cities within the same national space or to lower wage cities in less developed countries. This brought an adverse effect on ol der industrial cities. Firms and businesses left these cities because they could not adjust production cost to stay competitive due to factors such as high labor costs and the quality of the infrastructure. Furthermore, as firms and businesses left these cities, minority groups and low-skilled laborers are often left behind due to their inability to access economic resources to move to other cities or regions. In the following section, I will outline the impacts of globalization on the declining industrial city that lost their competitive advantage.

Declining Transitional Industrial City

Bell (1973) identified several indicators for a post-industrial society: (1) service sector as the economic base, (2) the dominance of white-collar employment, (3) knowledge as the governing principle in social life, and (4) an increasing role for government in social regulation. Whereas the period of the 1970s until 1990s showed massive transformations

from industrial society to a post-industrial society, this transformation only happened at the state level and happened unequally at the local level. Between 1970 and 1990 only a handful of cities experienced dramatic transformation from an industrial city to a post-industrial city (Gospodini, 2009; Mooney, 2004). After going through a significant transformation these cities now belong to the new hierarchy called global cities (Knox 1995; Beaverstock et al. 2000). The rest of industrial cities continue to lose manufacturing jobs due to various factors, and still struggle to stay competitive in the market, as they cannot substitute low-skilled labor with white-collar employment (Walker & Greenberg 1982: 17).

Against this background, globalization has two impacts on c entral cities. First, it transforms cities and creates windows of opportunity for cities to compete in the global economy. Second, it engulfs and pushes down cities that are unable to transform themselves into a postindustrial city as they lack necessary factors to attract investment from advanced service industries. Detroit, for example, once a prominent city where the automobile industry dominated the local economy, now is barely able to provide basic services for its residents. Worst yet, some of these industrial cities are trapped in a vicious circle, as investment, employment, and population keep flowing out of their political jurisdictions due to intercity competition (Florida, 2012; Peters & Fisher, 2004; McCann, 2002; Peck & Tickell, 2002).

Although there are no clear definition of what a declining, transitional industrial city is, indicators such as the number of white-collar employment created against the number of

jobs lost in the manufacturing industry can provide an illustration of how these industrial cities struggle to stay competitive in a fierce global competition. Between 1980 and 2005, Rochester, NY had an employment growth of 22.6%; however, a closer look reveals that the manufacturing industry had a negative employment growth (-44%). Hartford, CT had an employment growth of 11% but its manufacturing industry lost almost half of its labor force (Atkins et al. 2011). To make it worse, these cities still have to compete with other cities to attract businesses and individuals/households to relocate to their areas. Furthermore, individuals and households are often reluctant to relocate to these cities, citing various reasons such as the quality of school district, the high rate of the property tax, and lack of amenities. Businesses often play cities against each other to get a favorable economic stimulus (in the form of tax abatement or tax holiday), and often they only stay in a particular city for a number of years before deciding to move on to another city.

Although these illustrations seem depressing and eclipse our optimisms concerning the future of cities, a number of cities have started to rejuvenate their local economies, by introducing development strategies to attract a particular demographic group. Labeled as the 'creative class', this demographic group is believed to improve the local economy through innovation, invention and consumption (Florida, 2002, 2005). The proponent of this approach suggests that only through this creative class do these cities survive in global competition.

Changes in the Demographic and Economic Structure

Globalization has brought massive changes to urban landscape, giving two distinct options to the city, either they survive in the transformation and become part of the global economy (and subsequently struggle to be a part of global city elites) or they gradually decline and are incapable of competing with other cities. Both post-industrial and declining transitional industrial cities experienced drastic changes in their demographic and economic structure, and these changes brought significant impacts. Changes in the demographic structure affected the economic structure of the city. As the local economy changes, it affects individual and household preferences in deciding where to work and to live.

After the World War II and before the 1970s, manufacturing industries were predominant in U.S. cities. Historical data suggests that in 1950 30% of the labor force worked in the manufacturing industry; however, this figure continued to decline to a mere 11% by the end of 2006. On the other hand, services (government services and other service-producing industries combined) accounted for 40% of total labor force in 1950, and this number continues to increase. By the end of 2006, other service-producing industries accounted for more than 40% of total labor force, while government services remained stagnant and hovered around 10% between 1950 and 2006 (Lee & Mather, 2008).

Several explanations accounted for these changes in the economic structure of the city. One popular explanation is the idea that globalization forced firms to restructure and

downsize its businesses, and as a result, many firms relocated to smaller cities within the same state or to other states with lower labor cost (Hall, 1997). Further, economic restructuring often required management to close factories or relocate economic activities overseas. Many argued that it was cheaper to import goods produced overseas where labor costs were cheaper or there were no stringent environmental protection policies in place rather than producing those goods at home. However, these decisions were often criticized because it would create trade deficits between the U.S. and other nations and create unemployment in the U.S.

However, this argument was challenged through empirical data. The U.S. trade deficit was not caused by importing goods previously produced in U.S. and now produced overseas, but rather because the U.S. consumed a large amount of oil and gas. Between 1989 and 2007, oil and gas accounted for more than 33% of total imports.[7] Changes in the local economic structure therefore couldn't be directed to an accusation of unfair labor practices but rather because technology advancement enabled changes from labor-intensive industries to capital-intensive industries, where automation gradually replaced human labors. Productivity and employment data shows manufacturing value added output increased by 123% while employment has dropped by 21% between 1987 and 2007 (Morss, E.R).

[7] Data is obtained from Morss, E.R. *The Loss of American Manufacturing Jobs: What are the facts?* Available online at http://www.morssglobalfinance.com/the-loss-of-american-manufacturing-jobs-what-are-the-facts/

Changes in the economic structure transformed the demographic structure in the city and metropolitan region. Between 1950 until the 1980s, urban poor and minorities were predominant in central cities, while affluent population settled in suburban communities. However, after the 1970s, this trend was gradually reversed in several cities. The emergence of advanced service sector such as information and telecommunication and financial industries that started to dominate the urban landscapes in the 1980s helped cities to attract affluent population to live in central cities. San Francisco, CA and Seattle, WA for example, are widely known as cities with a high concentration of advanced-service centers in the West Coast. Their racial compositions are predominantly white and Asian. Portland, OR also revealed a pattern similar to San Francisco.

On the other hand, Detroit, MI was barely able to reverse the trend of losing its white population. White population now only accounts for 7.8%, a sharp decline from 68.6% in 1950 (Davis 2012: 4). Poverty is concentrated in the central city and it kept increasing from 19% in 1960 to more than 33% in 2010. Cleveland also faces similar situation. The poverty rate kept climbing from 43.9% in 1970 to 65.1% in 2000. White population only accounted for 5.3% of the total population, while black population accounted for more than 90% in 2000.[8] In other words, a declining industrial city is indicated by its inability to compete in the global market, the high proportion of minorities and a high poverty rate in the city. These factors push these cities further down the ranks and as a result, they lost their economic attractiveness.

[8] See Cleveland, Ohio: the Central neighborhood. Available online at http://www.frbsf.org/cpreport/docs/cleveland_oh.pdf last accessed on June, 20, 2012.

Changes in the Spatial Configuration and Individual Preferences

It is pertinent to note that globalization not only affects demographic and economic structure, but it also affects spatial configuration and individual preferences. Spatial configuration reflects the spatial arrangement of urban land use as dictated by market and the demographic structure of the city. Prior to 1960, cities were developed in concentric patterns, and economic and political activities gravitated around central business districts. After 1960, the suburbanization of jobs redefined the way land use was organized. Central business districts were no longer the center of economic activities in cities as businesses and firms left central cities to suburban areas. The implementation of urban renewal and highway construction between 1960 and the mid 1970s severely deprived central cities of their social capital as evident in the demolition of neighborhoods where minority groups lived and brought an unexpected impact (Altshuler & Luberoff, 2003). Downtown areas became barren land devoid of social interactions, especially during the weekend. The emergence of advanced service firms that replaced the manufacturing industry as the local economic driver in the late 1970s and early 1980s gradually changed the urban landscape. Multinational corporation headquarters, banking offices, consulting firms and other advanced service industries accounted were predominant in central business districts; whereas manufacturing industries were shifted to suburban areas.

As urban landscape and land use changed considerably, so did individual preferences. As the economy becomes global, it affects individual preferences. While previously individuals only consumed goods available locally, now they also consume nonlocal goods advertised via global mass media and other news outlets. Here, cities can choose

either to take the advantage of this shift in individual preferences or simply to ignore it. Post-industrial cities were aware of this situation and they fully exploited this opportunity to their advantages. A number of cities started building urban cultural amenities such as museums, concert halls (e.g. Los Angeles, Chicago) or natural amenities such as urban parks (Seoul) to attract people to relocate there. Municipal governments in these cities believe that certain types of people are attracted to this kind of services and these people often inquire whether cities have certain amenities before they decide to relocate. In addition to this, the lifestyle and social status of local high-income individuals and households also increase the demand for cultural amenities and attractive environments.

Clark (1994) used this as empirical evidence to emphasize the importance of amenities in attracting people to move to a particular city. He noted that local consumption for some time had driven the local economy, yet urban scholars often ignored or neglected this fact and instead opted to examine external drivers such as external investments or federal/state regulations that may foster local economy[9]. Despite years of belief in the role urban amenities played in driving the economic growth, only recently urban scholars began incorporating amenities as part of larger urban theories (Strom, 2002; Clark, 2000; Judd & Fainstein, 1999). Glaeser, Kolko & Saiz (2001) found out in their study that urban success comes from being an attractive 'consumer city' for high skilled people, and this strengthened Clark's thesis. As cities became more dependent on high skilled people to drive the local economy, they gradually embraced the consumption side approach as a

[9] Romer (1989) argued that there is a strong association between knowledge, human capital and economic growth, however, his thesis did not mention explicitly the role of amenities in attracting human capital with high skills.

means to bolster the local economy. These policy shifts are an acknowledgment to the importance of using urban amenities and attractive environments to drive the local economy.

Jobs or Amenities: Assessing development strategies in the global economy

In the global economy, cities compete with one another to attract investment and human resources capable of propelling the economy ahead of their competitors. It is common for a city to provide an economic stimulus (often in the form of multi-year tax break) to the company as an incentive for relocation. Due to the intense intercity competition, local governments tend to increase the amount of stimulus offered to the private sector to lure them to invest in their cities. This in turn creates a fiscal problem for the city. Rather than engage in a constructive negotiation with the private sector, city officials often rely on cutting the budget previously allocated to public services. Thus, inter-local competition often drives cities to offer higher stimulus but to do so require them to sacrifice provision of necessary services.

To avoid this situation, a number of cities began implementing a new approach by building amenities. The rationale is that certain demographic groups are attracted to relocate to a particular city because of the availability and quality of its amenities. Studies by independent groups and consulting firms affirmed this approach, as the result revealed

the top ten most sought after cities are those with abundant urban amenities (Knight Frank *et al.*, 2011; UN-Habitat, 2011; Foreign Policy, 2010).

Florida posits another approach in bolstering the economic growth of the city (2002, 2005). He suggests that in the global economy, labor mobility is even higher than before. As innovation and invention become the driver to propel the regional economy, one particular demographic group holds the key to the future. Labeled as the creative class, this group is not restrained by political jurisdiction or geographical limit. Florida (2002) argues that as this group drives the economy through creativity and consumption, cities should look for a development strategy that can satisfy their needs. Rather than building freeways, he suggests that cities should invest on the infrastructure that stimulates innovation and creativity.

While his thesis rarely touches on the role of cultural amenities, Florida (2005) also believes that urban amenities attract the creative class, because individuals in this group often incorporate the consumption of urban amenities into their lifestyle. Other studies affirm his assumption. Carlino & Saiz (2008: 33) found that higher local government investment in new public amenities would increase a city's attractiveness. This in turn disproportionately attracts highly-educated individuals and as these individuals move to the city, the city ultimately experiences faster housing price appreciation.

The Role of Power in the Decision-making Process

The decision to build freeways in the 1960s until the mid-1970s during the pinnacle of urban renewal and the emergence of social movements to oppose and remove freeways couldn't be separated from the power holders that influenced the decision-making process. There are four concepts of community power structure in the city, from the notion that power is concentrated in the hands of elites to the urban regime. Although the debates on who governs the city have shifted considerably since the 1960s, these four strands are worth mentioning because it gives us a greater understanding of how power is exercised in the decision-making process.

The first strand argues that power is concentrated in the hands of elites. By investigating Atlanta as a representation of a regional city, Hunter (1953) tried to address the question of who governs the city. He used the reputational analysis to reveal who had a decisive role in the decision-making process. He concluded that power in the decision-making process in reality was concentrated in the hands of elites. These were executive seniors as representatives from key businesses in the city and the mayor as the sole representative of the public sector. In short, Hunter found that the capitalists were in charge, and local government was their servant (Altshuler & Luberoff 2003: 51).

The second strand was developed by political scientists who disagreed with sociologists take on the role of power. They opined that the reputational analysis (based on 'status')

was not sufficient to address the question of who governs the city. Rather than relying on the reputational analysis, scholars from this strand opted to use the decisional analysis based on the notion that power is behavioral, and not an individual status. Dahl (1961) in his seminal work on 'who (if anyone) governs New Haven?' looked at the way power was actually employed in particular decision-making situations. He found out that instead of being concentrated in the hands of elites, power was actually dispersed, although not equally, among power holders, including local community members. As a result of this, the number of studies addressing the issue of plurality in governing the city increased significantly.

The third strand perhaps influences decision-making process in an indirect way, compared with the first two strands. One of the seminal pieces from this strand is represented by Tiebout's model (1956). This model hypothesizes a situation in which a municipal government in a region offers varying public services at varying rates (measured through tax rates) and individuals can select to live in a particular municipality based on their preferences for these services, and whether they are willing to pay for the services. Because municipal governments' budgets depend on individuals and businesses' willingness to pay for the provided services through various taxes, they compete with one another in offering these services through tax rates that might be acceptable to individuals and businesses.

If the third strand focuses its attention on how individual decision is shaped through rational choice, the fourth strand directs its attention at the concept of public-private

partnership. This stemmed from the notion that elites (such as senior executives from local key businesses) form an alliance with public sector, as the middle-class gradually lost its grips on the decision-making process. This comes from the fact that city officials possess political resources yet they do not have adequate economic assets to ensure that any policy created can be implemented. A public private coalition often emerges as a strategic response to a significant project or policy that has a broad repercussion. This situation is easily found in almost every city not only in the U.S. but in other parts of the world as well. Molotch aptly described this as a growth coalition (Molotch 1976; Logan & Molotch, 1987) as it is usually formed not only by city hall and chambers of commerce but by other stakeholders as well, such as mass media and local universities, to name a few. These local coalitions usually seek local economic growth. Stone (1989) added that in order to stand, a growth regime needs the participation of the private sector to implement the policy.

These four types of community power structure provide an avenue for a growth coalition to shape the development strategy to bolster the local economy and to reshape the physical structure of the city. The following section will address the association between a growth coalition and urban development strategy within the context of U.S. cities.

Growth Coalitions and Development Strategies

As the previous section outlines a foundation for understanding various roles of power in the decision-making process, this section will address how different groups and actors act to influence the design and implementation of development policy. With regard to the decision making process, various studies have evaluated the role of local growth coalitions in influencing such processes (Flyvbjerg, 1998; Ferman, 1996; DeLeon, 1992). Growth coalitions use an array of development strategies from offering incentives such as tax abatement or tax holiday to building sport stadia and museums to seek economic growth. A development approach that focuses on building amenities and attractive urban environments is part of the emerging trend that put an emphasis on the consumption side by creating an economic development policy that focuses on the entertainment or entrepreneurial aspects of the city (Clark, 1994; Hall & Hubbard, 1998). The idea to create an entrepreneurial city is often tailored to attract knowledge and high-skilled workers as the economy shifts from manufacturing-based to services-related activities.

Against this background, an entrepreneurial city tends to pursue a consumption-based development policy rather than a production-side policy. Placing an emphasis on urban cultural amenities can help cities claim the patronage of a particular economic niche. Attracting particular patrons to visit and live in the city can stimulate the local economy. As these patrons are able to purchase the services provided, this in turn stimulates job creation in the city. Although modern approaches to the development strategy often focus

on the reductionist explanation of economy, this new approach places culture as a centerpiece in harnessing economic development strategy (Allmendinger, 2001).

Behind every development strategy there is a coalition with the aim of bolstering development, as measured through the property value and intensification of land use. This coalition consists of various actors regardless of their political association and ideology. By forging a coalition, this group seeks to maximize property value through various development strategies. One example of a growth coalition at the national level with an urban element on it was the urban renewal program. This federal-led initiative gained support from municipal governments and local key businesses since it was designed to reinforce the attractiveness of central cities' downtowns and to reverse population flight from central cities to suburbs through various means. Municipal governments used this federal aid program as a vehicle to demolish poor urban neighborhoods to make ample spaces for downtown and highways development. The coalition for freeway construction was led from Detroit and supported not only by the federal government but also by other municipal governments, truckers, automobile dealers, highway contractors, and highway-related businesses in every congressional district (Altshuler & Luberoff 2003: 250).

What made this coalition attractive from local governments' perspective was the assumption that federal aid was virtually "free" (ibid). State governments took the responsibility for the nonfederal share of the expenditure (in the case of highway construction), and local governments simply provided in-kind contributions or

infrastructure expenditures that the city would have incurred even in the absence of urban renewal. Because of this compelling reason, local officials can distribute or share in distributing the benefits (of the program/projects) to new actors without aggravating taxpayers.

Against this historical trajectory, Peterson makes an interesting argument in his seminal work (1981, 1995). He created two distinct categories: developmental policy and redistributive policy[10]. While developmental policy is designed to attract people and business investment, redistributive policy tends to repel them. Peterson argued that developmental policies were local governments' responsibility because they were the ones who understood local problems and challenges, whereas redistributive policy became the domain of the federal government. Because developmental policy was associated with the notion of advancing the local economy, local actors and institutions formed a coalition to ensure that any policy crafted will boost economic growth. Steps were taken to create political and economic environments suitable for implementing such policies. Freeway construction in this light could be seen as an example of economic stimulus to attract businesses and people to relocate to a particular city.

Growth coalition is a pattern prevalent in any city around the world (Rohe, 2009; Savitch & Kantor, 2002; Calavita & Ferrer 2000; Marshall, 1996). This form of coalition allured

[10] Although in *City Limits* (1981), Peterson created three distinct categories; in his subsequent work (1995) he merged allocational policy to become a part of developmental policy. Part of his argument was that high-quality services are important assets and thus fall within the category of developmental issue (see Peterson, P.E. 1995. *The Price of Federalism*. Washington, D.C.: Brookings Institution Press)

many cities faced insurmountable tasks in providing services and attracting economic investment. Faced with unequal distribution of resources, complex relationships, and limited government authority, urban actors were heavily constrained and limited by economic and systemic forces (Orr & Johnson 2008: 17). While historically the private sector played an important role in shaping local economies in U.S. cities, as cities and regions were tightening their belts due to the fiscal crises since the 1970s, a partnership with the private sector had created windows of opportunity for local government to provide new services needed without sacrificing other existing services already in place. A local growth coalition focused on improving the economic condition of the city by creating a political environment suitable for implementing developmental policy. Proxies such as changes in population, the number of jobs created, and intensification of land use reflect the local economic growth. By achieving this, a growth coalition can tighten its grip on local politics and direct the development goals to align with theirs.

Power and Planning in Urban Freeway Deconstruction: A theoretical framework

The fact that there are cities succeeding in deconstructing their freeways will be framed as a foundation for the proposed design. It reflects the antithesis of the importance of the 'enhanced mobility' principle, where road networks enhance passengers' and goods' mobility.

I begin my inquiry by addressing the role of power and planning in urban development strategy. Planning process is not devoid of the influence of power (Forester, 1988). As a result, power ultimately affects the outcome of the planning process. This brings to the concept that power is shaped by the following factors: demography, the economic structure of the city and inter-governments' relations. These factors work together in shaping how the power is exercised in a political arena. A compromise between planners and decision-makers on the one hand and major power holders (such as local businesses, neighborhood associations, and homeowners) on the other is a prerequisite in today's urban development strategy. This compromise becomes the starting point of a local growth coalition.

Cities that experience strong economic growth may favor a populist development strategy such as urban freeway deconstruction. Local growth coalitions in these cities are supported by white-collar workers, minority groups, professional associations, and homeowners. On the other hand, declining cities may have difficulties in pursuing a populist development strategy and prefer to pursue a long-standing strategy instead. Local political elites often dominate the local coalition in a declining city, with additional support comes from blue-collar workers and local businesses; however, this power structure is not as strong as the power structure in a city with a strong economic growth. I argue that this structure may explain the differences of outcome.

Figure 2.1 shows my framework for studying urban freeway deconstruction in U.S. cities.

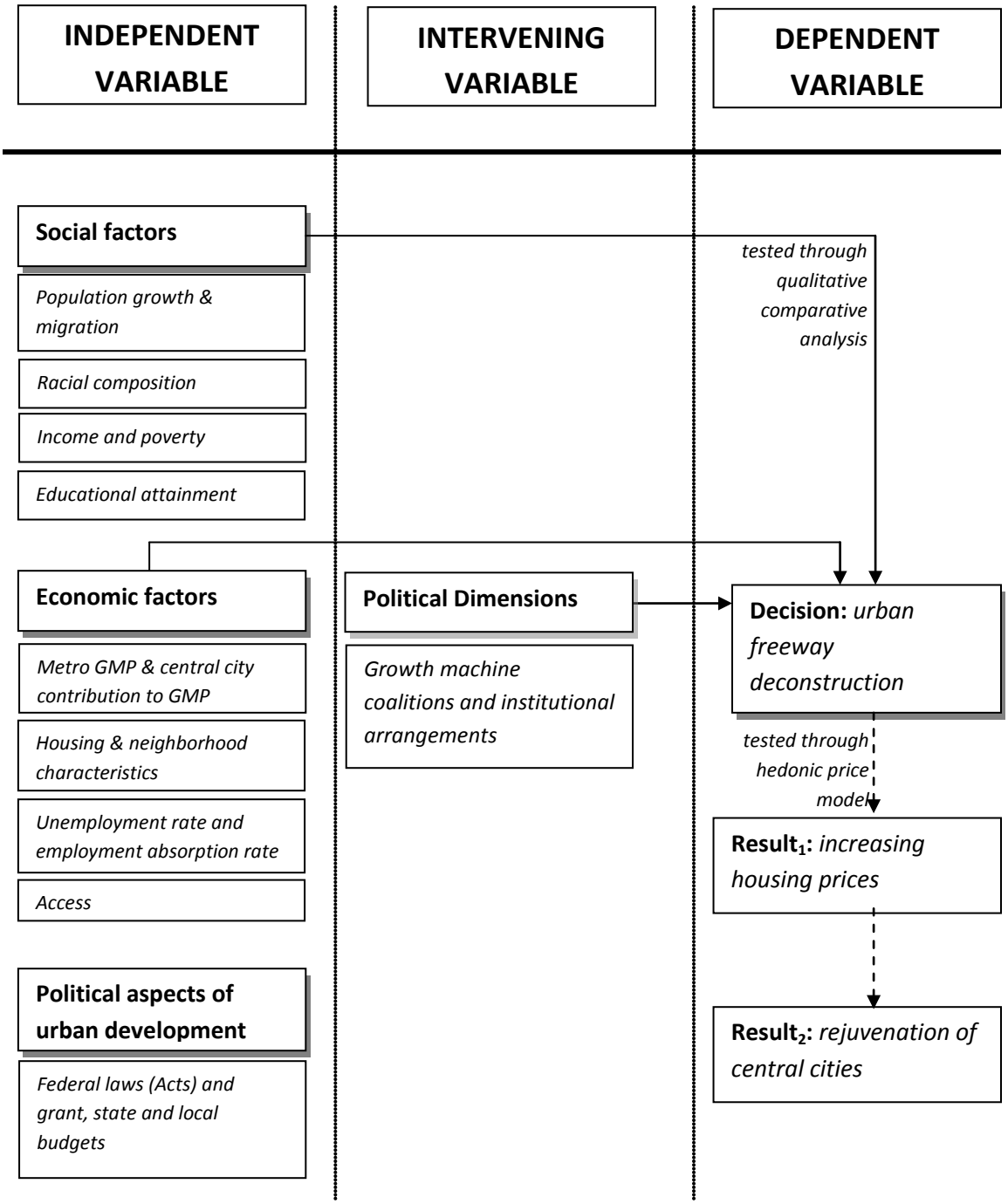


Figure 2.1 Conceptual model of the policy process for freeway deconstruction

The conceptual model of the policy process for freeway deconstruction consists of two stages of inquiry. The first inquiry examines the effect of characteristics of the city on the city's decision to remove urban freeway. I break down characteristics of the city to seven causal conditions. I then measure the effect of these conditions on the decision to remove freeways. Figure 2.2 summarizes the first stage.

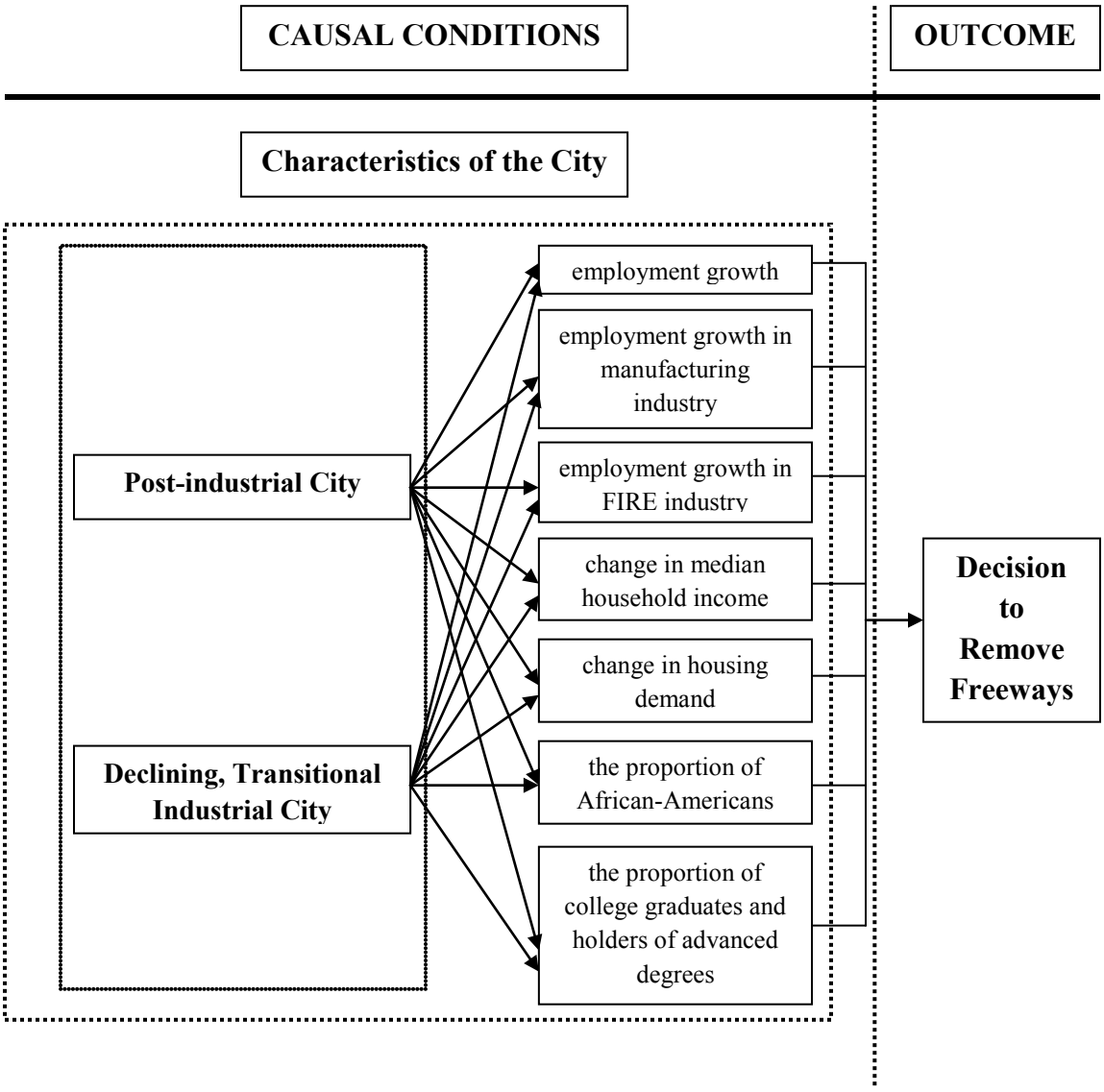


Figure 2.2 A Conceptual Model to Analyze the Effect of Characteristics of the City on the Decision to Remove Freeways

The second step is to analyze the role of local growth coalition in shaping the decision to remove freeways. To do so, I identify actors and institutions that form the coalition. Once I identify those actors and institution, I proceed to explore whether such a coalition may effect the decision to remove freeways.

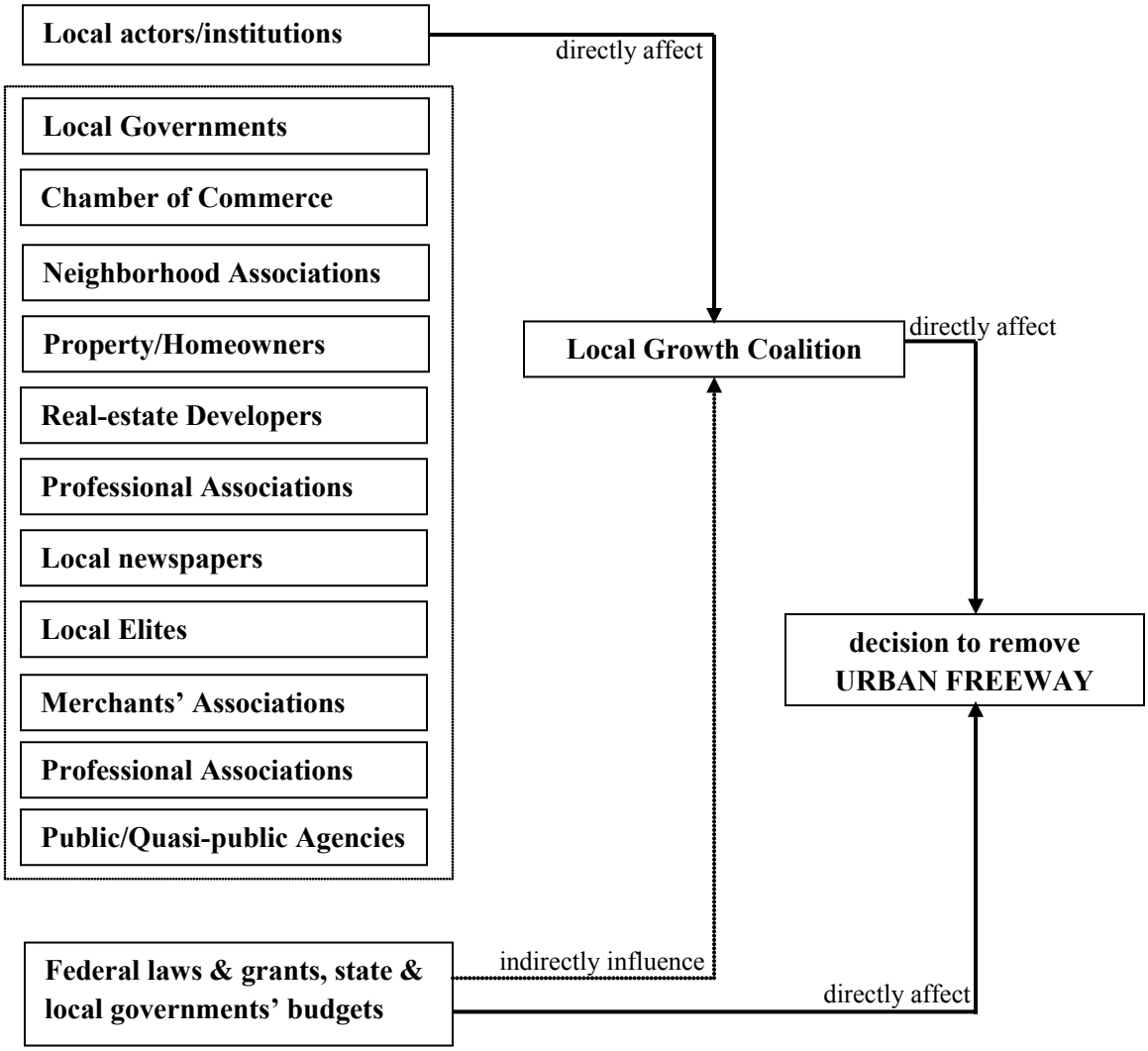


Figure 2.3 Conceptual Model of the Political Dimension in Urban Freeway Deconstruction

To test whether power and planning have a significant impact on the decision to remove urban freeway in American cities, I develop table 2.2 f rom figure 2.1. This table illustrates the relation between variables, indicators, sources of data and method of analysis that I use to test my propositions.

Table 2.2 Variable, indicators, sources of data and methods of analysis

Variable	Indicator	Source	Method of Analysis
Population growth & migration	1. The number of population between 1970 and 2000 2. The number of people migrated between 1970 and 2000	the Housing and Urban Development's State of the Cities Data Systems (SOCDS)	Comparative historical analysis
Racial composition	The proportion of African American in a city between 1970 and 2000	the Housing and Urban Development's State of the Cities Data Systems (SOCDS)	Qualitative comparative analysis
Income & poverty	Median household income in a city between 1970 and 2000	the Housing and Urban Development's State of the Cities Data Systems (SOCDS)	Qualitative comparative analysis
Educational attainment	the number of college graduates and individuals with an advanced degree in a city between 1970 and 2000	the Housing and Urban Development's State of the Cities Data Systems (SOCDS)	Qualitative comparative analysis
Metro GMP & central city's contribution to GMP	1. Metro GMP 2. Percentage of central city's contribution to GMP	U.S. Bureau of Economic Analysis (BEA)	Comparative historical analysis
Housing and neighborhood characteristics	The number of housing units between 1970 and 2000	the Housing and Urban Development's State of the Cities Data Systems (SOCDS)	Qualitative comparative analysis & hedonic price model

Table 2.2 Variable, indicators, sources of data and methods of analysis (cont'd)

Variable	Indicator	Source	Method of Analysis
Unemployment rate and employment absorption rate	1. The number of jobs created between 1970 and 2000 2. The number of manufacturing jobs created between 1970 and 2000 3. The number of jobs in finance, insurance and real estate industries created between 1970 and 2000	the Housing and Urban Development's State of the Cities Data Systems (SOCDS)	Qualitative comparative analysis & comparative historical analysis
Access	1. Distance between the location of housing unit and the removed urban freeway; distance between the location of housing unit and central business district 2. Economic access to employment center	1. Spatial data obtained from relevant local government agencies in San Francisco and Milwaukee 2. Online spatial data available at local government's website	Hedonic price model & comparative historical analysis
Federal laws (Acts) and grant, state and local budgets	Relevant acts and the amount of budget disbursed in each urban freeway removal	various sources, mostly historical archives, local governments' websites, the Department of Transportation's website	comparative historical analysis

Note: the State of the Cities data systems (SOCDS) provides data for individual metropolitan areas, central cities, and suburbs. Data are compiled from US Census Bureau (particularly Census and American Community Survey (ACS) data).

Source: author analysis

Research Questions and Propositions

The following questions represent the central inquiry of this project:

1. What are the key factors of the city that affect the decision to remove urban freeways?
2. What are the similarities and differences between cities that choose to remove their urban freeways?
3. Does freeway deconstruction bring about the intended results, as measured through property values? If not, what are the causes?
4. What type of institutional arrangement and political support ensures the initiative for freeway deconstruction can be implemented?
5. Finally, how can we understand the effect of highway deconstruction in our findings?

My first argument is that cities have to align their development strategy with global and regional pressures and economic changes. Because of these changes, local government needs to create a development strategy that satisfies those who hold economic power. Cities also treat changes in their demographic structure and labor force as determinants that influence development strategies. In this light, Florida's creative class (2010, 2005) can be considered a major driving force in shaping the local economy. He argues that what makes one city significantly stronger than another depends upon the presence of a creative class. Florida (2005) points out cities with a large number of innovative persons

are the ones that can transform themselves from an industrial-based economy into an advanced-service sector (a post-industrial city). Post industrial cities with a creative class will prefer an array of public goods and improved schools rather than freeways that are more suitable to industrial cities. Therefore, this study develops the following proposition: *cities with post industrial traits are more likely to successfully implement freeway deconstruction than declining, transitional industrial cities*. In other words, cities with a large number of advanced service sectors are more likely to reshape the physical environment by demolishing freeways and creating more urban amenities as compared with declining, transitional cities.

This brings us to the need to evaluate the economic impact of urban freeway deconstruction on property values in the city. The assumption is that freeway deconstruction is the antithesis of freeway construction that exports city's real estate value to the suburbs. Tearing down a freeway is expected to increase the property value of the city and attract certain demographic groups (e.g. white-collar employees) back to the city. Further, local government develops this strategy under pressure from vested interests that have a stake in seeing increased property values in the city (Logan & Molotch, 1987; Molotch, 1976). I develop my second proposition from this assumption. It focuses on the impact of freeway deconstruction on property values, in particular commercial and residential values, and can be stated as follows: *Where cities are ready for this change, freeway deconstruction brings positive changes in property values (commercial and residential values).*

My second proposition leads to the notion of whether a particular type of political support and institutional arrangement leads to urban freeway deconstruction. This brings us to the possibility that local growth machines spur the initiative to reshape the physical structure of the city. This study posits that there is an interaction between economic development and political processes. Class-based or traditionally left-right issues no longer dictate development strategies (Sharp 2005: 133; Clark & Inglehart 1998: 9-10; Rosdil, 1991). Rather, strategies are geared towards a new political culture. Miranda & Rosdil (1995) even argued that the magnitude of unconventional political culture was an important predictor of progressive economic development policy. I summarize those arguments as my third proposition as follows: *Cities with post materialist, populist coalitions and progressive growth machines will support freeway deconstruction, whereas declining, transitional industrial cities may not have enough political support for removing their urban freeways.*

This study addresses the argument that a post-industrial city might be more successful in implementing freeway deconstruction. The argument is that a post-industrial city is capable of negotiating with the private sector in terms of what kind of infrastructure they might need to build, while a transitional declining city is unable to do this. This leads to the assumption that a post-industrial city has a different reason when implementing freeway deconstruction compared with a declining transitional industrial city. Because the reason is different, I assume that the efforts yield different result and impacts. This leads me to my last proposition: *There are significant differences between a post-industrial city and a declining, transitional industrial city in the process and effect of*

urban freeway deconstruction. My assumption is that although freeway deconstruction provides space for urban amenities for both post industrial city and declining industrial city, the former pursues this approach to satisfy the needs of the "creative class" while the latter engages this strategy to lure the "creative class" to come to the city. And as a consequence, I predict that the positive impact of freeway deconstruction will be more evident in a post industrial city than in a declining, transitional declining city.

Conclusion

This literature review outlines the theory underpinning this dissertation's research questions and the propositions under examination. The remaining chapters summarize the methodology and the research results, ultimately giving credibility to my theory.

CHAPTER III

METHODOLOGY

This chapter deals with the way data is collected and analyzed. It outlines the nature of the study, the research design and model, the method employed for investigation, the details of data collection, coding procedure and the analysis strategy.

Comparative Analysis

I use comparative analysis to investigate the reasons why some cities successfully removed their urban freeways while others did not. Savitch & Kantor (2005) argued that comparative analysis help the researcher to get a d epth analysis that fits within the context, but at the same time also provides common ground that is testable on a larger urban pattern (p. 137). Comparative analysis can also be used to explain similarities or differences (Pickvance 2001: 7, 16). Comparative analysis requires the things being compared to be commensurable but not necessarily identical.

There are two approaches in comparative study, one is the variable-oriented strategy and the other is the case-oriented strategy (Pickvance 2001, 12). DiGaetano & Klemanski (1999), Savitch & Kantor (2002), and Sellers (2002) employed comparative analysis in exploring urban governance in a number of cities. Using a number of cities as the basis of their analysis, they identified the underlying structure of urban decision-making patterns. They also employed the variable-oriented strategy in the analysis to explore similarities and differences. The opposite approach is the case-oriented strategy, such as the study of Abu Lughod (2007) or the seminal works of Sassen (1991). Since this study seeks to appreciate complexity and differences found in the units of observation, it employs the case-oriented strategy.

One of the issues involved in creating a comparative study design is the number of observation sites for comparison. A large number of observations not only consume time in collecting and analyzing data, but also add burden for the researcher who has to scrutinize a lot of information in order to find causal patterns. Savitch & Kantor (2005, 137), borrowing from Durkheim's argument, pointed out that comparisons should contain substantial variation allowing the researcher an 'adequate range' of subjects for comparison. The most important thing is that the research goal should determine the balancing act. This study evaluates 23 cases from 21 cities before delves deeper in the case study of urban freeway deconstruction in San Francisco and Milwaukee. By carefully selecting cases of American cities as the unit of analysis, this approach could overcome the noise from the differences in country-level history, ecology and culture that are inherent in cross-national comparison (Savitch & Kantor 2005: 141). Pickvance

argued that while writers were commonly resorting to two contrasting sides (either universalizing or differentiating), there are two other types of comparative analysis: differentiating comparative analysis with plural causation and universalizing comparative analysis with plural causation (2001: 23). Pierre (2005: 459), drawing from Savitch & Kantor's (2002) and Sellers' (2002) works, suggested a framework that combines sensitivity in the analysis of individual cases with a comparative analysis to uncover drivers of change and causal relationships between key variables in the analysis. This combination, if applied to a sufficient number of cases, can be rewarding.

The Application of Comparative Analysis

Qualitative Comparative Analysis, Causal Conditions and Coding

In order to analyze the proposition that a certain type of city has greater influence in shaping the decision to demolish urban freeways than others, I use qualitative comparative analysis (QCA). I have identified proposals to remove urban freeways in 21 cities; however only five cities were able to implement such a proposal. This raises a question: what makes a city differ one from another in terms of its ability to remove urban freeways? To answer this question, I develop causal conditions based on the typology of cities. I use two distinct definitions to differentiate cities based on their socio-economic characteristics: one is a prosperous post-industrial city; the other is the declining, transitional industrial city. Differentiating cities into two distinct categories helps me focus on the notion that there is a correlation between characteristics of the city

and the decision to remove urban freeways and that a certain type of cities has a greater possibility of removing urban freeways than others.

I use two different definitions of cities in this study. These definitions stem from the effect of globalization, economic maturity, and de-industrialization on cities. Using Bell's seminal definition of post-industrial society (1973), I define 'post-industrial city' as a city with the following indicators: (1) service sector as the economic base, (2) the dominance of white-collar employment, and (3) knowledge as the governing principle in social life[11]. I define 'the declining transitional industrial city' as a city with the following indicators: (1) manufacturing industry as the economic base, but it fails to stimulate local economic growth, (2) the percentage of college graduate or individual with an advanced degree is less than 20 pe rcent, and (3) the percentage of African-Americans is higher than 25 percent of total population.

Thus, from these two definitions, I develop seven causal conditions to investigate the effect of characteristics of the city on the decision to demolish urban freeways. The first causal condition is net employment growth. This is the number of employment created in central cities by all industries. The second condition focuses on the performance of the manufacturing industry, by looking at the number of jobs in the manufacturing industry created in central cities. The third causal condition looks for the ability of the advanced

[11] There is the fourth dimension in Bell's definition (an increasing role for government in social regulation), however, because changes in the government's role is not part of this study, I exclude this from the working definition of a post-industrial city.

service sector to generate employment in central cities. The fourth causal condition evaluates growth in median household income as the effect of economic growth. As the city adds more jobs and median household income increases, I posit that these two factors combined leads to an increased housing occupancy rate. Thus, housing occupancy rate becomes the fifth causal condition.

Because the post-industrial city is associated with a healthy economy, I expect that there is a positive effect of factors such as employment growth, job creation in the advanced-service sector, housing demand and median household income on the outcome. However, this is not the case in the declining, transitional industrial city. The effect of net employment growth on the decision to remove urban freeways in this city cannot be determined. Net employment growth may propel a local economy; however, it is uncertain whether this growth will have a significant effect on t he outcome. This explanation also applies to employment growth in the advanced-service sector. It is doubtful that the high level of job creation in this sector will affect the decision to remove urban freeways in the declining, transitional industrial city. Moreover, I suspect that changes in median income may have a negative effect on the outcome.

The last two causal conditions concern the socio-economic aspects of the city. Educational attainment becomes the sixth causal condition. It is indicated by the percent of college graduates and individuals with an advanced degree. The last causal condition is racial diversity. It measures the proportion of minorities of total population. In my study,

I use the proportion of African Americans to represent minority groups. In a post-industrial city, educational attainment plays a considerable role in influencing the development strategy. However, it is doubtful racial diversity will also play a similar role. In the declining, transitional industrial city, it is uncertain whether both causal conditions have considerable effects on the outcome.

The first step is obtaining the demographic and economic data of the 21 cities. I utilize the Housing and Urban Development State of Cities Data Systems (SOCDS) as this database provides data for individual metropolitan areas, central cities, and suburbs. I use the data between 1970 and 2000 because the proposals to remove urban freeways in the 21 cities took place between 1970 and 2000. I classify the data based on the seven causal conditions that I have identified before. Because the unit of analysis is the case instead of the city, there are cities with two cases such as Portland and San Francisco in table 3.1.

Table 3.1 Detailed demographic and economic data of 21 c ities with urban freeway removal proposal

	net employment growth 1970-2000	employment growth in manufacturing industry 1970-2000	employment growth in FIRE industries 1970-2000	change in the median household income 1970-2000	% of housing units added 1970-2000	change in the proportion of the black pop. from the total pop.	change of pop. proportion with college & graduate degree
Baltimore	-65,516	-59,740	-108	-2.50	-1.99	63.0	27
Buffalo	-49,944	-37,122	-813	-17.71	-12.51	35.6	31.5
Chicago	-45,027	-231,426	24,956	6.59	-4.86	35.4	31.4
Cleveland	-78,261	-63,851	1,881	-19.88	-18.57	49.5	25.8
Hartford	-12,472	-9,201	-3,751	-15.56	-13.32	35.0	16.1
Louisville	-20,061	-26,329	1,091	-3.93	-6.77	31.8	31.5
Milwaukee	-23,662	-49,263	2,986	-12.79	1.13	35.9	28.2
Nashville	104,665	-6,867	10,240	15.23	63.98	25.7	34.2
New Haven	1,214	-5,928	-5	9.73	7.92	35.1	24.7
New Orleans	823	-11,263	-1,445	7.27	2.23	65.7	31.9
New York	379,781	-323,418	36,655	9.85	2.23	23.5	29.2
Niagara Falls	-7,870	-7,605	77	-27.47	-3.82	17.5	25.7
Oklahoma City	91,378	6,288	8,898	6.36	63.94	14.2	28.3
Portland (1)	128,769	11,466	6,882	31.90	55.62	5.5	36.4
Portland (2)	128,769	11,466	6,882	31.90	55.62	5.5	36.4
Providence	3,629	-8,584	758	6.37	-0.84	11.7	26.4
Rochester	-19,921	-26,127	-871	-18.71	-5.62	37.4	28.2
San Francisco (1)	134,745	2,752	6,963	79.82	10.41	6.6	34.9
San Francisco (2)	134,745	2,752	6,963	79.82	10.41	6.6	34.9
Seattle	105,083	-8,054	3,090	35.55	21.09	7.3	42.4
Syracuse	-12,070	-10,333	-1,562	-8.57	-5.21	23.6	24.9
Trenton	-411	-7,022	563	5.05	-3.97	49.9	19.3
Washington, D.C.	-19,399	-4,700	4,111	30.28	-2.08	58.4	28.3

Source: Author's calculation based on t he State of Cities Data Systems (SOCDS) (http://www.huduser.org/portal/datasets/socds.html)

After the data is compiled, I code the data to obtain seven causal conditions with a Boolean value of 0 and 1. Table 3.2 outlines the differences between post-industrial cities and declining, transitional industrial cities in seven causal conditions. The signs on the table display whether a particular causal condition has an influence on the decision to remove urban freeways or not.

Table 3.2 The expected effect of causal Conditions on urban freeway deconstruction

Demographic and Economic Data		**Outcome**	
Indicator	code for causal condition	urban freeway deconstruction in the post-industrial city	urban freeway deconstruction in the declining, transitional industrial city
net employment growth between 1970-2000	empl-growth	+	-
employment growth in the manufacturing industry between 1970-2000	manuf-growth	-	-
employment growth in FIRE industries between 1970-2000	FIRE-growth	+	+
change in the median household income between 1970-2000	income	+	-
percentage of housing units added between 1970-2000	housing	+	-
change in the proportion of the black population from total population	race	-	+
change in the proportion of population with college & graduate degree	education	+	+

Source: Author's interpretation from Ragin (1987, 2000)
Note:
+ : denotes there is considerable influence on the outcome
- : denotes there is no significant influence on the outcome

To evaluate whether these causal conditions may have effects on the decision to remove urban freeways, I use the Qualitative Comparative Analysis (QCA) method. I choose this method because it helps me identify combinations of causal conditions that may lead to

the decision. Further, since there are only 23 cases represent 21 cities it is not feasible to use a variable-oriented approach to identify which causal conditions significantly affect the decision.

To identify which combinations have a close association with empirical cases, I change each condition into a nominal-scale. This helps me relate the calculation with theories I use in chapter two. For example, Bell's argument on post-industrial society (1973) addresses the role of the advanced service sector in creating considerable jobs and thus in my analysis I assign a positive sign (+) for a city which exhibits positive white-collar employment growth. This approach also applies to other causal conditions as well.

For the first causal condition that describes the net employment growth between 1970 and 2000, I set a parameter: cities with a negative net employment growth rate are assigned '0' (absent), while those with a positive net employment growth rate are assigned '1' (present). I argue that a city with the value of '1' represents a city with a healthy economy and thus has a probability of influencing the decision to remove urban freeways. Net employment growth here is defined as the total number of jobs created from all industries. This means that net employment growth may influence the decision to remove urban freeways. It follows the following argument. Net employment growth has a positive effect on housing demand and median income. Net employment growth with a positive sign will increase median income and housing demand. On the other hand, growth rate with a negative sign may weaken housing demand since there is a probability

that as median income decreases, the ability of individuals and households to purchase houses also decreases. Thus, as housing demand increases, municipal government starts to consider the option of removing urban freeways to free land for development. In other words, net employment growth indirectly affects the decision to remove freeways. Using the parameter outlined above yields the following: there are 12 cities with the value of '0' and nine cities with the value of '1'.

The second causal condition concerns the effect of de-industrialization on the city, measured by the number of jobs created in the manufacturing industry. The focus is on the ability of the manufacturing industry to generate employment in a large enough number to stimulate the economy. Although job losses in the manufacturing industry are common phenomena in U.S. cities (especially between 1970 and 1990), I argue that cities with a healthy economy should be able to create jobs in all industries, including in the manufacturing industry. Job creation in the manufacturing industry signals a healthy economy, although not all cities with a healthy economy indicate job creation in the manufacturing industry. Hence, for the second causal condition, I set a parameter: those cities with negative growth rate in manufacturing industry are assigned '0' (in other words, employment growth in manufacturing industry is absent in this city), whereas cities with positive net employment growth sign are assigned '1' (in other words, manufacturing industry adds considerable number of jobs in this city). From this second causal condition, there are 18 cities with '0' value and only 3 cities with '1' value.

This leads us to the third causal condition: job creation in the advanced-service sector. A post-industrial city is capable of generating a considerable number of jobs in the service sector, particularly in the finance, insurance, and real estate (FIRE) industries. Even though almost all cities are able to create jobs in the FIRE industries, not all cities were able to maintain a steady employment growth in these industries between 1970 and 2000. Hence, the third parameter states: cities with a positive employment growth rate in the FIRE industry are assigned '1', whereas those with a negative growth rate are assigned '0'. This yields the following: seven cities are assigned '0' and 14 cities are assigned '1'.

The fourth causal condition deals with the effect of a healthy economy. If the local economy grows, we can expect demand for various goods and services will increase. This in turn stimulates job creation. Conversely, job creation also stimulates demand for various goods and services. As jobs and demand for goods and services increase over time, I argue the median household income will increase as well. I assume as the median household income increases, so does the support for urban freeway deconstruction as a populist strategy. Thus, I set the parameter as follows: cities with a positive increase in median household income are assigned '1', while those with a negative increase in median household income are assigned '0'. This yields the following: 15 cities are assigned '0' and six cities are assigned '1'.

The fifth causal condition portrays the effect of a healthy economy on the use of land. As the cities experience economic growth, there is empirical evidence that housing

occupancy rates increase as well. Higher occupancy rates reflect higher housing demand. If the housing supply is limited, market will compensate this through an increased housing and land price. This will lead to additional demand on housing development. Cities will respond to this demand by looking for additional land for development. I argue that cities with higher housing occupancy rates seek to remove their urban freeways while cities with lower housing occupancy rates may not be interested in removing their urban freeways. Therefore, I set the parameter as follow: cities with a positive increase in housing occupancy rate are assigned '1', while those with a negative increase are assigned '0'. This yields the following: 11 cities are assigned '0' and nine cities are assigned '1'.

The sixth causal condition is racial composition. Various studies have explored the effect of racial diversity and/ or racial composition on economic growth (Alesina & Ferrara, 2005; Montalvo & Reynal-Querol, 2005; Florida & Gates, 2001). These studies confirm that there is a correlation between racial diversity and productivity and economic growth, especially in the rich democratic societies. One striking finding from these studies reveals that racial diversity may have a negative effect on the economic growth (Easterly & Levine, 1997; Mauro, 1995). Alesina & La Ferrara (2005), however, emphasize the need of tailoring racial diversity with political institutions to explain why cities with diverse ethnicities with no dominant group may achieve higher economic growth than those with a dominant group. The reason may lies in the fact that if a group is politically dominant, it may impose a type of government that restricts the freedom of the minority. On the

other hand, a more fractionalized society in which no group is dominant may end up with a constitution especially careful to defend the rights of minorities (ibid: 770).

I posit that a city with a diverse racial composition with no dominant group may achieve higher economic growth than a city with a single predominant racial group. To evaluate whether racial diversity may have an effect on the outcome, I collect information on the proportion of African Americans from 21 cities between 1970 and 2000. Cities with the percentage of African American population less than 25 percent represent a diverse racial composition. On the other hand, a percentage of African American population more than 25 percent in the city signifies that a single predominant group is present. Hence, I set a parameter as follows: cities with a percentage of African American population less than 25 percent are assigned '1', whereas cities with a percentage of African American population greater or equal to 25 percent are assigned '0'. This produces the following: 11 cities are assigned '1', and 10 cities are assigned '0'.

The last causal condition is the educational attainment. Using Bell's argument that knowledge in the post-industrial city is the governing principle in social life I develop an argument that an individual with higher educational background has a higher effect on the local economy than an individual with lower educational background. Romer in his study (1989) found that literacy level helped predict the rate of investment. Because the rate of investment significantly affects the growth rate, he argued that the literacy level indirectly predicts the rate of growth, although he noted that this may be the cause of

collinearity. Florida in his seminal study on creative class also suggested the importance of having individuals with higher education in stimulating the local economy (2002, 2005).

In this study, I assume there is a correlation between the number of college graduate and individuals with an advanced degree with the economic growth of the city. Thus, I use the number of college graduates and individuals with an advanced degree between 1970 and 2000 as a proxy to estimate the effect of higher education on the local economy. The argument is that higher educational attainment stimulates higher value added of goods and services in a city. The higher the number of college graduate and individuals with an advanced degree, the faster is the rate of economic growth. I develop a parameter as follows: cities with the percentage of college graduate and individuals with an advanced degree higher than 25 percent are assigned '1', whereas cities with the percentage of college graduate and individuals with an advanced degree less or equal to 25 percent are assigned '0'. This yields the following: there are 18 cities with symbol '1', and three cities with symbol '0'.

Table 3.3 illustrates the result of the coding process. Demographic and economic data of the 21 cities observed are translated into Boolean value of 0 and 1. The result facilitates further analysis using the crisp-set Qualitative Comparative Analysis (cs/QCA) to identify combination(s) of causal conditions that influence the decision to remove urban freeways.

Table 3.3 Coding results of 21 cities

case	empl-growth	manuf-growth	FIRE-growth	income	housing	race	education
Baltimore	0	0	0	0	0	0	1
Buffalo	0	0	0	0	0	0	1
Chicago	0	0	1	0	0	0	1
Cleveland	0	0	1	0	0	0	1
Hartford	0	0	0	0	0	0	1
Louisville	0	0	1	0	0	0	1
Milwaukee	0	0	1	0	1	0	1
Nashville	1	0	1	1	1	0	1
New Haven	1	0	0	0	1	0	0
New Orleans	1	0	0	0	1	0	1
New York	1	0	1	0	1	1	1
Niagara Falls	0	0	1	0	0	1	1
Oklahoma City	1	1	1	1	1	1	1
Portland (1)	1	1	1	1	1	1	1
Portland (2)	0	0	0	0	0	0	1
Providence	1	1	1	1	1	1	1
Rochester	1	1	1	1	1	1	1
San Fransisco (1)	1	0	1	1	1	1	1
San Fransisco (2)	0	0	0	0	0	1	0
Seattle	0	0	1	0	0	0	0
Syracuse	0	0	1	1	0	0	1
Trenton	1	0	1	0	0	1	1
Washington, D.C.	1	1	1	1	1	1	1

Source: author's analysis, based on the coding process from table 3.1

My first proposition focuses on the notion that a post-industrial city may have a better chance in removing urban freeways than a declining, transitional industrial city. To investigate this proposition, I run all seven causal conditions altogether to identify what combination of causal conditions may have an effect on the outcome. I employ the cs/QCA method to calculate possible combinations of causal conditions that affect the outcome. This calculation will result in a conjuncture of causal conditions that lead to the outcome. There are two principles of causal complexity in the cs/QCA. The first category refers to necessity. This indicates whether a causal condition is necessary for the outcome to happen. A necessary condition is a superset of the outcome. The second category refers

to sufficiency. A sufficient condition (or a combination of conditions) is a subset of the outcome. The following examples show the differences between necessary and sufficiency in cs/QCA:

1. education → decision to remove urban freeway (education is necessary and sufficient)
2. education * employment growth in FIRE industry → decision to remove urban freeway (education is necessary but not sufficient)
3. education + employment growth in FIRE industry → decision to remove urban freeway (education is sufficient but not necessary)
4. education * employment growth in FIRE industry + housing * race → decision to remove urban freeway (education is neither necessary nor sufficient)

San Francisco and Milwaukee: A comparative analysis

The finding from the cs/QCA section serves as a background for my comparative analysis on t wo cities that successfully remove their urban freeways. I choose San Francisco and Milwaukee because both cities were able to remove their urban freeways despite their distinct characteristics. San Francisco is a post-industrial city with a progressive development policy, while Milwaukee is a declining, transitional industrial city.

San Francisco and Milwaukee had an urban population of more than 100,000 people and metropolitan statistical area (MSA) population of more than one million people. In terms of population density, both cities had a relatively high population density (17,243 people per square mile in San Francisco and 6,214 people per square mile in Milwaukee) in 2010. San Francisco is a post-industrial city while Milwaukee is a typical transitional declining industrial city in the Midwest. Table 3.2 depicts differences between San Francisco and Milwaukee.

Table 3.4 San Francisco and Milwaukee in a snapshot

	San Francisco, CA	Milwaukee, WI
Type of government	Consolidated city-county	City
City size [sq. miles]	46.87	96.9
Population (city proper)	805,235	594,833
Population (MSA level)	4,335,391	1,555,908
Population density (city proper) [person/sq. miles]	17,179	6,296
2010 Percapita income (in current dollars)	45,478	26,624
2010 Median household income (in current dollars)	71,304	51,598
2010 Educational attainment (population 25 years or older with bachelor's degree) [in %]	31.5	13.8
2010 Unemployment rate (city) [in %]	7.1	11.6
2010 Unemployment rate (MSA) [in %]	9.5	8.2
Percentage of black population in 2010 (central city)	6.7	40.9
Percentage of the Black population in 2010 (MSA)	9.1	17.4
Percentage of employment in FIRE (finance, insurance, real estate) in 2010	9.8	6.4
2008 Gross Metropolitan Products (GMPs) [in millions of current dollars]	336,101	82,909
2008 Central City's contribution to GMPs [in %]	54.8	
2010 Gross Metropolitan Products (GMPs) [in millions of current dollars)	325,927	84,574
Relative Global Network Connectivity (GNC)	0.508	-
2010 Global City Classification according to GaWC	Alpha	Gamma-

Source:

1) Population data (at city level), population density, and land area in square miles for San Francisco are taken from U.S. Census Bureau website: http://quickfacts.census.gov/qfd/states/06/0667000.html, last accessed January 23, 2012.
2) Population data (at city level), population density and land area in square miles for Milwaukee, WI are taken from U.S. Census Bureau website: http://quickfacts.census.gov/qfd/states/55/5553000.html., last accessed January 23, 2012.
3) Educational attainment data (population 25 years or older with a bachelor's degree) for the city of San Francisco, CA can be accessed at http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk, last accessed January 23, 2012.
4) Educational attainment data (population 25 years or older with a bachelor's degree) for the city of Milwaukee, WI can be accessed at http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk, last accessed January 23, 2012.
5) Unemployment data for San Francisco is taken from Bureau of Labor Statistics website http://www.bls.gov/web/metro/laummtrk.htm, last accessed on June 4, 2011.

6) Unemployment data for the City of Milwaukee, WI is taken from U.S. Census website http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk, last accessed January 26, 2012.

7) Unemployment data for Milwaukee-Waukesha-West Ellis MSA is taken from Wisconsin Department of Workforce Development website http://dwd.wisconsin.gov/dwd/newsreleases/ui_local_default.pdf, accessed at June 4, 2011. However, the Bureau of Labor Statistics (BLS) estimates that the unemployment rate is slightly lower than the figure published by Wisconsin DWD (7.6% as per April 2011).

8) Information about dissimilarity in the central city and MSA for both cities are obtained from U.S. 2010: Discover America in A New Century http://www.s4.brown.edu/us2010/segregation2010/Default.aspx?msa=41620 (last accessed September 29, 2011)

9) Information about Gross Metropolitan Products (GMPs) for San Francisco-Oakland-Freemont, CA MSA and Milwaukee-Waukesha-West Ellis, WI MSA is obtained from the U.S. Bureau of Economic Analysis website http://www.bea.gov/regional/gdpmetro/action.cfm, last accessed January 23, 2012.

10) Information about City of San Francisco's contribution towards San Francisco-Oakland-Freemont, CA MSA's GMP can be found at the US Mayors website http://www.usmayors.org/pressreleases/uploads/MetroEcon0608.pdf, last accessed June 4, 2011.

11) Global network connectivity data on San Francisco and Milwaukee is obtained from the following:

    i. Taylor, P.J. & R.E. Lang. 2005. U.S. Cities in the 'World City Network.' The Brookings Institution Metropolitan Policy Program Survey Series, available online at http://www.brookings.edu/metro/pubs/20050222_worldcities.pdf (last accessed on January 23, 2012). This paper listed 40 U.S. cities and measured their global network connectivities (GNC). San Francisco is one of the 40 cities with global network connectivity score at 32,178 and relative GNC score of 0.508. Milwaukee is not listed as one of those 40 cities because its relative GNC score is less than 0.059.

    ii. Derudder, B., F. Witlox & P.J. Taylor. 2007. United States Cities in the World City Network: Comparing their positions using global origins and destinations of airline passengers. *Urban Geography* **28** (1): 74-91. The authors measure the global network connectivity profiles of American cities using airline passengers' data and find that 23 out of 40 cities have high global network connectivities. San Francisco ranks fourth in this list, while Milwaukee is not on the list. This does not mean that Milwaukee does not have the global exposure like San Francisco. The finding implies that although Milwaukee has global network connectivity, it is relatively small compared with other global American cities such as San Francisco; hence the difference between San Francisco and Milwaukee.

I use the comparative analysis to evaluate my second and third propositions. My second proposition is built from the claim that a positive effect from removing urban freeway is strongly felt in a post-industrial city rather than in a declining, transitional industrial city. A hedonic price model is used to measure the economic impact of urban freeway removal on property values in San Francisco and Milwaukee. My third proposition is derived from my claim that a local coalition in a progressive city is supportive of freeway removal than a local coalition in a declining, transitional industrial city. To do so, I use a comparative historical analysis to trace the process of urban freeway removal in San Francisco and Milwaukee and to identify stakeholders and power holders that had political influence in the decision-making process.

Hedonic Price Model to Estimate the Effect of Freeway Removal on House Prices

My second proposition posits that *freeway deconstruction brings positive changes in the property values (commercial and residential values).* Implicit in this statement is the claim that a positive effect from removing urban freeway is strongly felt in a post-industrial city rather than in a declining, transitional industrial city. By a positive effect here, I mean land value and/ or housing price will increase because of urban freeway removal. My argument rest on the following assumption: the broader is the support to remove the freeways, the higher is the effect of freeway removal on housing prices. In a post-industrial city, homeowners and neighborhood associations become the main drivers

in the local growth coalition. However, in a declining, transitional industrial city, local elites drive the agenda.

As the majority of population in the post-industrial city consists of people with a higher educational background and broader access to economic resources, demand for urban amenities is higher in this city than in a declining, transitional industrial city. This is because their lifestyle demands higher consumption of urban amenities. Hence, we can expect the majority of the population in the post-industrial city will support any development strategy that will create additional space for urban amenities. On the other hand, a declining, transitional industrial city may not have higher demand for urban amenities because the majority of the population still work in the manufacturing industry and may have different lifestyle compared with those in the post-industrial city.

To test this proposition, I use property value at a specified time (before and after freeway removal) as an indicator to measure whether considerable changes took place in each city. This approach rests on the following assumption. Housing sector is very much associated with the economic growth. High demand on the housing sector indicates a positive economic growth and at the same time, it will trigger growth in other economic sectors. Further, high economic growth will also stimulate housing demand not only in the central city but in suburban areas as well. Various factors influence demand for houses, such as close proximity to urban amenities and views of attractive landscape. This implies that if particular house is located near urban amenities and/ or has an

attractive vista, then the price is higher compared with a similar house that is located far from urban amenities or without an attractive vista. Hence, urban freeway removal is seen as a land development strategy.

Since property value is a differentiated bundled of structural and neighborhood characteristics, we can estimate the effect of each characteristic on the price using the hedonic price model[12]. This method is widely used in estimating the effect of neighborhood characteristics and amenities on housing price, such as public school attributes (Clark & Herrin, 2000), open space amenities (Shultz & King, 2001) or even environmental quality, such as air quality (Beron et al., 2001) and noise from highway construction (Chernobai et al., 2011). Because we perceive houses as goods with a package of attributes, then the price of one house differs with another as the attributes change or if there is an additional unit of the attributes to the house.

In order to estimate whether changes in the property value is the effect of urban freeway removal or from other factors, I use housing and neighborhood characteristics in the calculation. To do so, I use property value as the dependent variable, and for the independent variables, I use structural characteristics (age of the house, number of bedrooms, type of structure, building size, lot size) and neighborhood characteristics

[12] I use Rosen's definition of a hedonic price model. He defined a hedonic equation as "a joint envelope of a family of value functions and another family of offer functions" (1974). The price of a marketed good reflects its characteristics. For example, the price of a car reflects not only the capacity of its machine and fuel consumption, but also reflects style, luxury and lifestyle. Therefore, a researcher can assess the individual characteristics of certain good by looking at how the price people are willing to pay for it changes when the characteristics change.

(including the availability of urban amenities and close proximity to urban freeways). I gather information on property value from various sources. For information pertaining to property data in the city of Milwaukee, I retrieve information from the Assessor's Office. They collected and stored property data digitally since 2002.

For calculation, I use property data from district 3 and district 4 in the case of Milwaukee and financial district and Chinatown property data in the case of San Francisco. To evaluate whether urban freeway removal brings the intended economic impact, I calculate property value before and after freeway removal in both cities. Table 3.4 describes the breakdown of each variable with the predicted sign that I use in estimating the effect of urban freeway removal on housing price. Due to the housing crisis, which started in 2008, I use property value data prior to 2007 to avoid miscalculation.

Table 3.5 Variable name and definition, data source, descriptive statistics and predicted sign

Dependent variable and variables in the **housing** category

Variable name	Definition	source	Predicted sign
Real price	Real sale price of the property (2012 dollars)	Milwaukee: Assessor's Office (nominal price divided by CPI for housing)	ln (*real price*) is the dependent variable
Year built	Year the house is built	Assessor's Office	?
bedrooms	No. of bedrooms in the house	Assessor's Office	+
story	No. of story in the house	Assessor's Office	+
Exterior		Assessor's Office	+
Square feet	Structure size in square feet	Assessor's Office	+
Lot size	Lot size in square feet	Assessor's Office	+

Variables in the **neighborhood** category

Variable name	Definition	source	Predicted sign
District/access	1 = urban freeway/interstate highway within 0.25 miles of property, 0 = otherwise	Computed via GIS application	-
Stream	1 = stream within 0.25 miles of the property, 0 = otherwise	Computed via GIS application	?

Source: author's analysis

The findings are then compared one with another, focusing on what makes housing price change before and after freeway removal. Aligning the results from both cities side by side helps me identify the effect of freeway removal on the local economy. I predict the effect of urban freeway removal on housing price in San Francisco is far more significant than the effect of urban freeway removal in Milwaukee.

Identifying Local Growth Coalitions through Comparative Analysis

My third proposition looks for evidence of whether a local coalition in the progressive city is supportive of urban freeway removal than a local coalition in the declining, transitional industrial city. To identify the existence and the role of a local growth coalition in the decision-making process in each city, I use the archival data from various sources. These data are obtained from the following sources:

1. Milwaukee Society of History
2. Department of City Development, City of Milwaukee
3. Frank P. Zeidler Section (Government Information Center), Milwaukee Main Library
4. Government Information Center, San Francisco Public Library
5. San Francisco Municipal Transportation Agency
6. State of California Department of Transportation
7. State of Wisconsin Department of Transportation
8. Local newspapers: Milwaukee Journal Sentinel, San Francisco Examiner

I develop inquiries around the following issues:

1. Who initiated the idea to remove the freeways?
2. Were there any particular reasons (social, economic, and/ or political factors) that created the pressures to remove the freeways?

3. What was the reaction from local governments? Were there any differences between initial reaction and subsequent reactions from local government as more pressure was built around specific local development strategies such as limiting budget allocation for urban freeway construction? Was there any formal document made (academic draft/paper, alternative plan) before a decision was made?
4. Was there any pressure or supports from the local community and/ or any other non-governmental institutions that may contribute to the decision to remove urban freeways? If so, did the support or pressure succeed in achieving the objective of removing freeways?
5. Was there any coalition between private sectors and local governments in pushing the idea of removing urban freeways? Was there any particular approach that the coalition took to achieve their goal?

I use the questions outlined above to identify whether there were local growth coalitions in San Francisco and Milwaukee. Moreover, I also use these questions to evaluate the role of each actor or group in the coalition. I classify information obtained from various sources into the following category:

1. socio-economic and political factors which lead to social unrest in the 1960s;
2. demographic changes and economic downturn between 1960 and 1980 which lead to significant changes in the physical structure of the city;
3. the role of each group/actor in building local coalition to remove urban freeways;

4. the effectiveness of local coalitions in shaping the decision-making process, and
5. the role of federal, state and local governments in shaping and/ or influencing the decision-making process.

I analyze each city in a chronological order. This helps me identify relevant factors such as socio-economic factors, the disagreement between local governments and state governments, and the conflict between municipal government and local community among others that motivate the emergence of a local growth coalition in each city. This culminates in a comparative table outlining a specific role of each actor in shaping the decision to remove urban freeways in each city. I use the findings from the comparative table to identify whether there are significant differences between local coalitions in San Francisco and Milwaukee. Based on the definition of a prosperous post-industrial city and a declining, transitional industrial city in previous sections, I posit that homeowners, neighborhood associations, and professional association dominated the local coalition in San Francisco, whereas in Milwaukee the local political elites were the main driver, which controlled and dominated the local coalitions.

CHAPTER IV

ASSESSING THE EFFECT OF CHARACTERISTICS OF THE CITY ON THE DECISION TO REMOVE FREEWAYS USING QUALITATIVE COMPARATIVE ANALYSIS (QCA)

This chapter evaluates the effect of characteristics of the city on urban freeway removal. Seven causal conditions are evaluated against the decision to remove urban freeways in 21 cities. These causal conditions are derived from two distinct types of cities: a post-industrial city and a declining, transitional industrial city. I use the "crisp-set Qualitative Comparative Analysis (cs/QCA)" to unravel multiple causal combinations of urban freeway demolition.

Characteristics of the City as Causal Conditions that Affect the Decision to Demolish Freeways

There are less than 30 cities that, in some way, advanced proposals for urban freeway deconstruction in the U.S. Of these cities, only five were able to demolish their urban freeways between 1970 and 2000. The decision to demolish urban freeways is influenced by various aspects of the city. Portland demolished its freeway in the 1970s because local communities demanded the beautification of the downtown riverfront and freeways blocked views from the city to the river. Several problems such as the high level of air pollution and the decline of downtown retail trade also influenced local communities' pressure on Portland's municipal government to tear down freeways. San Francisco, on the other hand, failed to tear down its freeways, despite continuous demand from local communities and social activists since the late 1960s and until an earthquake in 1989 damaged its freeways. After public in this city discovered that freeways were not necessary to facilitate traffic and economic growth did public opinion change. Milwaukee also follows the same storyline. This city was divided almost evenly on the issue of urban freeways since the 1975 referendum. It finally removed Park East Freeway in 2000 after the State of Wisconsin, Milwaukee City, and Milwaukee County reached a compromise concerning the uses of ISTEA[1] fund allocation. In each of these three cases, various aspects were involved in influencing the decision to remove the freeways.

[1] The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 is a federal law that provides highway and transit funding with collaborative planning requirements. This law gives significant power to metropolitan planning organization in addressing transportation problems at regional level.

San Francisco and Portland are two cities with many similarities. Both cities are post-industrial cities with advanced-service industries as the leading sector. Milwaukee, on the other hand, suffers from deindustrialization and still looks for a way to reinvigorate its local economy. Even though these cities have different characteristics, they were able to remove urban freeways from their road networks.[2]

It is then pertinent to address the question of which attributes of the city affect the decision to remove an urban freeway. To answer this question, I develop seven causal conditions derived from two distinct definitions of cities: a postindustrial city and declining, transitional industrial city. A post-industrial city refers to a city with advanced service industries as the leading sector, whereas a declining, transitional-industrial city is indicated by a significant decline in the manufacturing industry, high unemployment rates, and local government's inability to replace the manufacturing industry with other potential industries as the economic base.

In order to assess which attributes of the city may affect the decision to demolish urban freeways, I break down characteristics of the city into seven causal conditions. I then proceed by analyzing these causal conditions that I suspect affect the decision to remove urban freeways. The first three causal conditions are snapshots of the central city's ability

[2] Between 1970 and 2000, there were 23 proposals of urban freeway removal in 21 cities. However, further investigation revealed that only five cities were able to remove urban freeways for various reasons. These five cities are, in alphabetical order, Milwaukee, New York City, Niagara Falls, Portland, and Oregon.

to generate jobs between 1970 and 2000. The first causal condition is the net employment growth, followed by the employment growth in the manufacturing industry as the second causal condition, and the employment growth in the finance, insurance, and real estate (FIRE) industries as the third causal condition. The fourth causal condition measures whether the growth of the local economy has a real impact on voters as measured by median household income[3]. Housing occupancy rate as the fifth causal condition indicates whether economic growth stimulates other sector. The sixth condition argues that as the local economy grows the racial composition also changes, as African-Americans are displaced from central cities. The last causal condition essentially argues that educational attainment plays a pivotal role in shaping voters' preference in influencing the trajectory of local development. As the proportion of college graduates and individuals with an advanced degree increases, demand for a better quality of living increases. Municipal government responds to this demand by creating an inviting urban environment and providing urban amenities. Municipal government then removed urban freeways to make way for the development.

Table 4.1 depicts detailed information of these seven causal conditions in each case along with the outcome. Out of 21 cities, only three cities, Oklahoma City, Portland, and San Francisco, enjoyed a positive employment growth in the manufacturing industry. Even though the advanced service sector gradually replaced the manufacturing industry as the

[3] According to the U.S. Census Bureau, median household income is the income of householder and all other individuals 15 years old and over in the household, whether they are related to the householder or not (http://quickfacts.census.gov/qfd/meta/long_INC110211.htm). Median household income is a sensitive political indicator, because voters may direct their dissatisfaction towards their government if their living costs exceed their income.

economic base in central cities, not all cities had a positive net employment growth. New York, Portland, San Francisco, and Seattle were the only cities that were able to generate employment in almost all industries. Surprisingly enough, these cities also had a smaller proportion of African American population while the underperformed[4] cities tended to have a larger proportion of African American population.

Data in table 4.1 are obtained from the State of the Cities Data Systems (SOCDS), available from the Housing and Urban Development (HUD) website. The SOCDS provides data from individual metropolitan areas, central cities, and suburbs. Data collected specifically cover the period of 1970 and 2000. Because cities in the U.S. demolished urban freeways between 1970 and 2000, I argue that the effects of urban freeway removal were directly felt at that period.

[4] I define underperformed cities here as cities with economic growth less than the national average. I use indicators such as median household income, employment growth in all sectors, changes of employment growth in manufacturing and FIRE industries and housing occupancy rate in central city.

Table 4.1 Detailed data sets of the 21 cities

No.	sets / cities	1	2	3	4	5	6	7	outcome (decision to make freeway deconstruction)
		net employment growth 1970-2000	employment growth in manufacturing industry 1970-2000	employment growth in FIRE industries 1970-2000	change in median household income 1970-2000	percentage of housing units added 1970-2000	change in the proportion of black pop. from total pop.	change of pop. proportion with college & graduate degree	
		empl-growth	manuf-growth	FIRE-growth	income	housing	race	education	
1	Baltimore	-65,516	-59,740	-108	-2.50	-1.99	63.0	27	-
2	Buffalo	-49,944	-37,122	-813	-17.71	-12.51	35.6	31.5	-
3	Chicago	-45,027	-231,426	24,956	6.59	-4.86	35.4	31.4	-
4	Cleveland	-78,261	-63,851	1,881	-19.88	-18.57	49.5	25.8	-
5	Hartford	-12,472	-9,201	-3,751	-15.56	-13.32	35.0	16.1	-
6	Louisville	-20,061	-26,329	1,091	-3.93	-6.77	31.8	31.5	-
7	Milwaukee	-23,662	-49,263	2,986	-12.79	1.13	35.9	28.2	demolished
8	Nashville	104,665	-6,867	10,240	15.23	63.98	25.7	34.2	-
9	New Haven	1,214	-5,928	-5	9.73	7.92	35.1	24.7	-
10	New Orleans	823	-11,263	-1,445	7.27	2.23	65.7	31.9	-
11	New York	-379,781	-323,418	36,655	9.85	2.23	23.5	29.2	demolished
12	Niagara Falls	-7,870	-7,605	77	-27.47	-3.82	17.5	25.7	demolished
13	Oklahoma City	91,378	6,288	8,898	6.36	63.94	14.2	28.3	-
14	Portland	128,769	11,466	6,882	31.90	55.62	5.5	36.4	demolished
15	Portland	128,769	11,466	6,882	31.90	55.62	5.5	36.4	demolished
16	Providence	3,629	-8,584	758	6.37	-0.84	11.7	26.4	-
17	Rochester	-19,921	-26,127	-871	-18.71	-5.62	37.4	28.2	-
18	San Francisco	134,745	2,752	6,963	79.82	10.41	6.6	34.9	demolished
19	San Francisco	134,745	2,752	6,963	79.82	10.41	6.6	34.9	demolished
20	Seattle	105,083	-8,054	3,090	35.55	21.09	7.3	42.4	-
21	Syracuse	-12,070	-10,333	-1,562	-8.57	-5.21	23.6	24.9	-
22	Trenton	-411	-7,022	563	5.05	-3.97	49.9	19.3	-
23	Washington, D.C.	-19,399	-4,700	4,111	30.28	-2.08	58.4	28.3	-

Source: author analysis based on SOCDS HUD (http://www.huduser.org/portal/datasets/socds.html, retrieved between June 2011 and August 2013), Jeffrey Spivak, 2011 and Eric Jaffe, 2011.

To identify relevant causal conditions that affect the outcome (the decision to remove freeways) I code each causal condition. To do so, I assign a Boolean number to each causal condition in each case (instance) where '0' indicates that a particular causal

condition is absent and '1' indicates that the causal condition is present. This step allows me to analyze the combined effect of causal conditions on the decision to remove freeways in 21 cities.

I first categorize cases with similar outcome to analyze whether characteristics of the city have a significant effect on the decision to remove urban freeway. Similar cases are then grouped in a same table. This produces two tables that contain combinations of coded causal conditions with their associated outcomes. These two tables depict how frequent each combination of causal conditions occurs. The first table (table 4.2) shows seven combinations of causal conditions that lead to a positive outcome. The second table (table 4.3) shows 16 combinations of causal conditions that lead to a negative outcome.

Table 4.2 Coded Causal Condition with A Positive Outcome

Causal Condition							**Outcome**	**Freq.**
1	**2**	**3**	**4**	**5**	**6**	**7**		
empl-growth	manuf-growth	FIRE-growth	income	housing	race	education		
1	0	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	3
0	0	1	0	0	1	1	1	1
1	0	1	0	1	1	1	1	1
0	0	1	0	1	0	1	1	1
Median:								
1	0	1	1	1	1	1		

Source: Author's analysis

Table 4.2 r eveals that a positive outcome (a removal of urban freeway) requires a combination of six out from seven causal conditions. These conditions are as follow. The city experiences employment growth, especially in the FIRE industries. Further, the

median household income and housing demand in the city continue to increase. On the other hand, the proportion of African Americans is less than 25% of the total population. Lastly, the number of college graduates and holders of an advanced degree is more than 25% of total population. These are characteristics of a prosperous city. We can infer that a prosperous city have all the necessary condition to effect the decision to remove its urban freeway. However, it is difficult to generalize the finding. Three cases have all seven causal conditions present. The other four cases have only three to six causal conditions; therefore, it is difficult to generalize these four cases simply by looking at the table.

Table 4.3 Coded Causal Condition with A Negative Outcome

Causal Condition							**Outcome**	**Freq.**
1	**2**	**3**	**4**	**5**	**6**	**7**		
empl-growth	manuf-growth	FIRE-growth	income	housing	race	education		
0	0	0	0	0	0	1	0	4
0	0	0	0	0	1	0	0	1
0	0	1	0	0	0	1	0	3
0	0	1	0	0	0	0	0	1
0	0	1	1	0	0	1	0	1
1	0	0	0	1	0	0	0	1
1	0	0	0	1	0	1	0	1
1	0	1	0	0	1	1	0	1
1	0	1	1	1	0	1	0	1
1	1	1	1	1	1	1	0	2
Median:								
0	0	0	0	0	0	1		

Source: Author's analysis

Table 4.3 reveals a different story of the effect of causal conditions on the outcome. I found that a combination of the following conditions leads to an unsuccessful urban freeway proposal. First, the city experiences job losses almost in all industries. Second,

the manufacturing industry is stagnant and there is no additional jobs created. Third, FIRE industries are not able to create jobs. Fourth, the median household income does not increase. Fifth, there is no additional housing demand. Lastly, the proportion of African-Americans in the city is greater than 25% of the total population. In sum, these are indicators of a declining economy. A city with these characteristics will not be able to remove its freeways.

However, if we look at the data, not all cities that unsuccessfully removed their highways are declining cities. Some of them are prosperous cities, such as Washington, DC or Nashville. Median household incomes in these two cities were $51,673 and $50,521 in 2000 (SOCDS HUDUSER). As a comparison, the average median household income in 2000 was $47,584 (ibid). Therefore, it is imperative to analyze which causal condition or a combination of causal conditions leads to a positive outcome. To do so, I integrate cases with a positive outcome and cases with a negative outcome to identify what causal conditions may affect the outcome by creating a truth table.

A truth table is like a cell from a multi-way cross-classification of several categorical independent variables (Ragin 1987: 87). Each row in this table is not a single case, but a summary of all the cases with a certain combination of causal conditions. Constructing a truth table helps the researcher to identify combinations that are sufficient for the outcome.

To construct a truth table, I use the formula $(2)^k$, with k denoting the number of conditions or factors, to calculate possible combinations of causal conditions. The analysis yields 128 possible combinations of seven causal conditions. Since there are 128 possible combinations, it is pertinent to evaluate which combinations are necessary to the outcome. To do so, I use the standard analysis from cs/QCA. This step produces 14 possible combinations out of 128 combinations that directly associate with the 23 cases from 21 cities investigated. However, not all cases are distributed evenly to these 14 combinations. Three combinations have higher instances, while the remaining 11 combinations consist of only one case each.

Table 4.4 displays 14 combinations with at least one condition present that may or may not produce a positive outcome (demolition of freeways). Three combinations of causal conditions yield a positive outcome (freeway removal), while one combination of causal conditions has a contradictory outcome as it relates not only to the positive outcome but also to the negative outcome. The first three combinations that yield the positive outcome have a consistency score of '1.' The fourth combination has a consistency score of 0.600. A high consistency level means that a set of causal condition has the ability to provide sweeping generalization across cases.

Table 4.4 Truth table showing possible combinations of seven causes of urban freeway deconstruction in 21 cities

Conditions							No. of instances	raw consist.	PRI consist.	SYM consist	Outcome (demolition of urban freeways)		instances
empl-growth	manuf-growth	FIRE - growth	income	housing	race	Education					removed	stays	
1	0	1	0	1	1	1	1	1	1	1	1	-	New York
0	0	1	0	1	0	1	1	1	1	1	1	-	Milwaukee
0	0	1	0	0	1	1	1	1	1	1	1	-	Niagara Falls
1	1	1	1	1	1	1	5	0.6	0.6	1	3	2	Portland (2), San Francisco (2), Oklahoma (1)
0	0	1	0	0	0	0	1	0	0	-	-	1	Trenton
0	0	1	0	0	0	1	3	0	0	-	-	1	Cleveland, Chicago, Louisville
0	0	0	0	0	0	1	4	0	0	-	-	1	Baltimore, Buffalo, Hartford, Rochester
0	0	1	1	0	0	1	1	0	0	-	-	1	Washington, D.C.
1	0	0	0	1	0	0	1	0	0	-	-	1	New Haven
1	0	0	0	1	0	1	1	0	0	-	-	1	New Orleans
0	0	0	0	0	1	0	1	0	0	-	-	1	Syracuse
1	0	1	0	0	1	1	1	0	0	-	-	1	Providence
1	0	1	1	1	0	1	1	0	0	-	-	1	Nashville
1	0	1	1	1	1	1	1	0	0	-	-	1	Seattle

Source: Author analysis

Standard analysis in cs/QCA also produces 1) a complex solution, 2) a parsimonious solution and 3) an intermediate solution. A complex solution is a solution from the calculation that avoids using any counterfactual cases[5]; that is rows (combinations) without cases. A parsimonious solution on the other hand, permits the use of any counterfactual cases that will yield simpler (or fewer) combinations. An intermediate solution uses only the remainder cases that survive counterfactual analysis based on theoretical and substantive knowledge.

The next step is to identify what causal condition works as a necessary condition for the city to remove urban freeways. To do so, I argue that the decision to remove urban freeways is a function of net changes in total employment, employment growth in the manufacturing industry and FIRE industries, changes in the median household income, number of housing units added, changes in race and ethnicity, and educational attainment. This can be formulated into eq. 4.1.

$Y_{(\text{decision to remove freeways})} = f$ (*empl-growth*, *manuf-growth*, *FIRE-growth*, *income*, *housing*, *race*, *education*) .....(4.1)

The following is my argument for the eq. (4.1). In order to demolish urban freeways, a particular city needs to have a net employment growth, in which both the manufacturing and FIRE industries should have a positive employment growth. Further, this city should

[5] Counterfactual literally means contrary to the fact. Counterfactual case in qualitative comparative analysis (QCA) refers to a conditional statement indicating what would be the case if its antecedent were true (although it is not true).

have significant growth of median household income to stimulate consumption on housing and amenities. As the economy grows, demand for housing units is expected to increase. At the same time, a high proportion of college graduates and holders of an advanced degree can have a significant effect on the local economy. This is because they are more likely to be entrepreneurs and become high level consumers. To bolster local economy the percentage of this group should be greater than 25%. As this gentrification process slowly takes place, I expect the proportion of African American population will also change. As the advanced service sector gradually replaces the manufacturing industry, the proportion of African American population will gradually decrease over time. My assumption rests on the empirical evidence in many post-industrial cities where the percentage of African American population is less than 25%[6].

Thus, I argue that it is necessary for the city to have all of those causal conditions before it finally arrives at the decision to demolish urban freeways. Prior analysis resulted in a truth table with 14 possible combinations of causal conditions necessary for the outcome to happen. From these 14 possible combinations, I proceed with crisp analysis QCA to identify which combination has a consistency level = 1. The analysis yields three combinations of causal conditions with a consistency score = 1, one combination of causal condition with consistency score = 0.6, and the remaining combinations have a consistency score = 0. The contradictory row where the consistency level = 0.6 shows

[6] Empirical evidence point to the fact that the proportion of urban minority groups decrease over time, with the proportion of black population is less than 10% of total population.

that there are cases where all causal conditions are present yet the outcome is mixed in a sense that the combination produces positive and negative outcome at the same time.

Cs/QCA with Complex Solution

I direct my attention first to combinations of causal conditions with consistency score = 1. Table 4.5 depicts these three combinations along with raw coverage, unique coverage and consistency score.

Table 4.5 Truth Table analysis with Quine-McCluskey algorithm

	raw coverage	unique coverage	consistency
~empl-growth~manuf-growth*fire-growth*~income*housing*~race*education*	0.166667	0.166667	1.000000
~empl-growth~manuf-growth*fire-growth*~income*~housing*race*education*	0.166667	0.166667	1.000000
empl-growth~manuf-growth*fire-growth*~income*housing*race*education*	0.166667	0.166667	1.000000

Source: author analysis using cs/QCA

Coverage is defined as the relative importance of different paths to an outcome. Raw coverage indicates which share of the outcome is explained by a certain alternative path. Unique coverage specifies which share of the outcome is exclusively explained by certain alternative path. Consistency is defined as the proportion of observed cases that are consistent with the pattern. Scholars sometimes use the definition of significance value of inferential statistics to explain the consistency score in cs/QCA (Wagemann & Schneider, 2007; Schneider & Grofman, 2006). Here, the consistency score might be conceptionally

similar to the significance value of inferential statistics, and some of the coverage values might share some characteristics with measures from regression analysis, such as r^2 and partial correlation coefficients (Wagemann & Schneider, 2007).

Drawing from table 4.5, I derive the following:

~empl-growth~manuf-growth*fire-growth*~income*housing*~race*education + ~empl-growth*~manuf-growth*fire-growth*~income*~housing*race*education + empl-growth*~manuf-growth*fire-growth*~income*housing*race*education → urban freeway removal* ....(4.2)

Note that (+) in the eq. (4.2) means (OR) and (*) means (AND). Thus, I argue that in order to be able to remove urban freeways from road networks, a city should experience one of the following:

1. The manufacturing industry experiences enormous job losses, which brings a negative impact on other industries. Moreover, median household income in the city continues to decline. At the same time, the city also experiences the economic restructuring. This is indicated by: (1) the increasing number of college graduates and holders of advanced degrees, and (2) the increasing number of individuals working in the FIRE (finance, insurance, real estate) industries. These two factors combined slowly change the demographic composition in the city and stimulate housing demand. The proportion of the African-Americans becomes smaller in the city. To energize the city, the local coalition looks for a strategy that caters to this new demographic structure. The provision of urban amenities is seen as a strategy to invigorate the community and at the same time attract high-skilled workers. Removing the underutilized freeway is seen as the feasible solution. This situation is represented by the following equation: *~empl-growth * ~manuf-growth * fire-growth * ~income * housing * ~race * education* → urban freeway removal

2. The manufacturing industry experiences enormous job losses, which brings a negative impact on other industries. As a result, the median household income in the city continues to decline. These factors combined slowly change the demographic composition in the city. African-Americans become the predominant group in the city as White middle classes leave the city. At the same time, the city also experiences economic restructuring. This is indicated by: (1) the increasing number of college graduates and holders of advanced degrees, and (2) the increasing number of individuals working in the FIRE (finance, insurance, real estate) industries. Change in the median household income negatively affects housing demand. To bolster the local economy, local coalitions in the city place an emphasis on college graduates and high-skilled workers in FIRE industries as the economic driver. To attract this group, a conventional approach cannot be used. Instead, the local coalition endorses an urban amenities driven strategy. With the African-Americans' strong position in the local politics and the growing role of the high-skilled workers in the local economy, the development strategy that works is the one that satisfies both groups. Hence, the only viable solution is tearing down the existing urban freeway. This situation is represented in the following equation: ~empl-*growth* * ~*manuf-growth* * *firegrowth* * ~*income* * ~*housing* * *race* * *education* → urban freeway removal

3. The city generates jobs in all industries except in the manufacturing industry. Despite the fact that FIRE industries contribute positively to the local economy, the median household income remains stagnant or declines. The proportion of the African-American population continues to increase because they are attracted to new jobs created in the city. At the same time, the number of college graduates and holders of advanced degrees continues to increase. This situation brings a pressure on the provision of affordable housing. To bolster local economy and to provide land for development, the local coalition advances a proposal to remove an underutilized urban freeway. This situation is represented by the equation: *empl-growth * ~manuf-growth * fire-growth * ~income * housing * race * education* → urban freeway removal

cs/QCA with Intermediate Solution

Using the cs/QCA with complex solution I find that it is not necessary for cities to have all seven causal conditions in order to remove their urban freeways. In this section, I use cs/QCA with intermediate solution to address this problem by identifying necessary and sufficient conditions leading to the outcome. Analyzing 14 possible combinations yields three combinations of causal conditions with the consistency score of 1. However, these three equations (eq. 4.2) need to be simplified in order to arrive at necessary conditions for urban freeway removal to happen. In doing so, I convert each causal condition into a single letter. A lower case letter refers to the absence of a condition whereas an upper

case letter indicates that such a condition is present in the case. Therefore the following applies:

1. *empl-growth* (which corresponds to net employment growth) is indicated with A (present) or a (absent);
2. *manuf-growth* (which corresponds to employment growth in manufacturing industries) is indicated with letter B (present) or b (absent);
3. *FIRE-growth* (which corresponds to employment growth in FIRE industries) is indicated with letter C (present) or c (absent);
4. *income* (which corresponds to median household income) is indicated with letter D (present) or d (absent);
5. *housing* (which corresponds to the number of housing units added between 1970 and 2000) is indicated with letter E (present) or e (absent);
6. *race* (which corresponds to the proportion of black people from total population in the city) is indicated with letter F (present) or f (absent), and
7. *education* (which corresponds to educational attainment measured by number of college graduates and holders of advanced degrees) is indicated with letter G (present) or g (absent)

Each condition in the three combinations in the eq. 4.2 is substituted with its corresponding letter, and this yields the following equation as follows. The symbol (+) in the equation denotes the notion of Boolean addition which represents a logical operator OR. A simple equation $A + B = C$ can be translated into a statement that if either condition A or condition B is present then the outcome C is present.

Thus, from eq. (4.2), we can write the following:

~empl-growth~manuf-growth*fire-growth*~income*housing*~race*education* + *~empl-growth*~manuf-growth*fire-growth*~income*~housing*race*education* + *empl-growth*~manuf-growth*fire-growth*~income*housing*race*education* → outcome (decision to demolish urban freeways).....……..…(4.3)

$a \cdot b \cdot C \cdot d \cdot E \cdot f \cdot G + a \cdot b \cdot C \cdot d \cdot e \cdot F \cdot G + A \cdot b \cdot C \cdot d \cdot E \cdot F \cdot G \rightarrow Y$ .....(4.4)

$C \cdot E \cdot G\ (a + A + b + d + f + F) \rightarrow Y$ .....(4.5)

$C \cdot E \cdot G \rightarrow Y$ .....(4.6)

where Y is the decision to demolish urban freeways.

Thus, the eq. (4.6) can be translated as follows.

*FIRE-growth * housing * education* → decision to demolish urban freeways ....(4.7)

In other words, employment growth in FIRE industries (*fire-growth*), growth in housing occupancy rate in the central city (*housing*) and educational attainment as indicated by changes in the number of college graduates (*education*) altogether affect the decision to remove urban freeways. In other words, each of these causal conditions is necessary but insufficient to make the city remove its urban freeway. This means that employment

growth in FIRE industries independently cannot influence the decision to remove urban freeway removal. Nor do the other two conditions.

Equation (4.7) can be explained logically as follow. A high proportion of college graduates and holders of advanced degrees stimulates employment growth, especially in FIRE industries. They serve as indicators of the city's ability to create jobs with higher value added. FIRE industries favor central cities over suburban places due to the principle of agglomeration economies, in particular localization economies. Localization economies stimulate firms to locate closer to other firms in the same, or related, industry. Localization economies encourage a more compact development because of this reason, and this helps explain why central city prevails over suburban place.

Agglomeration economies in the central city propel FIRE industries forward. Two factors of agglomeration location are worth mentioning: localization economies and urbanization economies. Localization economies stimulate firms to locate closer to other firms in the same, or related, industry. Labor pooling, such as a high proportion of college graduates and holders of advanced degrees, is often cited as one of several sources of localization economies. The other source is idea exchanges that facilitate innovation and invention. Implicit in this statement is the fact that knowledge and high-skilled workers often value certain amenities more and regularly consume these as part of their lifestyle.

Agglomeration economy is responsible in attracting college graduates and holders of advanced degrees. These are people with talents and skills, and have the capability to become entrepreneurs. Moreover, they also stimulate local consumption in a city. In the following section, I try to establish an association between the creative class and the ability of a city to remove its urban freeway. The argument is as follows. The creative class bolsters the local economy through their consumption of local amenities as part of their lifestyles. Because of this, the city is willing to fulfill their need by removing an underutilized urban freeway and replaced it with amenities. I direct my attention to the empirical data of the 21 cities where five of these successfully removed their urban freeways.[7]

The five cities with successful urban freeway removal had higher median value in seven out of ten categories than the other 16 cities. These seven categories are the proportion of college graduates and holders of advanced degrees, the concentration of workers in the FIRE industries, the 1990 median household income, retail establishment density, retail sales and the average sales per establishment, and the number of innovation in 1990.

Post-industrial cities attract certain demographic groups. These groups bring the talent and skill necessary to bolster local economies in turbulent times. The higher the proportion of this group, the higher the median household income is. The median value for the proportion of college graduates and holders of advanced degrees in the five cities

[7] The five cities that successfully removed their urban freeways are Portland, New York City, Niagara Falls, San Francisco and Milwaukee.

with successful urban freeway removal is 27.40%. This figure is 16% higher than the median value for the remaining 16 cities in the same category. Moreover, the median value of the concentration of workers in the FIRE industries (measured by number of workers per square mile) in these five cities is three times higher than those cities with unsuccessful urban freeway removal. As expected, the median value for the median household income in these five cities is more than ten percent greater than the median value for the remaining 16 cities.

We can associate these three factors with local consumption rates. I use the following indicators to define local consumption: (1) retail establishment density, (2) retail sales, and (3) average sales per establishment. I argue that these three indicators reflect the size of local consumption in a city. The median value of local consumption in the five cities with successful urban freeway removal is higher than in the other 16 cities.

This finding corroborates Clark's argument about the role of the creative class in bolstering the local economy (2000, 1994). The higher the proportion of the creative class in a city, the higher the local consumption is. Higher local consumption leads to higher rate of innovation. There is a significant variation between post-industrial cities and declining, transitional industrial cities. Post-industrial cities have a higher proportion of the creative class and average sales per establishment than declining, transitional industrial cities. However, I cannot establish the association between the proportion of the creative class with the innovation rate in a city. Table 4.6 summarizes this narrative. Of all 21 cities that advance urban freeway removal, the five cities that successfully

removed their freeways (Milwaukee, New York City, Niagara Falls, Portland and San Francisco) had higher values of retail sales, numbers of workers in FIRE industries and numbers of utility patent granted in 1990.

Table 4.6 Urban amenities, workers in FIRE industries, and economic data in cities with urban freeway removal proposal

city	Population density (people/sq.miles) 1990	Number of Non-profit Organizations in Art (per 10,000 persons)	Private Contributions & Government Grants ($ per capita)	Retail establishment density (no. of retail establishment per 100,000 persons) (1992)	Retail Sales ($1,000)	Average sales per establishment ($1,000)	Proportion of college graduate and advanced degree (1990)	Median household income (1990)	Concentration of Workers in the FIRE industries (workers/sq.miles) 1990	Innovation (no. of utility patent grants in 1990)
Milwaukee	6,534	2.14	$ 136	852	$ 7,139,542	$ 1,333	14.80%	$ 40,878	295	126
New York City	24,196	2.07	$ 303	235	$ 17,442,237	$ 1,016	23.00%	$ 51,598	1,696	295
Niagara Falls	4,389	0.54	$ 5	885	$ 497,523	$ 910	9.70%	$ 35,712	72	47
Portland	3,278	4.39	$ 171	818	$ 4,406,542	$ 1,231	25.90%	$ 44,278	223	62
San Francisco	15,446	30.02	$ 6,229	914	$ 6,379,072	$ 964	35.00%	$ 57,811	1,592	121
21 cities										
average	7,063	3.57	$ 423	3,344	$ 4,337,242	$ 8,209	24.46%	$ 42,170	237	196
median	6,534	3.19	$ 178	2,772	$ 1,965,287	$ 948	24.00%	$ 41,601	153	146
5 cities										
average	10,768	3.21	$ 269	4,900	$ 9,193,300	$ 17,211	27.16%	$ 46,055	487	250
median	6,534	2.18	$ 181	3,115	$ 3,347,618	$ 1,224	27.40%	$ 44,278	182	238
remaining 16 cities										
average	5,906	3.70	$ 477	2,858	$ 2,819,724	$ 5,396	23.61%	$ 40,956	159	180
median	6,525	3.35	$ 176	2,363	$ 1,965,287	$ 927	23.60%	$ 40,511	143	113

Source: author analysis, based on the following source of data:

1. 1990 U.S. Census Population;
2. 1992 U.S. Census Trade, Geographical Area Series;
3. State of the Cities Data Systems (SOCDS), U.S. Housing & Urban Development (HUD);
4. National Center for Charitable Statistics (NCCS), the Urban Institute, and
5. Office for Patent and Trademark Information, April 2000. United States Patent Grants by State, County, and Metropolitan Area (Utility Patents 1990 - 1999)

Glaeser, Kolko & Saiz (2004) provided a convincing argument by presenting empirical evidence about urban amenities from U.S., U.K. and French cities. They noted that in American cities natural amenities such as temperature and proximity to the coast positively affected population growth at county level between 1977 and 1995. In French cities, there was a positive correlation between hotel rooms per capita and population growth. In their study, hotel rooms were used not as an amenity but as a proxy for tourist demand for the city. Further, they also put an emphasis on ur ban density. Higher population density facilitates enjoyable social contact, something that low-density development cannot provide.

This brings the notion of localization economies and communication economies as central tenets to the discussion on how amenities can stimulate economic development. Localization economies stimulate firms to locate closer to other firms in the same, or related, industry. Communication economies require face-to-face contact, which can occur at lower cost in the central city where physical distance between firms is the shortest. For years, urban scholars and researchers have recognized face-to-face contact as an important force in influencing the location of office employment.[8]

[8] Ihlanfeldt reiterates Clapp (1993) argument about the importance of face-to-face contact that differentiates offices in central city with those in suburban place. See detail in Ihlanfeldt, Keith R. June, 1995. The Importance of the Central City to the Regional and National Economy: A review of the arguments and empirical evidence. *Cityscape: A Journal of Policy Development and Research* **1** (2); Clapp, John M. 1993. *Dynamics of Office Markets: Empirical findings and research issues*. Washington, D.C.: The Urban Institute Press.

Thus, we can construct a proposition that high concentration of urban amenities is an indicator of a healthy economy. Urban amenities indicates whether cities are attractive or not to individuals and households contemplating to move to other locations. The higher the concentration of urban amenities in the city, the higher the number of population is. In addition, urban amenities very often attract knowledge workers and high-skilled labors, an important factor in driving local economy through the FIRE industries. As the proportion of knowledge workers and high-skilled labors increases over time, FIRE industries will create higher value-added and this will affect median household income. The number of college graduates and holders of advanced degrees in a city is used as a proxy for knowledge and high-skilled workers. Further, there is no incentive for FIRE industries to relocate to suburbs due to localization and communication economies. This bolstered the demand for housing, which leads the city to find available space for development. High proportion of population with college graduate and holders of advanced degrees leads to high demand on urban amenities and thus creates additional demand for land.

A detailed observation on the five cities that deconstructed the freeways confirms the above proposition. All five cities experienced growth in finance, insurance, real estate (FIRE) industries, and college graduates and holders of advanced degrees between 1970 and 2000. These two factors are connected one with another. High-skilled workers satisfy labor demand in FIRE industries and at the same time they also stimulate FIRE industries' growth through innovation and invention. This in turn fuels the demand for housing and other public services. San Francisco and Portland are surrounded by top-tier

universities and research centers. The numbers of patents produced between 1990 and 2000 in both cities are the testament to the ability of the region to innovate and capitalize on that innovation. Among the five cities with urban freeway removal initiatives, New York City lead the group with 295 patents per 100,000 people. Even Milwaukee produced more patents (126 patents per 100,000 people) than San Francisco (121 patents per 100,000 people) between 1990 and 2000[9].

This unique combination of factors in turn affected the housing demand and housing occupancy rate in each city. Data from the State of the Cities Data System (SOCDS) shows that between 1970 and 2000 the housing occupancy rate in central cities increased 30 percent, whereas in suburban places the rate decreased by more than 30 percent. A closer examination reveals that housing occupancy rate in Portland increased by almost 60 percent, San Francisco by more than 10 percent, and New York by 2.23 percent. Even Milwaukee enjoyed growth in terms of housing occupancy rate in the same period. However, not all central cities enjoyed this trend. Niagara Falls experienced a drop in housing occupancy rate by more than three percent. Four of five cities describes here have population of 500,000 people or more (New York, San Francisco, Portland and Milwaukee). Only Niagara Falls has population of less than 50,000 people. This does not mean that there was a significant population influx from suburbs to central city, which

[9] In average between 1990 and 2000, each county in the U.S. produces 192 patents. This roughly translates into 267 patents per 100,000 population (according to the report from Office for Patent and Trademark Information, April 2000. *United States Patent Grants by State, County, and Metropolitan Area* (*Utility Patents 1990 - 1999*))

fueled the housing demand. Rather, low housing occupancy rate in suburbs was triggered by the high rate of decentralization in the U.S.[10]

What separates these five cities with the national trend is the ability of households and individuals in buying and renting housing unit in the central city. The average number of housing units occupied in central cities increased by almost 30 percent between 1970 and 2000. Portland has the highest housing demand with more than 50 percent increase in terms of the number of housing units occupied. The number of housing units occupied in San Francisco increased almost 11 percent, a sign of a healthy economy. Only in New York City and Milwaukee did housing occupancy rate increase by fewer than ten percent, and Milwaukee only increased by one percent. On the other hand, Niagara Falls continues to lose its attractiveness as housing occupancy rate decreased almost four percent in the same period.

[10] Detailed breakdown of number of central cities and suburbs between 1970 and 2009 is obtained from the State of the Cities Data System (SOCDS) under the Housing and Urban Development website http://socds.huduser.org/Census/Census_Home.html). In 1970, there were only 4,080 suburban places. In 1980, the number increased to 9,363. Ten years later, it reached 10,351 and in 2000, the number of suburban places in the U.S. reached 11,397.

Characteristics of Cities that Influence the Decision to Remove Urban Freeways: A conclusion

The findings corroborate the notion that the economy in the post-industrial city grows faster than in the declining, transitional industrial city, as exemplified through the correlation between the stocks of human capital and economic growth of the city (Florida 2005; Romer, 1990). As the economy grows, demand for housing increases and it forces the city to look for land for development. To compensate for this, municipal government looks for assets that can be reused, such as abandoned building and underutilized freeways. Underutilized freeways are attractive because they are often located near downtown areas, where demand for housing in postindustrial cities is high. Underutilized urban freeway removal also underscores that the city embarks on a gentrification process.

Three causal conditions should be present before a city embarks on removing its urban freeways. These are job creation in FIRE industries, increasing housing demand, and a high proportion of college graduates and individuals with an advanced degree. However, these three causal conditions are not sufficient when they independently influence the outcome. Only a combination of these three causal conditions will lead to a decision to remove urban freeways in a city.

CHAPTER V

EVALUATING THE ECONOMIC IMPACT OF URBAN FREEWAY REMOVAL IN SAN FRANCISCO AND MILWAUKEE

This chapter serves as an assessment on the economic impact of urban freeway removal on local economies. Previous chapters provide a general framework for understanding how and why urban freeway removal worked in some cities and failed in other cities. This chapter illuminates in detail about the effect of freeway removal on the local economy in San Francisco and Milwaukee. I identified a number of causal conditions such as the number of jobs created in FIRE industries, educational attainment, and increased housing demand, as factors that affect the decision to remove urban freeways. Despite broad support from urban scholars and local elites on urban freeway removal projects, there is no comprehensive assessment on the effect of urban freeway removal on local economies. This chapter contributes to the discussion by analyzing the case of urban freeway removal in San Francisco and Milwaukee.

Urban Freeway Removal in San Francisco and Milwaukee

I now direct my attention to the evaluation of the impact of urban freeway removal only in San Francisco and Milwaukee. San Francisco is a perfect representation of a post-industrial city, while Milwaukee is a symbol of a declining, transitional industrial city. Contrasting San Francisco with Milwaukee helps to understand the effect of urban freeway removal on local economies, as measured by property value. In doing so, I use the hedonic price model to evaluate the housing price relative to its close proximity to the former site of urban freeway. I argue that the closer the location of a house to the former site of an urban freeway, the higher the price of the house. I also include other attributes of a house, such as physical, environmental, and neighborhood characteristics.

To test my hypothesis, I use a mixed approach in evaluating the effect of urban freeway removal on residential and commercial property value in San Francisco and Milwaukee. Because studies and assessment of the effect of urban freeway removal on property value in San Francisco are immense, I use one of those studies as part of my assessment in evaluating the effect of urban freeway removal on local economies. I use studies by Cervero et al. (2009) because they used the hedonic price model in predicting the effect on residential property value before and after the implementation of urban freeway removal.

For the case of urban freeway removal in Milwaukee, I collected transaction sales of residential and commercial properties from Milwaukee County Assessor's Office. These were sales data from 2002 to 2008. I specifically analyze the effect of urban freeway removal on these property values in 2002, 2005 and 2008. The first analysis measures the direct impact of the urban freeway removal project on property values. The second analysis evaluates the medium term impact of the project, assuming that the project had created a multiplier effect on the local economy. The last analysis tries to measure whether the project can generate sustainable economic effect on the local economy when there is an economic crisis. I use the finding from the analysis to test my proposition that the effect of urban freeway deconstruction in the post-industrial city is more evident than in the declining, transitional industrial city.

Economic Impact of Urban Freeway Removal in San Francisco

Urban freeway removal in San Francisco revealed a deep discontent for urban freeway among San Franciscans since the 1960s. However, because of the political gridlock since the 1980s, the city was not able to arrive at the decision of whether to remove urban freeways or not. Political battles that ensued between 1990 and 2000 revealed that the discourse on urban freeway removal was not a clear-cut issue. Two opposing perspectives competed in the political arena, as can be seen in four ballots since 1986.

Urban freeway removal in San Francisco is famous as it exemplified the reactions from local residents and politicians when their argument was rejected through empirical evidence. The 1989 earthquake that tore down portions of urban freeways in this city helped to open the eyes of urban freeway removal opponents. Their complaint about traffic jam problem had not occurred, even though the portion of freeways was damaged and motorists were not able to use them. This fact alone helped to stop the political debates of whether the city should rebuild urban freeways after the earthquake or replace them with urban amenities.

Cervero et al. evaluated the effect of urban freeway removal (the Embarcadero and Central Freeway) on residential property values before and after the project. They use the hedonic price model in predicting whether a property with a close proximity to the former urban freeway experiences a significant increase in its economic value. Cervero et al. (2009) used two different approaches to build the model, as the Embarcadero Freeway was located near the downtown area, while the Central Freeway was located near a residential neighborhood.

In evaluating the effect of removing Embarcadero Freeway, Cervero et al. (2009) developed three different variables: property characteristics, neighborhood characteristics and the property's close proximity to road infrastructure. Because the Embarcadero Freeway was located near the downtown/financial district, they also measured the interaction between variables. For the Central Freeway, they replaced variable that measures land use interaction with access to transit.

Their finding in the case of Embarcadero Freeway revealed that after the removal, a property with a close proximity to the boulevard has high property value compared to the one far from the boulevard. Cervero et al. utilized the mixed-use entropy index to measure the effect of various uses of land around Embarcadero on the property value. They acknowledged the fact that the property's close proximity to the waterfront contributed to the higher property value (2009: 42-43).

For the property characteristics, the number of bathrooms in a property significantly affects the property value than the age of the house. All variables of neighborhood characteristics significantly affect the property value. This confirms my argument that regardless of whether the city of San Francisco removed the Embarcadero Freeway or not, the property value will continue to increase due to amenities available in the adjacent neighborhood. For the roadway infrastructure characteristics, Cervero et al. (2009) use two different indicators to evaluate the effect of the Embarcadero Freeway removal. They use the distance of a property from the boulevard as the first indicator and the property's close proximity to the boulevard as the second indicator. Combined, the opening of the boulevard has a positive impact on the property value, as measured through distance and access (close proximity).[1]

[1] Although proximity and distance indicate 'closeness', they are not similar. Distance indicates nearness between two points as a straight line, while proximity not only measures the nearness of two points in space, but it also acknowledges the economic and social relationship between the two. We can define proximity using the word: access.

The interaction between distance and boulevard opening has a regression value of -213,621.3. On the other hand, the interaction between proximity and boulevard opening has a regression value of 283,740.0. This means that access (indicated by proximity) increases the property value by $283,740.0 per one additional mile from the boulevard. The further the location of a property from the boulevard the property value decreases by $213,621.3 per one additional mile. Table 5.1 illustrates their finding.

Table 5.1 Hedonic price model for predicting residential property value near Embarcadero corridor in San Francisco, 1986-2005

Variable	B	Standard Error	t	p
Property Characteristics				
Structure size (square feet)	174.8	2.7	65.9	0.000
Bathrooms (number)	1977.4	719.0	2.8	0.000
Structure age (years)	1349.7	243.5	5.5	0.000
Structure material (masonry = 1; otherwise = 0)	-108,092.7	33,522.6	-3.2	0.000
Neighborhood characteristics				
Residential density (number of households per gross acre)	2356.9	720.9	3.3	0.000
Employment density (number of employees per gross acre)	605.3	112.4	5.4	0.000
Mixed-use entropy index	-570,543.4	70,435.7	-8.1	0.000
Roadway infrastructure characteristics				
Freeway pre-demolition period (January 1986-February 1991 = 1; otherwise 0)	-118,263.4	26,216.4	-4.5	0.000
Distance effect: straight-line distance (feet) from the freeway/boulevard centerline to the property	-64.1	3.8	-16.8	0.000
Boulevard opening (June 2000-2005 = 1; otherwise = 0)	-300,757.1	57,893.3	-5.2	0.000
Interaction: Distance effect*Boulevard opening effect	34.3	5.5	6.2	0.000
Proximity effect (property is located within 0.75 miles of the freeway/boulevard = 1; otherwise = 0)	-213,621.3	42,795.6	-5.0	0.000
Interaction: Proximity effect*Boulevard opening effect	283,740.0	59,255.2	4.8	0.000
Constant	1,649,995.3	83,027.8	19.9	0.000

Notes: Dependent variable = price (US$, 2007) per sold residential unit
Mixed use entropy = $\{ - \sum_k[(p_i)(\ln p_i)]\}/\ln k$), where p_i is the proportion of total land-use activities in category i (where the *i* categories are households, retail employment, office employment, and other employment); and $k = 4$ (the number of land-use categories)
N = 7,278
F-statistics (probability) = 449.221 (0.000)
$R^2 = 0.446$

The Central Freeway was a different story. This freeway connected the Bayshore Freeway with Hayes Valley neighborhood. The 1989 earthquake damaged the northern part of the freeway. Two different proposals emerged concerning the fate of the Central Freeway after the 1989 earthquake. One was to retrofit the Central Freeway while the other was to tear down the freeway and replace it with a boulevard. Similar to the case of the Embarcadero Freeway removal, Caltrans developed these two proposals. After three consecutive ballots, a compromise was made between these two groups. The municipal government tore down a portion of freeway and replaced it with Octavia Boulevard and Caltrans retrofitted another portion of the freeway.

Cervero et al. (2009) evaluated the effect of removing the Central Freeway on residential property values and found that although a close proximity to the Octavia Boulevard did affect property value, the effect of the distance variable was smaller compared to the effects of structure and neighborhood characteristics. In explaining the model of the Central Freeway corridor, Cervero et al. (2009: 44-45) argued that other factors such as nearby neighborhood improvement might be attributed to producing a result where close proximity to the boulevard was not as significant as in the case of Embarcadero.

A close examination reveals that the effect of roadway infrastructure is not as high as the neighborhood characteristics. Accessibility and distance do not play significant roles in influencing the property value. The interaction between distance and boulevard opening only shows a small -12.7. This means that there is no significant effect of the property's location from the boulevard. In the case of the Central Freeway, the determinant factors

are property characteristics and neighborhood characteristics (including accessibility to municipal transit). Table 5.2 provides a glimpse of why close proximity to the boulevard does not significantly affect the property value.

Table 5.2 Hedonic price model for predicting residential property value near Central Freeway/Octavia Boulevard corridor in San Francisco, 1987-2007

Variable	B	Standard Error	t	p
Property Characteristics				
Structure size (square feet)	173.2	2.8	61.2	0.000
Bathrooms (number)	1695.2	692.6	2.4	0.000
Structure age (years)	1381.2	199.5	6.9	0.000
Neighborhood characteristics				
Transit accessibility: within 0.25 mile of MUNI railway station (1 = yes; 0 = no)	63,525.0	17,054.4	3.7	0.000
Interaction: Transit accessibility*structure index	33.1	4.6	7.2	0.000
Employment density (number of employees per gross acre)	702.0	94.9	7.4	0.000
Jobs and housing balance index	197,451.7	30,944.8	6.4	0.000
Roadway infrastructure characteristics				
Distance effect: straight-line distance (feet) from the freeway/boulevard centerline to the property	44.2	2.7	16.5	0.000
Boulevard opening (1 = 2005; 0 = otherwise)	116,603.1	30,301.9	3.8	0.000
Distance effect*Boulevard opening effect	-12.7	3.2	-3.9	0.000
Constant	216,511.2	29.822.5	7.3	0.000

Notes: Dependent variable = price (US$, 2007) per sold residential unit
Job-housing balance index = (1 - abs [employed residents - total employees/employed residents - total/employees])
N = 9,772
F-statistics (probability) = 789.228 (0.000)
R^2 = 0.447

Economic Impact of Urban Freeway Removal in Milwaukee

Urban freeway removal in Milwaukee is unique in a sense that a declining, transitional industrial city was able to remove one of its urban freeways amid broad support from its urban residents for continuing building urban freeways as exemplified in 1975 urban referenda. Political debates that ensued after the emergence of civil rights movement in the 1960s revealed not only a deep discontent from minority groups towards local development policies that aimed at rejuvenating local economies by tearing down minority and poor neighborhoods, but also showed a lingering conflict between two competing ideologies, those who favor individual liberties vis-à-vis those who prefer populist agenda. This culture war not only hampered the economic growth of the city, but it contributed to the negative perception on Milwaukee from outsiders and regional business communities.

The ability of mayor Norquist in orchestrated efforts to secure funding from the federal government convinced state government and adjoining localities to work together in achieving his proposal to remove the Park East Freeway. Although the Park East Freeway was not his first choice as the target for removal, he finally made a compromise and let Park East Freeway with lower utilization to be removed. The city developed the former site of this freeway as three new neighborhoods to revitalize the local economy.

This narrative serves as a background for me to evaluate the effect of urban freeway removal on the local economy, as measured by commercial and residential property values. I posit that the increased value in commercial and residential properties is attributed to the healthy economy in a particular city, especially if the city can sustain this increase in the property value.

To evaluate the economic impact of urban freeway removal in Milwaukee, I use a similar approach that Cervero et al. (2009) used to evaluate the impact of the Embarcadero and Central Freeway removal on the local economy. I use property characteristics and neighborhood characteristics, including property's close proximity to the former site of Park East Freeway, as the independent variables. I then developed 10 different indicators from these two variables. For the dependent variable, I use the property value using three different time periods.

I start my analysis by evaluating whether the urban freeway removal is associated with an economic impact on the property value. I use the property data from 2001 because it was the year the Park East Freeway was demolished. From all variables involved in the calculation, the 'district' variable, which measures the proximity of a particular property from former site of Park East Freeway, has the highest coefficient compared with other variables. Not only does this variable have the highest coefficient among variables involved in the calculation, it is also statistically significant. Structure variables are not statistically significant in influencing residential property value. In other words, a close

proximity to the former site of Park East Freeway significantly affected residential property value near the Park East Freeway. It appears the closer the location is to a particular house sold to the site of former urban freeway, the higher the price is. Because the calculation uses the 2002 data, which relied on property sales data from 2001 (one year after Park East Freeway removal took place), I argue that it was the effect of this project that significantly affected the housing price.

Table 5.3 Hedonic price model for predicting residential property value near Park East Freeway using 2002 property sales data

	Unstandardized Coefficient		Standardized Coefficient	t	Sig.
	B	Std. Error	Beta		
(Constant)	6923.169	12,866.676		.538	.591
District/Access	100,298.682	4656.487	.215	21.540	.000
Stories	-5177.440	3164.123	-.019	-1.636	.102
Structure Age	16.951	6.761	.025	2.507	.012
No. of rooms	-1847.247	978.636	-.019	-1.888	.059
Structure Size (sq. feet)	27.436	.449	.660	61.050	.000
Unit	-6299.031	1580.716	-.068	-3.985	.000
No. of bedrooms	1882.641	909.459	.035	2.070	.038
Finished Bathroom	16,107.210	2196.006	.079	7.335	.000
H. Bathroom	22,150.412	2489.650	.088	8.897	.000
Lot size (sq. feet)	1.509	.133	.120	11.384	.000

Notes:
Dependent variable = housing price (US$, 2002) per sold residential unit
n = 5,182
F-statistics (probability) = 638.534 (0.000)
$R^2 = 0.553$

To identify the immediate effect of urban freeway removal on property sales data, I direct my attention on commercial property values near Park East Freeway, again using 2002

property sales data. Table 5.4 provides a snapshot on the hedonic price model for predicting commercial property value near Park East Freeway using 2002 property sales data. Again, the district variable, which represents the location of a particular commercial property relative to Park East Freeway, has the highest coefficient in determining the property value after the project was implemented in 2001. However, careful attention should be given to this variable because a closer examination reveals that its *p*-value for the coefficient of district is greater than 0.05, which means that the coefficient is not significantly different with 0. The only variable that was statistically significant in predicting the commercial property value was the total area of the property.

Table 5.4 Hedonic price model for predicting commercial property value near Park East Freeway using 2002 property sales data

	Unstandardized Coefficient		Standardized Coefficient	t	Sig.
	B	Std. Error	Beta		
(Constant)	43,608.772	122,390.179		.356	.722
District/Access	182,195.826	109,533.256	.095	1.663	.098
Stories	2201.227	47,623.042	.003	.046	.963
Structure Age	5.764	70.909	.005	.081	.935
Lot (sq. feet)	1.291	.748	.105	1.726	.086
Area (sq. feet)	24.106	2.267	.650	10.634	.000

Notes:
Dependent variable = commercial sales (US$, 2002) per sold commercial unit
n = 166
F-statistics (probability) = 33.581 (0.000)
$R^2 = 0.512$

I then proceed to evaluate the medium impact of the project on property values near the former site of Park East Freeway. I argue that as the city of Milwaukee has completed the project and started to market the area, demand for housing stabilized. As the demand

stabilized, property values near the former location of Park East Freeway was relatively the same as property values in other locations far from it. Table 5.5 displays my calculation using 2005 property sales data.

Table 5.5 Hedonic price model for predicting residential property values near Park East Freeway using 2005 property sales data

	Unstandardized Coefficient		Standardized Coefficient	T	Sig.
	B	Std. Error	Beta		
(Constant)	100,983.089	55,933.398		1.805	.071
District/Access	16,746.500	24,874.140	.004	.673	.501
Stories	705,393.520	13,691.055	.397	51.522	.000
Structure Age	-348.295	30.597	-.069	-11.383	.000
No. of rooms	2684.483	5905.534	.003	.455	.649
Structure Size (sq. feet)	66.788	.919	.559	72.665	.000
Unit	-107,617.398	8837.294	-.116	-12.178	.000
No. of bedrooms	-13,483.347	5125.827	-.026	-2.630	.009
Finished Bathroom	-122,651.510	11,878.703	-.069	-10.325	.000
H. Bathroom	-60,371.975	14,871.382	-.024	-4.060	.000
Lot size (sq. feet)	-.856	.409	-.014	-2.092	.036

Notes:
Dependent variable = housing price (US$, 2005) per sold residential unit
n = 10,792
F-statistics (probability) = 1940.888 (0.000)
$R^2 = 0.643$

As expected, the variable district, which measures location of a particular house from the former site of Park East Freeway, is not statistically significant in predicting the property value in 2005. In other words, the increased property value in Milwaukee is the result of the short-term impact of urban freeway removal project and not because there is a

sustained demand of housing in the city. Only structure variables such as the age of the building (year built), square footage of the building and features of the building (bedrooms and bathrooms) had a significant impact on the property value. What makes the calculation interesting is the fact that even features of the building negatively affected the property value. This confirms my prior argument that property values in Milwaukee city lost its attractiveness even after the city removed Park East Freeway in 2000-2001. Indeed, population data in the central city shows that Milwaukee city continued to lose its population between 2000 and 2010.

My assessment for predicting commercial property values near Park East Freeway also informed similar result. Property buyer seemed more interested in purchasing commercial property far from the former site of Park East Freeway, as can be seen in the coefficient for the 'district' variable, which measures the distance of a particular establishment from the location of Park East Freeway. Even if we compare the district variable with the year the property was built, the former which indicates a locational factor is far more reliable in predicting the property value. Table 5.6 displays my calculation for predicting the commercial property value near the former site of Park East Freeway in Milwaukee in 2005, four years after the completion of Park East Freeway removal and the creation of three new neighborhoods.

Table 5.6 Hedonic price model for predicting commercial property values near Park East Freeway using 2005 property sales data

	Unstandardized Coefficient		Standardized Coefficient	t	Sig.
	B	Std. Error	Beta		
(Constant)	571,602.631	473,297.356		1.208	.228
District/Access	-1,514,035.450	389,534.023	-.099	-3.887	.000
Stories	1,132,583.713	142,237.376	.402	7.963	.000
Structure Age	-1207.021	264.409	-.114	-4.565	.000
Lot (sq. feet)	2.199	2.441	.028	.901	.368
Area (sq. feet)	64.651	6.240	.546	10.361	.000

Notes:
Dependent variable = commercial sales (US$, 2005) per sold commercial unit
n = 427
F-statistics (probability) = 281.731 (0.000)
$R^2 = 0.770$

I proceed again to test whether after more than five years a significant change might take place in Milwaukee, assuming that the city successfully marketed the gentrification project and attracted highly educated workers to bolster the local economy. I use similar variables in creating a hedonic price model, but this time I employ 2008 property sales data to predict residential property value near the former site of Park East Freeway (see table 5.7). If my prediction is right, controlling other factors constant, the calculation should predict that the closer the location of a particular property to the former site of Park East Freeway, the higher the price is. Yet, the calculation shows that the 'district' variable does not statistically predict the residential property value in 2008, only structure variables that significantly affect the residential property value. This shows that the gentrification project in the former site of Park East Freeway not only failed to reverse

the suburbanization of employment where people chose to purchase houses and work in suburbs but it also failed to generate a significant economic impact on the long run.

Table 5.7 Hedonic price model for predicting residential property values near Park East Freeway using 2008 property sales data

	Unstandardized Coefficient		Standardized Coefficient	t	Sig.
	B	Std. Error	Beta		
(Constant)	310,601.408	56,549.052		5.493	.000
District/Access	29,578.064	26,113.833	.011	1.133	.257
Stories	258,024.577	19,000.198	.168	13.580	.000
Structure Age	-267.248	30.327	-.074	-8.812	.000
No. of rooms	21,635.317	5997.578	.036	3.607	.000
Structure Size (sq. feet)	92.945	1.538	.852	60.438	.000
Unit	-94,342.063	12,829.666	-.100	-7.353	.000
No. of bedrooms	10,379.367	6701.112	.022	1.549	.121
Finished Bathroom	-3494.819	15,069.102	-.002	-.232	.817
H. Bathroom	-15,365.919	17,409.015	-.008	-.883	.377
Lot size (sq. feet)	-8.298	.569	-.166	-14.577	.000

Notes:
Dependent variable = housing price (US$, 2008) per sold residential unit
n = 3,872
F-statistics (probability) = 1195.552 (0.000)
$R^2 = 0.756$

Further, the 2007-2008 economic crises also affected commercial property value as seen in table 5.8. The variable district is not statistically significant in predicting commercial property value. Only structure variables such as the number of stories, year the structure built and lot area are statistically significant in predicting property value. My calculation revealed the fact that the urban freeway removal failed to gentrify surrounding

neighborhoods and the housing crisis further weakened the demand for commercial property in the area.

Table 5.8 Hedonic price model for predicting commercial property values near Park East Freeway using 2008 property sales data

	Unstandardized Coefficient		Standardized Coefficient	t	Sig.
	B	Std. Error	Beta		
(Constant)	-283,380.559	457,977.688		-.619	.537
District/Access	14,302.239	502,968.867	.001	.028	.977
Stories	1,777,774.160	147,935.725	.811	12.017	.000
Structure Age	-1222.612	253.733	-.137	-4.819	.000
Lot (sq. feet)	13.041	2.938	.249	4.438	.000
Area (sq. feet)	14.080	9.216	.128	1.528	.129

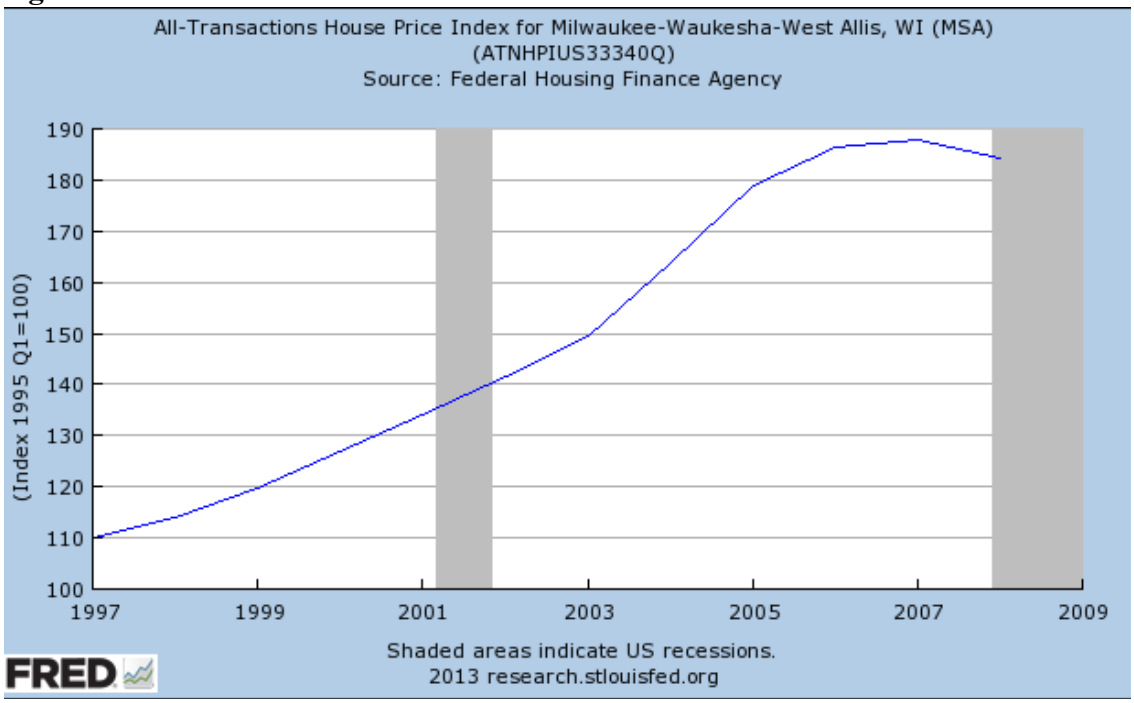
Notes:
Dependent variable = commercial sales (US$, 2008) per sold commercial unit
n = 147
F-statistics (probability) = 251.363 (0.000)
$R^2 = 0.899$

If we look at the house price index at the metropolitan level (Milwaukee-Waukesha-West Allis, MSA), the index continued to climb until it reached its apex in 2007 (see figure 5.1). However, because the index measures changes at metro area level, this did not mean that the central city also experienced similar changes. In other words, it was possible that the increase in the property value might be attributed to the healthy economy in suburbs rather than in the central city.

To analyze the effect of gentrification in Milwaukee, I use the average residential property value in 2000 and 2010. If there is an increase in residential property value, it may be the result of gentrification in the former site of Park East Freeway, although I

cannot rule out other factors. Between 1970 and 2010, median household owner's value in Milwaukee remained stagnant around US$100,000. On the other hand, median household owner's value in suburbs continues to increase, from US$ US$137,543 (2010 dollars) in 1970 to US $197,150 (2010 dollars) in 2000. Hence, it is difficult to argue that the gentrification has a significant impact on Milwaukee. The Housing Price Index for Milwaukee MSA between 1997 and 2008 confirms my argument (Figure 5.1). It shows that the housing price kept increasing until 2007, one year before the property value collapsed.

Figure 5.1 House Price Index for Milwaukee MSA 1997-2008



Source: Economic Research, Federal Reserve Bank of St. Louis
http://research.stlouisfed.org/fred2/graph/?id=ATNHPIUS33340Q

Summary and Discussions

Although urban scholars applauded urban freeway removal as a means to bring back the economic vitality to the city, there is no guarantee that every city with successful urban freeway removal will have a positive economic impact after the project is implemented. In the case of Milwaukee, there is no significant impact to the local economy, measured by commercial and residential property values between 2002 and 2008. One possible explanation is the fact that gentrification requires a stable economy, indicated by jobs available in the city. Indeed, my calculation in chapter IV with cs/QCA reveals that one causal condition that influence the decision to remove urban freeway is the availability of jobs in the city, in particular jobs in the service sector.

If we observe San Francisco and Milwaukee in a historical trajectory, we see a contrasting situation between these two cities after 1980 (see table 5.9). While San Francisco and Milwaukee experienced population downturn after 1960, San Francisco is able to recover after 1980, whereas Milwaukee continues to lose its population. Further, between 1970 and 2000, San Francisco was able to reduce the unemployment rate from 6.2 percent in 1970 to only 4.6 percent in 2000. This city was also able to create significant jobs between 1970 and 2000, as its labor force increased by 27.8 percent. On the other hand, the unemployment rate in Milwaukee kept climbing from 4.1 percent in 1970 to 12.4 percent in 2010. In contrast with San Francisco, Milwaukee was unable to create jobs for its population, as the city lost 9.8 percent of its labor force between 1970 and 2000, due to suburbanization of jobs.

Table 5.9 Historical snapshots of San Francisco and Milwaukee

	1940	1950	1960	1970	1980	1990	2000	2010
Population								
San Francisco	634,536	775,357	740,316	715,674	678,974	723,959	776,733	805,235
Milwaukee	587,472	637,392	741,324	717,099	636,212	628,088	596,974	594,833
Unemployment rate (percent)								
San Francisco				6.2	6.0	6.2	4.6	
Milwaukee				4.1	6.9	8.9	9.4	12.4
Labor Force Change (percent)								
San Francisco					5.5	12.6	7.6	
Milwaukee					-2.1	-1.7	-6.2	5.4

Source: U.S. Population Census 1940 - 2010, SOCDS HUD

Although theoretically a close proximity to the former urban freeway has a significant effect on commercial and residential property values, my evaluation in the case of San Francisco and Milwaukee yields a different result. In San Francisco, the closer the location of a particular property is, the higher the price. However, in Milwaukee, high property value was the result of local government project in removing Park East Freeway and gentrifying the neighborhoods. The city of Milwaukee created three new neighborhoods in the former site of Park East Freeway. Moreover the city also implemented tax incremental financing (TIF) in this area to attract investment. Private sector came because of the incentive provided by the city. Prospective homebuyers bought the properties with the expectation that the area will be filled with businesses. Once the project was completed, the property value stabilized again following the trajectory of national housing price trend.

This brings us to Florida's argument about the role of the creative class in bolstering the local economy (2002, 2005). He posits that in order to thrive, cities should attract creative classes. This can be achieved by providing urban amenities and an inviting urban environment for these creative classes. However, as I compare the finding of my

calculation using the hedonic price model with demographic data of San Francisco and Milwaukee, I fail to find whether the provision of urban amenities leads to the migration of creative classes to a particular city. San Francisco does experience an influx of creative classes, but this is caused by the presence of jobs in FIRE industries. Indeed, between 1970 and 2000, San Francisco created more than 6,000 jobs in FIRE industries while Milwaukee only created one third of what San Francisco had done. This did not include jobs created under professional services where San Francisco created 50,275 new jobs between 1970 and 2000.

By attaching urban freeway removal as part of the gentrification process, we can see that the increased property value was the result of the existing demand on commercial and residential property. Urban freeway removal in the case of San Francisco only acted as a catalyst in stimulating housing demand. Indeed, the success story of the Embarcadero Boulevard was partially attributed to the fact that the former area of Embarcadero Freeway was in a close proximity to the waterfront and thus removing the portion of the freeway helped increase access to waterfront. In the case of the Central Freeway removal, opponents and proponents of urban freeway removal agreed to remove a portion of the freeway and replace it with a boulevard, and retrofit another portion of the freeway. This was caused by the fact that there were no locational factors that could affect the property value such as vista to waterfront, or a close proximity to downtown.

Therefore, urban freeway removal only helped create an attractive urban environment and partially stimulated the property value in a post-industrial city. In a declining, transitional industrial city, it may work if there is a sustained demand on housing and commercial property. If not, it may not yield the expected result.

CHAPTER VI

FREEWAY DECONSTRUCTION AND LOCAL GROWTH COALITIONS IN SAN FRANCISCO AND MILWAUKEE

This chapter outlines the processes in which San Francisco and Milwaukee were able to remove freeways resulting in a number of political and social consequences. In doing so, this section delves deeper into coalition building between actors and institutions. It also asks whether such coalitions are able to deliver on promises of rejuvenating central cities.

San Francisco and Milwaukee: post/declining industrial cities in motion

Freeway deconstruction in some aspect contradicts the promises put forward by urban renewal proponents. Central cities keep losing population and are struggling to stay fiscally sound. Employment centers emerged and created a large number of jobs in the ‘80s and ‘90s; however, most of these occurred in the suburban areas. Central cities were left with remnants of their past economic power.

Even though not all central cities experienced this trajectory, data from the U.S. Census Bureau revealed that between 1950 and 2010 suburban population increased considerably from a mere 35 million to more than 140 million, while at the same time central cities failed to double their population size (Beauregard 2012: 5). A closer examination between 1990 and 1998 revealed that central city population on average grew only 3.9% yet population at metro level grew by 12.5%. Central cities in the Midwest and Northeast lost about 2% of their population during this period. However, between 2000 and 2010, central cities population increased by 0.3 percent, whereas population growth rate at the metropolitan level only grew at 12 percent, down five percent from previous decade. Of the many possible explanations, this fact often attributed to technological advancement and changes in urban lifestyle, with the emergence of telecommunication infrastructure and start-up internet companies in the 1990s as the factor that lures high skilled labors and young entrepreneurs to live in the cities.

San Francisco is a perfect example of how a local growth coalition steered this city to be a post-industrial city. Gold rush in California from 1848 to 1855 has propelled San Francisco to a prominent position. Port of San Francisco, banking industries, railway networks and the military presence through Fort Point and a fort in Alcatraz Island are the evidence of the impact of the gold rush. What makes San Francisco different from other cities during this particular period was the emergence of public-private coalition among banking industries, military, local government, and local communities that put this city on the map. The role of this coalition was also evident during the period of reconstruction after 1906 earthquake and subsequent event such as 1915 Panama-Pacific

International Exposition. Even during the Great Depression in 1933-1934, this city was able to withstand the economic pressures as its financial center stood still against the economic crisis that engulfed the nation.

Milwaukee, on the other hand, is famously known as a manufacturing powerhouse and the site of brewing industries. German, Polish and other European immigrants, dominated the demographic make-up. Milwaukee was famous for its pragmatic approach in urban governance, especially in the first half of the 20th century. Three elected mayors between 1910 and 1960 ran on the Socialist party ticket. The decline of the manufacturing industry in the 1960s onward did not deter the city from creating development strategies. However, as local tax base keep declining over the years, Milwaukee increasingly focuses on implementing developmental policies to attract investment and businesses to the city.

Both San Francisco and Milwaukee enjoyed high rates of industrialization during and after World War II, although this boom was experienced only for a short period of time. Table 6.1 shows that during and after World War II, population in both cities increased rapidly, at least until 1960. However, as the manufacturing sector lost its competitive advantage and local governments supported with federal funding started implementing urban renewal and freeway constructions, population in both cities declined considerably. Between 1960 and 1990, population in both cities declined sharply, although San Francisco was able to reverse the trend in 1990 whereas Milwaukee kept losing its population.

Table 6.1 Population of San Francisco and Milwaukee, 1940 - 2010

	1940	1950	1960	1970	1980	1990	2000	2010
San Francisco	634,536	775,357	740,316	715,674	678,974	723,959	776,733	805,235
Milwaukee	587,472	637,392	741,324	717,099	636,212	628,088	596,974	594,833

Source: US Census Population

Even though both cities also received a large influx of African Americans during the height of industrialization, there was a distinct pattern that differentiated San Francisco and Milwaukee. Whereas Milwaukee relied heavily on the manufacturing industries, San Francisco diversified its economic bases, relying not only on the financial services and the manufacturing industry but also on research institutions. This combination gave San Francisco an edge during the period when the labor-intensive manufacturing industry declined.

Other factors such as the relocation of the manufacturing industry to suburbs followed by a large migration of middle-class white families from racially mixed urban regions to racially homogenous suburbs contributed to the distinct racial composition in Milwaukee with blacks and other minority groups dominating the urban landscapes. The percentage of the black population in Milwaukee kept increasing, from only 3.4% in 1950 to become more than 40% in 2010. Table 6.2 reveals racial composition in Milwaukee and San Francisco between 1980 and 2000. African-American becomes predominant in Milwaukee. On the other hand, the proportion of African-American population in San Francisco continues to diminish (SOCDS HUD).

One possible explanation about this trend comes from the fact that the central business district of San Francisco is dominated by global financial centers and research institutions affiliated with well-known universities. These economic barriers also explain why the proportion of the black population in San Francisco is higher in the suburbs than in the central city, whereas in Milwaukee, it is the other way around.

Table 6.2 Percentage of the black population in central city and metro level

	San Francisco		Milwaukee	
	central city	Metro (MSA)	central city	Metro (MSA)
1980	12.5	11.8	22.9	10.7
1990	10.6	11.2	30.2	13.6
2000	8.2	10.2	38.0	16.0
2010	6.7	9.1	40.9	17.4

Source: US Census Bureau & US2010: Discover America in a new century (http://www.s4.brown.edu/us2010/segregation2010/Default.aspx?msa=41620)

Economically speaking, a combination of large financial services and a large number of research institutions propelled San Francisco ahead, especially in the global economy. The central city contributed more than fifty percent of gross metropolitan products in 2008. The labor force is concentrated in the central city rather than in surrounding regions. The share of employed people from total population in San Francisco rose sharply from 51.3 percent in 1980 to 55.10 percent in 2000 compared with a steady figure at the metropolitan region which hovered around 49 percent between 1980 and 2000. In the case of Milwaukee, the employed share of the total suburban population is greater than the employed share from total central city's population. In other word, Milwaukee represents a common phenomenon of U.S. cities, where the central city lost not only its population but also its economic attraction to its surrounding suburbs.

Between 1970 and 2010, as the manufacturing industry lost its competitive advantages and globalization swept the globe, various development strategies were introduced in many cities in the U.S. to foster local and regional economy and to prepare the city for intense competition in the global economy. The results differ significantly in the case of San Francisco and Milwaukee. Using median household income as a proxy to measure whether successful economic development took place in a city, we can argue that the city of Milwaukee was eclipsed by its suburbs, whereas in San Francisco, it was the opposite. In Milwaukee median household income declined from $47,572 in 1970 to $35,921 in 2010, yet in suburbs the same figure increased from $66,308 in 1970 to $73,292 in 2000 (SOCDS HUD, 2010). Median household income in San Francisco increased almost 180 percent between 1970 and 2000; however in the suburbs the median household income only increased 140 percent. Further, the percentage of top 20 percent earner (high-income) in San Francisco kept increasing (from 18.4 percent in 1970 to more than 34 percent in 2000), while in Milwaukee the proportion of top 20 percent earner (high-income) steadily decreased (from 18.3 percent in 1970 to a mere 9.9 percent in 2000).

Milwaukee is an example of a declining industrial city that tried to change its fate. The city lost its population and its competitive advantage. Between 1970 and 1990, the city lost more than 30,000 manufacturing jobs. Although Milwaukee also added new jobs from service-related industries, this considerable loss affected the whole economy and resulted in a net loss of more than 5,000 jobs. In a comparative perspective, between 1970 and 1990 the suburbs of Milwaukee MSA created more than 140,000 jobs, of which

more than 14,000 j obs were manufacturing jobs. This shows that the manufacturing industry has moved either to surrounding suburbs or to different locations outside Milwaukee MSA. Further observation also unraveled the fact that between 1970 and 1990 suburbs in the Milwaukee MSA impressively outperformed Milwaukee city in terms of jobs creation in almost every sector.

Assessing Freeway Deconstruction in San Francisco and Milwaukee: Similar policies with different rationales

San Francisco and Milwaukee are two cities with completely different characteristics. One is endowed with financial institutions, surrounded with a large number of research institutions and agglomeration of human capital, making it capable of bargaining and competing in the global economy. The other is a p erfect example of an industrial city which lost its competitive advantage after globalization swept the region in the 70s and early 80s, and still struggles to define its future through various development strategies. Both cities have introduced progressive movements in the decision-making process, albeit with different results.

Freeway Revolts and Urban Freeway Removal in San Francisco

San Francisco has a long history with urban freeway development. A civil rights movement emerged in the mid 50s that lasted until the 1960s to oppose freeway development since people saw urban freeway as an integral part of urban renewal policies. The freeway revolt began as a movement in 1955 where the public opposed the construction of the Embarcadero Freeway. The revolt was triggered by Allan Temko of the San Francisco Chronicle's publication of proposed routes of new freeways. Temko was a passionate defender of the city's existing social fabrics and often criticized the city's development plan in which freeways would crisscross the city. His writing helped shape public opinion on freeway construction that would split apart San Francisco's physical and social fabrics.

In 1955, The U.S. Department of Transportation published *TrafficWays Plan*. A local coalition emerged to oppose this plan. As a result, San Francisco Board of Supervisors voted down seven of ten previously planned freeways in 1959. To avoid additional opposition, the plan was revised in 1960 and a number of freeways were not built or completed. However, this did not persuade the public to back down from opposing any plan to construct new freeways. The public persistently opposed building any new freeways, even after the plan was revised in 1960. As a result, the Board of Supervisors voted down another freeway.

The Embarcadero Freeway was part of the freeway revolt story in San Francisco. Built in 1953, it was designed to connect the Bay Bridge to Oakland with the Golden Gate Bridge to Marin County. Unfortunately planners and transportation engineers at that time often ignored local inputs when designing the road networks. Local neighborhoods' inputs, especially those affected by the freeway, were not incorporated in the planning and design of the Embarcadero Freeway. Numerous objections and opposition from various groups, including a petition signed by 30,000 people (approximately five percent of the total population at that time), persuaded the Board of Supervisors to vote against the plan to build urban freeways in the city, including Embarcadero Freeway and Central Freeway. At this point, the Embarcadero Freeway had already been built 1.2 miles in all, while one mile of the Central Freeway was already built[1]. As a result portions of freeways were left hanging beyond the off-ramps.

This result emboldened freeway opponents to coalesce to further their agenda to remove the unfinished freeways. In order to achieve this, they argued that freeways had created social blight, as it not only split apart existing neighborhoods but it also encouraged objectionable businesses to thrive. For example, since the Board of Supervisors cancelled any plan to build freeways in the city, the Embarcadero Freeway stopped at the Broadway off-ramp and traffic was funneled through North Beach and Chinatown. As a result, in the 1960s, this created unintended uses such as adult entertainment in the

[1] See http://www.sfgate.com/news/article/Timeline-A-look-back-at-Octavia-St-and-the-2680322.php

Broadway at North Beach[2]. Residents in the effected neighborhoods detested it, and this dissatisfaction turned into a broader movement at city level.

Between 1960 and early 1990, San Francisco municipal government and social activists tried to dismantle the idea that building freeways will create value added for the city. In particular, social activists pointed to the fact that local residents affected by construction bitterly opposed the initiative because they were not involved in the decision-making process. Freeway opponents mounted a movement at the neighborhood level aimed at rejecting any plan to build freeway and further advancing the initiative for freeway removal. However, there was a proposal to continue freeway construction in the city. In 1962, a plan was developed to revive a previous plan by building freeway through Golden Gate Park and the narrow park to the east side called Panhandle. However, the plan was cancelled by the Board of Supervisors in a narrow vote in 1966.

The 1989 Pieta Loma Earthquake gave impetus to the city to reconsider the benefits and disadvantages of freeways. As the earthquake severely damaged portions of the freeways, traffic was mildly disrupted, although drivers quickly adjusted to the situation by using alternate routes and different modes of transportation. As freeway proponents realized gridlock was no longer a problem and thus their main argument for rejecting the idea of removing freeways was invalidated, a movement was mounted to remove what was remaining of the freeway rather than to repair it. Two different situations emerged from this. In the case of Embarcadero Freeway, although there were objections from local

[2] See http://www.preservenet.com/freeways/FreewaysEmbarcadero.html

businesses (mainly those in Chinatown), the Board of Supervisors narrowly passed a recommendation for a study of a surface boulevard and underground freeway along the Embarcadero. This was proposed by Mayor Art Agnos. A different story took place in the case of Central Freeway. Although the earthquake severely damaged the freeway, there was a portion that Caltrans considered reparable. Despite vast differences between the two cases, in the end the city of San Francisco decided to demolish Embarcadero and Central freeways. Regardless of similar outcomes, there were variations in how each project was approached.

The Embarcadero Freeway gained its notoriety as it was part of the first freeways built in San Francisco and it had been accused of creating urban blight and bisecting existing neighborhoods. The number of residents that rejected the continuation of Embarcadero Freeway was higher than those that rejected Central Freeway with 30,000 signatures petitioning the city to stop the freeway construction. While Proposition I and J in June 1986 failed to garner enough votes for the city to remove the Embarcadero Freeway, this did not persuade freeway opponents to back down from their goal[3]. Pieta Loma earthquake helped those opposed to the freeways to advance their goal by demonstrating that without freeways, traffic automatically adjusted and there was no reason to believe that gridlock would occur. Caltrans developed two proposals in 1990 as a response to the

[3] Proposition I asked whether the city should tear down the Embarcadero Freeway, while Proposition J asked whether the city of San Francisco should replace part of the Embarcadero Freeway, if it would increase public access to the waterfront and improve traffic. Voter turnout was low, and both propositions were narrowly rejected by voters (in Proposition I it was 2 to 1 while in Proposition J it was 3 to 2). For detail see http://sfpl.org/pdf/main/gic/elections/June3_1986short.pdf

Pieta Loma earthquake that damaged the Embarcadero freeway. One was to rebuild the freeway, while the other was to replace it with a surface boulevard.

In 1990, the Board of Supervisors passed a resolution for a study of a surface boulevard and an underground freeway along the Embarcadero as a replacement for the elevated freeway. However, since an underground freeway was considered expensive, the city decided to forgo this and instead opted for a surface boulevard. During the decision-making process, Chinatown merchants objected to the idea of freeway removal. They argued that removing the freeway would affect their businesses, as their businesses declined fifteen to forty percent after the earthquake[4].

The Central Freeway also became the target of criticism of residents' dissatisfaction as the design split apart existing neighborhoods and greatly affected housing prices. Figure 6.1 shows how Central Freeway split apart neighborhood in the west and east of Market Street in San Francisco. In 1959, similar to what happened to the Embarcadero Freeway; freeway opponents mounted a campaign to halt construction and were able to garner significant support. Approximately 20,000 letters and 15,000 signatures were collected which mostly voiced concerns about the effect of freeway construction on the local economy. A follow-up plan was developed to resurrect this freeway in 1962, but it was narrowly defeated in a Board of Supervisors meeting. Because of the 1989 earthquake that severely damaged the Central Freeway in 1995, the city of San Francisco developed

[4] See http://www.preservenet.com/freeways/FreewaysEmbarcadero.html

a proposal to remove and replace it with a surface boulevard, something similar to Embarcadero Freeway.

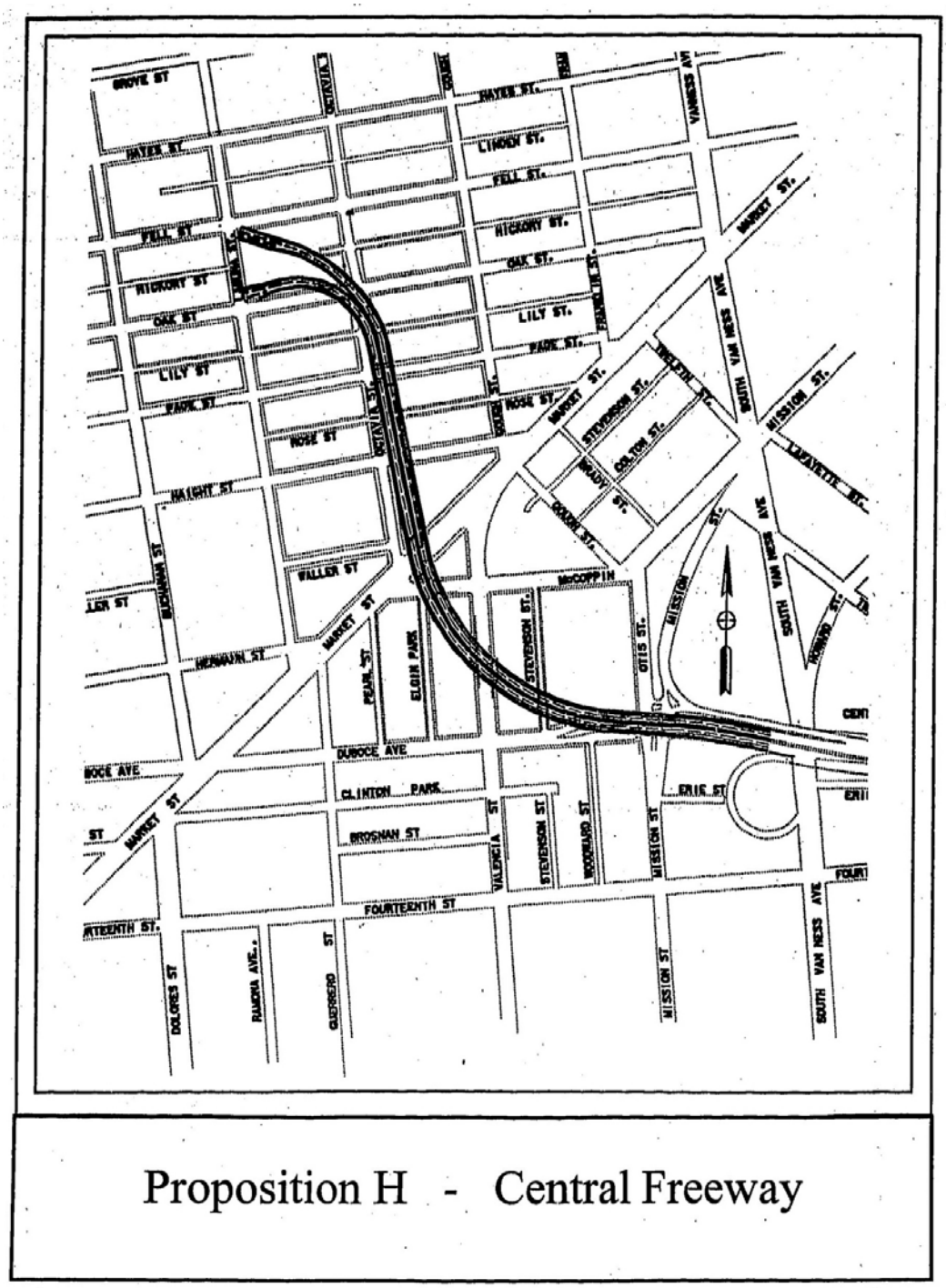


Figure 6.1 Part of the Proposition H that was put in the November 1997's ballot
Source: San Francisco Main Public Library, Government Information Center

In responding to this situation, Caltrans decided to keep the portion of Central Freeway that was still intact by reopening the existing freeway to traffic. In addition to that, it also developed a plan to demolish its upper deck and expand the lower deck in order to be able to carry traffic in both directions. During the planning stage, a number of groups started voicing their objections to the Caltrans' plan to rebuild the Central Freeway. At the same time, residents of western neighborhoods marched in favor of Caltrans plan to rebuild the freeway. Heated debates ensued between those in favor of rebuilding the freeway and those proposing removing it. Those in favor of rebuilding the freeway circulated a petition to place an initiative on the 1997 ballot with the argument that 97,000 cars that used the freeway each day would back up and block Market Street if the freeway were closed.[5]

This led to Proposition H in 1997 sponsored by the Coalition to Save the Central Freeway[6] where voters approved the initiative to rebuild the Central Freeway by a narrow margin. However, this result was challenged by freeway opponents and in 1998, Proposition E was put on the ballot. This time, voters approved the removal of the Central Freeway by a narrow margin[7]. The result of Proposition E was challenged again in 1999 through Proposition I and J. Combined, both propositions paved the way for the city to remove the Central Freeway and replace it with a surface boulevard.

[5] See http://sfpl.org/pdf/main/gic/elections/November4_1997short.pdf for details

[6] San Francisco Chronicle. 2004. *A Look Back at Octavia St. and Central Freeway*. Wednesday, October 20.

[7] See http://sfpl.org/pdf/main/gic/elections/November3_1998short.pdf for details

Although initially there was a proposition to challenge the result of the 1999 initiative, freeway proponents decided not to pursue it and instead focusing on a chieving compromise with freeway opponents. In the final compromise, it was decided that Caltrans would remove the overpass over Market Street and would rebuild the part that crossed the marginal light-industrial district south of Market Street. Table 6.3 provides a glimpse of voters' preferences in removing urban freeways between 1986 and 1999. It appears that the majority of voters opted to keep urban freeways intact rather than demolish them, although they approved the initiative to create boulevard as part of beautification program.

Table 6.3 Freeway Removal Initiative in San Francisco and Votes' Results (1986-1999)

PROPOSITION	MONTH	YEAR	SUBJECT	YES	NO	PASS/FAIL	PERCENT
I	JUNE	1986	EMBARCADERO FREEWAY DEMOLITION	41,782	88,527	F	32.06%
J	JUNE	1986	EMBARCADERO FREEWAY POLICY	53,310	75,706	F	41.32%
H	NOV	1997	CENTRAL FREEWAY	64,609	56,054	P	53.54%
E	NOV	1998	CENTRAL FREEWAY	115,593	103,013	P	52.88%
J	NOV	1999	CENTRAL FREEWAY REPLACEMENT	86,236	95,831	F	47.36%
I	NOV	1999	OCTAVIA BOULEVARD PLAN	97,386	81,823	P	54.34%

Source: Department of Elections, City & County of San Francisco

In order to remove the Embarcadero Freeway, more than fifty million dollars were spent. Of this, ten million dollars came from San Francisco, while the rest came from federal and state funding earmarked for infrastructure improvement. For area redevelopment, another seventeen million dollars were spent to match federally funded transit improvement projects, for a total of fifty million dollars. In the case of the Central Freeway, another fifty million dollars was spent but unlike Embarcadero Freeway, the city did not fund the project. Funding came from state and federal sources.

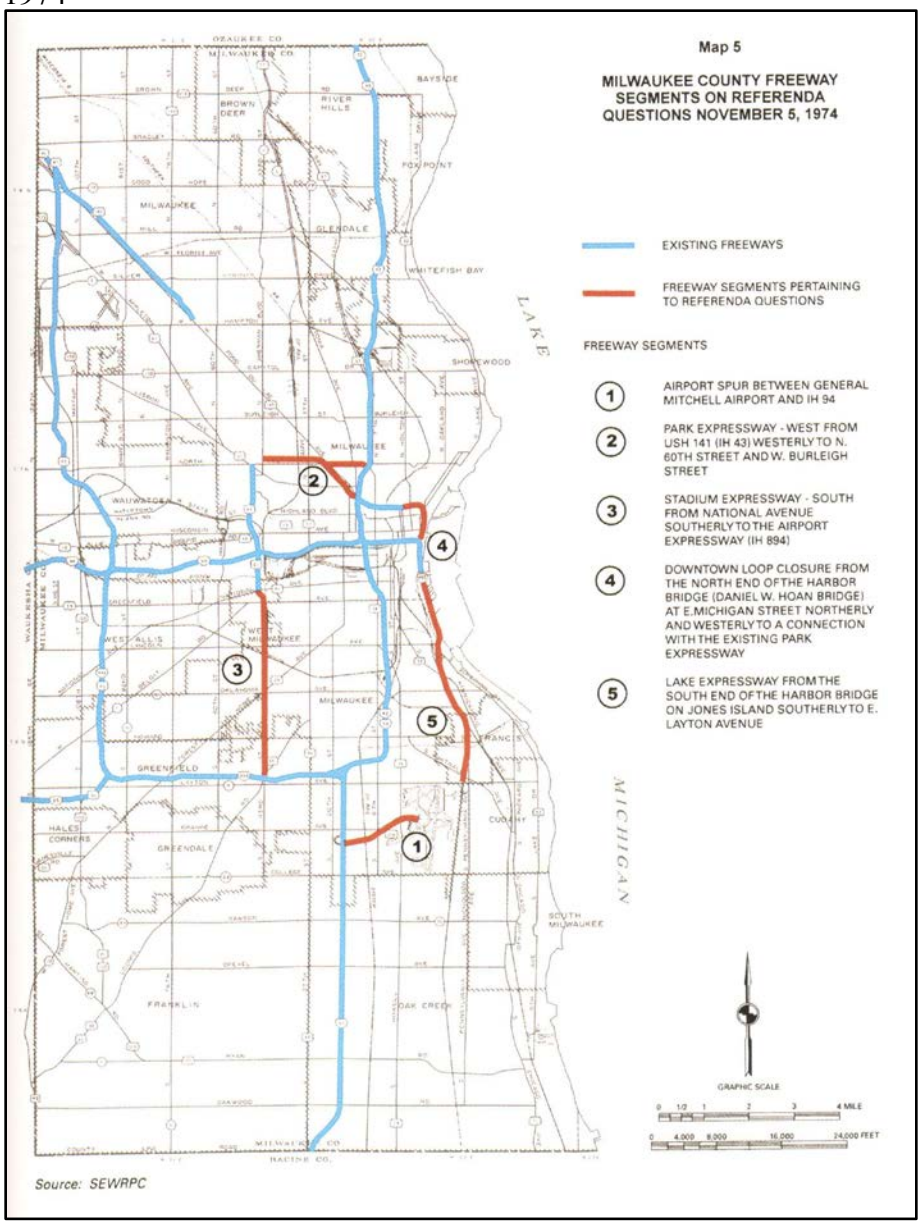
Urban Freeway Removal in Milwaukee: Race and economic decline

Milwaukee did not experience a situation similar to what San Francisco had. Voters initially approved a master plan to create a network of freeways in the city. However, during implementation, city officials and transportation engineers often deliberately did not convey detailed information about the engineering design to local residents until public hearing was held. By then it was too late for local residents to submit any objection to city officials and transportation planners for design adjustment. This gradually created resentment among local residents as their voices were not heard during the decision-making process. For those affected, they felt that the government was arbitrary, inhumane and needed restraint. Further, since the proposed freeway construction had decreased housing prices, the evicted home owners were often given less than their homes would had been worth without the plan (Cutler, 2001).

Opposition to halt the construction of freeways in Milwaukee did not occur until at least the mid 1965s. Spurred by various freeway revolts across the country, a coalition began to emerge in 1965 to oppose the construction of the Lake Freeway as part of the ring road surrounding downtown Milwaukee, famously called as the 'downtown loop closure' freeways. The 'downtown loop closure' consisted of North-South Freeway in the west, East-West in the south, Park Freeway in the north and Lake Freeway in the east. Because of the budget constraint, the city of Milwaukee decided to build the Lake Freeway first. The freeway opponents were able to mobilize a referendum in April 1967, where Milwaukee voters were asked whether the downtown loop closure, particularly the Lake Freeway, should be completed (figure 6.2). Even though the opponents were persistent in

pushing the idea of halting the freeway construction, the referendum passed with a near 2-1 margin. This was the third time voters supported construction of a freeway system in Milwaukee through a referendum.[8]

Figure 6.2 Milwaukee County Freeway segments on referenda questions, November 5, 1974



Source: Cutler, 2001

[8] The first referendum in the city of Milwaukee where freeway development was put in the ballot was in 1948. This referendum asked voters to approve a $5 million bond program for expressway-type improvement. The second referendum was held in 1953. This time, voters was asked for an additional $3 million bond issuance.

Given that there was broad public support for freeway construction in Milwaukee, one factor stood in the way that prevented the city for building freeways. Lack of advance public notice was identified as main culprit for the emergence of opposing freeway construction. Cutler (2001) points to the fact that policy makers often favored freeway construction over the interests of homeowners in several respects. Details about the proposed freeway were not disclosed until a public hearing was held. However, this situation was not unique, since not only Milwaukee but other cities also experienced similar situations (Altshuler & Luberoff, 2003). The intensity of freeway opposition increased by the end of 1969 as Federal government began to require through National Environmental Protection Act that all federally-funded projects should have environmental impact statements prepared and attached to the plan. Because previous opposition movements to stop freeway construction were futile, freeway opponents seized this opportunity by turning this NEPA law into a political weapon (Altshuler & Luberoff, 2003: 86).

In 1970, the Citizen Regional Environmental Coalition was formed in Milwaukee to oppose any plan to build freeways in a more united manner. The coalition rallied under the belief the freeways would split neighborhoods, were intended for suburbanites to reach their jobs in the downtown faster, and to facilitate suburbanization of employment centers (mainly manufacturing) to the suburbs. To achieve their objectives, the coalition supported local politicians with similar ideologies or political views who ran for various public offices. This changed the government's perspective on the freeway construction as

those politicians in favor of freeway removal were elected (Cutler, 2001). Hence, as the coalitions were able to elect their candidates to public office, their voices and views drowned out public enthusiasm for freeway construction in the City of Milwaukee and surrounding region.

The battles that ensued in the 1980s until late 1990s were the product of contentious politics on freeway construction during the urban renewal period. In the 1970s, Milwaukee saw the emergence of public officials who opposed the construction of new freeways, largely because of close association with local coalitions such as the Citizen Regional Environmental Coalition who opposed freeways. One of the prominent actors who challenged the proposal to build freeways in Milwaukee was John O. Norquist. He was elected to the Wisconsin State Assembly in 1975 based largely on an anti-freeway campaign before becoming a member of state senate in 1983. During his tenure as a state senator, Norquist helped limit and block new proposals for freeway construction in Milwaukee. After he became mayor, he directed his attention and his efforts toward specific freeways and projects.

Norquist previously aimed at removing the East-West Freeway and replacing it with a landscaped, surface boulevard with traffic lights and direct access to businesses. However, he faced opposition and one technical problem stood in his way. Approximately 89,000 vehicles used East-West Freeway per day, and this amount of traffic cannot be handled by a surface boulevard. In addition, Lake Parkway as part of I-794/East-West Freeway was nearing completion, and this added the volume of traffic

using I-794. Because of this situation, he turned his attention to Park Freeway which was never completed due to opposition in the late 1960s. His argument was that by tearing down this underutilized freeway, the city can free up many acres of land for development. Norquist then persuaded Governor Tommy Thompson and Milwaukee County Executive Thomas Ament to apply for federal funding and split the fund among three major projects, with the freeway deconstruction being one of these (Cutler, 2001).

Urban Freeway Removal in San Francisco and Milwaukee: A historical comparative assessment

We can identify a number of similarities and differences in the case of urban freeway removal in San Francisco and Milwaukee. Both cities experience contentious and heated debates between factions that opposed and those that supported freeway construction. While both cities were able to remove their freeways, these were freeways with low utilization and at some point had been partially torn down by natural forces. Both cities replaced freeways with similar design: a landscaped, surface boulevard in order to rejuvenate the area.

While at the surface, San Francisco and Milwaukee succeeded in their battle against freeway construction, one stark difference stood between these cities. Opposition and support for freeway construction came primarily from neighborhood associations in San Francisco, while in Milwaukee it a ppeared that elites mobilized the debates. The

following section delves deeper into conflict and coalition building before and during the decision-making process.

Power in the City: Conflict and coalitions in the decision-making process

This section focuses on what makes San Francisco and Milwaukee differ in the case of freeway removal. Both cities achieve the same outcome despite having different socio-economic characteristics. One possible explanation is the effect of power structure in the city on the decision. There were a number of actors who carried out important roles in shaping the agenda and directing the political debates surrounding freeway deconstruction.

Supporters of Urban Freeway Removal

Generally speaking, the initiatives to tear down freeways came not from social activists and local communities but from city officials. In San Francisco, it was John Molinari from San Francisco's Board of Supervisors supported by Mayor Dianne Feinstein and planning director Dean Macris; in Milwaukee, it w as Mayor John O. Norquist and planning director Peter Park who took the initiative. Norquist was known for his active role in opposing freeway construction since the early 1970s as an activist and as state senator before he successfully ran as mayor in 1988. Professional association and groups such as the American Institute of Architects, San Francisco Chapter, Sierra Club,

California Transit League and San Francisco League of Environmental Voters rallied behind the decision to tear down freeways. In the case of Central Freeway, Bay Area Rapid Transit (BART) opposed the idea of removing the freeway, citing that San Francisco cannot be part of a regional economy if its freeways only skirt the edge of the city.

Local neighborhoods and social activists were also actively involved in the freeway deconstruction in both cities, albeit for different reasons. Residents of poor neighborhoods felt that they were treated as an object in the decision-making process to build freeways in the central city. In San Francisco, after the San Francisco Chronicle published *TrafficWays Plan* in 1956, those in Sunset, Telegraph and Russian Hills, Potrero, Polk Gulch, Haight-Ashbury that were in the path of freeway construction set off neighborhood movements to oppose the plan. However, residents in the western part of the city opposed the idea of removing Central Freeway completely, citing that it would affect access to their areas. Several ballot initiatives were launched in order to garner support for both the removal initiative and the rebuilding proposal before a compromise decision was reached in 1999. In Milwaukee, there was no broad opposition on freeway construction. Local residents as a matter of fact were in favor in continuing freeway construction as exemplified in the 1974 referenda.

Opponents of Urban Freeway Removal: Political figures and businesses association

In Milwaukee, in general downtown businesses were in favor of removing Park East Freeway, although there was an objection from a homeowner group led by George Watts[9]. This challenge was part of his campaign to run against Norquist for Milwaukee mayor. He argued that removing the freeway would eliminate a vital route for customers and workers. On June 30, 1999, The Common Council's Public Improvement Committee approved 5-0 a measure that allowed city officials to negotiate with Milwaukee County and the state of Wisconsin about budget and related tasks to remove the freeway spur[10]. In California, despite support from the San Francisco Chamber of Commerce, a heated debate took place concerning whether the city should tear down the Embarcadero Freeway or rebuild it. A number of merchant associations from Chinatown, Polk District and Outer Sunset merchants objected to the decision to remove the freeways, arguing that after the earthquake, businesses was down significantly, and therefore it was a poor decision to completely remove the freeways.

Opposition to the freeway removal initiative came not only from local businesses but also from local progressive politicians. In San Francisco, Richard Hongisto, also a member of the Board of Supervisors, objected to the idea and vowed to bring the issue to the voters.

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[9] George Watts pressed a lawsuit in order to stop the removal process (see: See Milwaukee Journal Sentinel, 1999. *Panel Paves Way for End to Park East Freeway*. Thursday, July 1; Milwaukee, Wisconsin: Park East Freeway (http://www.preservenet.com/freeways/FreewaysParkEast.html). In order to support his claim, he listed sixteen businesses and institutions that would be affected had Park East Freeway been removed. However, during the hearing, developer Gary Gruneau pointed out that he had talked with all but two on the list, and ten supported the decision, while the remaining four described that the decision would not have significant impact on them.

[10] See Milwaukee Journal Sentinel, 1999. *Panel Paves Way for End to Park East Freeway*. Thursday, July 1.

Hongisto was known for his effort to place Proposition M, a measure which would limit construction of high rise commercial buildings which later had a dramatic impact on the San Francisco's skyline. Hongisto put the debate into voters' hands by asking whether they support removing freeways or rebuilding the freeway instead. Hongisto recommended a no vote on the June 1986 ballot and voters supported his effort by a two to one margin. Mayor Feinstein in commenting on the result argued that the ballot effectively ended two decades effort to remove freeways from the city.

In Milwaukee, after being elected as mayor in 1988, Norquist tried to persuade the public about the impracticality of building more traffic lanes in Milwaukee. He pointed to other cities' success in utilizing light rail rather than freeways in solving increasing traffic congestion. Milwaukee County Executive F. Thomas Ament supported Norquist's idea to build light rail, pointing out that it was impractical to build more traffic lanes and also light rail had proven to be successful in other cities. However, there was opposition to this proposal. Waukesha County Executive Daniel M. Finley and Wisconsin Governor Thompson objected to the idea of building light rail based on two factors. One was high cost in building light rail, and the other was the fact that there were a large number of workers living in Waukesha County who commute to the city of Milwaukee.

Milwaukee is unique in a sense that each group reached a compromise because of the deadline in using transportation funding. In 1991 Congress suspended an accumulated

transportation fund totaling 289 million dollars[11] and required that the State of Wisconsin, Milwaukee County and City of Milwaukee agree on what kind of projects should be financed using this fund. If by the deadline there was no consensus between state and local government, the funding would be forfeited. Although Norquist previously suggested that I-794 (East-West Freeway) should be torn down, he opted to tear down Park East Freeway because the freeway had lower utilization. Because of this, the State of Wisconsin, Milwaukee County and the City of Milwaukee finally reached a written agreement on how to use the ISTEA fund before the deadline for the ISTEA fund was set to expire. 241 million dollars were secured of which 25 million dollars were used for Park East Freeway demolition, 91 million dollars were designated to study the merit of mass transit system, 51 million dollars were spent to on reconstructing 6th Street viaduct and building two ramps to make Menomonee Valley industrial area more accessible for development, and the rest was spent to Marquette Interchange reconstruction (Cutler 2001: 107-8).

Contentious Politics in Urban Freeway Removal: Ballots and Compromise

To achieve their goal, both proponents and opponents of freeways had created strategic coalitions and had utilized various strategies and approaches. In San Francisco, local government officials courted chambers of commerce and professional associations in order to make freeway removal possible. A similar situation also emerged in Milwaukee,

[11] This funding is part of the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) that provides an overall intermodal approach to highway and transit with collaborative planning requirement. This law gave greater endorsement to metropolitan planning organization. There are 80 high priority corridors identified as part of the national highway system under ISTEA included Corridor 57 (US Route 41 Corridor) which was designated to serve the corridor between Milwaukee and Green Bay.

where Norquist as mayor of Milwaukee with the support from Milwaukee County Executive promoted the idea of freeway removal as an economic development policy, a powerful issue that later garnered support from chamber of commerce and a majority of downtown merchants. A coalition to oppose freeway removal among local neighborhoods, merchants, local politicians and partisan-groups had also emerged. Chinatown merchants, groups of motorist and a number of Republican politicians also opposed the idea of removing Embarcadero Freeway. In the case of Central Freeway, it was the neighborhood association in western San Francisco along with Chinatown and Outer Sunset merchants and labor unions who formed a coalition to oppose the removal of Central Freeway and instead urging the city with Caltrans to rebuild it.

In 1970 the African American population in Milwaukee accounted for almost 23 percent of the total population, and this number almost doubled in 2010. At the same time, the central city lost more than 20,000 between 1970 and 2000, while surrounding suburbs gained almost 200,000 new jobs. Manufacturing was hit hardest as Milwaukee lost almost 50,000 jobs, yet its suburbs were able to create more than 11,000 new manufacturing jobs. Further, between 1986 until 1997, the Department of Transportation spent more than $400 million (in 1996 dollars) for adding new capacity to the highway system in counties that encircled Milwaukee.[12] These facts alone might explain why there was resistance with regard to the idea of freeway removal.

[12] Orfield, Myron. 1998. *Milwaukee Metropolitics: A regional agenda for community and stability*. First preliminary report submitted to the Center on Wisconsin Strategy, University of Wisconsin, Madison. May. Available online at http://www.law.umn.edu/uploads/2e/dc/2edca812a4099eed3b90362d53fef09b/Milwaukee-Metropolitics-1998.pdf

Race and Ethnicity as the Determinant Factor

Ethnic groups also played a pivotal role in shaping the trajectory of urban freeway removal in San Francisco, although this was not the case in Milwaukee. DeLeon (1992) argued that in San Francisco, the progressive movement can be classified into three distinct categories: liberalism, environmentalism and populism.[13] He evaluated whether there were correlations between voter characteristics and their policy preferences by looking at thirty four ballot propositions between 1979 and 1990 in San Francisco. His study revealed that there are strong associations between race/ethnicity and type of progressivism in San Francisco. Blacks and Hispanics are more aligned with progressivism while Asian inclined toward conservatism, although they supported liberal ballot proposition such as affordable housing, public school spending, rent-control, and municipalization of public utilities (DeLeon 1992: 183). On the other hand, home ownership also affected how individual perceived local issues. Homeowners are more attracted to populism rather than liberalism. The higher an individual's socio-economic status, the more attracted they are to environmental issues rather than populist aspects of progressivism.

[13] Deleon defines progressivism as a movement which "attacks all structures of social domination, imposes conditions on business elites for access to the city's space, gives priority to community-use values over market-exchange values in land-use and development planning, and seeks to empower neighborhoods and groups historically excluded from public leadership roles (1992, p.34)." He then developed three distinct but somewhat interrelated categories of progressivism: liberalism, environmentalism and populism. Liberalism focuses more on the autonomy of the individual and favoring civil and political liberties and protection from arbitrary authority, environmentalism places its emphasis on preserving green spaces, or the air quality rather than heredity as the important factor in the development, and populism views that the rights and power of the people in their struggle against the privileged elite should be acknowledged and accommodated in the development.

Demographic structure helps us understand how race and ethnicity influence urban politics in San Francisco. Whereas the white population continues to decline (from 53.10 percent in 1980 to 41.90 percent in 2010), Asian and Hispanic population continues to grow. Combined, these two races accounted for more than 48 percent in 2010, a sharp increase from 1980, where they accounted for less than 35 percent. Homeownership in San Francisco is predominantly Asian and their number has been increasing significantly over the last ten years[14], and this might explain their objections to freeway removal.[15]

DeLeon in his study (1992) measured the perception of each race relative to the level of progressivism and whether they are more oriented toward specific type of progressivism (liberalism, environmentalism and populism). He broke down San Francisco's population into three different ethnic groups: Black, Hispanic and Asian. Further, he also evaluated whether the level of progressivism was influenced by the rate of homeownership in the city. He contended that Black and Hispanic are more progressive than Asian. Moreover, the Black population is more inclined toward liberalism. Hispanics, on the other hand, are more progressive than Blacks and Asians. Asians are the most conservative among the three groups observed. Table 6.4 provides a snapshot of the association between race and the level of progressivism in San Francisco.

[14] Western metros experienced strong growth of the Asian share of owners. Five of the six metros posting the strongest growth are located in California, including San Francisco, where 22% of homeowners were Asian. See McArdle, N. et al. 2012. *The Changing Face of Homeowners in Large Metro Areas*. diversitydata.org Issue Brief. Available online at http://diversitydata.sph.harvard.edu/Publications/Homeownership_brief_final.pdf

[15] During contentious debate in deciding whether the city should remove or retrofit the Embarcadero and Central Freeways, two factions emerged. One who opposed the idea of removing the freeways and those that supported the removal. One of the groups who opposed the idea of removing the freeways was the Chinese merchants. What makes them unique in this case is that they often utilize their houses as stores, a fact commonly found among Asian communities. Thus, it was not surprising that they opposed the idea of removing the freeways as they feared their businesses might decline.

Table 6.4 Liberalism, Environmentalism, Populism and Overall Progressivism in San Francisco Precinct as a function of Race/Ethnicity, Sexual Orientation, Home Ownership, and Socioeconomic Status (SES)

Predictors	**Liberalism**		**Environmentalism**		**Populism**		**Overall Progressivism**	
Percent Black	.614	**	-.302	**	-.252	**	.020	
Percent Hispanic	.749	**	.335	**	.114		.399	**
Percent Asian	.47		-.105	*	-.446	**	-.168	**
Gay (Dummy)	14.914	**	8.150	**	9.802	**	10.956	**
Percent Home Owners	-.461	**	-.360	**	.172	**	-.216	**
SES	1.129	**	1.470	**	.510	**	1.036	**
SES^2	-.011	**	-.011	**	-.011	**	-.011	**
Constant	31.427	**	32.473	**	58.909	**	40.936	**
Standard Error of Estimate	12.031		10.952		12.548		8.788	
Adjusted R^2	.71		.64		.49		.58	
(Adjusted R^2 without SES^2)	(.65)		(.55)		(.41)		(.44)	
Number of Precincts	710		710		710		710	

* $p < .05$
** $p < .01$

Source: DeLeon 1992: 185

DeLeon's table (table 5.5) enables us to understand the political dynamics around freeway removal in San Francisco. Asians rallied to oppose freeway removal by arguing that such decision would negatively affect their businesses, while whites and blacks supported the idea of tearing down freeways for different reasons, such as concern with the decline of urban environmental quality. This helps us understanding why plans for freeway construction were finally voted down through ballot initiative. Racial composition in San Francisco influenced the outcome of the vote. Whites and blacks combined accounted for more than fifty percent of the total population, while Asians only accounted for thirty percent.

In Milwaukee, a different story emerged. The racial composition in Milwaukee reveals similarity with other cities in Midwest, but the dissimilarity index[16] is hovering around 70. At the metropolitan level, the index stood around 80 since 1990, the highest among U.S. metro areas. The proportion of the black population increased more than tenfold in less than a half century in the city of Milwaukee, while at metro level it only increased twofold in the same period. Combined with the fact that the poverty rate in the central city is significantly higher than in the suburbs (it was twenty two percent in Milwaukee city compared with approximately four percent in the suburbs in 2003), job creations and economic growth became a pertinent issues rather than the idea of creating an inviting and attractive physical environment. Results from the 1975 referenda reinforced the previous two referenda, where the majority of Milwaukeeans opted for freeway construction. Thus, freeway revolts in Milwaukee were caused by the following factors: (1) the local government's decision to build urban freeways that split apart poor neighborhood, and (2) the local government's decision to not inform the local community about the detailed urban freeway designs to those who would be affected by the project until last few minutes of public hearing.

Actors and Their Role in the Decision-making Process

While both cities revealed political dynamics before and during the decision-making process, including negotiations and compromise, there are similarities and differences that can be summarized in table 6.5. It maps actors' involvement and their roles in

[16] The Dissimilarity index measures the relative separation or integration of groups across all neighborhoods of a city or metropolitan area. See detailed explanation in http://www.censusscope.org/us/s40/p75000/chart_dissimilarity.html

shaping the decision-making processes. By comparing San Francisco and Milwaukee, similarities and differences between two cities are revealed.

Table 6.5 Actors and their roles that shape the decision making process

	San Francisco (Embarcadero Freeway & Central Freeway)	**Milwaukee (Park East Freeway)**
Federal Government	EPA through NEPA Act in 1970 indirectly influenced the way activists and freeway opponents set the agenda for debate.	EPA through NEPA Act in 1970 indirectly influenced the way activists and freeway opponents set the agenda for debate.
	The Federal Highway Administration (FHWA) provided necessary funding for removing both freeways and subsequent costs associated with redevelopment the areas	The Federal Highway Administration (FHWA) provided necessary funding for removing both freeways and subsequent costs associated with redevelopment the areas
State Government	The State of California Department of Transportation (Caltrans) was assigned either to rebuild or to remove freeways affected by the 1989 earthquake. It also administered state and federal resources allocated for freeway projects; however, disbursement for any project was pending city approval. In the case of the Embarcadero Freeway, Caltrans provided support for both plans (option 1. to rebuild freeway and option 2. to remove freeway).	Governor Thompson originally vetoed the plan to remove freeway. His objection was not against urban freeway removal, but on replacing the freeway with light rail. He pointed out that light rail cost more than other modes of transportation.

	San Francisco (Embarcadero Freeway & Central Freeway)	Milwaukee (Park East Freeway)
	However, in the case of the Central Freeway, Caltrans initially supported keeping the portion of the freeway. However, they changed the plan after there were petitioned by the local community opposing the plan	
Municipal (local) government	San Francisco City: Initiated plan for removing freeways	Milwaukee City: Initiated plan for removing freeways through mayor John O. Norquist supported by head of planning director Peter Park Milwaukee County: opposed the idea of removing the freeway citing that commuters' mobility would be disrupted Waukesha County: objected to the plan citing that it was costly to build mass rapid transit as compared with upgrading the bus services already in place
Local community	There were no unified voices with regard to freeway removal. In the case of Embarcadero Freeway, there were two groups, one who opposed and the other who supported	Local communities supported freeway construction. In 1975 referenda asking about the fate of five different segments of freeway, more than fifty percent supported the effort to continue building freeways.
Private Sectors	Chamber of Commerce: There is no opposition from the chamber of commerce for removing both freeways. They argue (in line with argument	Chamber of Commerce: There is no opposition from the chamber of commerce for Park East Freeway removal. Similar to what happened in San

	San Francisco (Embarcadero Freeway & Central Freeway)	Milwaukee (Park East Freeway)
	from municipal government) that freeway removal and redevelopment will bring federal and state dollars and create jobs	Francisco, the idea that removing the freeway will bring federal and state dollars and additional jobs to the city enticed them to voice their support for the city's decision.
	Local businesses, especially Chinatown merchants opposed the idea of removing freeways, while other local businesses were receptive to the idea	Local businesses: a number of downtown merchants opposed the plan by arguing that it would severely affect downtown business.
Professional Association	American Institute of Architects (AIA) and American Planning Association (APA) San Francisco chapter endorsed the removal of Embarcadero and Central Freeways. Both associations have voiced their support for freeway removal on ballot.	Congress of new Urbanism voiced their support for the idea of freeway removal. American Institute of Architects (AIA) and American Planning Association local chapter also endorsed the plan for similar reasons.

Source: author analysis

Economic Restructuring as the Driver for Change

After World War II, population in both San Francisco and Milwaukee increased. However, ten years later urban population in both cities declined, due to the implementation of urban renewal programs. After 1980, S an Francisco was able to

reverse this course. However, unlike San Francisco, Milwaukee kept losing its population even after 1980. One possible explanation was that freeway construction spurred rapid development in the surrounding suburbs. Ease of movement has granted people freedom to choose where to live and to work. Further, businesses realized in the 1950s that the single story layout was much more cost effective than the traditional, older, multi-story factory design commonly found in central city. As this required more spaces than central city can accommodate, businesses started to relocate their plants to spacious industrial parks even before freeways were built (Cutler 2001: 112).

Changes in transportation modes also affected population trends in both cities, albeit indirectly. Started in late the 1950s, trucks gradually replaced rail in terms of cargo delivery to and from factories and eventually trucks carried for 81% of the value of all the nation's freight, and 60% of the tonnage (Kilborn, 1999). As industries became more reliant on trucks than rails, businesses started to develop industrial parks in the suburbs adjacent to freeways and thus reinforced dramatic transformation between central city and suburbs, as can be seen in table 6.6. In 1970, almost 50% of total metropolitan area population lived in central cities. However, more than three decades later, this proportion changed. More than half metro population now lives in suburbs.

Table 6.6 Population breakdown between central city and suburbs in Milwaukee and San Francisco MSA

	1970	**1980**	**1990**	**2000**	**2003**
Milwaukee City	51.09	45.54	43.86	39.78	38.82
Milwaukee suburbs	46.04	50.86	52.17	55.90	56.75
San Francisco City	48.42	45.60	45.14	44.87	44.30
San Francisco suburbs	51.58	54.40	54.86	55.13	55.70

Source: author analysis based on SOCDS HUD database

Economic restructuring provides several possible explanations as to why these phenomena occurred. After the 1960s many manufacturing industries were relocated outside U.S. territory. The industries argued that rising cost of labors made the commodities less competitive compared with similar commodities from other countries. While arguably the decision to move the factory from central city to suburbs might had reduced the pressure due to rising production costs, U.S. commodities still could not compete in a global market due to high prices. The solution was relocating the factory not only from central city to suburbs or from the Rustbelt to the Sunbelt in the south, but also by moving of from U.S. territory to other territory where the cost of labor was considered cheap and there was no stringent environmental regulation.[17]

At that time, manufacturing industries still produced low technology as compared with research and development (R&D) which produced high-technology, high added-value products. Looking at the U.S. trade balance in high-technology and low-technology products between 1960 and 1979, there was a sharp difference between these two[18]. The U.S. gained significant surpluses in terms of high technology products being exported (from $5 billion in 1960 to almost $40 billion in 1979, while low-technology products showed a dramatic decline from less than $500 million in 1960 into more than $35 billion in 1979). Even though the net effect from low-technology product and high technology

[17] http://prospect.org/article/plight-american-manufacturing, last accessed on November 1, 2011

[18] High-technology industries are defined as those having high R&D expenditures relative to total sales and a high proportion of skilled labor in their work force, while low-technology industries are defined as those having low R&D expenditures and a low proportion of skilled workers. See detailed explanation in Branson, W.H. 1983. The Myth of De-industrialization. *Regulation: AEI Journal on Government and Society* **7** (5): 24-54.

products exports combined was only a surplus of $2 billion in 1979[19], it brought a dramatic impact to U.S. cities in the national economic constellation as well as in the global economy in subsequent decades. A detailed observation shows developing countries consumed more of U.S. high-technology products especially in 1970s (from around $6 billion in 1970 to a staggering $23 billion in 1979). Also, the U.S. had trade surpluses with other developed countries with the exception of Japan and Germany (West Germany at that time).

These factors combined had a chilling effect on central cities. Milwaukee, one of the bastions of manufacturing industries in the Midwest was severely affected because of this global trend. Table 6.7 portrays this effect on both cities albeit with a different effect. In the 1970s, almost half of labor force in Milwaukee worked in the manufacturing sector. However, four decades later, this number plummeted to less than one fifth of its labor force. San Francisco fared slightly better, since manufacturing employment never accounted for more than one fifth of total employment. This did not mean that suburbs in Milwaukee had higher advantages than central city. During the same periods, the share of employment in the manufacturing industry in Milwaukee suburbs within Milwaukee MSA also declined sharply from 52.2 percent in 1970 to 33.6 percent in 2000. San Francisco suburbs were on a similar trajectory; however, because the region did not rely on manufacturing as its economic base, the region lost less than 10 percent of its manufacturing employment between 1970 and 2000.

[19] Ibid.

Table 6.7 Share of manufacturing employment in San Francisco and Milwaukee city, 1970-2010

	1970	1980	1990	2000	2010
San Francisco	21.8	16.8	15.3	11.7	5.9
Milwaukee	44.7	41.1	32.7	29.3	15.4

Source: American Community Survey (ACS)

During a contentious debate after the November 5, 1974 referenda in Milwaukee, Congressman Henry A. Reuss pointed out that the rising gasoline price due to Arab oil embargo might have a crippling effect on consumers. At a time when gas prices had doubled from 30 cents per gallon to almost 60 cents per gallon, Reuss proposed that instead of focusing on freeway development, Milwaukee should focus on building housing, light industry, public transit and outdoor recreation (Cutler 2001: 88). Despite the fact that more than half of the voters supported completing seventeen miles freeways comprised of five different segment of freeways, the freeway opponents fared better in shaping public opinion by using global concern (at that time was the rising oil prices) to delay the construction processes.

Regardless of the outcome, economic restructuring, where the manufacturing industry is slowly replaced by service-related industries, shapes the way actors frame their arguments for or against specific policies. Coupled with local pressures from residents for job creation and economic growth, economic restructuring also creates challenges for local governments in crafting development strategies that can satisfy everyone. As cities no longer compete one with another in the same region but also with cities from different

countries, visual and economic attractiveness became main goals for winning local and foreign investment. Although San Francisco outperformed Milwaukee in attracting companies (there were eight top Fortune 500 companies in San Francisco compared with only five companies in Milwaukee), both cities are outperformed by their peer cities in different categories. After New York, San Francisco is ranked second to the U.S. under the diversified financial activities and a flagship for headquarters in the IT sector, while Milwaukee is ranked second after New York in the U.S. as a destination for world's largest service providers, in particular capital goods (Ernst & Young & CSA, 2008). All of these combined became the driving force for actors and institutions to use global concerns as a means to persuade the public and other politicians about the direction of local development in the city should take.

Inter-governmental Relation as a determinant factor

Local politics is shaped and built around socio-economic status of the city residents. However, while any decision is decided by local actors, inter-governmental relations also contribute to the process. In San Francisco and Milwaukee, states and the federal government directly or indirectly influenced the local political dynamics leading to tearing down freeways since the enactment of urban renewal and in particular the early 1970s.

The Federal Highway Act of 1962 gave impetus for a collaborative decision-making process between states and local governments through its 3C (collaborative, comprehensive, continuing) principles. Further, this act also required all actors involved to consider local land development patterns and other transportation modes when designing long-range freeway plans and programs. Since the federal government had promised to provide 90 percent of the total cost for freeway development if state and local government fulfilled the 3C principles, cities such as San Francisco and Milwaukee were able to exercise local political power determining whether they would accept a freeway or not.[20] Seven years later, another act indirectly influenced the trajectory of urban freeway development in the U.S. cities. The Federal government through the National Environmental Protection Act had created a new mandate and regulations demanding that an environmental impact assessment (EIA) should be taken before any federal funds could be disbursed for any development project.

Combined, the Federal Highway Act of 1962, Federal Highway Act of 1968, and NEPA of 1969 had created an avenue for local movements in Milwaukee and San Francisco to revolt against freeway construction. Freeway opponents seized this opportunity to delay the decision-making process (Altshuler & Luberoff, 2003; Cutler, 2001). In Milwaukee, freeway opponents brought suit against the federal government arguing that an EIA had to be made before any decision was taken with regard to freeway construction. This cost

[20] Although there were second provision from Federal Highway Act of 1962 required state highway department to provide relocation assistance to displaced families and businesses, this did not take effect until July 1, 1965. Thus, this hindered any effort to protect urban communities from any arbitrary transportation decision (Mohl 2004: 680). To respond to mounting criticism, a set of amendment were incorporated in the Federal Highway Act of 1968 required that states should provide decent, safe, and sanitary relocation housing prior to property acquisition for interstate routes.

the city more than twenty two million dollars for the cost of land acquisition (99 percent has been acquired) and clearance of more than 1,500 houses (Cutler 2001: 83-84). After heated debates in a public hearing in 1974 and general referenda in 1975, the city and state agreed to discontinue building freeways in Milwaukee. In San Francisco, although a federal mandate and regulations were powerful tools in slowing down the construction process, it was a combination of changes in the state legislature and the wealthy and affluent residents' resistance that reinforced the opposition to freeway construction. Before the enactment of the Federal Highway Act of 1962 with its 3C principles, the state of California had revised the California Streets and Highway Code to require the Division of Highways to solicit public responses to new freeway plan. At the same time, the proposed freeway plan affected wealthy and affluent parts of the city. Altogether, these two factors had created avenues for a powerful opposition to resist new freeway plans. That being said, all of these had paved the way for a new interaction between states and local governments and between central cities and their surrounding suburbs in the future debate about freeway (de)construction.

To remove Park East Freeway, Milwaukee tried to tap federal funding available through ISTEA fund to achieve the goal. Because of the failure to compromise in utilizing the funding, Congress suspended 289 million dollars in 1991 and asked that the State of Wisconsin, Milwaukee County and Milwaukee City agreed on which projects should be financed with this fund. Before the deadline, the State of Wisconsin, Milwaukee County, and Milwaukee City were able to secure a deal, and were able to utilize 241 million federal dollars. Of this, 25 million dollars were spent to demolish Park East Freeway.

Local governments treated the proposals similar to mega-projects and relied on federal and state funds to finance the project. San Francisco put the proposition on the ballot that if voters supported the idea the city would get federal and state funds to finance the project. In other words, securing federal and state fund in freeway deconstruction was essential for local economic development and city beautification. In 1992, the San Francisco Board of Supervisors voted against building any new above-ground ramps to the Central Freeway north of Fell Street. In 1997, Proposition H was put on ballot asking voters whether they supported the Board of Supervisors plan to authorize Caltrans to rebuild certain portions of Central Freeway and to end the ban on construction of new aboveground freeway ramps north of Fell Street. Aside from the technical and social impacts, the City Controller has estimated that if the voters supported the plan, the project was estimated to cost 52 million dollars. This would typically come to the State Department of Transportation from state and federal sources since local government did not usually fund freeway projects from local revenues.

San Francisco and Milwaukee also revealed the dynamic relationship between state and local government. While the city of Milwaukee actively pursued light rail as part of its integrated development policy, the State of Wisconsin and surrounding counties (in particular Waukesha County) were not excited about such an initiative. They agreed that light rail would not be able to solve the transportation problem; however, the reasons behind their positions were completely different from one with another. Governor Thompson objected to the idea because of the high cost involved, while Waukesha

County Executive Daniel M. Finley argued that alongside the high cost associated with light rail, the demographic structure of Milwaukee suburbs should also be taken into account. Waukesha County was an industrial region and most of its residents worked in the manufacturing industry. Building fixed light rail track connecting central city and suburbs lacked flexibility to move workers to various locations in metro areas[21]. The State of Wisconsin, Milwaukee County and Milwaukee City were finally able to reach an agreement. However, this agreement was the result of pressure from Congress and federal government intervention.

In San Francisco the situation was a little bit different. Before the 1989 earthquake, city officials had urged local community to support their proposal to redevelop the Embarcadero area by tearing down the freeway. Yet, many distrusted such a bold plan and argued that changes might make things worse. Local residents were equally divided, half were in favor of freeway removal, the other half insisted that freeway should be kept for economic reasons. The proposal to remove Central Freeway also faced similar situation. Faced with these difficulties, Caltrans agreed to provide two different alternatives in the case of Central Freeway to be put in the ballot, while in the case of Embarcadero Freeway, Caltrans provided an alternative between retrofitting the freeway and removing it and replaced it with boulevard and other amenities.

[21] From 1970 to early 2000, construction and manufacturing workers accounted for 30% of total employed residents in Waukesha County, while city of Milwaukee hovered around 20 to 25 percent (State of the Cities Data Systems, U.S. Department of Housing and Urban Development). However, median household income in Waukesha County far exceeded median household income in the city of Milwaukee ($64,482 in Waukesha County compared with $41,486 in the city of Milwaukee).

Freeway deconstruction validated a pattern in mega projects (Altshuler & Luberoff, 2003) where local government invested a large amount of financial resources into a project that they believed would change the course of progress amid political controversies and opposition. The projects relied on federal and state government funding. Prior to implementation, local governments often touted the merit of these projects in creating employment and spurring the local economy. In each case, excluding funding from federal and state government, local government spent between three to five million dollars to remove freeways and another twenty to fifty million dollars to redevelop the area and its surrounding neighborhoods.

Freeway Deconstruction in Retrospect

Dramatic changes during the 1990s and early 2000s have brought a different attitude and perspective in looking at the relationship between freeways and the local economy. The common conception that freeways are important in shaping local competitive advantage is challenged both at the city level, and at the neighborhood level. Freeway deconstruction has provided a new avenue to test and to challenge this assumption.

Freeway deconstruction has been applauded as an appropriate solution to rejuvenate central cities. Criticism is directed toward freeway construction claiming it caused central cities to lose eight percent of its population between 1950 and 1990 (Baum-Snow, 2007).

Therefore, it is assumed that tearing down a freeway can bring back central city population. San Francisco demolished its freeways in the late 1990s; however, its population had been increasing even before 1980 based on U.S. Population Census data (it grew by 3.7 pe rcent between 2000 and 2010). On the other hand, Milwaukee tore down Park East Freeway in 2002 and based on 2010 U.S. Population Census data there is no sign that its population will increase. In fact, between 2000 and 2010, Milwaukee's population decreased by 0.4 percent.

It is pertinent to evaluate the effects of freeway deconstruction on local politics and economy. I direct my attention to actors and institutions involved in the decision-making processes. Supporters of the freeway construction often cited the effects of the freeway on the local economy, and the fear of gridlock that motorists had to endure had the freeway not been built. Supporters of freeway removal argued that a different arrangement would ease the traffic and at the same time stimulate local economy. Empirical evidence from a number of cities shows that it is hard to point out a concrete conclusion on whose claim is true. Of the twenty one cities engaged in the heated debates on whether a particular freeway in the city should be removed or not, only five cities were finally able to remove freeways albeit for various reasons. Despite claims of success from each side, there was no common consensus on how to measure the impact of freeway construction on the local economy and the city.

San Francisco and Milwaukee were able to secure federal funding to remove a portion of their freeways. Approximately eighty percent of the total cost of freeway removal came

from federal funding, while the remaining came from local funds. At the same time, both cities spent a considerable amount of money to redevelop the areas after the demolition. Milwaukee spent 25 million dollars to recreate three neighborhoods after it tore down Park East Freeway. San Francisco spent 50 million dollars to create a six-lane boulevard in the former site of Embarcadero Freeway and 62 million dollars to create a similar approach in the former area of Central Freeway and to rejuvenate Hayes Valley neighborhood.

Despite competing claims from both sides concerning the cost and benefit to the city of the freeway removal, San Francisco Municipal Agency did a post-project evaluation and found that there were backlogs on several streets and delayed arrival time for transit services. Further, there were discrepancies from the initial design and the implementation such as the width of the lane for traffic calming (from 16.5 feet in the initial design to 18 feet). On the other hand, the redesign of Octavia Boulevard did reduce the amount of traffic (from an average of 3,223 daily vehicles with 85th percentile speed of 27 mph in 2006 to 1,721 daily vehicles in 2010 with 85th percentile speed of 22 mph)[22]. Hayes Valley neighborhood experienced an increase in its property value after Central Freeway had been removed. As for the case of Embarcadero Freeway, it was difficult to isolate the

[22] The 85th percentile speed is a major parameter used by traffic engineers and transport planners. It is defined as "the speed at or below which 85% of all vehicles are observed to travel under free flowing conditions past a nominated point." (http://metrocount.com/downloads/flyers/Speed_analysis_1.pdf, retrieved January 09, 2014). The use of the 85th percentile speed concept is based on the theory that: (1) the large majority of drivers: (a) are reasonable and prudent, (b) do not want to have a crash, and (c) desire to reach their destination in the shortest possible time, and (2) a speed at or below which 85% of people drive at any given location under good weather and visibility conditions may be considered as the maximum safe speed for that location.
(http://onlinemanuals.txdot.gov/txdotmanuals/szn/determining_the_85th_percentile_speed.htm, retrieved January 09, 2014)

impact of freeway removal on the neighborhood since the area was part of Fisherman's Wharf and a tourist destination. A number of studies confirmed that house prices did increase after the removal (Cervero et al., 2007). However, these studies did not take into account the fact that the study areas are tourist destinations.

The demolition of Park East Freeway arguably is based on a political compromise rather than technical assessment. Norquist originally proposed tearing down I-794 (East-West Freeway). However, his proposal was criticized due to the fact that this freeway carries more than 89,000 vehicles per day (Cutler 2001: 107). Park East Freeway, suffered from the contentious battle of freeway construction in the 1970s carries only 35,000 vehicles per day. Tearing down Park East Freeway would help him accomplish his idea of pushing light rail forward as a means to tackle transportation problems in the city of Milwaukee. The removal was followed by the creation of three new neighborhoods in the area in order to attract new investment to the area. Yet, after almost a decade, the city still struggled to attract new investment, and some investors asked whether the city could provide financial assistance to spur the development.

While many applauded the initiative to tear down the freeway in both cities, a number of criticisms have emerged with regard to the decision. Norquist made a remark that the city of Milwaukee did not need new freeways because of the decreased utilization of existing freeways and therefore the removal of Park East Freeway was justifiable. Norquist's claim was criticized by Cutler (2001). He pointed that the decreased utilization of freeways was caused by adding more freeways onto road networks that enable drivers to

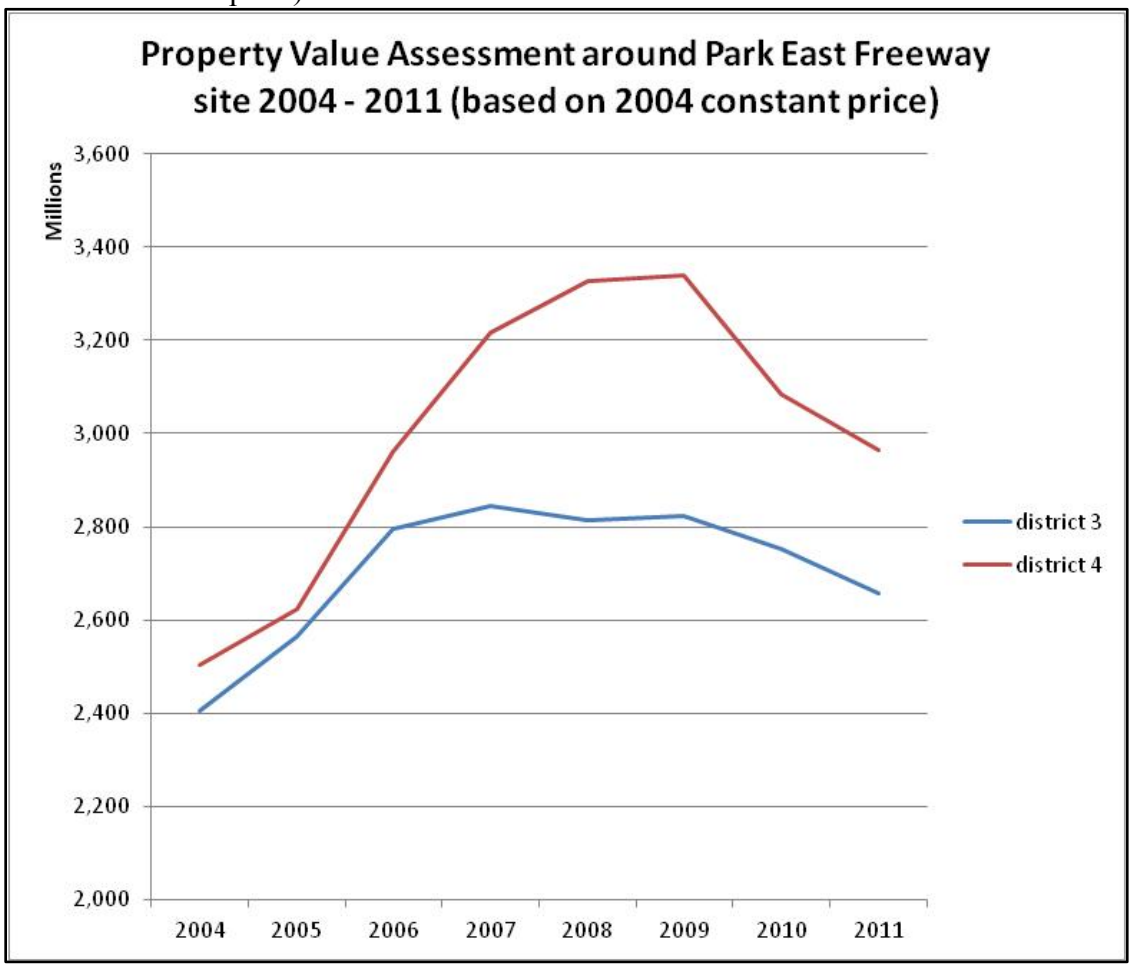
travel different routes if they encountered gridlock. The removal of the Embarcadero and Central Freeway also creates backlog and delay by more than two minutes for transit services.

The other criticism was targeted at the fiscal issue of the redevelopment project after freeway demolition. People inquired whether the redevelopment project is financially sustainable that it does not need financial support from taxpayers' money. Along with this, there was doubt whether such a project can create significant economic impact to the city. Although the area, formerly site of Park East Freeway, was ready in 2004, the redevelopment was considered slow. This perhaps was due to the unexpected financial crisis in 2007. Coupled with the fact that the lot size in the area was relatively large made it difficult for the city to sell it. On the other hand, San Francisco was able to rejuvenate the former area of Embarcadero Freeway since it was and still is a tourist destination. The area surrounding Octavia Boulevard and Hayes Valley neighborhood also experienced significant improvement after the removal of Central Freeway.

Property value assessment around Park East Freeway site obtained from Milwaukee County Assessor revealed that after the demolition property value around the site experienced positive valuation until 2008 when gradually total property value assessment for overall areas around the site declined until 2011. Figure 6.4 summarizes property value assessment around former site of Park East Freeway between 2004 and 2011. The increased value perhaps was caused by the start of the revitalization processes initiated by the economic development office. Although economic crisis in 2007 is often pointed out

as a primary culprit in the declining property value, there might be other explanations such as low interests from captive markets to relocate to Milwaukee or there are no interesting employment opportunities available in the city.

Figure 6.3 Property value assessments around former site of Park East Freeway (based on 2004 constant price)



Source: Milwaukee County Assessor, author analysis

A careful observation of percent changes in the property value between 2004 until 2011 revealed that the initiatives to rejuvenate the former site of Park East Freeway did not bring the intended impact. The areas only experienced a brief increase between 2005 and

2006, and after 2006, the property value decreased similar to other parts of the city. Between 2009 and 2011, the property values in the area even decreased sharply as compared with city of Milwaukee.

Summary and Discussions

Although San Francisco and Milwaukee succeeded in removing freeways, it was the role of growth coalitions manifested in political pressure via ballot and budget compromise that enabled such changes to happen. In each city, it was a diverse coalition comprised of various actors with different socio-economic background. In San Francisco wealthy neighborhoods' dissent later turned into neighborhood movements that motivated the movement toward oppose freeway construction. It was a different problem in Milwaukee. Local economic decline in the early 1960s and urban renewal project targeting poor neighborhoods spurred the movements to oppose freeway construction or expansion. We can conclude that urban freeway removal in San Francisco was motivated by neighborhoods' movement while in Milwaukee it was the local elites who bolstered the initiative.

However, there is a clear separation with regard to political ideology in both cities. Those aligned with the Republican/Conservative party were rejecting the idea of removing freeways while those identifying as Democrat/Liberals were pushing the freeway

deconstruction initiative. State officials argued that removing freeways and replacing them with mass rapid transit would interrupt existing regional flows of goods and services. Local officials, supported by members of local chambers of commerce, neighborhood associations, local business association and professional association, pushed for freeway removal since freeway did not bring the intended economic effect to the central city and neighborhood. Federal government appeared to stay neutral, as Federal Highway Administration (FHWA) not only provided funding to build freeways but also agreed to fund costs associated with freeway removal.

In both cities, the following criteria were drivers for the coalition formation to pursue freeway removal:

1. There is a need to cater to a new market (either to create jobs or to provide amenities), and since land available for development is limited, public attention is directed toward removing freeways;
2. There is a continuing support for freeway removal from local communities, especially those affected with freeway construction during the urban renewal periods and those who feared that their land value will decrease as an effect of an expanding freeway construction;
3. Both cities have undergone economic transformation with advanced-service sectors dominated local economy;
4. There are under-utilized freeways ready for removal;

5. A dominant central city with advanced service sectors as an economic base sought to strengthen the attractiveness of its local economy with strong ties to state officials and lawmakers, and
6. Indirect federal support in the form of financial assistance to cover major portion of the project if it is approved.

This historical narrative serves as the last foundation in understanding the way local coalitions in two cities with different characteristics were able to influence the cities' decision to remove their urban freeways. Although we can say that the driving forces behind the decision to remove urban freeways in San Francisco and Milwaukee came from endogenous factors, there is significant difference between the two cities. In San Francisco grass roots and neighborhood associations influenced the public perception on urban freeways, whereas in Milwaukee it was the activists and elites that mobilized the coalition.

Despite the fact that pro-growth coalitions dominated the local political landscape in the pre-1985 era (Hu, 2012), it was during Mayor Art Agnos' and Frank Jordan's tenure that the slow-growth movement gained its support from the government and their stance was accepted by the local business community. The slow-growth movement places the emphasis in preserving San Francisco's traditional characters and integrating the inclusionary program as part of the city's development strategies. As homeowners and neighborhood associations morphed into a community-based organization with a strong political power, they gradually influenced the City Hall officials' view on urban freeways.

Even though the City Hall embraced the idea of removing urban freeways after the 1989 Pieta Loma earthquake hit the city, this coalition of homeowners and neighborhood associations managed to convey their view of urban freeways and the development trajectory of the city. The removal of the Embarcadero Freeway in 1991 and the Central Freeway six years later substantiated this claim.

On the other hand, despite strong efforts from activists and African-Americans in Milwaukee in challenging the pro-growth stance of the city, the majority of Milwaukeeans continued to support the pro-growth strategy. The 1975 referendum exemplified this view as more than 50% of voters approved the plan to build a network of urban freeways. The removal of Park East Freeway was the result of Norquist's view of whether a city should rely more on urban freeways or on light rail. At the same time, it also reflected opposing view between the City Hall and the majority of the city's population, and between the city and the State and adjacent counties.

CHAPTER VII

CONCLUSION

The scholarship on t he role of power and planning in influencing infrastructure development is immense. However, many of them present little if any evidence to address the association between the city's characteristics and urban infrastructure development. The immediate goal of this dissertation was to explore whether the characteristics of the city play a pivotal role in shaping the decision to remove urban freeways within the American context. My long range ambition was to produce a dissertation that adds to both the theoretical and practical knowledge of how power affects planning and infrastructure development.

Current public policy options designed to bolster the growth of urban areas are usually directed toward building more urban freeways. The economic growth of urban areas is believed to be positively associated with urban freeways. However, the study finds that this is not always the case. Five out of twenty-one cities investigated have demolished some portions of their urban freeways; yet, their economies continue to grow despite claims that demolishing urban freeways impede the economic growth of urban areas. If

cities no longer need urban freeways, can we refute the claim that urban freeways positively contribute to the local economic growth and it is a folly for a city to remove its urban freeways? Using twenty-three urban freeway removal proposals in twenty-one American cities, the study finds mixed results. A number of cities successfully removed urban freeways and enjoy continuous economic growth. Other cities only experience modest if not insignificant economic impact to their economies. Some of the remaining cities which did not succeed in deconstructing their freeways continue to grow; other unsuccessful cities continue to decline and lose population. However, this result is not without value. I argue that this finding adds to the evidence questioning the underlying assumptions of the effect of urban freeways on the local economy. I have situated these questions in a larger effort to understand the impact of urban freeway development. Having done this, I should emphasize that my findings are based on 23 cases and I make no claims as to their generalizability. Nevertheless, we can learn a great deal from these cases, and I state my findings in the sections below.

The Characteristics of the City and Urban Freeway Removal

This research finds that characteristics of the city have significant influence on infrastructure development. A prosperous post-industrial city will opt to remove urban freeway and use the land previously used for freeways to build urban amenities. A declining, transitional industrial city, on the other hand, may have a hard time selling the idea of urban freeway deconstruction, as the local economy still relies on freeways to

transport goods and commodities to other regions. A breakdown of the characteristics of the city into seven conditions revealed that three of these conditions are strongly associated with the decision to remove urban freeways. Employment growth in the finance, insurance, and real estate (FIRE) industries, a high proportion of college graduates, and increasing housing demand are positively associated with the city's ability to remove urban freeways. In a broad stroke, these three conditions reflect the characteristics of a prosperous post-industrial city and confirm that the post-industrial city is capable to implement progressive urban development.

Further, my findings reveal the differences between a post-industrial city and a declining, transitional industrial city when both cities successfully removed urban freeways from their road networks. First, the economic impact of urban freeway deconstruction in the declining, transitional industrial city is not high as compared to the impact in the prosperous, post-industrial city. The declining industrial city may be able to garner necessary political and economic support to remove its urban freeways, yet the result is pale in comparison with the economic outcome of the same project in the post-industrial city. Second, a prosperous post-industrial city has broad support in deciding whether the city will remove the urban freeway; something that a declining, transitional industrial city does not have.

The study finds that the effect of urban freeway deconstruction on the local economy is mixed. Housing price, as an indicator of an economic growth, continues to increase in a

prosperous post-industrial city, but this is not the case in a declining, transitional industrial city – even though both cities successfully remove their urban freeways.

Power and Planning in the Deconstruction of Urban Freeway

The study reveals that local growth coalitions are positively associated with the characteristics of the city. White-collar workers and professional associations drive the growth coalition in a prosperous post-industrial city. On the other hand, local political elites become the main driver of the local growth coalition in a declining, transitional industrial city. College graduates and holders of advanced degrees positively affect the decision to remove urban freeways; whereas employment growth in the manufacturing industry negatively influences the decision. In analyzing twenty-one cities with urban freeway removal proposal, the study finds that the median number of FIRE workers in the city that successfully removed urban freeways is five times greater than in the unsuccessful city. Further, the proportion of college graduates in the cities with successful urban freeway removal projects is 1.25 greater than cities that did not succeed in removing urban freeways.

One possible explanation lies in the fact that white-collar workers are driven by social, environmental, and aesthetic considerations. They prefer to work in a work environment that provides ample open space and mobility alternatives to the automobile. They favor a local government that respects the fragility of the ecosystem by reducing the reliance on

automobiles. Further, they also approve of socially sensitive governance that imposes financial obligations on private investment to fund essential social needs such as affordable housing, mass transit, and parks (Rosdil 2011, 3468). These facts also confirm the argument that education, family structure, and other lifestyle choices replace traditional markers of group identity such as ethnicity, religion and occupation (Giddens, 1990).

Elazar's conceptualization of subcultures in the United States (1984) may explain why progressive development policy in the post-industrial city receive broad support, yet in the declining, transitional industrial city it only receives little attention and support. He defines political culture as "the particular pattern of orientation to political action in which each political system is imbedded (Elazar 1984, 109)." He posits that each political subculture views the role of government differently, partially driven by perception of government as service and partially by the influence of religion on morals and public standards. Elazarian typology differentiates American subculture into three distinct categories: an individualistic subculture, a moralistic subculture and traditionalistic subculture. Individualistic subculture treats the democratic order as a marketplace in which individuals bargain and exchange to achieve private goals and politics functions with the values of business. Moralistic subculture views government as an arena for the pursuit of a communal public good and in which participation is a matter of citizenship duty rather than businesslike pursuit of private gain. Traditionalistic subculture is marked by paternalistic and elitist views of who should participate and an emphasis on the preservation of the existing order. Elazarian typology helped me understand the

differences between a post-industrial city and a declining, transitional industrial city in terms of political culture.

Drawing from this classification, the study infers that the political culture in the post-industrial city resembles the moralistic subculture. On the other hand, the political culture in the declining, transitional industrial city is a mixture of paternalistic and traditionalistic subcultures. This may explain the broad supports for a progressive development policy in a post-industrial city such as San Francisco, and only a handful of support, and mostly from local elites, for the same policy in a declining, transitional industrial city such as Milwaukee.

A Cautionary Note: Learning from case studies

This dissertation argues that characteristics of the city play a pivotal role in shaping the decision to remove urban freeways. A qualitative comparative analysis of twenty-one cities supports this thesis. Using case studies of urban freeway deconstruction in San Francisco and Milwaukee, this study finds that the city's political subculture affects the decision to remove urban freeways. However, the finding does not fully explain variance among similar cities. A number of post-industrial cities initiated urban freeway deconstruction; yet not all of them were successful in achieving that goal. While an examination reveals that post-industrial cities are more successful in implementing

freeway deconstruction, I should also point out that it is not a coincidence that these cities have strategic market advantages in the global economy.

Because of their strategic advantages in the global economy, these cities use their desirability to bargain with businesses and investors (Rosdil, 2011). Prospective businesses and investors internalize demands from the local community as business requirements that should be met. This may explain why a progressive development policy is more successful in a post-industrial city. Once a city has made a full transition from a goods-producing economy to a knowledge-intensive economy, it gives political leverage to local elites to challenge long standing beliefs.

Therefore, in a context of progressive development policy, a political subculture and an established position in the global economy are important as additional conditions for the emergence of progressive governance. Without these conditions, it is difficult for a progressive development policy to achieve its intended goals.

Implications for Academic Research

This research has several implications for the social scientific study of development policy. I will first discuss the importance of connecting urban politics, especially the influence of local growth coalition on urban infrastructure development, with economic development policies and place making strategies. Secondly, I will review the policy

implications for place-making strategies and economic development policies at the central city and neighborhood level.

I began this dissertation by investigating the assumption that freeways are important to the local economy and asked whether there is an association between the role of urban freeways and place-making strategies. It is commonly assumed that urban freeways stimulate economic growth, yet at the same time, empirical evidence points to the negative effects of freeways on central cities. I directed my attention to the following argument: If freeways do not contribute to the local economy, then there is no need for cities to build more freeways. Yet, the experience points to the contrary of my argument. Cities keep building urban freeways for the very same reason they did a half century ago: to ease traffic movement and to bolster the local economy.

Economists have long argued that building urban freeways stimulates the economy. They theorize that urban freeways have a direct positive effect on the national and local economy. However, a new generation of economists and urban planning scholars disagree with this proposition. Their studies point to evidence that central cities' population declines because of urban freeway development (Baum-Snow, 2007). Further, at the local level, urban freeway development induces employment centers to move from one area to another (Boarnet, 1998).

Therefore, it is inaccurate to portray urban freeways in all cases as the driver of economic development, especially in under conditions of global economic competition. Empirical

evidence shows that removing urban freeways from urban road networks does not weaken the local economy. Indeed, a number of cities with urban freeway removal proposals have experienced economic growth. However, there is a cav eat to this proposition. It is misleading to assume that any city can remove an urban freeway and replace it with amenities to encourage development. Certain type of city still needs urban freeways because their economic bases rely on urban freeways to transport manufactured goods and some services. Thus far what has been absent from the scholarly discussion is the link between characteristics of the city, especially its demographic makeup and its ability to deconstruct freeways.

My dissertation extends the argument that certain characteristics of the city substantively influence the decision to alter their physical landscape by removing freeways. What Florida calls "creative classes, as indicated by the number of college graduates, holders of advanced degrees, and advanced service industries are the main driver for influencing the decision to remove urban freeways. Further, these characteristics also affect the outcome of this decision indirectly as measured by changes in housing price. Florida (2005, 2002) repeatedly points to the role of creative classes in stimulating local economy. This study, while confirming his proposition, calls for further exploration of the links between other characteristics of the city, such as religion, grass-root movements, political ideology, and individual preferences that ultimately shape the development trajectory of the city.

Implications for Place-Making Strategies

One of the key arguments for urban freeway deconstruction is that the project will create an inviting environment in the city. Scholars point to the cases of Portland and San Francisco to emphasize the benefits of removing urban freeways and replacing them with urban amenities. After freeways are removed and the area is redeveloped, we see a remarkable change as indicated by the increasing property value and the population increases. While urban scholars lauded this gentrification process as a sign of a healthy economy, this research argues that policy-makers should approach this strategy carefully. Not all cities are attractive enough for creative classes and therefore cities should consider developing their own approach to stimulating their economies rather than duplicate other cities' strategies.

Further, place-making strategies are indirectly influenced by the culture war in the U.S. The debate between those who opposed and supported urban freeway removal reflects the division between progressive-populist and traditionalist-individualistic cultures. Indeed, those who opposed urban freeway removal claim that the proposal impedes individual liberty and mobility, a trait that is often associated with traditionalist-individualistic cultures. On the other hand, the progressive-populist movements argue that removing urban freeways protects the urban environment and urban neighborhoods. However, both parties agree that the health of local economies should be the main concern in deciding whether to remove or retain urban freeways. This confirms Peterson's claim that urban politics is "above all the politics of land use (Peterson 1981, 25)." Because a city has little

direct control over its labor supply, a city's control of land becomes its principal vehicle for attracting industry.

Comparing San Francisco with Milwaukee also reveals a link between local growth coalitions and political ideology. In both cities, local growth coalitions associated their policy choice with a populist approach. As they garnered enough political and economic supports, they were able to wield their power in resisting interventions from state governments. As expected, Republicans rallied behind the efforts to retain urban freeways while Democrats gave their supports to urban freeway removal.

Recommendation: A framework for reinvigorating cities

My findings corroborate theories of urban scholars who point out that not all cities are equal in terms of economic size and political influence. Therefore, any successful economic development policy in one city could not be directly implemented in another city. My study indicates that a successful economic development policy in any city is associated with the growing role of creative classes and FIRE industries as the predominant sector. This implies that creative classes are the key drivers in bolstering a local economy and therefore it is logical that cities compete against one another to attract these creative classes. However, creative classes are only attracted to move to a particular city if there are interesting jobs available. As long as job demand is not present it is

difficult for any city to attract creative classes and have these groups as the economic driver of the local economy.

I hope scholars find this dissertation useful for future research in planning, politics and place making strategies – not only in the U.S. but in other parts of the world. However, we should approach this approach cautiously and with an eye toward recognizing urban differences as Allen et al. aptly put their argument (1999):

> Clearly cities cannot be understood as territories in any sense of being firmly bounded, easily demarcated or contained. But that the complexity of city social and political life, the diversity of economic activities and spaces and the multiplicity of flows and networks which operate in and through cities might constitute a distinctive place, a site for social, political and economic activity, remains plausible (quoted in Robinson 2005: 762).

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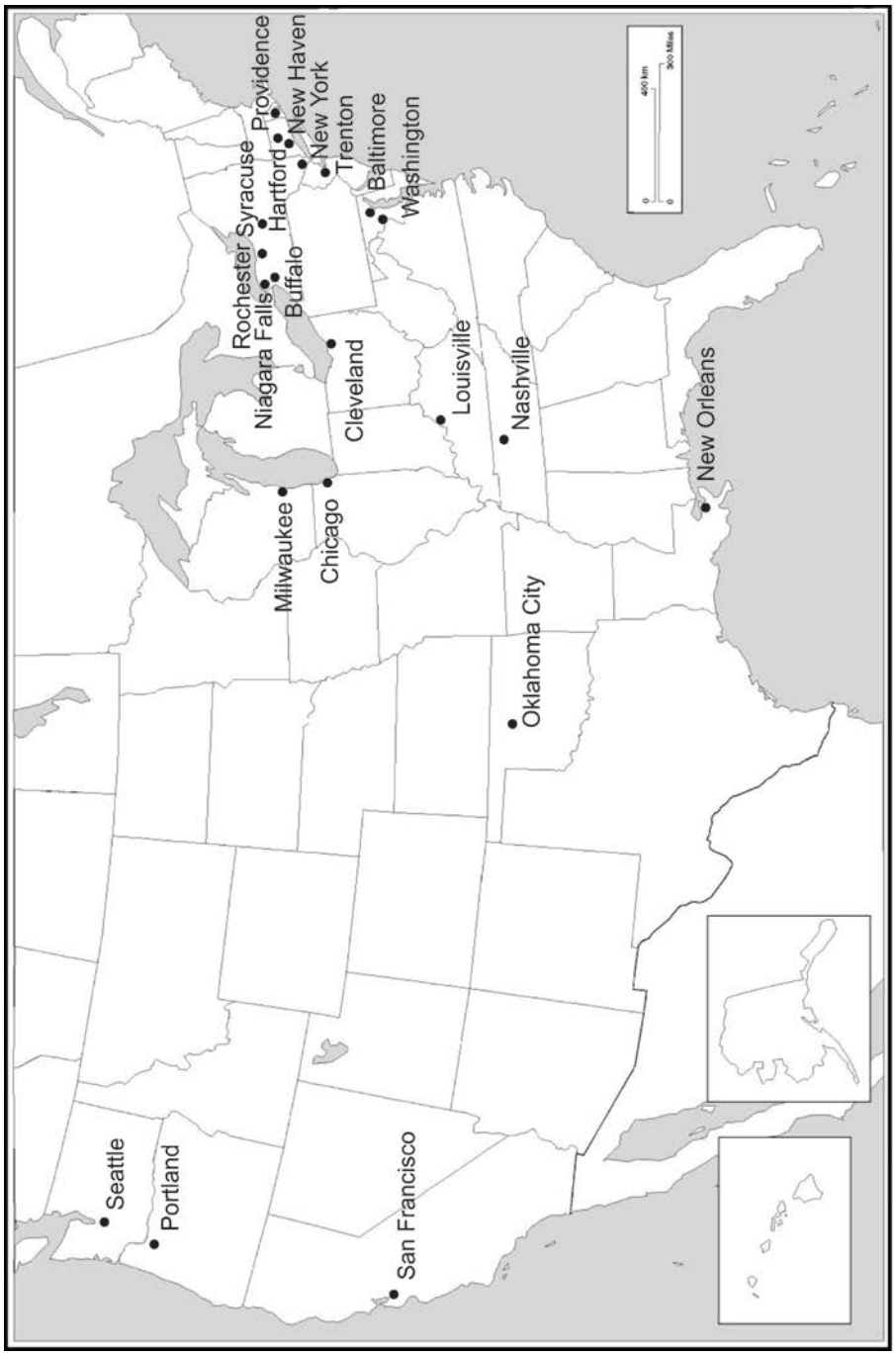

Figure 1. Spatial distribution of 21 U.S. cities with urban freeway deconstruction proposal

Baltimore, MD

Table A.1.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	659,167	305,088	343,886	46.3	52.2
1980	806,041	302,459	490,236	37.5	60.8
1990	934,427	303,466	615,984	32.5	65.9
2000	1,042,030	299,024	727,041	28.7	69.8

Table A.1.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	72.30	43.40	89.00
	1990	71.10	38.70	86.00
	2000	66.30	31.00	78.80
black, non hispanic	1980	25.30	54.40	8.50
	1990	25.70	59.00	10.40
	2000	27.20	64.00	14.30
other races, non hispanic	1980	1.40	1.20	1.50
	1990	2.00	1.40	2.30
	2000	4.40	3.30	4.90
total hispanic (all races)	1980	1.00	1.00	1.00
	1990	1.20	1.00	1.30
	2000	2.00	1.70	2.00

Table A.1.3 median household income

	MSA	central city	suburbs
1969	$50,594	$39,727	$60,164
1979	$55,307	$37,857	$65,186
1989	$63,237	$41,601	$73,327
1999	$64,307	$38,733	$74,120

Table A.1.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not Graduate High School	1970	55.5	65.7	47.7
	1980	38	51.6	30.5
	1990	25.3	39.3	19.2
	2000	18.1	31.6	13.6
High School Graduate	1970	26.2	21	30.2
	1980	31.8	26.7	34.8
	1990	28.5	27.5	29
	2000	27.1	28.2	26.9
Some College or Associate Degree	1970	8	6	9.6
	1980	13.3	10.4	14.9
	1990	23.1	17.7	25.5
	2000	25.6	21.1	27.1
College Graduate or Advanced Degree	1970	10.3	7.2	12.5
	1980	16.9	11.3	19.8
	1990	23.1	15.5	26.3
	2000	29.2	19.1	32.4

Buffalo, NY

Table A.2.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	433,392	166,101	238,399	38.3	55.0
1980	471,805	156,393	285,918	33.1	60.6
1990	490,179	151,887	309,743	31.0	63.2
2000	508,779	145,320	335,672	28.6	66.0

Table A.2.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	88.30	69.60	96.90
	1990	86.30	63.20	96.20
	2000	82.50	51.80	93.90
black, non hispanic	1980	9.10	26.30	1.20
	1990	10.10	30.40	1.40
	2000	11.50	36.60	2.10
other races, non hispanic	1980	1.30	1.40	1.20
	1990	1.60	1.70	1.50
	2000	3.10	4.10	2.70
total hispanic (all races)	1980	1.30	2.70	0.70
	1990	2.00	4.70	0.90
	2000	2.90	7.50	1.30

Table A.2.3 median household income

	MSA	central city	suburbs
1969	$51,495	$38,395	$60,152
1979	$51,617	$34,258	$59,533
1989	$48,589	$31,976	$57,511
1999	$49,562	$31,596	$58,855

Table A.2.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not Graduate High School	1970	49.6	60.9	42.1
	1980	34.6	46.2	29
	1990	23.7	32.7	19.5
	2000	17	25.4	13.9
High School Graduate	1970	31.2	25.1	34.8
	1980	36.3	30.4	38.7
	1990	32.7	29.2	33.7
	2000	31.2	29.1	31.4
Some College or Associate Degree	1970	9.6	7.3	11.3
	1980	14.6	12.3	15.9
	1990	24.8	22.1	26.1
	2000	28.6	27.2	29.1
College Graduate or Advanced Degree	1970	9.6	6.7	11.8
	1980	14.5	11.1	16.4
	1990	18.8	16	20.6
	2000	23.2	18.3	25.5

Chicago, IL

Table A.3.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	2,325,292	1,206,909	1,007,534	51.9	43.3
1980	2,684,812	1,173,758	1,380,321	43.7	51.4
1990	2,844,080	1,130,888	1,572,738	39.8	55.3
2000	3,120,046	1,148,253	1,799,757	36.8	57.7

Table A.3.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	69.80	43.20	90.00
	1990	66.30	38.20	84.70
	2000	58.00	31.30	73.90
black, non hispanic	1980	19.60	39.50	4.50
	1990	19.00	38.70	6.40
	2000	18.60	36.40	8.50
other races, non hispanic	1980	2.60	3.20	2.10
	1990	3.60	3.90	3.40
	2000	6.20	6.30	6.30
total hispanic (all races)	1980	8.10	14.00	3.30
	1990	11.10	19.20	5.50
	2000	17.10	26.00	11.30

Table A.3.3 median household income

	MSA	central city	suburbs
1969	$57,522	$46,666	$71,452
1979	$60,245	$45,215	$72,851
1989	$62,807	$45,504	$75,064
1999	$66,550	$49,739	$78,318

Table A.3.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not	1970	46	56.1	35.8
Graduate	1980	32.4	43.8	23.9
High School	1990	23.3	34	16.5
	2000	19	28.2	13.6
High School	1970	30.8	26.5	35.4
Graduate	1980	32.7	28.4	36
	1990	26.6	24.6	28
	2000	24.2	23	24.9
Some College	1970	11.5	9.3	13.8
or Associate	1980	16.5	14	18.4
Degree	1990	25.6	21.9	28
	2000	26.7	23.3	28.7
College	1970	11.7	8.1	15
Graduate or	1980	18.5	13.8	21.7
Advanced Degree	1990	24.5	19.5	27.4
	2000	30.1	25.5	32.7

Cleveland, OH

Table A.4.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	784,002	264,149	479,057	33.7	61.1
1980	867,133	239,416	578,138	27.6	66.7
1990	895,914	224,117	621,878	25.0	69.4
2000	949,454	215,089	682,405	22.7	71.9

Table A.4.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	81.20	52.30	92.00
	1990	79.40	48.00	89.80
	2000	75.40	38.80	86.50
black, non hispanic	1980	16.10	43.50	6.40
	1990	17.10	46.30	8.00
	2000	18.30	50.50	9.30
other races, non hispanic	1980	1.00	1.10	0.90
	1990	1.20	1.30	1.30
	2000	2.90	3.50	2.70
total hispanic (all races)	1980	1.80	3.10	0.70
	1990	2.30	4.40	0.90
	2000	3.30	7.30	1.50

Table A.4.3 median household income

	MSA	central city	suburbs
1969	$56,458	$41,674	$64,086
1979	$55,921	$36,279	$63,389
1989	$52,511	$30,835	$60,697
1999	$54,200	$33,388	$62,533

Table A.4.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not Graduate High School	1970	45.7	62.6	37
	1980	31.9	49.1	25.4
	1990	24.5	41.2	19.1
	2000	17.1	31	13.1
High School Graduate	1970	34.8	27.5	38.3
	1980	39.2	34.1	40.8
	1990	33.3	31.4	33.6
	2000	32.4	33.2	31.8
Some College or Associate Degree	1970	9.2	5.6	11.1
	1980	14.1	10.5	15.5
	1990	23.6	19.3	24.9
	2000	27.2	24.4	27.8
College Graduate or Advanced Degree	1970	10.3	4.4	13.5
	1980	14.8	6.4	18.2
	1990	18.5	8.1	22.4
	2000	23.3	11.4	27.3

Hartford, CT

Table A.5.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	336,366	58,246	266,805	17.3	79.3
1980	395,733	55,233	325,730	14.0	82.3
1990	456,911	56,065	382,836	12.3	83.8
2000	478,174	50,488	408,106	10.6	85.3

Table A.5.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	88.10	44.60	94.70
	1990	83.80	30.70	91.30
	2000	77.40	17.80	84.50
black, non hispanic	1980	6.70	33.30	2.50
	1990	7.90	36.30	3.60
	2000	9.00	36.00	5.60
other races, non hispanic	1980	1.10	1.70	1.00
	1990	1.70	2.00	1.70
	2000	4.10	5.60	3.80
total hispanic (all races)	1980	4.20	20.50	1.90
	1990	6.70	31.00	3.30
	2000	9.60	40.50	6.10

Table A.5.3 median household income

	MSA	central city	suburbs
1969	$58,854	$37,851	$63,169
1979	$58,917	$34,022	$62,807
1989	$71,271	$38,305	$76,354
1999	$67,204	$31,962	$72,456

Table A.5.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not Graduate High School	1970	44.2	60.2	41.1
	1980	29.8	49.2	26.9
	1990	21.3	40.6	18.9
	2000	16.4	39.2	14.1
High School Graduate	1970	32.3	25.5	33.6
	1980	35	28.9	35.9
	1990	29.8	28.3	30
	2000	29	30.4	28.8
Some College or Associate Degree	1970	10.6	7.1	11.3
	1980	15.3	10	16
	1990	23	16.7	23.8
	2000	24.8	18	25.5
College Graduate or Advanced Degree	1970	12.9	7.2	14.1
	1980	19.9	11.9	21.1
	1990	26	14.4	27.4
	2000	29.8	12.4	31.5

Louisville, KY

Table A.6.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	292,833	129,626	149,822	44.3	51.2
1980	360,732	126,081	219,825	35.0	60.9
1990	389,235	123,786	249,888	31.8	64.2
2000	436,127	120,856	298,230	27.7	68.4

Table A.6.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	86.50	70.70	93.70
	1990	85.80	68.80	92.50
	2000	82.00	61.90	88.60
black, non hispanic	1980	12.30	28.00	5.10
	1990	12.80	29.60	6.20
	2000	13.80	32.80	7.50
other races, non hispanic	1980	0.60	0.60	0.60
	1990	0.90	1.00	0.80
	2000	2.60	3.40	2.30
total hispanic (all races)	1980	0.60	0.70	0.60
	1990	0.50	0.60	0.50
	2000	1.60	1.90	1.50

Table A.6.3 median household income

	MSA	central city	suburbs
1969	$48,426	$38,663	$56,113
1979	$49,258	$36,270	$56,604
1989	$47,468	$34,847	$54,499
1999	$52,567	$37,142	$59,582

Table A.6.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not Graduate High School	1970	53.7	59.1	49.1
	1980	37	44.5	32.8
	1990	26.7	32.8	23.7
	2000	18.7	23.9	16.6
High School Graduate	1970	29.3	25.2	32.5
	1980	35.9	29.9	38.9
	1990	32.3	28	34
	2000	31.3	28.9	32.1
Some College or Associate Degree	1970	8.4	7.4	9.3
	1980	13.4	12.3	14.2
	1990	23.8	21.9	24.8
	2000	27.8	25.9	28.5
College Graduate or Advanced Degree	1970	8.7	8.3	9.2
	1980	13.7	13.3	14.1
	1990	17.2	17.2	17.5
	2000	22.2	21.3	22.8

Milwaukee, WI

Table A.7.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	446,432	245,954	188,420	55.1	42.2
1980	519,377	253,446	247,598	48.8	47.7
1990	559,301	253,883	283,380	45.4	50.7
2000	615,092	248,733	339,557	40.4	55.2

Table A.7.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	85.60	71.30	97.90
	1990	81.10	60.90	97.30
	2000	74.40	45.40	94.00
black, non hispanic	1980	10.70	22.90	0.50
	1990	13.70	30.30	0.70
	2000	15.50	36.90	1.30
other races, non hispanic	1980	1.20	1.70	0.80
	1990	1.90	2.90	1.00
	2000	3.90	5.70	2.60
total hispanic (all races)	1980	2.50	4.10	0.80
	1990	3.40	6.00	1.00
	2000	6.30	12.00	2.10

Table A.7.3 median household income

	MSA	central city	suburbs
1969	$55,920	$47,572	$66,308
1979	$58,684	$47,364	$69,674
1989	$55,911	$40,878	$70,219
1999	$59,108	$41,486	$73,292

Table A.7.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not Graduate High School	1970	43.2	50.8	34.8
	1980	28.3	36.4	21.7
	1990	20.3	28.5	14.5
	2000	15.5	25.2	9.9
High School Graduate	1970	34.8	32.8	36.9
	1980	38.5	36.9	39.9
	1990	32.1	31.9	32.3
	2000	29.1	30.2	28.4
Some College or Associate Degree	1970	10.9	9	13
	1980	16.1	14.4	17.4
	1990	26.3	24.8	27.3
	2000	28.4	26.3	29.7
College Graduate or Advanced Degree	1970	11.2	7.4	15.3
	1980	17.1	12.3	21
	1990	21.3	14.8	25.9
	2000	27	18.3	32

Nashville, TN

Table A.8.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	230,083	147,212	74,271	64.0	32.3
1980	319,475	179,041	128,001	56.0	40.1
1990	409,497	218,898	171,912	53.5	42.0
2000	507,024	241,392	236,937	47.6	46.7

Table A.8.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	82.60	75.20	91.80
	1990	82.60	73.30	92.80
	2000	78.00	64.00	90.30
black, non hispanic	1980	16.00	23.10	7.30
	1990	15.40	24.20	6.00
	2000	15.50	26.70	5.80
other races, non hispanic	1980	0.70	0.90	0.30
	1990	1.20	1.60	0.60
	2000	3.30	4.60	2.00
total hispanic (all races)	1980	0.70	0.80	0.60
	1990	0.70	0.80	0.60
	2000	3.30	4.70	1.90

Table A.8.3 median household income

	MSA	central city	suburbs
1969	$41,598	$43,843	$39,353
1979	$48,885	$47,603	$52,136
1989	$52,290	$48,134	$57,475
1999	$56,948	$50,521	$64,598

Table A.8.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not Graduate High School	1970	52.7	49.2	60.5
	1980	36.5	34.6	39.4
	1990	26	24.6	27.7
	2000	18.6	18.9	18.6
High School Graduate	1970	28	28.8	26.5
	1980	33	31.9	34.6
	1990	29	27.1	31.6
	2000	28.1	24.9	31.4
Some College or Associate Degree	1970	9.1	9.9	7.1
	1980	13.7	14.9	12
	1990	23.6	24.7	22.3
	2000	26.4	26.5	26.2
College Graduate or Advanced Degree	1970	10.2	12.1	6
	1980	16.8	18.6	14
	1990	21.4	23.6	18.4
	2000	26.9	29.7	23.9

New Haven, CT

Table A.9.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	158,610	48,886	91,375	30.8	57.6
1980	187,381	50,612	114,581	27.0	61.1
1990	212,144	53,842	133,499	25.4	62.9
2000	220,597	52,758	143,264	23.9	64.9

Table A.9.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	84.90	58.80	94.80
	1990	80.60	49.00	92.40
	2000	73.00	35.60	86.30
black, non hispanic	1980	10.30	31.40	3.20
	1990	11.80	35.50	4.20
	2000	12.70	36.10	5.70
other races, non hispanic	1980	1.10	1.90	0.90
	1990	1.80	3.00	1.50
	2000	4.50	7.00	3.90
total hispanic (all races)	1980	3.70	8.00	1.20
	1990	5.80	12.50	1.90
	2000	9.80	21.40	4.10

Table A.9.3 median household income

	MSA	central city	suburbs
1969	$54,686	$34,741	$63,882
1979	$53,894	$34,524	$62,709
1989	$67,671	$44,657	$77,797
1999	$64,162	$38,122	$76,293

Table A.9.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not Graduate High School	1970	43.2	51.8	37.2
	1980	30	39.1	25.2
	1990	20.7	29	16.8
	2000	15.7	26.4	11.6
High School Graduate	1970	32	27.6	34.2
	1980	34.6	29.7	36
	1990	30.2	27.1	30.6
	2000	29.3	28.2	28.7
Some College or Associate Degree	1970	10.8	8.1	12.6
	1980	14.9	11.5	16.4
	1990	21.7	17.3	23
	2000	23.6	18.3	24.7
College Graduate or Advanced Degree	1970	13.9	12.6	15.9
	1980	20.6	19.8	22.4
	1990	27.4	26.7	29.6
	2000	31.4	27.1	35

Niagara Falls, NY

Table A.10.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	433,392	28,892	238,399	6.7	55.0
1980	471,805	29,494	285,918	6.3	60.6
1990	490,179	28,549	309,743	5.8	63.2
2000	508,779	27,787	335,672	5.5	66.0

Table A.10.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	88.30	84.80	96.90
	1990	86.30	81.00	96.20
	2000	82.50	75.30	93.90
black, non hispanic	1980	9.10	12.60	1.20
	1990	10.10	15.30	1.40
	2000	11.50	18.50	2.10
other races, non hispanic	1980	1.30	1.60	1.20
	1990	1.60	2.20	1.50
	2000	3.10	4.20	2.70
total hispanic (all races)	1980	1.30	1.00	0.70
	1990	2.00	1.50	0.90
	2000	2.90	2.00	1.30

Table A.10.3 median household income

	MSA	central city	suburbs
1969	$51,495	$47,584	$60,152
1979	$51,617	$43,750	$59,533
1989	$48,589	$35,712	$57,511
1999	$49,562	$34,511	$58,855

Table A.10.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not Graduate High School	1970	49.6	54.3	42.1
	1980	34.6	40.2	29
	1990	23.7	32.3	19.5
	2000	17	23.4	13.9
High School Graduate	1970	31.2	32.7	34.8
	1980	36.3	38.5	38.7
	1990	32.7	36.8	33.7
	2000	31.2	37.9	31.4
Some College or Associate Degree	1970	9.6	7.2	11.3
	1980	14.6	12.1	15.9
	1990	24.8	21.1	26.1
	2000	28.6	26.2	29.1
College Graduate or Advanced Degree	1970	9.6	5.8	11.8
	1980	14.5	9.1	16.4
	1990	18.8	9.7	20.6
	2000	23.2	12.5	25.5

New Orleans, LA

Table A.11.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	371,016	208,017	158,158	56.1	42.6
1980	492,121	226,055	257,270	45.9	52.3
1990	535,188	224,107	302,020	41.9	56.4
2000	549,420	212,660	326,672	38.7	59.5

Table A.11.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	62.40	40.30	78.60
	1990	59.30	33.10	75.60
	2000	54.70	26.60	70.30
black, non hispanic	1980	32.20	54.60	15.70
	1990	34.50	61.60	17.70
	2000	37.30	66.70	20.80
other races, non hispanic	1980	1.50	1.60	1.40
	1990	2.00	2.10	2.00
	2000	3.70	3.60	3.70
total hispanic (all races)	1980	3.90	3.40	4.30
	1990	4.10	3.20	4.70
	2000	4.40	3.10	5.20

Table A.11.3 median household income

	MSA	central city	suburbs
1969	$41,469	$32,572	$51,822
1979	$46,941	$34,911	$56,956
1989	$42,243	$31,968	$48,316
1999	$45,479	$34,940	$52,058

Table A.11.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not Graduate High School	1970	54.7	57.7	51.6
	1980	37.3	40.8	35
	1990	28.1	31.9	26
	2000	22.3	25.3	20.8
High School Graduate	1970	26.1	22.8	29.8
	1980	32.1	27.2	35.9
	1990	29.1	23.6	32.7
	2000	28.4	23.4	31.1
Some College or Associate Degree	1970	9.1	8.6	9.4
	1980	14.6	14.2	14.7
	1990	23.4	22.1	24.1
	2000	26.7	25.5	27.3
College Graduate or Advanced Degree	1970	10.2	10.8	9.2
	1980	16.1	17.7	14.5
	1990	19.3	22.4	17.2
	2000	22.6	25.8	20.8

New York City, NY

Table A.12.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	3,288,965	2,917,499	353,122	88.7	10.7
1980	3,362,223	2,940,837	402,218	87.5	12.0
1990	3,431,261	2,978,686	431,936	86.8	12.6
2000	3,647,474	3,172,559	453,511	87.0	12.4

Table A.12.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	56.40	51.90	83.40
	1990	48.10	43.40	76.70
	2000	39.60	35.00	68.20
black, non hispanic	1980	21.90	24.00	9.60
	1990	23.60	25.60	11.10
	2000	22.70	24.50	11.90
other races, non hispanic	1980	4.00	4.30	2.20
	1990	6.80	7.30	3.80
	2000	12.60	13.50	6.60
total hispanic (all races)	1980	17.70	19.90	4.80
	1990	21.60	23.70	8.30
	2000	25.10	27.00	13.30

Table A.12.3 median household income

	MSA	central city	suburbs
1969	$46,871	$44,889	$67,079
1979	$43,182	$40,939	$66,891
1989	$54,774	$51,598	$86,901
1999	$52,865	$49,311	$84,693

Table A.12.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not Graduate High School	1970	50.9	53.1	35.5
	1980	37.6	39.8	24.4
	1990	29.7	31.7	18.1
	2000	26	27.7	15.5
High School Graduate	1970	28.8	28.3	32.8
	1980	30.7	30.3	33.1
	1990	26.2	26.3	25.8
	2000	24.2	24.4	22.7
Some College or Associate Degree	1970	8.5	8	11.7
	1980	13	12.6	15.6
	1990	19.4	19	21.9
	2000	20.7	20.4	22.2
College Graduate or Advanced Degree	1970	11.8	10.6	20
	1980	18.7	17.3	26.9
	1990	24.6	23	34.2
	2000	29.2	27.4	39.6

Portland, OR

Table A.13.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	380,021	151,838	212,111	40.0	55.8
1980	537,890	167,830	350,180	31.2	65.1
1990	617,174	197,948	398,241	32.1	64.5
2000	781,506	236,296	485,416	30.2	62.1

Table A.13.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	92.30	85.30	95.00
	1990	89.80	83.10	92.60
	2000	81.60	75.50	84.10
black, non hispanic	1980	2.50	7.50	0.60
	1990	2.70	7.50	0.60
	2000	2.60	6.50	1.00
other races, non hispanic	1980	3.20	5.10	2.50
	1990	4.30	6.40	3.30
	2000	8.40	11.20	7.10
total hispanic (all races)	1980	2.00	2.10	2.00
	1990	3.30	3.00	3.40
	2000	7.40	6.80	7.80

Table A.13.3 median household income

	MSA	central city	suburbs
1969	$48,607	$39,195	$54,868
1979	$53,563	$43,682	$59,586
1989	$53,700	$44,278	$59,110
1999	$60,623	$51,697	$65,903

Table A.13.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not Graduate High School	1970	37.6	39.6	36.3
	1980	22	24.2	20.6
	1990	15.7	17.1	14.8
	2000	12.8	14.3	11.9
High School Graduate	1970	35.4	33.4	36.7
	1980	36.4	32.2	38.3
	1990	26.9	24.9	27.6
	2000	23.8	22.2	24.3
Some College or Associate Degree	1970	14.5	14.6	14.3
	1980	22.1	21.5	22.4
	1990	34.2	32	35.1
	2000	34.5	30.8	35.9
College Graduate or Advanced Degree	1970	12.5	12.4	12.7
	1980	19.6	22.1	18.7
	1990	23.3	25.9	22.5
	2000	28.8	32.6	27.9

Rochester, NY

Table A.14.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	323,743	105,501	218,242	32.6	67.4
1980	380,332	102,603	277,729	27.0	73.0
1990	414,605	101,066	313,539	24.4	75.6
2000	444,391	99,571	344,820	22.4	77.6

Table A.14.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	89.40	67.70	96.10
	1990	86.90	58.60	94.70
	2000	82.20	44.30	91.70
black, non hispanic	1980	7.50	25.40	2.10
	1990	8.70	31.00	2.50
	2000	9.90	37.40	3.10
other races, non hispanic	1980	1.10	1.50	1.00
	1990	1.60	2.20	1.50
	2000	3.50	5.50	3.00
total hispanic (all races)	1980	1.90	5.40	0.80
	1990	2.80	8.20	1.30
	2000	4.30	12.80	2.20

Table A.14.3 median household income

	MSA	central city	suburbs
1969	$56,224	$42,966	$62,391
1979	$56,580	$40,310	$62,464
1989	$58,828	$39,421	$64,735
1999	$56,602	$34,927	$63,291

Table A.14.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not Graduate High School	1970	43.7	56.8	38.2
	1980	29.7	42	26
	1990	21	31.2	18.3
	2000	15.6	27	13.1
High School Graduate	1970	32	27.1	34.1
	1980	35.4	30.9	36.8
	1990	30.5	27.7	31.2
	2000	29.2	28.6	29.3
Some College or Associate Degree	1970	11.5	8.3	12.9
	1980	16.2	13.2	17.1
	1990	25.6	22.1	26.6
	2000	28.1	24.2	29
College Graduate or Advanced Degree	1970	12.8	7.8	14.9
	1980	18.7	13.9	20.2
	1990	22.9	19	23.9
	2000	27.1	20.1	28.7

San Francisco, CA

Table A.15.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	571,065	310,378	260,687	54.4	45.6
1980	641,625	316,351	325,274	49.3	50.7
1990	676,348	326,966	349,382	48.3	51.7
2000	704,700	342,686	362,014	48.6	51.4

Table A.15.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	65.20	52.30	76.00
	1990	57.90	46.80	67.00
	2000	51.20	43.60	57.30
black, non hispanic	1980	8.40	12.50	5.00
	1990	7.40	10.60	4.70
	2000	5.20	7.60	3.20
other races, non hispanic	1980	15.30	22.90	8.80
	1990	20.60	29.20	13.60
	2000	26.80	34.70	20.40
total hispanic (all races)	1980	11.10	12.30	10.20
	1990	14.10	13.30	14.80
	2000	16.80	14.10	19.10

Table A.15.3 median household income

	MSA	central city	suburbs
1969	$49,723	$39,546	$64,665
1979	$56,663	$46,885	$67,275
1989	$70,060	$57,811	$81,135
1999	$81,510	$71,110	$91,359

Table A.15.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not Graduate High School	1970	32.5	38.2	26.4
	1980	20.8	26	16.1
	1990	17.6	22	13.7
	2000	15.8	18.8	13.1
High School Graduate	1970	31.7	29.4	34.2
	1980	27.4	25.1	29.5
	1990	19.2	18.2	20
	2000	15	13.9	16.1
Some College or Associate Degree	1970	17.6	15.7	19.7
	1980	23.1	20.6	25.3
	1990	28.4	24.8	31.5
	2000	25.6	22.3	28.5
College Graduate or Advanced Degree	1970	18.2	16.7	19.7
	1980	28.7	28.2	29.1
	1990	34.9	35	34.8
	2000	43.6	45	42.4

Seattle, WA

Table A.16.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	523,293	221,904	261,959	42.4	50.1
1980	671,088	229,927	387,956	34.3	57.8
1990	846,738	248,279	530,430	29.3	62.6
2000	999,910	268,697	645,030	26.9	64.5

Table A.16.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	88.90	78.40	93.50
	1990	85.60	73.80	89.90
	2000	76.30	67.90	79.30
black, non hispanic	1980	3.50	9.30	1.00
	1990	3.90	9.80	1.90
	2000	4.30	8.30	3.10
other races, non hispanic	1980	5.60	9.70	3.80
	1990	7.90	13.10	5.80
	2000	14.20	18.60	12.40
total hispanic (all races)	1980	2.00	2.60	1.80
	1990	2.60	3.30	2.40
	2000	5.20	5.30	5.10

Table A.16.3 median household income

	MSA	central city	suburbs
1969	$54,838	$43,451	$61,929
1979	$60,061	$48,031	$66,199
1989	$62,505	$50,785	$67,635
1999	$67,998	$58,896	$72,306

Table A.16.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not Graduate High School	1970	32.2	34.9	30.7
	1980	18.3	20.3	17.4
	1990	12.3	13.6	11.9
	2000	9.9	10.5	9.7
High School Graduate	1970	36.2	33.2	39.1
	1980	35.1	29.9	38.4
	1990	24.6	19.6	26.9
	2000	20.9	15.3	23.3
Some College or Associate Degree	1970	15.8	15.5	15.6
	1980	22.8	21.6	23.2
	1990	33.6	28.9	35.6
	2000	33.3	27	35.8
College Graduate or Advanced Degree	1970	15.9	16.3	14.6
	1980	23.8	28.1	20.9
	1990	29.5	37.9	25.7
	2000	35.9	47.2	31.2

Syracuse, NY

Table A.17.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	226,350	71,746	143,339	31.7	63.3
1980	266,334	73,148	180,910	27.5	67.9
1990	289,678	71,392	205,650	24.6	71.0
2000	303,677	68,011	223,050	22.4	73.4

Table A.17.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	93.40	80.50	97.60
	1990	91.50	73.80	96.90
	2000	88.00	62.40	94.80
black, non hispanic	1980	4.50	15.50	0.80
	1990	5.50	19.90	1.10
	2000	6.30	24.60	1.50
other races, non hispanic	1980	1.30	2.40	1.00
	1990	1.70	3.70	1.20
	2000	3.60	7.70	2.60
total hispanic (all races)	1980	0.90	1.70	0.60
	1990	1.20	2.50	0.80
	2000	2.10	5.30	1.20

Table A.17.3 median household income

	MSA	central city	suburbs
1969	$47,198	$35,209	$53,593
1979	$49,914	$36,409	$55,771
1989	$53,126	$36,752	$59,191
1999	$51,188	$32,193	$57,312

Table A.17.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not Graduate High School	1970	42.9	47.6	40.1
	1980	30.3	36.4	27.4
	1990	21.2	28.8	18.4
	2000	16.2	23.8	13.9
High School Graduate	1970	34.1	30.2	36
	1980	37.4	31.7	39.5
	1990	33.1	27.4	34.9
	2000	32.2	29	32.9
Some College or Associate Degree	1970	10.5	9.1	11.2
	1980	15.5	14	16
	1990	24.9	21.8	25.7
	2000	27.5	23.9	28.4
College Graduate or Advanced Degree	1970	12.6	13.1	12.7
	1980	16.9	17.9	17
	1990	20.8	22	21
	2000	24.1	23.2	24.8

Trenton, NJ

Table A.18.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	96,400	35,199	61,201	36.5	63.5
1980	111,530	35,789	75,741	32.1	67.9
1990	123,494	33,551	89,943	27.2	72.8
2000	132,897	33,801	99,096	25.4	74.6

Table A.18.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	77.10	46.20	90.30
	1990	72.70	37.80	85.70
	2000	64.20	24.60	77.00
black, non hispanic	1980	17.80	44.90	6.20
	1990	18.30	48.10	7.20
	2000	19.40	50.90	9.20
other races, non hispanic	1980	1.60	0.90	2.00
	1990	3.20	0.80	4.10
	2000	6.70	2.90	8.00
total hispanic (all races)	1980	3.40	8.00	1.50
	1990	5.70	13.20	3.00
	2000	9.70	21.50	5.80

Table A.18.3 median household income

	MSA	central city	suburbs
1969	$50,980	$38,091	$58,697
1979	$57,118	$35,998	$67,162
1989	$71,328	$44,497	$81,912
1999	$72,903	$40,015	$85,275

Table A.18.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not Graduate High School	1970	47.2	63.8	38.2
	1980	32.2	50.4	24.9
	1990	22.9	41.8	16.3
	2000	18.2	37.6	12.4
High School Graduate	1970	29.6	25.2	32
	1980	32.9	31.9	33.3
	1990	27.3	30.1	26.3
	2000	25.6	32	23.7
Some College or Associate Degree	1970	9.1	6	10.8
	1980	13.1	10	14.3
	1990	20.3	17.6	21.3
	2000	22.3	21.2	22.6
College Graduate or Advanced Degree	1970	14.1	5.1	19
	1980	21.8	7.7	27.4
	1990	29.5	10.5	36.1
	2000	34	9.2	41.3

Washington, D.C.

Table A.19.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	1,046,201	278,393	683,787	26.6	65.4
1980	1,329,203	276,792	959,609	20.8	72.2
1990	1,663,493	276,610	1,278,136	16.6	76.8
2000	1,927,527	272,591	1,535,157	14.1	79.6

Table A.19.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	68.40	25.70	77.90
	1990	64.50	27.40	70.60
	2000	56.10	27.80	59.50
black, non hispanic	1980	25.60	69.70	16.10
	1990	25.10	65.30	18.80
	2000	25.70	59.40	22.00
other races, non hispanic	1980	3.20	1.80	3.40
	1990	5.10	2.10	5.60
	2000	9.40	4.90	10.00
total hispanic (all races)	1980	2.80	2.80	2.60
	1990	5.20	5.20	4.90
	2000	8.80	7.90	8.50

Table A.19.3 median household income

	MSA	central city	suburbs
1969	$55,809	$39,663	$64,314
1979	$65,821	$47,904	$72,239
1989	$79,415	$53,162	$84,998
1999	$80,118	$51,673	$85,226

Table A.19.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not Graduate High School	1970	34.2	44.8	31
	1980	22.3	32.9	19.8
	1990	15.7	26.9	13.7
	2000	13.3	22.2	12
High School Graduate	1970	30.5	26.2	32.1
	1980	29.6	25.5	31
	1990	22.8	21.2	23.4
	2000	20.7	20.6	21.1
Some College or Associate Degree	1970	13.6	11.2	14.2
	1980	17.4	14.1	18.2
	1990	24.5	18.6	25.9
	2000	24.2	18.2	25.4
College Graduate or Advanced Degree	1970	21.8	17.8	22.7
	1980	30.7	27.5	30.9
	1990	37	33.3	37
	2000	41.8	39.1	41.5

Oklahoma City, OK

Table A.20.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	255,084	138,479	90,348	54.3	35.4
1980	351,964	177,030	136,708	50.3	38.8
1990	423,256	211,804	164,126	50.0	38.8
2000	463,483	227,018	182,571	49.0	39.4

Table A.20.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	84.50	78.70	89.80
	1990	79.80	73.10	85.60
	2000	72.90	64.70	80.40
black, non hispanic	1980	9.10	14.50	4.80
	1990	10.40	15.80	6.30
	2000	10.40	15.20	6.80
other races, non hispanic	1980	4.20	4.00	3.80
	1990	6.40	6.40	5.80
	2000	9.90	10.00	9.00
total hispanic (all races)	1980	2.20	2.80	1.60
	1990	3.40	4.80	2.30
	2000	6.70	10.10	3.80

Table A.20.3 median household income

	MSA	central city	suburbs
1969	$41,972	$42,311	$46,503
1979	$48,572	$47,006	$53,028
1989	$46,511	$44,535	$50,465
1999	$47,385	$45,003	$51,580

Table A.20.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not Graduate High School	1970	40.8	41.6	40.3
	1980	27	27.6	27
	1990	20.8	21.8	20.4
	2000	16.4	18.7	14.7
High School Graduate	1970	32.2	31.5	35.1
	1980	35	34.2	38.1
	1990	27.5	26.5	30
	2000	27.8	26.2	30.7
Some College or Associate Degree	1970	14.1	14.3	13.6
	1980	19.2	19.3	18.8
	1990	30.1	30.2	30.4
	2000	31.4	31.2	32.1
College Graduate or Advanced Degree	1970	12.9	12.6	11
	1980	18.8	18.9	16.1
	1990	21.6	21.6	19.2
	2000	24.4	24	22.4

Providence, RI

Table A.21.1 housing units by occupancy status

	housing units			percentage	
	MSA	central city	suburbs	central city	suburbs
1970	281,507	68,136	143,173	24.2	50.9
1980	331,307	67,495	183,646	20.4	55.4
1990	367,203	66,662	215,440	18.2	58.7
2000	389,825	67,567	235,193	17.3	60.3

Table A.21.2 race/ethnicity groups as percent of total population

		race & ethnicity		
		MSA	central city	suburbs
white, non hispanic	1980	93.40	78.60	97.00
	1990	89.20	64.90	95.20
	2000	81.20	45.80	91.30
black, non hispanic	1980	2.70	11.50	0.70
	1990	3.40	12.60	1.10
	2000	4.00	12.70	1.60
other races, non hispanic	1980	1.70	4.20	1.10
	1990	2.80	7.70	1.50
	2000	5.60	11.50	3.60
total hispanic (all races)	1980	2.10	5.80	1.20
	1990	4.60	14.80	2.10
	2000	9.20	30.00	3.50

Table A.21.3 median household income

	MSA	central city	suburbs
1969	$46,327	$32,525	$51,360
1979	$46,663	$33,797	$52,949
1989	$55,032	$38,317	$62,804
1999	$53,760	$34,598	$63,375

Table A.21.4 Percent of Persons Aged 25 or more by Highest Educational Attainment

		MSA	central city	suburbs
Did Not Graduate High School	1970	56.2	59.4	51.5
	1980	41.6	46.6	36.4
	1990	30.4	37.2	25.3
	2000	24	34.2	19.1
High School Graduate	1970	27.6	24.3	30.3
	1980	32	27.3	33.9
	1990	29.2	25	30
	2000	28.1	23.1	28.3
Some College or Associate Degree	1970	7.8	6.6	8.7
	1980	12.4	10.4	13.8
	1990	20.8	16.1	22.7
	2000	24.3	18.3	25.8
College Graduate or Advanced Degree	1970	8.4	9.7	9.5
	1980	14	15.7	15.9
	1990	19.7	21.6	22
	2000	23.6	24.4	26.8

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URDN-TU Berlin Travel Fellowship, Stratégies pour un Développement Durable Local: Renouvellement Urbain et Processus de Transformations Informelles Workshop, Algiers, Algeria, 2007

NESO Fellowship, Local Economic Resources Development, IHS-Erasmus University, Rotterdam, Netherlands, 2005

University of Genoa at Savona Travel Fellowship, ALADDIN (A land Assets Development strategy resulting from a Dialogue among Interconnected Nations) Workshop, University of Genoa at Savona, Italy, 2004

Graduate Research Assistantship, School of Planning, University of Cincinnati, 1999-2001