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Cooperation, Competition and the Development of Institutional Capacity: Civil Rights and Public Transportation in Southern Nevada

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COOPERATION, COMPETITION
AND THE
DEVELOPMENT OF INSTITUTIONAL CAPACITY:
CIVIL RIGHTS AND PUBLIC TRANSPORTATION IN SOUTHERN NEVADA

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ABSTRACT

Cooperation, Competition and the Development of Institutional Capacity: Civil Rights and Public Transportation in Southern Nevada

By

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This study examines the implementation of social goals through government action and the context and relations of agencies charged with demonstrating and enforcing equality in transit. Specifically, I explain complexities involved in the top-down federal mandate to demonstrate equal transit service for minority communities and low income residents. Institutional entrepreneurship by local government agencies influenced the legislation and regulation that they were charged to enforce. The local Metropolitan Planning Organizations (MPOs), created to enable a local voice in major capital road projects, acquired new institutional capabilities as federal agencies tasked them with implementing new social goals. Engineers and planners, initially rivals, became allies to negotiate with federal agencies. National agencies mediated these complicated rivalries through a series of national conferences. New technical mandates required the creation of a new profession, that of transportation demand modeler, that in turn further increased institutional capacity. National and local legislation, administrative law, and litigation all played a role in creating cooperative alliances to improve Civil Rights and Environmental Justice compliance reporting by MPOs. All professions at all governmental level achieved a cooperative rapprochement through their mutual response

to the continuing challenges. I propose new measurements of equality based on today's institutional capacities.

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Dr. Ronald Smith, an original member of my committee, passed away before I could complete my dissertation. He was a colleague in several contexts for 25 years. I am grateful for his mentorship; I will miss his friendship long after I am gone from UNLV.

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The Regional Transportation Commission of Southern Nevada provided key data for this dissertation. I greatly appreciate the support all my RTC colleagues, particularly that of Jacob Snow, Dr. Fred Ohene, Martyn James, Polly Carolin FAICP, Dr. Beth Xie, Hui Shen, and Lijuan Su.

I am grateful to the sociology department at UNLV. The intellectual stimulation from faculty members and my fellow students has been a continuing joy. My years in the program have been the best university experience of my life.

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**This dissertation is dedicated to the memory of
Dr. Ronald Smith (1944-2012)**

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CHAPTER 1

INTRODUCTION

A great deal of political and social change is said to come from top-down federal mandates that local governments must carry out. This dissertation considers to what extent top-down mandates are actually implemented in linear fashion from federal to state and local levels. I ask about the degree of control that local government actors have over precisely how they implement federal mandates and also how implementation resonates back through government channels to transform federal action. I also ask how effective federal mandates are in achieving originally stated goals. Specifically in this dissertation I examine the federal mandate process in transportation policy. I describe the relationship between local agencies and federal mandates in developing how local transportation agencies implemented federal Civil Rights and Environmental Justice regulations.

I use a case study of one local Metropolitan Planning Organization (MPO), the Regional Transportation Commission of Southern Nevada (RTC), to analyze how governmental actors contributed to developing institutional capacity. MPOs are metropolitan area agencies that have come to carry primary responsibility for implementing civil rights and environmental justice laws. I explain how and why, since their creation in 1973, MPOs developed institutional capacity for implementing civil rights and environmental justice laws in large metropolitan areas. I also analyze how these policies have measured equality and discrimination in Southern Nevada and offer new ideas on transforming the measures to more accurately assess service to underserved community sectors. My data are drawn primarily from federal directives to MPOs, RTC

plans, and the on board transit survey carried out by the RTC in 2006-7. My analysis is limited to institutional actors.

I conclude that two key dynamics have impacted the development of policy, federal/state/local dynamics and the realignment of professions. Federal mandates do not reflect a top down process but rather have both created and reflect the institutional capacity of local MPOs. Finally, I argue that current transit service success should be measured by social indicators, not solely geographic measures.

My theoretical standpoint is the historical institutionalist perspective. I use this perspective to analyze and assess processes by which institutional capacity is built through legislative, technical, and administrative means. Specifically, I trace the development of MPOs as a primary mechanism for implementing Congressional directives for public transportation. Although MPOs were created in 1973 as a way to distribute federal transportation funds fairly with local input on project selection, they later became the agencies responsible for carrying out federal social equity mandates. I explain that, in the Las Vegas metropolitan area, the creation of the MPO was more collaborative than directive; legislation was modified over time by the interaction of agency staff. The genesis of MPOs was based on a pragmatic partnership of local and federal governments. These federal agencies, local cities, counties, and metropolitan governments sought to counter what they saw as the undue influence of state highway departments on highway funding and routing. Rivalry and collaboration occurred at the level of agency professional staff. New requirements fell to MPOs through legislation, administrative fiat, and court decision. Over time, the professional rivals at various levels of government learned to cooperate to increase their individual and collective

institutional capacities. I focus on explaining these complex processes of contention and cooperation.

I also review the effect of the addition of Civil Rights and Environmental Justice (Title VI/EJ) mandates to MPO requirements. The Civil Rights and EJ mandates were catalysts for changed relationships among agencies and the ensuing improvements in institutional capacity. The measurement of transit operators' success or failure in meeting civil rights and EJ mandates is a final focus. Federal strictures were based on a geographic concept of fairness: where do minorities and the poor live? How can transit operators best serve those areas?

In sum, my dissertation chronicles the changes in the institutional capacity of MPOs and assesses their capacity to carry out their tasks based on the relative success of the RTC. I most closely examine how the RTC's tasks as an MPO changed over time through the interaction of formally designated agencies and informal groups. A key issue in my analysis will be precisely how to define and measure "success" in achieving the social goals established for the MPO to carry out. I examine the relationship between two measures of success in achieving equality based on Title VI of the Civil Rights Act of 1964: the currently-dominant geographical approach, used in legislation and administrative law, and the socially-based approach. Mahoney (2008) proposes pragmatically that causation can be demonstrated in different ways for different types of research. I follow his lead in proposing a melding of the geographical and socially-based orientations to improve conformity with civil rights and EJ requirements.

Studying the Social Context of Transit Service

I am interested broadly in how public transit service in the U.S. is provided, how goals for transit service are set, and how the organizations tasked with meeting those goals develop and change over time. The concept of equity is basic in our society. Citizens of the United States generally believe in civic fairness. The rhetoric of both left and right stresses that services provided by government should be fairly distributed to all citizens. The difficulty lies in defining fair practices. The main issue is which tasks are appropriately assumed by government. Once a task is assigned to government, all agree that its success or failure must be monitored and assessed. How well do transit systems meet the social goals assigned to them through federal-MPO processes? This question initiated my dissertation research.

My focus is on public transit systems and how access to mobility is organized and distributed across populations. I offer two crucial determinants for evaluating transit service. The first measure focuses on the efficiency of the system, with two emphases. How cost-effective is public transit from a bottom-line point of view and how affordable it is for the riders who directly rely on it? These social goals of cost efficiency and affordability often rest in tension with one another. Affordability is crucial if those needing public transit are to actually ride it. Yet, affordability to riders means that the fares do not cover the full costs of operating public transit systems. Indeed, transit systems worldwide require government subsidies to operate. If the riders paid the full cost of their rides through the farebox, few could afford to ride.

Questions of social fairness and equity defined by access to public transit service are often a secondary consideration for managers and bureaucrats. Because operating

subsidies are universal in transit service, they are in effect invisible. Subsidizing the cost of the ride is the most basic of social equity decisions in public transit. Transit subsidies are seldom recognized in the U.S. as a condition for social equity. Governmental oversight monitors subsidized transit systems mainly to ensure that they meet minimum operational standards and are financially efficient. Primary metrics focus on questions such as: Are taxpayers getting their money's worth? Is the transit subsidy being deployed efficiently and effectively? In assessing questions of transit operational effectiveness, managers universally collect and assess measures such as cost per passenger to the transit system and the number of passengers riding the system.

My interest in issues of social fairness is both normative and scientific.

Progressive strains in sociology have long been dedicated to understanding social organization in order to improve society. One route to improvement is through governmental organization and action. This dissertation will examine the process of government action to achieve specific social goals in public transit. Does our public transit system also meet the fairness test beyond simple financial efficiency? Does public transit truly serve the public at large or do some segments suffer from lower levels of service than others? Or, said differently, does public transit meet both of its social goals – (1) financial efficiency and (2) availability and access? Legislative processes are at the core of how social goals get defined and put into practice. New forms of government policy, planning, and action preserve existing public services or create new services. Broadly, I analyze the processes by which Congressionally-mandated social goals are carried out by administrative agencies, how agencies implement those social goals, and the degree to which the implementation succeeds.

This dissertation traces how governmental agencies have attempted to measure the degree to which the public transit policy goals are achieved by the local agencies organizing and running public transit programs. I follow this process from the federal and state levels through to the local level agency that implements public transit programs in the Las Vegas metro area. I describe political processes between the 1960s and mid-2000s that led to public transit social goals based on the principle of fair and equal treatment of minority groups and the poor. These social goals are anchored in Title VI of the Civil Rights Act of 1966 and Executive Order 12,898 of 1994. Congress gave local Metropolitan Planning Organizations (MPOs) around the U.S. the task of implementing policies and practices to meet these goals for public transit service. The Regional Transportation Commission of Southern Nevada (RTC), an MPO, is the designated transit provider tasked with meeting public transit needs of poor and minority groups in Southern Nevada. My study will focus on RTC and its efforts to implement civil rights requirements in the Las Vegas metropolitan area¹.

Development of Institutional Capacity

Institutional capacity is a key concept in my research. Institutional capacity refers to the ability of an institution to carry out the tasks assigned to it. Implicit in the idea of institutional capacity is the initial legislative mandate to carry out a more-or-less specific task or group of tasks. Institutional capacity requires the legal authorization to carry out the assigned tasks, institutional personnel adequate to the task, administrative processes that allow the prosecution of the tasks, and assessment mechanisms to determine the

¹The term “metropolitan area” as defined in federal and local transportation regulations changed over the period of this study. It has often borne no resemblance to the census meanings of the term. This will be considered in later chapters.

degree of success of the agency's efforts. My dissertation will examine these capacity requirements in the general context of the MPO's legal authorization and its change over time.

MPOs were mandated to carry out the existing civil rights mandates of Title VI in the 1973 legislation that formalized them. Issues of income were added in 1994 by Executive Order 12,898 on Environmental Justice. This dissertation describes the creation of MPOs, including the RTC, and how Congress tasked MPOs with providing equal transit opportunities to the poor and minority groups. MPOs are transportation Metropolitan Planning Organizations, the local agencies required for all metropolitan areas over 50,000 in the United States. The local MPO for each of these areas is designated by the governor of its state. My case is the Regional Transportation Commission of Southern Nevada, the MPO for the Las Vegas area. The RTC, as an MPO, exemplifies the change in role to take on greater social equity responsibilities.

Methods

I review federal records to understand how this social goal was defined and implemented and how implementation initiatives changed over time. I also describe local agency plans in response to the federal mandate to understand how the RTC met those specific social goals. To assess measures of effectiveness, I analyze aspects of the survey of 8,173 transit riders carried out for RTC in Las Vegas in 2006-2007. I use the survey data to compare the relative levels of service of the transit system by factors of ethnicity and poverty. I conclude with policy recommendations for possible improvement in measurement of social goal outcomes.

This dissertation has two parts. One part focuses on historical analysis and the other focuses on analytic evaluation. My historical analysis traces the process of social goal implementation from idea, through the institutional process of legislation and rulemaking, to the implementation of the measures in a real world context. My analytic research addresses questions about how social goals may be measured and what modifications may be made in real world public administration contexts to best implement mandated social goals.

I examine both the changes in the plans developed by the RTC and the level of sophistication of its responses found in the data of the Onboard Transit Survey of 2006-7 (RTC 2007).

To examine the history of the relevant institutions, I used documentary analysis methods combined with evaluation research strategies to collect and analyze the research data. I examined government records that detail activities specific to the historical context of decisions about MPO responsibilities, especially for the RTC. These records include legislation, comments and regulations recorded in the *Federal Register*, guidance documents from the Federal Transit Administration (FTA), and local transit plans. I examine agencies at several levels of government starting with various incarnations of federal transit agencies, primarily the Urban Mass Transit Administration (UMTA 1970) and its successor, the Federal Transit Administration (FTA). I have examined documents from these agencies, including administrative rulemaking, “dear colleague” letters, and directives to MPOs and regional federal offices. I also used the actual plans of the RTC as sources of information and as examples of the approach to meeting federal requirements carried out by the MPOs. Primary sources were consulted online and using

library copies, but most were examined first hand as part of my personal collection of RTC documents produced between 1990 and 2010.

Conceptual Approach

I anchor my conceptual approach in the historical institutionalist (HI) perspective developed by Barrington Moore and elaborated by Theda Skocpol and others (Moore 1966, Skocpol 1979, Evans, Rueschemeyer, and Skocpol 1985). The institutionalist perspective highlights questions about the origins and applications of social goals and the capacity of institutions to implement those goals. Institutionalists ask how social goals are developed, legislated, and administered as law in real world contexts. The perspective also emphasizes questions about how institutions change as they attempt to implement social goals. Additionally, institutionalists raise questions about how to measure and assess institutional success at meeting social goals.

I use Theda Skocpol's idea of the semi-autonomous state to examine state, federal, and local conflicts over how social goals are defined and implemented. In the HI view, institutions work within laws to achieve tasks, but how those tasks are achieved is shaped by an array of formal and informal parties (Finegold and Skocpol 1995: 130-131). Institutional capacity is a concept intended to capture how well an institution, created through government action and buffeted by the various interests, carries out its mandate. Later HI studies include both an assessment of the capacity of an agency to do its job and a prescription for improvements in the way the job is done (Skocpol 1995, 1996, 2003).

MPOs are federally-mandated local agencies required for all localities with populations over 50,000 that receive federal transportation funding. Since all areas of the

United States share in the distribution of the funds from the National Highway Trust Fund, MPOs are found in every metropolitan area that meets the population requirement. MPOs, as a mandated class of institution, were created as a part of the evolving transportation funding mechanisms that followed World War II. Their initial function was to facilitate the effective coordinated distribution of funding from the Highway Trust Fund, the federal source of transportation funding derived from the national gas tax. MPOs evolved to include other mandated functions, including transit planning. I will examine the legislation and administrative law history in the development of the MPO as an agency and the processes of change in MPO functions over time.

Few MPOs actually administer or operate public transit systems directly; they must exercise their authority through negotiations with the transit operator or operators in their area of jurisdiction. The relationships between MPOs and transit operators are usually cooperative and consensual and only rarely involve the ultimate sanction of rejecting a transit agency's service plans and cutting federal funding. The local Las Vegas MPO has a somewhat simpler configuration. In Las Vegas, the MPO is the Regional Transportation Commission of Southern Nevada (RTC), which is also the operator of the public transit system within its jurisdiction. In practice, this direct control gives the MPO a greater degree of institutional capacity to achieve social goals related to transit.

What's to Come

Chapter 2 provides an extensive literature review with emphasis on the history and analytic framework of Historical Institutionalism (HI). I then turn in Chapter 3 to examine the history of the institution at the center of the study: the MPO. MPOs were

created for a specific practical reason: local distribution of federal highway trust funds. Over time their role expanded through legislation. This resulted in conflicts among the different levels of government and came to emphasize the role of transportation planners as coequal with engineers within the MPOs. Simultaneously, the initial rivalry between MPOs and state highway departments evolved into cooperation and collaboration to meet these new challenges. Chapter 4 outlines the specific requirements of administrative law related to Title VI and EJ issues. Local planners challenged engineers in state departments of transportation to vie for supremacy in guidance of local transportation plans; localities challenged higher levels of government as planners clashed with engineers. Beginning in the 1950s, national conferences played a major role in reconciling this intergovernmental level and interprofessional conflict. Initially in competition, the national conferences came to be sponsored by federal agencies as neutral meeting grounds to define and work to solve problems that crossed governmental and professional lines. These requirements expanded to include a comprehensive grouping of short- and long-range plans. As responsibility for transit operation review devolved on MPOs, they were drawn into issues of social planning. Demonstration of compliance with civil rights and EJ added new requirements to MPO plans. Chapter 5 outlines the response of agency plans to meet the mandated requirements, emphasizing changes in institutional capacity. Federal requirements were initially very rigid; the 2000 census revealed demographic changes that combined with increased institutional capacity to allow creative compliance plans. MPO professionals, including engineers, planners, and the new specialty of transportation modelers, combined to meet new federal requirements; in turn the MPOs' greater professional capacity gave them more say in the

designation of MPO requirements at the state and federal levels. Chapter 6 focuses on the data from the RTC 2006 Onboard Transit Survey. The 8,173 responses to the 2006 survey allow a detailed socially-based consideration of service standards. I contend that the geographically-based proportional standards required by federal agencies did not fully assess the quality of transit service experienced by minority group members and low-income riders. The MPO's local increased institutional capacity allows a greater say with state and federal agencies that is heard and considered at all governmental levels among all professions. Chapter 7 reviews how the institutional capacity of the RTC as a Metropolitan Planning Organization developed over time. Based on Chapter 6, I conclude that the greatest insight into transit service equity is gained by combining the traditional geographical assessment methods with socially-based measurements.

CHAPTER 2

LITERATURE REVIEW

This chapter examines the political sociology literature on historical institutionalism (HI). HI is a school of political sociology that emphasizes implementation of tasks through government institutions. To HIs, institutions have a relative autonomy from other societal dynamics, such as social class, race or gender inequalities. States and bureaucracies have a dynamic of their own. Institutions are created through competing interests and then develop independent power to maneuver and compete among themselves. Along the way, the tasks change and the institutions gain the ability to achieve the new tasks. HI looks at both internal dynamics as well as external influences. One key concept is “institutional capacity”—changes in the ability of the institutions to carry out their tasks over time. HIs also study how external groups and dynamics seek to influence institutions. A major HI interest is how staff engagement changes agencies and is in turn affected by the agency and its context.

CONCEPTUAL APPROACH: HISTORICAL INSTITUTIONALISM

In this chapter I describe the conceptual approach that I use to analyze the development and change in institutional capacity in the case of the RTC. First, I describe the intellectual genealogy of institutionalism in sociology. In this discussion, I emphasize questions of state power—who has it, how it is wielded in complex political systems, and what the political, economic, and social effects are in governmental programs as they are applied “on the ground,” such as public transit. After reviewing the field of institutional

studies in sociology, I turn to describe specifically how I will employ the ideas, and arguments in my research.

I anchor my conceptual approach in the historical-Institutionalist (HI) perspective developed by Barrington Moore and elaborated by Theda Skocpol and others (Moore [1957] 1962, 1966; Skocpol 1979; Evans, Rueschemeyer, and Skocpol 1985). The HI perspective explores the origins and applications of social goals and the capacity of institutions to implement those goals. HIs ask how social goals are developed, legislated, and administered as law in real world contexts. The HI perspective also emphasizes questions about how institutions change as they attempt to implement social goals. Additionally, institutionalists raise questions about how to measure and assess institutional success at meeting social goals.

HI is distinct from Marxism in that it assumes a greater degree of agency for citizens, as individuals and group actors, than does the Marxist emphasis on social structure. Marxists see a unitary outcome of the current social situation, to be revealed by study of the processes among defined socioeconomic groups: the exploiters and the exploited. False consciousness must be overcome and a cleansing revolution, violent or otherwise, must put the proletariat in charge. While HI does not deny that individuals fit into categories within society based both on social and economic status, it allows that they may function to change their society through their activities. Institutions structure behavior and are in turn formed by actors who behave within the resulting institutional contexts (Steinmo 2008: 159). Marxists favor macro theoretical viewpoints; HIs focus on empirical study of specific cases in their historic context.

On the other theoretical side of HI is pluralism, in which empirical study is applied to society as many interdependent groups that either share power or compete continuously for power. Pluralists see this process as a continual one, in many ways indifferent to the context of the institutions, that is efficient in producing best possible outcome. HIs differ from pluralists in that they do not see the processes that they study as necessarily leading to an ideal state. According to Steinmo, HIs believe that “. . . history and ideas matter, institutions structure actor’s choices but are subject to change by actors themselves, and real people make decisions that are not always efficient or purely self-interested. . .” (Steinmo 2008: 178). In this dissertation, the group activities are those of government agencies and their professional staff members.

Historical institutionalism (HI) is an approach to studying policy that uses case studies to answer real world empirical questions about the ways that institutions structure and shape policy outcomes. Historical institutionalists assume that people both follow rules and bend them to their felt needs depending upon the context. As Steinmo (2008) explains, “[H]uman beings are both norm-abiding rule followers and self-interested rational actors and action, then, depends on the individual, on the context, and on the rule.” While this statement may seem rather obvious, it has huge implications for how we should study politics. A historical institutionalist does not believe that humans are simple rule followers *or* that they are simply strategic actors who use rules to maximize their interests. What the HI scholar wants to know is why a certain choice was made and/or why a certain outcome occurred. Most likely, any significant political outcome is best understood as a product of both rule following and interest maximizing. HIs look to the

historical record for evidence to understand how each factor explains a case of institutional development.

HIs assume that analysis of institutional development processes will find key historical moments or junctures that explain the primary pattern that institutional development takes. HIs also focus on the timing and sequencing of big events (e.g., economic crises, wars) as crucial to explaining the particular institutional development pattern of states or regions. HIs assume that democratic institutions grow out of struggle among competing interests (Skocpol and Fiorina 1999; Pedriana and Stryker 2004). Kathleen Thelen (2009) highlights the role of conflict in creating the dynamic that facilitates evolution of institutions and their rules over time. In her view, conflicts over interpretation begin with the initial legislation and continue throughout the life of the program; they are continually “worked out” (Thelen 2009: 492). Thus, HIs investigate how competing parties and interest groups meaningfully express their concerns with government actors and how effectively government actors interpret and respond to those concerns. HIs also pose questions about civic engagement to understand what constitutes effective citizen participation in governmental development and how citizen participation changes over time. These HI interests form component parts of this dissertation.

Research emphases among Historical Institutionalists have evolved over time. In general, HIs’ level of research interest has moved from the macro issues of national revolutionary movements to the small-scale issues related to the degree of agency of localized agencies. This analytic shift is associated with shifts in the institutional capacity of agencies that local agencies attempt to influence. Questions about how and why

institutional capacity develops and changes square directly with my research interests. Skocpol (1979) identifies seven relevant facets for understanding the development of and change in institutional capacity: (1) the action of the disenfranchised, (2) the nature and degree of civic engagement, (3) the role of parties, (4) Loss of civic engagement, (5) the creation of limited-issue advocacy groups, (6) disengagement, and (7) inequality. I plan to follow the HI's lead to investigate the nature and degree of engagement and the role of parties in my case of the RTC of Southern Nevada.

In my research, I emphasize the relationship between agencies at different levels of government as it is buffeted between often countervailing laws and regulations. It is my contention that the state is important in these processes, but the state is not the sole, or even the most important, determinant of the outcomes of legislation. I emphasize the role of the various professional staff members of the MPOs and their associated agencies as a key element in the evolution of civil rights and environmental justice legislation. I contend that while the neo-Marxist view that those actually exercising power may not be those who are the designated wielders of power is useful, it misses the power of staff members of the organizations. I consider the idea that there is a "relative autonomy" in state institutions.

The Roots of Institutionalism in Sociology

Institutional development has been a key focus of sociology from the beginning of the discipline. Marx, Weber, and Durkheim are the three main 19th century institutional sociologists. Their viewpoints run the gamut from Marx's economic-centered view ([1845] 1972) through Weber's ([1922] 1978) theories of bureaucracy and rationality-

based theory to Durkheim's ([1893] 1964) emphasis on bureaucratic activity as an agent of social cohesion. Their ideas set the tone for later systems theorists of the mid-20th century. For instance, Philip Selznick's (1949) study of the Tennessee Valley Authority (TVA) examined how leaders create and conserve value systems within large scale government projects. Talcott Parsons (1951, 1960) also extended sociology's focus on institutions with his systems theory approach. Parsons casts social institutions as social practices adapted to carry out the essential functions required by mass society. S. N. Eisenstadt (1963, 1965) used comparative methods to understand differences in institutional structures, functions, and effects. Eisenstadt adapted Parsons' institutional focus and then refined it by highlighting processes of institutionalization and desinstitutionalization. Eisenstadt explained that institutions and individuals adapt to changes in their environment, creating patterns that enhance organizational survival. Degrees of institutionalism vary over time; thus for Eisenstadt, bureaucracies can become more or less complex depending on the problems they are positioned to solve.

Through Eisenstadt, macro-institutional studies tried to theorize basic and general processes of state formation that explain political action across all contexts, cultures, and history (Steinmo 2008; Evans, Rueschmeyer and Skocpol 1985; Jessop 2001). However, in the 1960s, some political economy theorists began to give more specific analytic emphasis to the state as a semi-autonomous institution in capitalist systems. Specifically, neo-Marxists worked to understand the form and functions of the late capitalist state to explain how its modifications to provide more public services had staved off the breakdown of the state predicted by Marx. Marxist-feminists carried out a supporting role

in this analytic effort by seeking to understand the causes and consequences of the “patriarchal capitalist state” (Jessop 2001).

Neo-Marxist Approaches

The neo-Marxist theoretical viewpoint is particularly relevant. Neo-Marxists’ structuralist theories of the state parallel those of the elected officials charged with creating the laws and regulations of civil rights and environmental justice. There must be a social structure to work through to have effective social legislation. In this, legislators reflect the views of the public, who demand legislation to implement their ideas of the ideal society, whether the subject is regulation of personal morals or the equal provision of public services. “Instrumentalist” neo-Marxists considered postwar pro-labor legislation to be an ameliorative sop to labor that preserved domination of the capitalist state (Miliband, 1969; Domhoff, 1979). “Structuralist” neo-Marxists saw real power as covert; those named as leaders often had very limited power (Althusser [1965] 1969; Callinicos, 1993; Poulantzas, 1978). Emphasis shifted to the state with the work of Skocpol and Jacobs (2005). These historical institutionalists considered the context of institutions including both formal and informal power.

Instrumentalists

Approximately 150 years after Marx’s original work, the neo-Marxists reconsidered his theories. Marxist theorists discredited reform as being un-Marxist. This meant that the rise of the welfare state, particularly as it appeared after the Second World

War, presented some problems for their theoretical assumptions. They had advanced the idea that capitalists would preclude any reform that assisted the working man; now the state was working to advance the causes that Marxists saw as pro-labor. Their answer was that the welfare state was a sham advanced as the cheapest way for the capitalists to stave off socialism. Ralph Milliband (1969: 100) noted that this was possible due to the fact that the capitalist class was able to preclude real reform through its domination of the “capitalist state.” The ruling class uses money to dominate society through its domination of the state. The state was their instrument to carry this out; this is the source of the term “instrumentalist” for this group.

G. William Domhoff (1979) expanded this idea in his examination of the policy development of the New Deal. He found that problems were formulated in such a way that they were congenial with capitalist thought and the policies that were created to ameliorate them were therefore congenial to businessmen (1979: 16). These businessmen were often the more progressive group of capitalists, giving rise to the idea that the more moderate businessmen would be successful against the more hidebound in developing policies: the practice that became known as “corporate liberalism.”

Scholars who were more theoretically oriented rejected the instrumentalism of Miliband and Domhoff as being outside the Marxist tradition. Critics argued that Domhoff privileged the role of the advanced businesses and downplayed other players in the power struggle (Quadagno 1985, 1986; Skocpol 1980; Skocpol and Armenta 1986; Orloff and Skocpol 1984). These include society in general, and representatives such as the state, individual politicians and bureaucrats, and unions.

Structuralist Marxism

The structuralist critique of instrumentalism is largely based on Louis Althusser's arguments ([1965] 1969). Althusser modified traditional Marxism by limiting the economy to an ancillary, subordinate role. Althusser incorporated the concept of difference, a theme of both the Nietzschean and Heideggerian traditions, into his work. To his critics, he seemed to be advocating a pluralism that, by calling into question the single economic quest of the proletariat, led to an ideological functionalism. If the role of the masses in making history was diverse, their several ideological paths in making history must serve some generalizable function (Callinicos 1993: 42).

Nicos Poulantzas based his structuralist critique on this view. Poulantzas argued that there are added dimensions of power beyond the basic situational level. The people who were actually exercising influence on the economy and the state were those outside the state; to examine their class and social origins, as did Miliband, was a futile activity, because it did not deal with those really pulling the strings. “. . . [T]he ruling class is not the politically governing class” (Poulantzas 1978: 76). Poulantzas saw the state's relation to the structures of the society as the key. The dominated classes often assisted the ruling classes by their short-sighted inability to recognize their own interests. Votes can be manipulated to carry out the needs of the rulers through the state.

Critical Theory/Disorganized Capitalism Approach

His “brought the state back in” to consider party, civic engagement, and inequality in governance (Skocpol and Jacobs 2005). HI theorists emphasize institutional autonomy

within their conceptual frameworks (Skocpol and Fiorina, 1999; Skocpol and Jacobs, 2005). If there is a role in the exercise of power for the actors within the institutions, there must be a degree of autonomy for the institutions to exercise such power. The HI stance is that actors within institutions have a degree of autonomy through their interactions with each other and the state. This HI orientation is central to my dissertation.

Claus Offe emphasized the virtually autonomous way in which the state facilitates survival of capitalism and the associated political and cultural structure that help to maintain it. According to Offe, the state keeps the dominant economic system from collapsing due to its inherent contradictions while foregrounding the idea of commodity exchange as much as possible (Offe, 1972, 1976: 33-5, 1984). Offe joins with Poulantzas in the view that the bourgeois state exploited trappings of democracy to achieve necessary autonomy to keep afloat in the face of its short-sighted, self-defeating attitudes. Offe sees the price of saving the bourgeois state as a continually-escalating demand for social spending through “legitimacy commitments” that cannot be scaled back in times of emergency without risking unrest and threats to the overall system in what Habermas calls a “legitimacy crisis” (Habermas, 1973).

During the 1970s, Marxist theorists accepted views of the “relative autonomy” of the state from the substructure-superstructure schema through the structuralism of Poulantzas and Miliband. The way in which the autonomy of the state remained relevant was never explained in detail; by the 1980s, Marxist political sociology had returned to the “revisionist” views of Domhoff and Miliband.

Bob Jessop authored a more developed framework of Nicos Poulantzas' strategic-relational approach. Jessop identified a move from government to governance as part of a larger process of “destatization of the political system (Jessop 1997).” In this view, the late 20th century state was becoming one coordinating element among myriad interdependent organizations. As a result, more complex concepts than “state” and “civil society” are needed to fully comprehend the reciprocal relations among various governmental and non-governmental entities. Jessop saw the rise of the European Union as heralding a process of state-led “destatization” (Jessop 1990, 1997, 2001) in which governance was reorganized to better fit the needs and logic of private markets; states, which had a different scale from markets, were being superseded in many functions. A feedback loop from institutional change through economic activity that enlists the economy in support of the new institutional function has been identified by Fligstein and Stone Sweet (2002) in the case of the European Union. This parallels the situation of the MPOs, whose activities significantly affect various private enterprises, including engineering and construction firms.

Historical Institutionalists

Historical Institutionalists emerged during this renewed sociological interest in the state. Three seminal works—Barrington Moore's (1966) *Social Origins of Dictatorship and Democracy*, Samuel Huntington's (1968) *Political Order in Changing Societies*, and Theda Skocpol's slightly later (1979) *States and Social Revolution*—emphasized macro-scale studies focused on international comparisons, and change in states and social institutions over time.

Barrington Moore conducted studies as an internationalist with a world-embracing view and most of his work reflected an interest in explaining big themes that played out on a big stage. One of Moore's main questions focused on how social movements achieve social change. This emphasis is visible even in his biggest work, *Social Origins of Dictatorship and Democracy: Lord and Peasant in the Making of the Modern World* (1966), where he traces the bases of modern governance to the social movements of medieval society. He explains how collective actors initially moved to achieve specific goals and their success or failure led to successive goal adjustments, tactics, and new mobilizations. Moore argues that society's great movements toward democracy began with small initial steps to achieve limited goals.

Moore's work set a number of his students off on pragmatic scholarly efforts informed by empirical data. Historical Institutionalists began to walk a line between two opposite poles of theory—"abstract conceptual manifesto" and "atheoretical narrative,"—working back and forth between selected theories and their research findings, eliminating the theories of rival academic schools one by one (Finegold and Skocpol 1995, p. xiii). This strategy follows John Stuart Mill's method of comparison and residues ([1872] 1987) and is not unlike Weber, who set his explanations against weaker theories, eliminating them one by one until his conclusions remained.

Party, Civic Engagement, and Inequality in Governance

Theda Skocpol extended Moore's question about how human agency plays out in governance processes. Her overarching theme is the role of the affected groups in

development of institutions that make up the governing groups.² Skocpol focuses on three main themes: party, civic engagement, and inequality, all in the context of the state institution. Skocpol uses the generalized concept of party to explain interagency power shifts within governance organizations.

Civic engagement studies emphasized the creation of grass roots civic groups at local, state and national levels. This included both the creation of parties in an inclusive Weberian sense and the influence of formal political parties (Weir, Orloff, and Skocpol 1988, Skocpol 1992, Finegold and Skocpol 1995, Skocpol 2003). Civic engagement is a concept based on the idea that citizens are generally competent to deal with most of the questions that confront them. HIs have studied the role of parties in creation of social legislation with an emphasis on the reliance on institutional expert answers to complex questions. HIs have confirmed the findings of earlier work that over time the citizens' role has largely been diminished as legislation has relied more on seemingly more objective opinion and direction from designated experts.

Citizens' diminished role in the state signals a loss of civic engagement. This loss of civic engagement began in the second half of the Twentieth Century (Habermas, 1973, 1984, 1989; Harvey, 1989) and has continued into the Twenty-First Century (Goodwin, Jasper, and Polletta, 2001; Putnam, 1993, 2000; Skocpol, 2003). Studies cover

² The role of parties, formal and informal, is a continuing bone of contention in political sociology. Jessop divides institutional theory into the Old Institutionalism with its emphasis on formal rules and the New Institutionalism, with an emphasis on the informal. New Institutionalists include institutions that may be created either formally or informally. They also examine the degree of autonomy allowed to the bureaucrats, formal and informal, who carry out the institution's missions. They study the events that came before as shapers of the next steps (Jessop 2001). The New/Old Institutional split is a false dichotomy. All institutions to be considered in this dissertation are created through law, which is a constraint that defines their structures. At the same time, people implement institutions on the ground and have some degree of leeway in implementing their initial mandate. Their outcomes are more or less aligned with the defining law or regulation. Formal and informal elements are inherent in all institutions, no matter how formally they were initiated.

industrialized Western democracies: North America and Europe are represented. Habermas is German, Harvey is English; the rest of the studies are from North America. Despite this geographical diversity, the scholarship circulates through trans-Atlantic exchanges and translations. HIs attribute the loss of civic engagement to the technocratic capture of governance by right wing groups, coupled with limitations on debate in the midst of the Cold War. HIs argue that citizens no longer ask basic questions about governance (e.g., meaning of a just society), but emphasize limited concerns. Limited-issue advocacy groups emerged, leading to polarization and an ever-greater civic disengagement. At the same time single-issue voters with deep convictions became more engaged and dominated the public conversation. The advent of single-issue voters reinforces the cynicism that encouraged further disengagement from general government. Government may no longer be a fit mechanism for governance. (Skocpol and Fiorina 1999).

As civic engagement declined, citizens no longer felt it worth their while to participate in a dysfunctional process. Disengagement from government in turn discredited government in a self-fulfilling prophesy, leading to ever greater degrees of “delegitimization” of government activities (Habermas 1973). Delegitimization created loss of support for social programs that served the middle class and a resultant increasing inequality (Skocpol 1997). One major example is the loss of support for social programs such as public schools. This loss of interest in government social programs led to their further delegitimization (Jacobs and Skocpol 2005).

Historical Institutionalism and the Comparative Method

I will use the dominant HI method—the case study—to analyze institutional implementation of Title VI and EJ regulations in public transit programs.

The early work of Historical Institutionalists is rooted in the comparative method. Barrington Moore's 1966 *Social Origins of Dictatorship and Democracy: Lord and Peasant in the Making of the Modern World* and Theda Skocpol's *States and Social Revolution: A Comparative Analysis of France, Russia, and China* (1979) are two of the best examples of this. Both tackled broad themes of social influence on government form and policy; both compared analogous institutions and political features in disparate countries. They used these comparisons to identify common and divergent elements of institutional formation and related social and political outcomes. While this comparative bent remains an important element of Historical Institutionalist thought, it by no means represents the full range of their research.

The HIs' early reliance on the comparative method informs the majority of studies in the 1985 volume edited by Peter Evans, Dietrich Rueschemeyer, and Theda Skocpol, *Bringing the State Back In*. There is, however, a change in emphasis from the earlier broad themes of national social revolution in the work of Moore and Skocpol in the 1960s and 1970s. *Bringing the State Back In* attempted to define the role of the state and assess success or failure of its social programs. This led to the creation of the Research Planning Committee on States and Social Structures. While its recommendations emphasized the comparative method, its conclusion includes an implicit support for detailed studies of the success or failure of individual agencies to impartially address the statist or anti-statist views of government leaders (Skocpol 1985: 364)

By 1988, the HIs changed their approach from comparative to case studies, emphasizing more focused single-society studies in which the analysis centered on a single institution within the society. Several HI studies considered how a single program, such as government welfare in the U.S., developed. These studies are historical in nature with an emphasis on the role of institutions in determining policy change. More specifically, HIs follow the history of an idea for a social policy through its conception, legislative and administrative gestation, and implementation. They complete their analysis with a critique of the program and an assessment of its degree of success or failure. Some examples include Beth Stevens's work on federal influence on private sector welfare benefits, Kenneth Finegold's work on the influence of the agriculture lobby on food stamps, and Jill Quadagno's research on the historical evolution of relief payments in the South; all are 1988 in the volume on *The Politics of Social Policy in the United States* edited by Margaret Weir, Ann Shola Orloff and Theda Skocpol. This version of Historical Institutionalism provides the model for my dissertation. I will expand on these limited analyses in my examination of data in my research on the social policies related to transit in Southern Nevada.

The Relevance of Historical Institutionalism for this Dissertation

The relative fragmentation of governmental structures in the United States allows a degree of independence of action among government agencies at various levels. This "relative autonomy" is limited by various factors. Robert Futrell (1999) succinctly covers the general issue of agency fragmentation in a manner that is directly applicable to the Metropolitan Planning Organization (MPO).

Governmental structures in the U.S. are highly fragmented. There is a multidimensional ensemble of organizations and actors that operate at federal, state, and local levels. Programs, policies, and practices of this ensemble are contested and influenced by a range of competing interests that flow from within organizations, agencies, and branches of the state, as well as from groups outside the state. . . . Local and state governments may, for instance, enact programs and pass legislation that complement federal efforts or contradict them. This fragmentation can provide multiple points of access and potential points of leverage for organized constituencies to press their interests. These arrangements also turn the creation and implementation of programs and policies, especially those dealing with issues of environment and technology into extremely controversial and unpredictable affairs. (P. 193)

While this description refers to the issue of outside citizen activism, it is equally applicable to staff interactions among the fragmented agencies. This provides a context for the concept of the semi-autonomous state.

A relevant HI concept for my research is Theda Skocpol's idea of the semi-autonomous state, drawn from Louis Althusser's ([1965] 1969) concept of "relative autonomy" which broke from orthodox Marxism to place economic, political and ideological dimensions of society on an equal footing in determining institutional form. In the HI view, institutions work within laws, subject to the influence of parties, formal and informal, to achieve tasks. Skocpol explains that government-sponsored institutions are suspended between their government mandate of serving the public and the need to perpetuate their existence. The degree of emphasis on each pole differs over time depending upon the presence or absence of an immediate threat to the existence of the agency and the demand for its service by the public. To carry out its mandate, the agency must compete and cooperate in ways that are not anticipated in its legislative mandate. Barbara Brents examines this process in the case of the 1935 Social Security legislation (Brents 1989: 39-57). A prime HI example is that of the National Labor Relations Board

(NLRB) in the 1930s, when it had to take its New Deal legislative mandate and navigate the passage between business and labor leaders to carry out its goals. (Brents 1989: 39-57; Finegold and Skocpol 1995: 130-131).

Allied theoretical views, such as those of the Political Institutionalists, add nuance to the concept of the semi-autonomous state. An important example is that of Pedriana and Stryker (2004). They study the expansion of state capacity using the example of the agency created to carry out equal employment law. They emphasize the role of law, and its expansive interpretation based on court cases, in determining the effectiveness of agencies in carrying out their tasks. Using the example of Title VII of the Civil Rights Act of 1964, which was to be enforced by the weak Equal Employment Opportunity Commission (EEOC), they demonstrate that a favorable climate in court decisions, based on pressure from below, enabled an expansive interpretation of an agency's role. In the case of the EEOC, this allowed an agency that was "unorganized, toothless, and broke" to expand its capacity through staff initiative to become an effective enforcement agency even without a strong mandate (Pedriana and Stryker 2004: 712). The role of law in social change has been seen by activists as positive or negative depending upon their success in mobilizing resources, power, or common assumptions that support their cause (Kositner 2003: 367).

The HIs' studies illustrate the state's semi-autonomous character through an analytic history of the institution that emphasizes key decision points in the agency's development. This type of analysis is congenial to my approach to the creation of the Metropolitan Planning Organization and how one example, the Regional Transportation

Commission of Southern Nevada (RTC), carried out its formal mandate in balance with the demands of local actors.

The MPO as an example of a semi-autonomous state agency also illustrates the integration of the formal and informal in one agency—formal strictures of the federal mandates for MPOs must be met, but the methods of achieving this compliance are largely informal. The local formally created MPO carries out programs through informal means to meet the formal standards set forth by the federal government.

Institutional capacity is a concept intended to capture how an institution created through government action and buffeted by the various interests of several groups can carry out its mandate. Later HI studies include both an assessment of the capacity of an agency to do its job and a prescription for improvements in the way the job is done (Skocpol 1995, 1996, 2003). My dissertation will chronicle the institutional capacity of the MPOs and assess their capacity to carry out their tasks based on the relative success of the RTC. I will examine how the RTC's tasks as an MPO changed over time through the interaction of formally designated agencies and informal groups.

HI's have examined the role of the public in influencing agency activities. Theda Skocpol and Morris Fiorina in *Civic Engagement and American Democracy* (1999), and Theda Skocpol in *Diminished Democracy* (2003), agree that the degree of civic engagement has dropped over the period of the last half of the Twentieth Century, a situation that continues into the Twenty-First Century. As I explained above, civic engagement declined as limited-issue advocacy groups increased. Limited-issue advocacy groups differed from citizen civic engagement groups in two ways. (1) The participants are largely different. Civic groups with a general good government view had

private citizens as their main members and actors. Limited-issue advocacy groups usually have professional staffs and, if citizens are involved in advocacy, it is the staff members who initiate and direct activities.

(2) The limited nature of their views tends to focus the discussion in a way that limits the possible number of outcomes.

Sociological Significance of Research

My dissertation will assess this view in the context of changes with public transit and the MPO. I contend that relationships of professional and technical actors within the system paralleled and to some extent supplanted the role and relationships of the broader public in setting policy and assessing efficacy. The degree of influence of employees of engaged agencies is understudied. My emphasis on engagement highlights increasing collaboration among staff members of agencies at federal, state, and local levels. Increased institutional capacity, technical and managerial, interacted with social and legislative processes to foster a new form of engagement.

In this chapter I have examined the relevant literature with an emphasis on historical institutionalism (HI). I find that HI is most relevant for my study. It is a pragmatic view of interacting citizens, agencies, and levels of government. Agencies evolve over time to accept new tasks. The initial tasks assigned when agencies are created by legislation are modified as needed. HI studies the ways in which these institutions change through continued interactions among the actors involved.

In the next chapter, I examine the creation of the main agency through which the interaction relevant to this dissertation was channeled, the MPO. I will review legislation

that set up the federal agency context for MPO creation in 1973. I will review the various tasks of MPOs and general changes in their roles between the 1970s and the mid 2000s. Federal legislation responded to initiatives to add planning requirements to the MPOs' tasks. These mandates increasingly emphasized demonstration of transit operators' compliance with social policy legislation. Title VI of the Civil Rights Act of 1966 was a law in effect at the creation of the MPOs. The MPOs, by virtue of their activities, were required to demonstrate their compliance with the Civil Rights Act of 1966; equal treatment of all regardless of race was a given for MPOs from their beginning. Title VI requires equal access for all persons regardless of race or ethnicity for all programs that receive federal funds. A second social category was added with Executive Order 12,898 of 1994, which added consideration of equal access for low income transit riders. I will review the planning requirements of federal legislation and the mandated role of MPOs, emphasizing transit.

CHAPTER 3

THE METROPOLITAN PLANNING ORGANIZATION—ORIGINS AND PRACTICES

This dissertation reviews the development of MPOs. I will provide a brief overview of the political history leading to the creation of MPOs. I focus specifically on the relationship between federal, state and local organizations and how the administrative capacity of each changed as transportation policy evolved, leading to the creation of MPOs in 1973. I begin with a description of the political philosophy of the “good government movements” in the early 20th century as the antecedent spark to situate MPOs as a primary transportation governance organization. Second, I will discuss the current organization and operation of today’s MPO. I will begin to lay out the outlines for Chapter 4’s detailed discussion of the two main dynamics influencing MPO institutional capacity, federal, state and local dynamics, and professional realignments.

As we will see, federal transportation legislation focused on building interstate highways. This highway emphasis enhanced and built existing state highway departments’ responsibilities as it sought to create a rationalized federal highway system. The federal government provided funding, which the state spent on highways according to local plans. As the federal agencies assumed more responsibility for funding more types of highways, the programs became more complex. The federal U.S. Department of Transportation (USDOT) mandated more state and local responsibilities in administering its funding programs. Federal legislation created MPOs to meet this administrative need. By 2000, the MPOs became the primary agency responsible for implementing social legislation on civil rights and environmental justice in transportation. I end the chapter

with a review of MPOs in practice including a general discussion of how MPOs implement federal social goal requirements.

HISTORY OF MPOs

The Congressional decisions that produced MPOs germinated in “good government movements” of the 1920s and 1930s. The good government movement emphasized the idea of regionalism as part of a rational planning process with local controls for the areas to be served. The 1925 Committee on the Regional Plan of New York and Its Environs (CRPNYE) produced a series of comprehensive reports on a variety of topics, including transportation services. The CRPNYE studies were developed by an association of prominent area businessmen who were interested in planning as a way to help their metropolitan area grow and prosper. The CRPNYE’s two major publications on transportation in the New York metropolitan area were part of a series that pioneered regional service studies throughout the country (Lewis (1928)). These studies set the form of other regional studies’ characteristics, with a focus on traffic, automobilization, and freight transportation issues.

On a national scale, Congress formed federal agencies to deal with transportation issues. These transportation issues were defined as government responsibilities beginning with the Bureau of Public Roads in 1916, which evolved into the Department of Transportation’s Federal Transit Administration by 1991 (Weiner, 1999). (See Table 19 in the appendix.) With creation of these federal agencies Congress focused transportation legislation exclusively on highways. As a result, highways could receive federal subsidies for construction at the state level. Transit systems were ineligible. Public transit

systems throughout the late Nineteenth and early Twentieth Centuries were private, for-profit streetcar companies, which did not receive federal aid. Only as the streetcar company profits fell during the Great Depression and after World War II did Congressional attention turn to transit as a publicly-owned and operated resource.

Early Transportation Planning, 1916-1962

Prior to the creation of MPOs in 1973, U.S. transportation governance functions were a hodge-podge of overlapping and incoherent agencies and functions that Congress eventually combined into the U.S Department of Transportation (DOT) in 1966. Below, I discuss the transitions leading up to Congressional establishment of the U.S. DOT in 1966.

Bureau of Public Roads

Congress established the Bureau of Public Roads (BPR) in 1916. BPR was essentially a government extension to the creation of privately-designated national routes such as the Lincoln Highway. The BPR was not concerned with transit. In 1916, transit companies were privately owned and their operations and route planning were a part of daily business management. Extensions of routes and long-range fiscal plans were established in response to needs of existing populations and possible use of route extensions as land speculation devices (National Archives 2011). Highways, as the first recipients of federal funding, were the first subjects of mandated planning. States' basic interstate route plans were early examples. By the time Congress passed the Federal

Highway Act of 1921, planning requirements to qualify for federal highway funds were defined (U.S. Department of Transportation 2011).

For instance, federal funding eligibility required states to designate a continuous system of interstate/intercounty roads that represented a maximum of 7% of their total road mileage. The federal highway contract was exclusively with the states. While municipalities and regions could and did lobby their state highway departments, federal law specified there was no official local participation (Gardner 1931: 72).

The quality of long-range transportation planning varied greatly by state. Some states funded relatively sophisticated planning departments within their highway departments, while others stayed with basic engineering or hired outside consultants (Weiner 1999). The main impetus for long-range planning came from the federal government as a mandate to be carried out by the states. The first subsidy for state highway planning was included in the Federal-aid Highway Act of 1934. The 1934 act set aside 1.5% of the federal appropriation to each state for surveys, engineering and other highway planning activities (Weiner 1999: 8).

Transit and highway funding and planning differed until the late 1940s: highways were public; most transit systems were private. The owners/presidents of the transit systems dealt directly with their local investor boards without intervening local, regional, or state level bureaucracies. At this time, private national transit initiatives directly shaped local level activities. For instance, between 1930-35, the private streetcar operators' Presidents' Conference Committee (PCC), made up of the heads of private transit systems, devised a standard, improved transit vehicle, the PCC Car. The initiative

here was from the local systems to the national group, which then provided the improved car design for the use of its local systems (Mills 1975; Bromley and Jackson 1983).

Broadening Federal Involvement:

Highways, Housing, and the Three Cs

The idea of comprehensive transit planning at a national scale developed in fits and starts. The National Resources Planning Board (NRPB) made an initial attempt to logically set out a postwar planning vision including transportation and housing. During World War II, the NRPB worked to allocate scarce resources for transit and other needs, such as housing. However, Congress disbanded it in 1943 and planning for new postwar freeways took the spotlight. Yet postwar transportation planning was in no way comprehensive. Rather, projects were completed piecemeal based on local interests with no planning for a full national system. The vision of the post-war highway system took a great leap forward with the Federal-aid Highway Act of 1944. The Act increased federal funds to aid states in road building and set out the basic design of routes for an Interstate Highway system. This was aspirational, since the Act went unfunded.

In the 20 years after the war, metro areas established public transit authorities to replace private companies that were no longer profitable due to dropping ridership. Boston and Chicago created major transit authorities in 1947. Then in 1955 and 1956, New York City and the San Francisco Bay area created theirs (Weiner 1999: 18-19).

Housing agencies advocated for transit planning at a national scale by encouraging comprehensive planning for land use, housing, and transportation. The Housing Act of 1954 authorized federal planning funding assistance at local, state, and

regional levels. The legislation recommended that transportation planning be included as a part of land use plans. Housing's comprehensive solution approach set the tone for further changes in how national administrations approached federal policy (Congressional Digest 1963: 8). Between 1956 and 1961 the Eisenhower and Kennedy administrations increased federal funding for highway development. For instance, the Federal-aid Highway Act of 1956 funded the previously-outlined 41,000-mile Interstate Highway System through gas taxes and the newly-established highway trust fund (Mohl 2003). Despite federal involvement, local transportation planning was still left to local actors. This caused conflicts where federally-funded highways cut through cities without planning coordination.

The Housing Act of 1961 continued to emphasize the relationship of transit, housing, and land use. The Act provided loans for government purchase of commuter routes, formalizing the private-to-public divestiture pioneered by the inner-city streetcar and bus-based transit systems and extending it to the suburbs and exurbs. To assist in this work, the Housing Act of 1961 modified Section 701 planning assistance to include transportation plans. The Kennedy administration included grants for mass transportation as well as related incentives for comprehensive transportation planning.

The Federal-aid Highway Act of 1962 continued the federal emphasis on transit. For the first time, a "highway act" introduced the ideal of the multimodal transportation system including transit as well as highways. In an important turn that we will discuss more specifically in future chapters, the bill established the "Three-C" transportation planning process requirement (Continuing, Comprehensive, Cooperative) as a condition for receiving highway funding for metro areas with populations above 50,000. This was

important because it institutionalized the need for a level of planning that was the basis for expanded capacity in the future. It is also important because it became key in providing the need for planning professionals, and not just engineers, to play an important role in transportation. In response, areas throughout the country established regional planning agencies or revised existing ones. They usually had only advisory authority. These advisory agencies were the ancestors of MPOs.

As we will see, the Three-C process had several effects on the development of future transportation planning at all levels. First, the ideal of a continuing planning process implies that there will be some entity to carry out the planning that has an existence beyond a specific task. This can be a dedicated transportation agency or other entity with transportation planning capabilities. Second, the comprehensive aspect requires that both transit and highway transportation will be included in the planning efforts. Third, the cooperative requirement means that all levels of government will be involved, from federal agencies through state highway departments and local city and regional governments. An additional cooperation was initiated in this: citizens were to be directly consulted for the first time. Although the federal requirement for the creation and designation of MPOs would wait for another 11 years, their basic context had been established.

There were several problems with the mandate for continual planning. The main problem was that the law was weak at the federal level. Whatever the initial idea of the law, the federal Bureau of Public Roads (BPR) interpreted the law so that they dealt directly with state highway agencies. The state highway agencies in turn negotiated directly with local governments, bypassing the newly-created regional agencies. Highway

interests—construction companies, developers, etc.—were concerned that the regional organizations would be roadblocks to their projects. “The planning requirement was seen by these highway interests as ‘. . . potentially disruptive innovative forces, threatening established policies, procedures, commitments and systems of decision-making.’ ” (Morehouse 1969).

This view was challenged during the 1960s and early 1970s as congestion and urban sprawl became recognized problems. In 1972 there was a Congressional year-long battle over the Highway Trust Fund (i.e., the “Gas Tax”). Mass transit advocates—environmentalists, urban officials—wanted expansion of federal transit aid. On one side were the environmentalists, often allied with local city governments. Anti-sprawl mayors had been forced to take over money-losing transit systems and wanted expansion of federal transit aid. On the other side, highway lobbyists were against any diversion of trust funds away from highway building. The year-long debate gave a national hearing to anti-highway concerns—sprawl, neighborhood disruption, air and noise pollution. In 1973 Congress approved using a small amount of phased-in highway money for mass transit (Solof 1998). (See Table 19 in the appendix.) MPOs had achieved a stable institutional status.

Creation of Metropolitan Planning Organizations (MPOs) 1973

Metropolitan Planning Organizations (MPOs) were originally created to coordinate transportation policy primarily in areas with large populations that experience complex transportation issues. They were born into longstanding political conflicts over

what governmental level should control the use of federal transportation funds. As Mark Solof explains,

. . . because they bridge traditional bounds and lines of authority, from the start, MPOs have been controversial. Critics have argued that they usurp legitimate functions of state governments and constitute an unnecessary layer of bureaucracy. Supporters say they are important mechanisms for insuring local control over federal funding and that they deserve wider authority to implement the plans they create. (Solof 1998: 5)

The 1973 Highway Act included a small amount of funding from the Highway Trust Fund to establish MPOs in areas of 50,000 and over to carry out the Three-C planning process. Many at the federal and local levels saw the new MPOs as a necessary counterweight to the influence of the state transportation departments. The 1973-1974 oil embargo helped promote the concept of balanced multimodal transportation system that would be more efficient and less dependent on privately-owned vehicles. Actual initiation of MPOs at the local level had to wait for the conclusion of the administrative law process. In 1975, Congress set final rules for the establishment of MPOs.

The process of rulemaking was contentious; it was the first rulemaking to include both USDOT highway and transit officials and covered specific types of governance such as who would be included and what plans would be required. Importantly, both public transit and highways had to be included in a single plan. MPOs initially met resistance from a national conglomerate of road builders and local opponents to the inclusion of carpool lanes in freeway plans. In 1979, the second oil embargo created more uncertainty about MPOs. After Ronald Reagan's 1980 election, there was a general cutback of regional planning funding and legislative mandates. Yet, MPOs were an exception. They remained part of the planning regime, but new legislation relegated the definition of their

scope of authority to the states. During this period MPOs' required tasks centered on coordinating local functions to keep funding flowing to build highways. Yet the specific functions to be covered were ambiguous and varied by entity. The idealistic view of MPOs as sources of area-wide leadership vanished and they were seen by local officials as having become largely non-innovative rubber stamps for state agency plans. At the same time, highways got the greatest emphasis. Congress increased the federal gas tax by 5 cents a gallon, with 1 cent set aside for mass transit. Even this small amount for mass transit was controversial. The legislation was passed over President Reagan's veto (Solof 1998).

Future tasks and configurations of MPOs were established through the federal transportation reauthorization acts, which were (theoretically) to be adopted every five years. After the adoption of twelve highway acts from 1921 to 1987, the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991 emphasized the intermodal aspects of MPOs (U.S. Department of Transportation 1991). Intermodal features refer to the inclusion in all transportation plans not only automobiles but also bicycle and pedestrian modes. Further federal transportation authorization laws enshrined the MPOs' role within the federal-state-local context. The intention was for federal legislation to reauthorize the national transportation program and redirect its overall goals and policies every five years after the initial intermodal legislation. In reality the schedule was typically interrupted by controversy in Congress and was met only in the most general sense with pro forma meetings but no real comprehensive 5-year assessments.

These federal transportation reauthorization acts established the basis for all government action in transportation, federal, state, and local. After the initial Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, there was a seven-year gap until the 1998 passage of the Transportation Equity Act for the Twenty-First Century (TEA-21) and another approximate seven-year interval until the passage of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005 (U.S. Department of Transportation 1991, 1998, 2005). These acts were the authorization acts for federal transportation funding and were subject to considerable wrangling for advantage by various interests, including highway and transit advocates at all levels of government. In this atmosphere, the programs they outlined remained relatively static in emphasis. Highways received the major portion of funding, and mass transportation a fluctuating minor part. In addition, much of the controversy surrounding the passage of the reauthorization laws was due to legislators' arguments over the inclusion of their favored capital projects, usually highways. Some of the disputes approached the ludicrous. SAFETEA-LU was passed only after Transportation Committee Chairman Senator Ted Stevens of Alaska was allowed to add the name of his wife (Lu) to the acronym. He had already gotten his share of projects, including the celebrated \$238 million "bridge to nowhere" from Gravina Island, location of the Ketchikan International Airport, to the city of Ketchikan (Library of Congress 2011). SAFETEA-LU expired in 2009 although Congress kept the money flowing through the use of stopgap continuation bills. A Surface Transportation Extension Act of 2011 was considered by Congress, but was caught in the budget impasse of April, 2011 (Library of Congress 2011). In July, 2012 a longer term stop gap measure, the Moving Ahead for

Progress in the 21st Century Act (MAP-21) was adopted. It extends federal transportation legislation for two years, until September 30, 2014 (U.S. Department of Transportation 2012b).

Key developments in that they provided the biggest impetus to the development of social programs within the MPO were the federal mandates given it by the 1966 Civil Rights Act and the regulations under the 1992 Environmental Justice Executive Order 12,898. The 1966 civil Rights Act included accommodations for transportation (Title VI) and applied to all agencies receiving federal funds. The 1992 Clinton era Executive Order 12,898 added Environmental Justice (EJ) to the regulations affecting federally-funded agencies, including MPOs. The federal mandates required under these two acts guaranteed that the MPO would deal not just with the engineering of roads, but with the social implications of transportation into the 21st century. These mandates are the focus of this dissertation. As these two mandates are usually considered together, I will refer to them as "Title VI/EJ" in the rest of this dissertation except in cases where a distinction between the two is necessary.

THE METROPOLITAN PLANNING ORGANIZATION TODAY

The MPO planning scope, while intermodal, has in practice been skewed to emphasize street and highway construction. MPO planning funds are divided between the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA). The FHWA portion has remained the larger portion of the planning funding. Although there has been a small increment in transit-specific funding, notably between FY 2006-2009, FTA transit planning funding is consistently equal to about 20% of the total. Some of the highway planning funding may be used for functions that benefit both modes, such as air

quality and future growth modeling, and localities are free to use their own locally-derived planning funding without restriction, but the federal emphasis toward highways is clear.

MPOs today coordinate transportation policy primarily in areas with large populations that experience complex transportation issues. In 2006, there were 361 MPOs, with the majority of them (52%) serving areas with populations of 199,999 or fewer. Medium populations of from 200,000 to 999,999 represented 36% of the total, with MPOs in areas of over 1 million representing 11%. The Regional Transportation Commission of Southern Nevada serves a population of approximately 2 million, well into the “large” category. Staff size can be expected to affect the institutional capacity of the MPO. The mean number of full time staff for large MPOs is 49. Some MPOs are much larger, since the median number is 31. The Regional Transportation Commission of Southern Nevada carries out the MPO planning function with a total MPO staff of 21, including engineers not directly involved in planning. (See Table 21 in the appendix.)

MPOs mainly function to select the transportation capital projects in their area. MPOs are also often sponsored by Councils of Governments (COGs). COGs are regional agencies that carry out a variety of functions, depending upon their state-granted authority. Some states, such as Nevada, do not have COGs. Seventy percent of all MPOs have at least some responsibility for land use decisions. This number may seem large since it includes MPOs that simply are consulted for their nonbinding opinion as a part of the local land use decision-making process. Eleven percent of all MPOs are assigned a specific land use planning responsibility by the state. Thirty-seven percent of all MPOs carry out project implementation including both highways and transit. Sixteen percent of

all MPOs oversee transit operations.

In Nevada, all four MPOs are responsible for some degree of transit operation. The two largest Nevada MPOs, in Reno and Las Vegas, both operate their transit systems through service contractors and implement transit capital projects. The RTC of Washoe County in Reno also contracts with construction companies to build all street and highway projects in its area. Both RTC of Washoe County and RTC have engineering staffs that are responsible for project implementation. (See Table 22 in the appendix.)

Federal law mandates that MPOs carry out five core functions. They are to (1) provide a setting for fair regional decisions; (2) consider the available options and evaluate alternatives, ideally at a regional level; (3) create and maintain the (long range, 20-year horizon) Regional Transportation Plan (RTP); (4) develop a program for transportation improvements that implements the goals of the RTP using management and financial tools through a short-range (4-year) Transportation Improvement Program (TIP); and (5) ensure involvement of the general public and all “significantly affected subgroups” in functions 1-4. The RTP must be “fiscally constrained”—funds must be identified for all projects and programs included—and it must enhance mobility and access for people and goods and promote a high quality of life (U.S. Government Printing Office 2007). The plans must set out goals by which to judge that the system performs well and demonstrate that it is maintained. Figure 1 shows the flow of these required plans and how they fit in with other documents that the MPO is required to maintain.

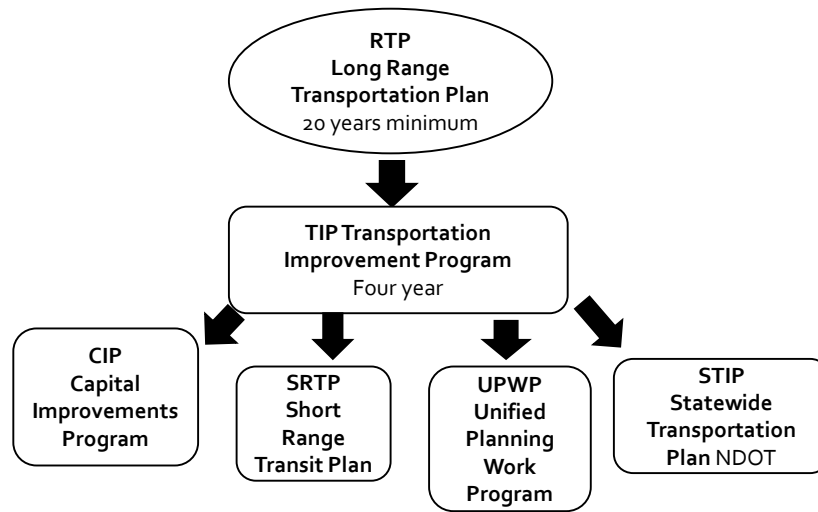


Figure 1. MPO Required Plans

The MPO Planning Process

Table 1. Required Scope of Planning Process

-
- (A) Economic vitality/global competitiveness
 - (B) Safety
 - (C) Security
 - (D) Mobility: people, freight
 - (E) Environment, energy conservation, quality of life, consistency between transportation improvements and planned growth, economic development patterns
 - (F) System integration/connectivity: people and freight
 - (G) Efficient system management/operation
 - (H) Preservation of existing transportation systems
-

Source: Federal Register 2007; U.S. Government Accountability Office (GAO) 2009: 9.

How do the required plans fit together? Basically, the items included in each plan—the policy vision and supporting projects—must be the same. The RTP is implemented

through the TIP. At the state level, the Statewide Transportation Improvement Program (STIP) includes the identical information found in each MPO's RTP and TIP, but is statewide in scope. Within the MPO, the TIP projects are tracked and administered through continuing updates to the Capital Improvements Program (CIP). The Short Range Transit Plan (SRTP) is a plan covering transit projects and operations that can cover from 4 to 10 years at the discretion of the MPO. The Unified Planning Work Program (UPWP) is the MPO's list of all planning products to be produced each year. These may range from traditional "corridor studies" of routes through the area to more esoteric studies of models and their parameters. The UPWP is designed to focus the annual planning efforts of the MPO while demonstrating to the U. S. Department of Transportation that their planning subsidies are not being wasted at the local level.

Federal requirements for MPO plan content are listed in Table 1 below. These eight items are required in all major MPO plans.

Federal Mandates for Social Goals

The MPO became the lead agency/institution at the local level for transit planning and project implementation. A key component of this growth was the federal mandate which charged MPOs with the task of planning and implementing social goals through the 1964 Civil Rights Act and the later 1994 Clinton era Executive Order 12,898 adding Environmental Justice (EJ) to the regulations. These acts required MPOs to adapt to meet new goals. Numerous challenges have stood in the way of easy and successful adaptation. Fulfilling civil rights and environmental justice mandates requires clear (and ostensibly effective) regulatory mechanisms which often become focal points for public

discussion and critique. When the mechanism selected to carry this out is a legal challenge in a court of law, the complex issues of social justice are easily lost in the necessarily specific legal issue at hand. The terms of the issue are often ossified in legal language which does not allow for fine points of debate. This legal process of simplification and ossification limits the range of discussion to those legal contexts that already exist. The resulting dialogue is both less complex and subtle and omits consideration of the fullest range of remedies (Halpern, Stephen 1995: ix).

Federal agencies oversee MPOs' Title VI/EJ compliance through plan evaluation and annual compliance visits. There are two regulatory requirements involved in transportation law related to Title VI/EJ. The first is to identify a protected group and the second is to demonstrate that the local transit agency is meeting the requirements of equal service to that group. Identifying protected groups requires the MPO to use analytical elements developed at the federal level based on census data. The primary analytic categories include race and ethnicity for Title VI requirements and poverty level for the EJ requirements.

Once the group of interest to the federal regulators has been identified, the local agency must apply the applicable regulations. The transit provider or MPO must use locally geographic-specific data to identify the group that fits within the federal protective mandate and the degree to which the group exhibits the relevant characteristics of race and poverty. These racial and poverty characteristics are then mapped to show their intensity of occurrence and localization using local data. Analysts overlay the transit service characteristics to measure the relative equality of service within the transit provider's service area. The data is generally developed and analyzed by the local transit

provider and approved by the MPO. In some cases, where multiple transit providers are found within a single MPO, the MPO may carry out the analysis for the local transit providers. In other cases, such as the RTC of Southern Nevada, the transit provider is the MPO.

SUMMARY

In this chapter I have reviewed the history of transportation legislation and regulation in the United States, culminating with the creation of the MPO. I explained that MPOs were created to be intermediaries, albeit awkwardly placed, among federal and state agencies and localities as coordinators with only the power of persuasion to meet their federal mandates. Their initial tasks were to create a rational allocation of projects on a regional basis. MPOs were central institutions in this effort, rivaling the Councils of Government (COGs) that the federal government encouraged. Not all COGs include MPOs within their organization. The COGs had a much more comprehensive mandate that covered land use and social issues, but they were not organized in all metropolitan areas and they did not have a guaranteed source of project construction funding. MPOs distributed money from the National Highway Trust Fund, a continuing self-funded source based on gas taxes. The MPO's funding allocation role guaranteed the participation of all governments in the metropolitan area in regional transit planning, because all cities and counties have unfunded transportation projects. It also ensured that the MPO would be the locus of continual conflict at the interlocal level, among the cities and counties in its area, interregionally between adjacent MPOs, between the MPO and the state, and between the MPO and the federal government. Among these levels,

alliances tend to coalesce between the MPO and its member cities to confront the state, as well as between the state and the MPO to approach the federal agencies. Alliances may even develop between the MPO and the federal regulatory agencies with the most direct MPO oversight roles. These MPO-federal agency alliances occur as the MPO and their district DOT office work together to present a united front to the Washington headquarters of the federal agency.

In this chapter I reviewed the creation of MPOs as transportation funding and coordinating agencies. MPOs carry out a combination of engineering and planning tasks. Their roots can be traced from state highway departments. Planning tasks were added to federal transportation legislation after World War II in response to major suburbanization. Creation of MPOs in 1973 centralized the tasks in a new home. Federal legislation routinely added tasks to MPOs throughout the late Twentieth Century. Civil rights legislation preceded the federal authorization of MPOs in 1973 and MPOs were tasked with carrying out Title VI of the Civil Rights Act of 1966 from their beginning. Environmental Justice issues were added in 1994.

In chapter 4, I will consider how the federal mandate was implemented through the competition among different levels of government. Federal, state, and local agencies each had different views of the main tasks of transportation and how those tasks should be carried out. Different transportation professions shared these to differing degrees. Chapter 4 looks at these varying views and how they came together cooperatively in the MPOs' transportation planning process. In Chapter 4, I will examine the role of the MPO in carrying out the social mandates assigned to it, specifically Title VI/EJ and the development of the institutional capacity required to carry these out.

CHAPTER 4

FEDERAL MANDATES IN POLICY: FEDERAL, STATE AND LOCAL CONFLICTS AND TRANSPORTATION PROFESSIONALS

I will look specifically at how federal mandates regarding transportation policy were negotiated, first by changing configurations of middle level experts involved in creating transportation policy, second through key pieces of national policy (including both national legislation and federal court cases), and third by how these professional employees helped build the administrative rules that governed the implementation of national policy. In this chapter I show specifically that federal mandates were far from dictated from above, but formed through negotiation among middle level experts (particularly engineers and planners) and through continued shifting dynamics in the organizational capacity of federal, state and local agencies.

I first look at how rivalries among professions were expressed through a series of national conferences that shaped federal legislation. Engineers and urban planners slugged it out to advance their rival views until the federal Transportation Research Board (TRB) began its neutral sponsorship of the conferences in 1971. Under federal sponsorship, these conferences supported federal training efforts to increase local agencies' institutional capacity which in turn allowed them to build influence with federal regulators. Next I examine how subsequent legislation was influenced by administrative processes based on better local institutional capacity. The improved institutional capacity of federal and local agencies was needed to meet requirements created by another influence: court decisions, which clarified old requirements and created new ones based

on the issues of the cases. The complex mixture of law, professional rivalries, legislation, and legal decisions created the context for MPOs of today: local agencies collaborating to implement Title VI/EJ plans through regular state and national contacts.

This chapter addresses the framework of federal-local interaction in the development of legislation, administrative law, and requirements and policies for plan implementation. I find that the relationships among government actors provided a conduit for transmission of input from the local bottom to the federal top; this affected federal policies. The decision process created through this complex interaction of agencies and individuals determined the requirements for local transit goals.

Local institutional capacity grew through a complex iterative process. To explain this process, I begin by outlining the specific requirements of administrative law related to Title VI and EJ issues. I emphasize the relationship of the initial legislation and subsequent litigation to administrative law and how the resulting requirements for transit compliance evolved over time. The federally-devised mandates changed the MPOs' methods of implementing their transportation plans. This change is, to a large extent, the result of the differences of scale in the institutional capacities of the agencies at federal, state, and local levels. I argue that the institutional capacity at the local level expanded to meet the federal mandate. This increase in institutional capacity was accomplished through competition and cooperation between federal agencies and local actors. Since my interest is institutional capacity, I limit my analysis of professional interaction to agency employees or consultants employed by the agencies.

Building Institutional Capacity before MPOs: Federal and Local Professional Competition and the Dominance of Engineers 1916-1951

Antecedents in the creation of MPOs came from highway building engineers. The role for engineers as transportation planning managers, responsible for all aspects of transportation planning, was well established prior to the creation of MPOs. At all governmental levels, managers had relationships with engineers from the beginning of Twentieth Century government roadbuilding. Public and private engineers and planners worked together both individually and through professional associations and special transportation summits. The engineers' interests were largely focused on how to most efficiently build roads. There were, however, surprising glimpses of progressive elements in evidence, particularly after WWII.

The process of evolving professional roles in transportation planning differentiated into at least three recognizable specialties in transportation planning. Initially, all transportation professionals were highway engineers. They built roads, generally oriented to state-level needs.

Planning professionals were pulled into transportation planning between the early 1950s and late 1960s as concern about the effects of highways on urban areas grew. After the Second World War urban freeways began to cut through central city areas in many locales. Their routes mainly affected the poor and minorities. Planners with local perspectives became the primary professionals questioning the headlong push of urban interstate construction. Their advocacy of alternative possibilities to urban freeways positioned them squarely in opposition to the hitherto-dominant engineers (Caro 1974: 878).

NEPA added a third profession to transportation planning. Federal mandates required increasing levels of analysis. Computerized modeling of proposed highway links became more commonplace in the 1960s. The ponderous and expensive mainframe-based modeling of the 1960s and 1970s was revolutionized by smaller computers. As computer technology developed, MPOs relied more and more on individuals trained in computer modeling. Initially, engineers and planners did modeling of future projects. The Clean Air Act Amendments of 1990 (CAAA) required future air quality modeling based on transportation plans. This meant trained computer software modelers became almost mandatory (Library of Congress 1990). Those working in this third subspecialty in transportation planning initially were primarily engineers or planners; gradually from the 1980s computer modeling became its own specific subfield.

Paradoxically, the initial movement toward transportation planning at a local level came from the federal and state-oriented highway engineering community. Initially, leaders of the Bureau of Public Roads were recruited from the ranks of directors of state highway agencies. For example, Thomas Harris “Chief” MacDonald was the Iowa State Highway Engineer in 1919 when he was selected to head the federal Bureau of Public Roads. He stayed at the top job under different titles from 1919 to 1953, when he was fired at age 70. Reportedly, the Eisenhower Administration was concerned that his influence with Congress would overshadow the role of the President in the creation of the Interstate Highway system.

His influence continued as he founded the Texas Transportation Institute at Texas A&M University, allowing him a major role in setting the agenda for future transportation discussion (Weingroff, n.d.). One of MacDonald’s successors, Rex

Whitton, continued the tradition of state highway directors filling the top federal highway position. Whitton came to what was by then the Federal Highway Administration (FHWA) from the directorship of the Missouri Highway Department. He, like MacDonald, had worked his way up within the agency, starting as an engineer trainee in 1921 upon graduation from the University of Missouri engineering school (Larson 1990). Whitton emphasized the technical aspects in administration of the construction of roads—he steered the Interstate program as FHWA Administrator from 1961-1966. Importantly, he also revolutionized the transportation planning function. Whitton superintended the development and implementation of the 3 C (comprehensive, cooperative, and continuing) planning process still in use today. In this, Whitton emphasized the “cooperative” element of the program, both among all levels of government agencies from federal to local. He also recognized the need to cooperate to integrate land use and transportation planning in local areas as essential to the future of urban areas.

Early federal transportation planning was shaped by the experience of people who had worked in the field at state and local levels. An old FHWA hand, in looking back over the past of transportation planning, emphasized the importance of the influence of face to face contact and personal relations in developing the legal and administrative role of transportation planning. As Holmes observed:

. . . it becomes clear that ideas have taken hold and programs have developed not by the written word important as that is as a framework for action, but by the men [sic] who worked steadily and sincerely in their own areas of influence and authority to make ideas bear fruit (Holmes 1973: 400).

Professional associations often influenced federal decisions. They recommended their members for top positions at federal agencies, they lobbied federal agencies and their Congressional delegations, and they held influential regional and national meetings. The American Association of State Highway Officials (AASHO) recommended both MacDonald and Whitton for the position of top federal highway administrator in 1919 and 1961, respectively. AASHO and the other associations set professional and construction standards and influenced legislation. Rex Whitton had been the national AASHO president in 1955 and represented the association in Congressional committee debates on the proposed Interstate Highway System. Associations met regionally and nationally in their own conferences; they also took the lead in holding joint conferences on transportation topics which indelibly shaped policy (U.S Department of Transportation 2011).

NATIONAL CONFERENCES AND TRANSPORTATION PLANNING

From Engineers to Planners 1957-1982

A series of national transportation planning conferences set the agenda for transportation regulation over the decades from 1957 to the twenty first century. These conferences played an important role in bringing planners to the table.

The conferences reflected three main trends. Initially—from 1957 to 1965—“summit” conferences were mainly forums for conflict between different professional orientations and regional perspectives. Reconciliation of viewpoint between engineers and planners and direction of legislation were the main themes of conferences held from

1971 to 1982. Conferences from 1988 to 2000 were a forum for the federal agencies to disseminate rules on mandates; they also were a place for the professionals to give input to modify these rules. (See tables 23 through 26 in the appendix.)

These “summit” conferences (1957-1965) were a forum for the initial conflict between two visions of transportation planning in the United States. Engineers ruled transportation planning from 1916 to 1956; planners with regional and more social concerns became more prominent in the postwar urban boom. The conferences defined the requirements for institutional capacity at different governmental levels, both technical and in terms of interface with the public. The conferences, as an arena for conflicting visions—federal versus state and local; engineers versus planners—developed many of the ideas that were to become the basis of federal planning law. Reconciliation of the two viewpoints of engineers and planners was contentious. Planners’ roles emerged at federal, state, and local levels and were continually redefined at the meetings. The meetings had a major place in codifying the existing varying viewpoints of transportation planners at different governmental levels. The meetings also set the stage for their future views.

These special “summit” meetings coexisted with the Transportation Research Board (TRB) annual meetings, held in Washington, DC every January since 1921. The TRB annual meetings initially covered a much more modest range of topics on highway engineering; they gradually moved into the wider range of the aspects of transportation planning and its interplay with society.

Formative Conferences, 1957-1965

Controversy struck the first major transportation conference, the 1957 Hartford Conference, sponsored by the Connecticut General Life Insurance Company. The engineers expected to work out the rough spots of urban freeway location and proceed with construction of more and better urban freeways. Instead, they confronted an opposition of a type they had never encountered before: anti-freeway advocates. Academics and urban land use planners among the delegates believed urban freeway construction should stop until cities developed comprehensive land use plans. The conference was also notable for the national publicity it gave to the challenge of the planners to the engineering and construction interests, led by Lewis Mumford. As a federal agency described it years later:

The conference turns out to be the first formal confrontation between the highway community and city planners and critics, led by Lewis Mumford. The planners and critics, not the highway community, receive the favorable press coverage. Mumford, in a scathing denunciation of the Interstate Program, comments that the Federal-Aid Highway Act of 1956 "was jammed through Congress so blithely and lightly . . . because we Americans have an almost automatic inclination to favor anything that seems to give added attraction to the second mistress that exists in every household right alongside the wife—the motor car." (U.S. Department of Transportation, Federal Highway Administration 2012a).

The Hartford Conference was seen by highway advocates—mainly state and federal level engineers and construction companies—as being captured by “‘anti-highway’ people” in the absence of federal and state highway officials (Holmes 1973: 384). Few local officials attended, so the conference discussion was between the few federal delegates and the planners, who generally took a local view.

Highway groups struck back the next year. As soon as it could be arranged, the highway contingent held the 1958 “Sagamore” National Conference on Highways and Urban Development. It was set to influence public discussion, but more importantly, to set the agenda for national legislation. Highway-oriented engineers and elected officials at the Hartford Conference organized the Sagamore Conference as an overt reaction to the planners’ resistance to highway construction. Its sponsors were all highway advocates that favored highway construction: the Automotive Safety Foundation (ASF); American Municipal Association-American Association of State Highway Officials Committee (AMA-AASHO); National Association of County Officials (NACO). The Sagamore Conference established the AMA-AASHO-NACO Action Program, which influenced the 1962 Federal-Aid Highway Act.

The 1962 Hershey, Pennsylvania, conference on “Freeways in the Urban Setting” represented a first in national transportation conferences. It included, among its mainly association sponsors, the federal Bureau of Public Roads, but this federal agency was not the conference convener. Its official conveners were the other sponsors, all highway advocates: the American Association of State Highway Officials, American Municipal Association, National Association of County Officials, and the Automotive Safety Foundation.

The Hershey Conference represented a rapprochement between the land use and transportation groups at the federal level. Hershey emphasized transportation planning conflict resolution between highway officials (largely state) and federal housing officials and land use planners; it tried to emphasize urban values and planning as central to transportation planning.

It was not until the 1965 Williamsburg, Virginia, Highways and Urban Development meeting that the highway interests, secure of their funds and influence, recognized the need for a continuing transportation planning process. There was a local and regional aspect to the conference that indicated a degree of intergovernmental rapprochement. Sponsors included highway interests (AASHTO), the National League of Cities, and the National Association of Counties. The 1965 Williamsburg conference also recommended that transportation projects be consistent with local land use plans—a concession to the local planners consistent with the recommendations of the 1962 Hershey conference.

These privately-sponsored 1957-1965 national conferences set the precedent for future conferences sponsored by public agencies. Subsequent conferences were oriented toward administration and legislation. The federal government was the primary sponsor, and it set the agenda within the context of the laws developed as a result of the previous conferences. Roles of the various professional groups had been set; the present need was to strengthen the planning process. These conferences did, however, provide a forum for state and local participants to air their concerns and attempt to influence future administration or modification of the transportation planning laws.

Federally-Sponsored Conferences, 1971-1982

The 1971 Pocono Mountain, Pennsylvania, conference on “Organization for Continuing Urban Transportation Planning” was the first conference sponsored by the Transportation Research Board of the National Academies (TRB) and as such represented a new model for conferences. Federal management helped to ensure adherence to a coherent federal agenda. The conference was also a new model in that it

sought middle ground between land use planners and engineers. Its focus was multimodal planning: moving people via the most efficient modes for each trip. The emphasis on lower levels of government continued. The conference emphasized state enabling legislation and local participation. While it was attempting to open up the process through continuous citizen participation, the aim was not insurrection. Continuous citizen participation was prescribed only as an input to local elected officials' decision making.

Increased institutional capacity was a major element on the 1972 Williamsburg conference's agenda. The 1972 Williamsburg conference was the first conference to concentrate on the technical aspects of travel forecasting. New laws required new computerized travel demand forecasting. One of the key issues in this was the need to reconcile the continually increased complexity of the models and their results with the need for simplified reporting understandable to citizens and elected officials. The conference recommended the establishment of a program to increase institutional capacity of agencies by disseminating methods to local modelers. The result was a series of publications and short courses that were given throughout the country by USDOT staff members and their consultants.

The 1982 Airlie House conference took advantage of the localities' increased institutional capacity based on the 1972 conference. The 1982 conference recommended devolving many of the tasks of transportation planning from the federal and state level to local agencies. The nature of local planning implied by the initiative required an update of technical abilities to carry it out, with its concomitant further increase in institutional capacity at the local level. The "localization" initiative was the result of a desire among

planners for local control but it also meant that local planning would necessarily become more complex.

Cooperative Conferences, 1988-2000

Each level of government had distinctive viewpoints. Conferences held from 1988 to 2000 recognized differences in orientation at different governmental levels. They each were a forum for discussion of the mandates, where federal rules were discussed and modified by state and local professionals' comments. These conferences concentrated on federal interaction with state and local entities and the topics generally related to the issues of federal legislation and administration of planning law. Professional conflicts between planners and engineers over technical roles had been largely resolved at earlier conferences. The conferences both fostered cooperation on topics through interaction and the created a needed common viewpoint between the professions. This allowed the planners and engineers to take similar stands in testifying on legislation. The 1988-2000 conferences were practical conduits from federal to local levels and back again, with agendas that resulted in common recommendations for changes in administrative law and legislation. Conferences emphasized the topics of interest to the transportation planning community at a particular time. Inherent in all was the issue of institutional capacity. While the federal government sought to improve the institutional capacity of the grantees at the state and local level, the lower level agencies wanted to ensure that the federal agency oversight of their programs was adequate.

Initially these topics related to aspects of administration of new regulations and future improvements as seen at the federal, state, and local levels. As greater emphasis

was placed on social equity and environmental justice, the conference topics reflected this. Institutional responsibilities and aspects of planning practice needed to meet federal requirements formed the main topics of the conferences in 1988, 1989, and 1990.

Institutional capacity was a key issue in other meetings. The role of MPOs was specifically covered in the 1992 Charlotte conference; a second 1992 meeting in Irvine emphasized needed changes in institutions; a third 1992 meeting in Seattle included discussions of institutional barriers to programs.

Social aspects of transportation planning gained attention with the 1992 Irvine conference, which was convened mainly to cover the new requirements of the ISTEA federal enabling legislation. ISTEA included expanded requirements for citizen participation with a new performance orientation in planning.

Social Goal Conferences, 1994-2000

Each of the conferences integrated Title VI Civil Rights issues into the agenda. Civil Rights were not made the main topic of a conference until after the Environmental Justice Executive Order of 1994. Executive order 12,898, signed February 11, 1994, added environmental justice to the federal requirements for grantees. The 1994 Chicago National Conference on Transportation, Social Equity, and Environmental Justice, held November 17-18, represented a major reorientation of social elements. This conference was unique in that it included few transit or highway professionals; discussions were held with 150 community activists to identify the main transportation issues of interest to their constituents. It was a federal-level attempt to bypass the parochial state and local transportation interests, with the hope that federal agencies could gain insights for federal

policies in support of environmental justice. The general federal staff conference on environmental justice, the Atlanta Inter-departmental Public Meeting on January 20, 1995, included locals. This meeting was not limited to transportation topics and invited further public comments on environmental justice issues related to federal programs. New technology was used to engage the public nationally; a national TV satellite downlink was provided to specific sites throughout the United States.

Two conferences held in 1999 and 2000 reviewed EJ issues and methods of performance measurement (Transportation Research Board 2000b). The 1999 conference examined EJ and perceived potential conflicts between human and environmental rights. It also raised the issue of how to link planning to decisionmaking. One of the main elements of such linkage was the topic of the 2000 Irvine conference on performance measures. These included issues of measurement such as selection of criteria, how they would be used in measurement, and the always-complex issue of their use by decisionmakers.

The 1957-2000 conferences were the forums for (1) conflict resolution to set the relative roles of each profession and each level of government; (2) defining the place of administration and regulation in transportation planning; and (3) regulation and administration of social aspects of transportation planning embodied in Title VI of the Civil Rights Act of 1964 and Executive Order 12,898 of 1994 on Environmental Justice. Institutional capacity of the agencies involved was of primary interest at each stage. Creation and accommodation of agency institutional capacity was largely a result of the discussions and recommendations of the conferences. As their purpose changed over time, their sponsors changed also. The early ad hoc support by private groups (1957-

1965) moved to a predominance of professional groups and was supplanted almost wholly by the various federal agencies of the USDOT from 1971. This was largely a response to the regularization of the roles of the participants at all levels of government.

The role of local and state agencies vis a vis federal agencies was defined by being:

- Filtered through national conferences to define roles
- Embodied in national legislation
- Set out in administrative law and directives to states and localities
- Carried out through the development of plans.

I will now turn to the role of legislation in support of local institutional capacity.

EVOLVING FEDERAL MANDATES

Policy, Administration, and Institutional Capacities –

Federal, State, and Local Relations

Federal legislation initially placed demands on, and later supported, local institutional capacity. The 1962 Federal Aid Highway Act included provisions that redefined the relationships among the agencies at the federal, state, and local levels. Not only was there to be a vertically-integrated cooperative process; cooperation was required horizontally at the same level of government. While the local level is the one that attracted most attention in the national transportation planning and engineering world, this was a major change for the federal and state levels as well. At the state level, it affected state agencies, but also included an integration of their planning functions with federal agencies' regional and state level offices (Weiner 1999: 34).

Implementation of the 3C (Cooperative, Continuing, Comprehensive) planning requirements set out in the 1962 Federal Aid Highway Act required new techniques that few local and state agencies were competent to carry out initially. The Bureau of Public

Roads recognized the discrepancy between the technical requirements of the 3-C process and local knowledge and equipment availability. The techniques pioneered by the major metropolitan agencies in the 1950s required significant amounts of both technical knowledge and equipment, neither of which was generally available to most of the agencies in the smaller communities. Technical requirements were centered on several ideas that were radical for their time. Surveys of current transportation conditions required a substantial effort. For the first time local land use mapping was included with projections of future traffic conditions. In order for plans to adequately analyze the future of transportation and land use in the community, the current situation formed a baseline upon which the proposed transportation links were superimposed. Future land use plans had to be considered to analyze the expected travel demand at each future time period. Evaluation of the proposed plans would, in theory, allow the community to knowledgeably plan a future transportation pattern matched to future land use.

The Bureau of Public Roads (BPR) Urban Planning Division recognized the lack of institutional capacity to carry out these technical tasks and mounted a large-scale national effort to bring entities at all levels of government up to the needed standard. The key element in this effort was the use of computers. The BPR wrote software—a major undertaking in the era of mainframes—and provided it to local agencies without charge. It also produced manuals and provided training. The BPR set up a two-week course in using computers to meet the requirements of travel demand forecasting; by the July 1, 1965 deadline of the 1962 act, all 224 existing urbanized areas (later to be MPOs) had met the requirements for transportation planning (Holmes 1973: 396).

Support of increased institutional capacity for MPOs continued, following the pattern of providing manuals, software, and training. The training, held by the National Highway Institute, a branch of the FHWA, at local venues, was free to public employees, but charged a fee for the private sector attendees (National Highway Institute 2011). The effort slowly moved from the mainframe training to mini computers and micro desktop availability. While the hurdle of computer cost was largely overcome by the mid-1980s, the complexity of the transportation planning process grew with additional mandates. This complexity was reflected in new intricacy of transportation computer gravity models. The increased difficulty required all but the smallest local agencies to dedicate full time staff members to transportation modeling tasks. This convolution increased exponentially when the air quality standard conformity requirements were added by the 1990 Clean Air Act Amendments (CAAA) (Library of Congress 1990). The hands-on capacity building through training has been supported by the work of the Transportation Research Board (TRB), an affiliate of the National Academies, the successor to the Highway Research Board, founded in 1920. TRB took its current form in 1974. As the operator of the Transit Cooperative Research Program (TCRP) since the 1992, TRB forms a connection among the academic researchers, consultants, the practical operators of systems, and government agencies at all levels, including MPOs. The TCRP series supplements the materials of the FTA as manuals of best practices. TRB now holds more than 70 conferences and subgroup meetings throughout the United States each year (Transportation Research Board 2011).

At the recommendation of the USDOT, Congress recognized the need for more general transportation planning and authorized increased training. Classes were set up for

both highway and transit planners. Two main transportation training groups give classes at varying local venues throughout the country. The National Highway Institute (NHI), established by Congress in 1970, is administered directly by the USDOT. The National Transit Institute, established by Congress in 1992, is housed in the Voorhees Transportation Center at Rutgers University (National Highway Institute 2011; National Transit Institute 2011).

ADMINISTRATIVE LAW FROM TITLE VI AND EJ ISSUES

History of Title VI/EJ Initiatives

Title VI and EJ have today coalesced to form a single element of transit compliance; however, they initially took separate paths to implementation. Title VI of the Civil Rights Act of 1964 was enacted 30 years before the Environmental Justice Executive Order 12,898 of 1994. Federal actions outline the history of the Title VI/EJ issues relevant to transportation. The history of the legislation, legal cases and major administrative implementation measures in both strands of legislation are tightly interwoven.

It took a long contentious effort to adopt the Civil Rights Act of 1964. (See Table 2.) Title VI of the Civil Rights act of 1964 bars overt or unintentional racial discrimination. The standard adopted to judge discrimination focuses on effect. That is, proving intentional racism is not necessary to prove that racial discrimination occurs (Office of Management and Budget (OMB) 1997). Once the law was passed, the question became how to enforce it. How can the local agency demonstrate that it is conforming to the law? Identification of racial discrimination by transit providers required (1) the definition of race and (2) the identification of minority areas. Census data was used to

identify minority areas in each transit service area. This was fairly straightforward when the main two groups were white and black. As social composition changed over time, the definition of race proved to be a more nuanced issue than provided for in the original legislation (Krysan 2000; Krysan and Lewis 2004). Hispanic communities grew as a proportion of urban population and ethnicity became a component part of the definition of those with standing to challenge discrimination. Identifying the non-black minority population areas became an important component of the transit agencies' compliance activities.

Two national initiatives changed the nature of the census racial data. Hispanic groups and those identifying as multiracial lobbied for and got changes to census categories in the censuses of 2000 and 2010. National-level Hispanic groups lobbied for recognition, resulting in the passage in 1976 of Public Law 94-311. Public Law 94-311 required collection, analysis, and publication of economic and social statistics on residents of Spanish origin/descent. The Office of Management and Budget (OMB) attempted to bring some order to the ethnic standards through its 1977 OMB Statistical Policy Directive No. 15, "Race and Ethnic Standards for Federal Statistics and Administrative Reporting" (OMB 1977). The Census Bureau allowed self-identification and attempted to add an "other" category through its 1988 "Draft Policy Statement on Racial Categories." Congress rejected these proposed changes. In 1994, Congress established the OMB Interagency Committee for the Review of the Racial and Ethnic Standards. The 1997 OMB Report on Racial and Ethnic Standards recommended data collection use both race and ethnicity and then aggregate such assessment to make data compatible with previous categories.

Table 2. Title VI Civil Rights Initiatives and Census Categories

<i>Year Action</i>	<i>Effect</i>
1964 Civil Rights Act passed.	Title VI bars racial discrimination, overt or as an effect of a discriminatory non-racial policy
1976 Public Law 94-311	Required collection, analysis, and publication of economic and social statistics on Spanish origin/descent
1977 OMB Statistical Policy Directive No. 15	"Race and Ethnic Standards for Federal Statistics and Administrative Reporting" promulgated.
1987 Civil Rights Restoration Act of 1987	All federal funding recipients must comply with Title VI in all programs, even in those locally-funded.
1988 Draft Policy Statement on Racial Categories	Attempts to add "other" category and allowing self-identification. Rejected.
1993 House Committee on Post Office and Civil Service Subcommittee on Census, Statistics and Postal Personnel Hearings	Racial and ethnic group representatives testified. Multiethnic groups testified in favor of self-identification; other groups attempted to change categories to favor their constituencies. Subcommittee requested OMB input.
1994 OMB Interagency Committee for the Review of the Racial and Ethnic Standards established	Result of the 1993 Congressional hearings; carried out 3-year research program
1997 OMB Report on Racial and Ethnic Standards	Recommended both race and ethnicity collection, with options for multiple selection; categories should aggregate to meet previous needs

Source: Office of Management and Budget (OMB) 1997; Edmonston and Schultze 1995.

Environmental Justice (EJ) Initiatives

Environmental justice initiatives initially revolved around the issue of negative environmental impacts related to toxic wastes. (See Table 3.) Between 1982 and 1998 legislators added requirements that sought to equally distribute positive programs among

the poor and people of color. The mandate's generalized form, apart from transportation, evolved from 1982 through 1998. General EJ administrative actions set the requirements for transportation planning.

Public awareness of EJ issues began with 1982 grassroots protests in Warren County, NC, against siting a PCB toxic dumpsite in a predominately African-American community. The protests set the stage for a series of four major studies that focused on negative effects of environmental decisions. The result was a 1983 U.S. GAO study of dumpsite location in EPA Region IV. It found that landfills in EPA Region IV were distributed disproportionately in predominantly African-American communities. This was confirmed on a national scale by a 1987 study for the Commission for Racial Justice from the United Church of Christ that identified inequities of toxic waste landfill location nationwide. The 1987 study found that minority race was the best predictor of toxic waste landfill location. A 1992 U. S. EPA study then focused on health effects in minority communities and identified disparities in disease and death rates by race. The EPA noted a need to collect data on minorities to gauge the effects of differential exposure to air and water pollution, including the effect of hazardous waste facilities. The EPA also found a need for greater outreach to minority communities. The final study of negative impacts was a 1992 study by Marianne Lavalley and Maria Coyle in the *National Law Journal* that found that fines for Superfund sites were lower in minority communities than in white communities nationwide.

In 1994, the President Clinton issued Executive Order 12,898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." The Executive Order added Environmental Justice concerns to all government agencies'

programs, specifying that low-income populations must be added to those that had previously been considered in programs. The Executive Order also created an Interagency Working Group on Environmental Justice to implement it. The Interagency Working Group set data requirements to collect, maintain, and analyze information on the race, national origin, income level, and other readily accessible and appropriate information to demonstrate compliance. The initial federal implementation document was set out almost immediately, in the 1994 U.S. DOJ Attorney General's "Memorandum for Heads of Departments and Agencies that Provide Federal Financial Assistance." This memo clarified that discrimination was not limited to intentional actions but includes those that have a discriminatory effect.

As the number of EJ complaints rose, the EPA regularized the complaint process for environmental permitting. While this had no direct effect on transit service provision, it set the context for the future FTA complaint process.

Table 3. Environmental Justice (EJ) Initiatives

<i>Year</i>	<i>Action</i>	<i>Effect</i>
1982	Grassroots dumpsite protests, Warren County, NC	High-level study of EJ issues
1983	GAO Study, EPA Region IV	Found that landfills in EPA Region IV were distributed disproportionately in predominantly African-American communities.
1987	Commission for Racial Justice, United Church of Christ study	National study of environmental equity identified inequities of toxic waste landfill location nationwide; minority race was the best predictor of toxic waste landfill location.
1992	US EPA Study: <i>Environmental Equity: Reducing Risk for all Communities.</i>	Identified disparities in disease and death rates by race; need to collect data on minorities to gauge the effects of differential exposure to air and water pollution; hazardous waste facilities; greater outreach to minority communities needed
1992	<i>National Law Journal</i>	Study found fines for Superfund Sites were less in minority communities than in white communities nationwide
1994	Executive Order 12,898 <i>Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations</i>	Added Environmental Justice concerns to all government agencies, specifically added low-income populations to those that had to be considered; Created an Interagency Working Group on Environmental Justice to implement, set data requirements to collect, maintain, and analyze information on the race, national origin, income level, and other readily accessible and appropriate information to demonstrate compliance
1994	U.S. DOJ Attorney General's Memorandum for Heads of Departments and Agencies that Provide Federal Financial Assistance	Discrimination not limited to <u>intentional</u> actions but includes those that have a <u>discriminatory effect</u>
1998	U.S. EPA <i>Interim Guidance for Investigation of Title VI Administrative Complaints Challenging Permits</i>	Update procedures and policies to accommodate the increasing number of Title VI complaints that allege discrimination in the environmental permitting context

Modified from Ursic 2002: 497-500; General Accounting Office (GAO) 1983.

Federal Transportation Authorization Acts 1962-2005

The federal transportation authorization acts that were put in place between 1962 and 2005 set the context of planning tasks for both highways and transit. MPOs were created, funded, and survived challenges to become an integral part of transportation planning. This transportation planning was to be done using the “3-C” planning process (continuing, comprehensive, and cooperative) developed in the 1962 Federal-Aid Highway Act. Additional planning requirements came in the Urban Mass Transportation Act of 1970, which added requirements for environmental analysis of proposed projects including social and environmental impacts. These requirements included the use of public hearings. These changes imposed requirements on transit that were not yet required for highways. Local jurisdictions gained influence through the Federal-Aid Highway Act of 1970 as state and local governments became more involved in the selection of projects and routes for the national federal-aid urban highway system. The 1970 highways act allowed the use of highway funds for busways for the first time. Busways are located on highways, unlike rail transit systems. This demarcation clearly sent a message to the transit side that the highways were the province of the FHWA, even highways used for transit.

The federal openness to all forms of transportation including transit was highlighted in the Federal-Aid Highway Act of 1973. This federal authorization law echoed the regulatory flexibility recommended at the 1971 Mt. Pocono transportation conference, but it set requirements that made its flexibility a Pyrrhic victory. While federal urban system highway funds could be used for mass transit, the law required states to return funds for Interstate Highways and spend an equivalent amount of federal

money on mass transit. Almost no jurisdiction felt that it could do that. For the first time, however, the bill funded urban transportation planning separately—there was a dedicated source of funding for local planning. The local planners were supported but had little leeway. This trend of limited local control continued with the National Mass Transportation Act of 1974. It provided for limited federal funding for transit operating assistance (to be used either for projects or operating assistance at local discretion). In this rational move that formalized a single highway-transit planning process there were constraints that limited the options of local planners. One example was the requirement for detailed transit passenger data. While the data required under Section 15 is helpful in judging operations, the initial impetus was from Congressmen who were anxious to show that federal funds were being misused by local transit operators. The Surface Transportation Assistance Act of 1982 (STAA) was notable for combining the transit and highway authorization bills, but little else. Its successor, the Surface Transportation and Uniform Relocation Assistance Act of 1987 (STURAA), continued the strict federal oversight of local transportation planning. For the first time the 1987 act required development of long-range funding plans for transit.

The balance of power in transit planning swung toward MPOs with the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). This Act devolved coordination of route continuity to local level MPOs; in addition, larger MPOs gained more authority over project selection and funding. As a result local governments paid more attention to MPOs. ISTEA also expanded the scope of planning to mandate that it be multimodal, including environmental and social issues. The 1998 Transportation Equity Act for the 21st Century (TEA-21) and the Safe, Accountable, Flexible, Efficient Transportation

Equity Act: A Legacy for Users (SAFETEA-LU) of 2005 essentially reaffirmed the influence of MPOs over federal funding sources, while requiring them to consult with local planning agencies. In addition, the public meeting requirements for planning were expanded and specified.

FEDERAL AGENCY IMPLEMENTATION ACTIONS AND MPO INSTITUTIONAL CAPACITY

Department of Justice Initiatives and Institutional Capacity

Department of Justice (DOJ) regulation of transit illustrates the influence of agencies outside the transit world on transit systems. DOJ's activity in support of Title VI illustrates the flow of policy activities and their influence on future practices. While the DOJ is not an agency dedicated to transportation, its regulations often govern the specific transportation rules of other agencies, including the FHWA and FTA. The DOJ initially implemented the Civil Rights Act of 1964 through a 1966 order in the Federal Register, which simply inserted the language of the 1964 Act into the Register with appended notices of specific federal agency activity necessary for compliance (U.S. Department of Justice 1966). These activities were at a national scale, directed at federal agencies. Each activity, however, implicitly required regional and local activities that the federal agencies were to design and enforce in support of the law. Other legislation brought forth additional regulatory requirements for local agencies to comply with. The National Environmental Policy Act of 1969 (NEPA) mandated that federally-funded projects must demonstrate no disproportionate affect (good or bad) in construction or operation. The inclusion of the prohibition on good disproportional effects directly affects transit operations. The examination of "good" elements means that transit agencies are

mandated to provide a service that is demonstrably equal regardless of race or ethnicity. In other words, transit agencies must avoid a negative outcome, such as placement of transit maintenance and fueling facilities in residential neighborhoods. Transit facility placement has been translated as a requirement to demonstrate a positive outcome. The method to demonstrate these twin outcomes is through an “adequate” consideration of Title VI-related effects in NEPA’s required environmental reports. Relatively minor projects and services are subject to an Environmental Assessment (EA) process; major projects and services are subject to a more detailed and costly Environmental Impact Statement (EIS).

The Federal-aid Highway Act of 1970 (23 United States Code 109(h)) reiterated the need for compliance with Title VI. It established requirements for states to name a Title VI coordinator, annually certify Title VI compliance, and develop a complaint procedure. The DOJ supported this law in 1973 through DOJ Order No. 519-73, 38 FR 17955. The 1973 Order mandated record keeping required for federal department assessment of compliance with the Civil Rights Act of 1964. The Civil Rights Restoration Act of 1987 illustrates the complex relationship of court cases to legislation (U.S. Department of Transportation 1992). It is a reaction to the Supreme Court *Grove City vs. Bell* case. This 1985 ruling apparently limited compliance with nondiscrimination requirements to programs that received federal funding. The 1987 act clarified the intent of Congress to include all programs and activities of Federal aid recipients, subrecipients and contractors. This established a wider range of authority that clarified the transit role: all public system transits fell under its authority. Finally, the 2006 DOJ Order No. 2679-2003, 68 FR 51364 defined the place of affirmative action for

transit agencies. It requires affirmative action if discrimination is found to have occurred, but allows affirmative action even if no such finding has been made.

Federal Initiatives, Legislation, and Creation of Institutional Capacity

How do all of the influences discussed so far combine in the Title VI/EJ procedures? The USDOT Title VI and EJ implementation process is complex. It led to the current MPO planning process through an interwoven series of changes in legislation and administrative law, agency interpretations, legal challenges and court decisions. Each activity in this chain led to changes in the subsequent activity, but also resulted in revisions to previous decisions and rulings. Often legislation not directly related to Civil Rights had significant effects on the planning process regarding Civil Rights. For instance, the National Environmental Policy Act of 1969 required consideration of Civil Rights issues in its required environmental examination of proposed transportation projects. The result required a redesign of transit plans and a reorientation in requirements to qualify for federal transportation funding.

Figure 2 illustrates a series of process relationships among legislation, court cases, and federal regulation that affected transit planning between 1964 and 1988. Legislation may perform several functions, generally initiation, addition or clarification, and redirection. The passage of the 1964 Civil Rights Act initiated the process of implementation. It barred discrimination in projects that included federal funding. The 1969 National Environmental Policy Act (NEPA), while initiating many environmental programs and regulations in its own right, added requirements and clarified functions regarding transit. It added the requirement that public transportation initiatives should have no “disproportional effects” by race, which was implied but not made clear by the

1964 Civil Rights Act. NEPA added the concept that the “disproportional effects” of a program could be either positive or negative. NEPA also provided clarification on the specific measures to meet the more detailed requirements. An Environmental Assessment (EA) was required for each project; for the larger projects a more comprehensive Environmental Impact Statement (EIS) was required. Both the EA and EIS processes must include consideration of social impacts. Federal approval of an EA or EIS is definitive. Litigation also performs functions of initiation, addition/clarification, and redirection. *Grove City College v Bell* (1984) limited compliance with non-discrimination requirements of the 1964 Civil Rights Act and the 1969 NEPA was limited to those portions of an entity’s programs that included federal funding. The 1987 Civil Rights Restoration Act reaffirmed required Title VI compliance for all programs of an agency receiving any federal funding.

Legislation results in regulation by the responsible federal agencies. NEPA set out public participation requirements for the EA and EIS that were used in the 1970 USDOT regulations for transit planning in 49 CFR Part 21: Title VI Implementation. The 1970 regulation has been updated at regular intervals and forms the basis for the 49 CFR Part 21 dated October 16, 2001. Several agencies may be involved in administrative rulemaking for a single program; while DOT 49 CFR Part 21 implemented NEPA and the 1964 Civil Rights Act, the Department of Justice (DOJ) set out its Title VI requirements in the 1976 28 CFR Part 42. These specified both transit service standards and rules for public participation required when any transit agency receives security assistance. Transit security requirements implemented after September 11, 2001, mean that virtually all transit providers are included in this group.

The relations of agencies at the state and local levels are usually implied by the legislation; administrative rulemaking makes these agency relations concrete. The agencies' detailed relationships are specified at a lower level of federal directives that establish procedures in greater detail. These include DOT Orders, Strategies by sublevel, such as the FHWA and/or FTA, and Memoranda (Federal Register 2007). The full range of rulemaking outcomes with their main emphases is included in Tables 29 through 32 "USDOT FTA Title VI and EJ Regulations for Transit" in the appendix.

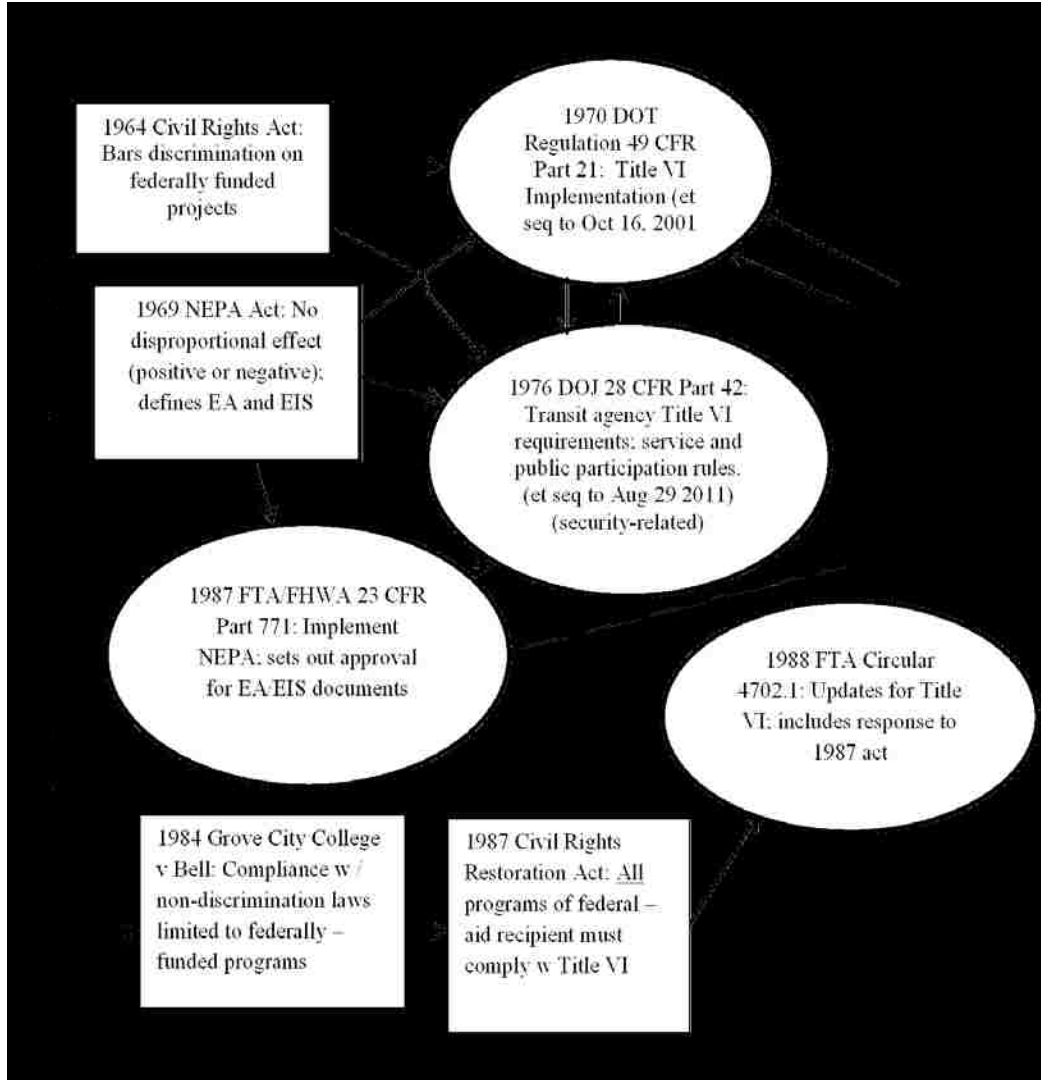


Figure 2. Relationships of Legislation and Regulation in Transit Civil Rights Requirements, 1964-1988

Litigation

In addition to legislation and administrative action, litigation was an important determinant of Title VI/EJ regulation. Court rulings clarified and expanded the scope of Title VI transit regulation through decisions that affected the Title VI/EJ measures included in MPO plans. Litigation covered a wide range of topics and resulted in directives at several levels.

Foundational Cases

Among other issues, judicial rulings affected the delegation of the law's implementation by level of agency. (See Table 4-13 in the appendix.) Court cases clarified the law and delegated specific review of local practices to federal agencies.

Title VI itself prohibits intentional discrimination. The Supreme Court has ruled, however, that Title VI authorizes Federal agencies, including EPA, to adopt implementing regulations that prohibit discriminatory effects. Frequently, discrimination results from policies and practices that are neutral on their face, but have the effect of discriminating. Facially-neutral policies or practices that result in discriminatory effects violate EPA's Title VI regulations unless it is shown that they are justified and that there is no less discriminatory alternative. (U. S. Department of Justice 1994: 2)

In 1985, the case of *Alexander v Choate* (469 U. S. 287, 293 (1985)) ruled that Title VI only proscribed intentional discrimination (National Cooperative Highway Research Program (NCHRP) 2003: 3). It did not, however, preclude federal agencies from adopting more stringent "disparate outcome" compliance standards.

Thus, it appears clear that the DOT has the authority to enact regulations requiring transit grantees to take affirmative action to ensure that the grantees' activities do not have an unjustified disparate impact on

minorities, thereby excluding them from the benefits of federally assisted programs without an appropriate justification (Transportation Cooperative Research Program (TCRP) 1997: 16).

Federal agencies took advantage of this discretionary authority to embrace disparate outcome standards. As Justice Marshall noted elsewhere, “. . . every Cabinet department and about forty federal agencies adopted standards interpreting Title VI to bar programs with a discriminatory impact” (National Cooperative Highway Research Program (NCHRP) 2003: 3).

Court Actions Specific to Transit Regulation

The initial 1994 lawsuit by Los Angeles Bus Riders Union helped to further solidify the issue of Environmental Justice as it applies to transit provision. The Bus Riders’ case became the most influential and lengthy EJ litigation. It inserted the court directly into the process of setting standards for transit. (See Table 34 in the appendix.) The U.S. District Court for the Central District of California designated bus load factor standards and the mandated remedy in the Metropolitan Transit Authority (MTA) case. Representatives of inner-city residents sought to require that Los Angeles Transit authorities channel funding for suburban-to-inner city rail transit, seen as benefitting middle class commuters, to the immediate purchase of buses for use in the poorer inner city. This set up a series of events including a Consent Decree that mandated a Joint Working Group (1996) and a lawsuit when the Joint Working Group failed to reach agreement (2001). The 2004 Final Order on Remedial Service Plan set specific load standards on the bus system and required that the MTA purchase 145 buses (U.S. District Court for the Central District of California 2004). A 2005 Proceeding supported the Final

Order by directing the MTA to produce a new plan to incorporate the Final Order standards (U.S. District Court, Central District of California 2005). This was a rebalancing of the relative weight of Title VI and EJ. Lipsitz sees this as a victory of poor people in a coalition that emphasized income while it de-emphasized race. (1998: 67-8).

EVOLUTION OF TRANSIT REQUIREMENTS

Environmental Justice and Race

During the period 1980-1994, the increase in the categories of ethnicity that came to be included in Title VI regulations greatly diluted the effect of such regulation on blacks, the original target of these regulations. There are two regulatory development models at work here. Title VI of the Civil Rights Act of 1964 was the product of compromise and discussion through a complex legislative and regulatory process. Executive Order 12,898, directing the inclusion of EJ measures in agency policy, was drafted by a select group of staff members in the Executive branch, with little public or peer input. This dissertation discusses the context in which these issues are considered and the social beliefs of the participants, with a quick view of the question of policy effectiveness.

According to Krysan (2000: 135) there are three categories of racial policy in government:

1. *Equal treatment policies* to protect blacks from discriminatory treatment in a variety of settings;
2. *Opportunity enhancement policies*. . .
3. *Equal outcome policies*, which typically involve special preferences in hiring, promotion, or college admissions, as well as general questions about how much effort or money the government should expend on “programs that assist blacks” (Krysan 2000: 135). (Emphasis added.)

The nature of the EJ Executive Order 12,898 and its supporting regulation changed in the course of its development from an “equal treatment” policy to an “equal outcome” policy through the necessary reinterpretation of the intent of the legislative-administrative definition. In part, this is due to the differing orientations of Civil Rights Legislation (Title VI) and Environmental Justice (EJ) regulation. Initial EJ legislation sought to protect minorities from governmental decisions that disadvantaged them in terms of location of landfills and other potentially unhealthful public facilities, an equal treatment issue. Title VI, however, was designed to provide equal outcome. In terms of provision of services, such as transit, this meant that the public service provider had to show that it was not discriminating against the minority group.

The overt initial intent of the legislation evolved as it moved to the level of implementation. Policy makers’ roles interacted at each level in this often contentious and counterintuitive process. In order to demonstrate compliance, service providers had to show that they were not just passively avoiding discrimination, but that they actively provided service in such a way as to serve all citizens equally. This changed an apparent “equal treatment” issue into an “equal outcome” issue. To demonstrate the equal treatment, a transit service provider had to show that it was actively pursuing an equal outcome policy through methods that targeted the disadvantaged community. The key issue is that apparently simple issues of non-discrimination can be transformed into complex programs of remediation. This change involves a variety of actors at several levels of government with different orientations and views of how the laudable social goals of the initial legislation can best be obtained.

These issues interact with the changing agendas of the ascendant societal views of the time. These societal views are embodied in legislation, the interpretation of legislation, and policy development. Enforcement of the policies' requirements includes an element of evaluation of local programs' effectiveness in carrying out such policies. The use of these procedures in a politicized mode, primarily to support the views of the neoconservative new racialists is an issue (Halpern, Robert 1995). The neoconservative's views seek to change the entire structure of social legislation by turning it on its head; their increasingly sophisticated use of the policy development process requires careful analysis to see what the actual effect of this neoconservative agenda will be.

CHANGES TO MPO IMPLEMENTATION OF PLANS

Federal Agency Mandates

The federal development of the planning requirement for local agencies is the base event that established the form of the relationships between federal, state, and local agencies. As the relationship evolved, the relative importance of agencies changed at each level. The vast majority of funding for projects came from the federal government. Agencies that did not follow the directives were in danger of losing their funding. Federal legislation and administrative law determined the form of local planning institutions and their policies. Federal agencies set the requirements for the content of the state and local plans, as well as standards for the development of the local transportation plan(s), including citizen participation, measurement of transportation efficiency and social impacts of proposed plans, both for individual projects and for the plan as a whole.

Role of agencies: Form of Transportation Planning Institutions

The Federal-aid Highway Act of 1970 delegated the required compliance with Title VI to the states. Specifically, the 1970 Highway Act established requirements for states to name a Title VI coordinator, annually certify Title VI compliance, and develop a complaint procedure. In practice, this regulation resulted in a cooperative effort by the state to review MPOs' Title VI compliance as a part of the planning process reviewed by the federal agencies' regional offices. Local power was recognized in the National Mass Transportation Act of 1974. It formalized a single consolidated highway and transit planning process for the first time. The 1974 act also allowed the use of the federal Highway Trust Fund for transit. While these changes enhanced local autonomy, MPOs were limited by the requirement to forego an amount of highway funding equal to the amount of funding for mass transit.

Exchanging highway funds for mass transit funds was often politically difficult. The 1987 Surface Transportation and Uniform Relocation Assistance Act of 1987 (STURAA) confirmed the ambiguity of the federal view of local autonomy regarding transit. The requirement to develop long range funding plans for transit is objectively reasonable. However, it was backed by highway interests who believed that the public would rebel if they realized how expensive transit projects were. While this might cause some problems in areas where mass transit had little support, it was actually a benefit in areas with intensive transit modes, such as subways and heavy rail. MPOs with more intensive transit were able to show potential investors and voters a long-range transit funding plan approved by the federal government.

Under the provisions of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), MPOs were given coordination authority over routes within their areas. Cities and county transportation proposals must demonstrate a region-wide benefit; projects could not simply stop at the entity's borders. Under ISTEA, the MPO plan was the final authority on regional routes. This gave MPOs more authority over project selection and funding. The mandate was specifically multimodal; not just for highways, but including transit and bicycle-pedestrian non-motorized projects. ISTEA also reconfirmed and strengthened the states' primacy in intercity route funding. The 1991 law revised the state-local-federal relationship. The effect was to make the relationship more collegial: the local MPO plans and the state DOT plans had to be congruent. Both local and state plans had to meet the requirements of the regional EPA, FTA, and FHWA agencies. The 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) reaffirmed the primary role of MPOs in transportation planning at the local level, but introduced a requirement to consult with local land use planning agencies. While this local consultation had been carried out informally to some degree for years, SAFETEA-LU re-emphasized the role of the MPO to local land use planners.

Planning Requirements: Content and Standards

Requirements for the content of the state and local plans were, as discussed above, intertwined with the changing relationships of government agencies at federal, state, and local levels, based on legislation and its implementation. Court cases played a significant role in this implementation. Initial legislation prior to Title VI and EJ set up the form of transportation plans; later requirements were added to this initial legislation.

The basic “continuing, comprehensive, and cooperative” (3-C Planning) process was designated in the Federal-Aid Highway Act of 1962. A consolidated single plan for highway and transit planning was mandated in the National Mass Transportation Act of 1974; long range transit plans were required by 1987. The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) mandated multimodal transportation planning, including a fuller consideration of environmental and social issues. Title VI and EJ issues were considered within the framework of the plans.

Federal requirements for development of plans by MPOs were seldom politically or procedurally neutral. For instance, the impetus for short range plans was to put more responsibility on local MPOs; the four-year Transportation Improvement Programs (TIPs) had to be limited to actual funding (“fiscally constrained”). This meant that the MPOs could only include in their TIPs actual fund sources legally committed to the MPO; the value of funds spent could not exceed the value of incoming funds. Long range plans were thought by Congress to be easily manipulated to ignore lack of long-term funding. TIPs were created to hold MPOs to a higher standard of proof of funding and also to engage more local input. Citizens would be more apt to be interested and involved if there were immediate items of interest/at issue for their consideration. The perceived value of the transit service compared with the cost was an important issue. Regulations for the TIP also implied that it should be easier to understand.

Regulatory Process and Actors

Based on the research carried out for this chapter, I have divided the transit planning regulatory process into five activities: legislation, rulemaking, interpretation, action and

enforcement. (See Table 4.) Each of these tasks corresponds generally to the level of government, from the top level (federal) and its legislative task to local tasks of action and enforcement. In practice, each level and its tasks overlap in many ways. National legislation is subject to court challenges. The federal judiciary plays a role in rulemaking and interpretation. In the Los Angeles Transit Riders' Association lawsuit, the federal judiciary was involved in both action and enforcement. The national agency level in the case of Transit Title VI and EJ conformity includes the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), both part of the U. S. Department of Transportation (USDOT), and the Environmental Protection Agency (EPA). Rulemaking and publication of directives are carried out within both the rulemaking and interpretation functions. While the main rulemaking role is that of the federal agency, the rulemaking process involves opportunities for comments by interested parties. These commenting parties include national associations, state and local agencies, chambers of commerce and the like, and (rarely) private citizens. Action is typically very collegial across several levels of government. The MPO is central in carrying out the main action. MPOs develop plans that are acceptable to local groups while meeting federal requirements. MPOs mediate between local desire and federal agency rule as interpreted by federal agency regional office.

The action process is the most complex; many layers of government are included. The MPO's partners in the action of transportation planning are regional and state offices of the federal agencies, local government staff representatives who serve on advisory committees, and state representatives, usually those associated with state departments of transportation planning. Enforcement has two aspects. First, the regional offices of the

FTA and EPA join with state offices of the FHWA to collaborate with the state department of transportation to review and approve the procedures and final plans of the MPO. The second is local enforcement of Title VI and EJ regulations. The MPO is responsible for the initial examination of the transit agencies' performance in meeting these federal requirements in operational standards and procedures. MPOs report on the success or failure of these efforts based on an examination of general operational plans and procedures and specific use of prescribed standards. The MPO simultaneously judges the local transit agencies and is judged by the regional and state federal agency offices.

Table 4. Regulatory Process and Actors

Activity	Scope	Authority	Actors	Notes
Legislation	National	Absolute (Subject to court challenge)	Executive and Legislative, elected officials and staff	Ambiguities ideally negotiated prior to passage
Rulemaking	National by agency	Negotiated	Appointed officials and staff—national agencies with input from state DOTs and local MPOs (Judicial)	Interpretations and practical ramifications subject to comment; final language based on decision by appointed officials
Interpretation	National by Agency	Directed based on outcome of rulemaking	National Agency—Directed to state and local (Judicial)	Method of dissemination: “Dear Colleague” letters, training, websites.
Action	Local MPO, State DOT	Negotiated between regional office of national agency, state agency and local entity	Local and/or state entity—Mediates between local desire and federal agency rule as interpreted by federal agency regional office (Judicial)	Negotiation occurs through the local entity carrying out the requirements of the federal agency to the satisfaction of the federal agency staff (regional and national)
Enforcement	State DOT, Local MPO	Delegated from national, may be delegated to or through state agency or agencies	Local MPO agency staff, reviewed periodically by auditors, who may be federal agency regional staff; national federal agency staff occasionally participate in specific portions. (Judicial)	Periodical reviews occur on site at the local entities’ offices; local agency hosts regional federal agency staff, usually with state agency staff present

Figure 3 shows the tasks carried out by each participating group in transit planning. The darker shading indicates a more direct involvement in the activity; lighter shading shows a less crucial or occasional involvement.

	Legislation	Rule-making	Interpretation	Action	Enforcement (Sanctions)
National Legislative.					
Federal Judicial					
Agency-National					
Agency-National: Regional Office					
State / Local MPO					

Figure 3. Levels of Government by Activity

Summary

This chapter has considered the changing institutional capacity needed for transportation planning agencies' programs to meet the legal and administrative requirements of Title VI and EJ. Rivalry among different levels of government—federal, state, and local—was expressed through several methods with varying results.

Issues of institutional capacity were intertwined with rivalry among various levels of government. Early professional groups set the baseline for professional capacity at agencies. Professional actors needed to have university degrees and certifications in their fields of interest. This professional requirement began with engineers and was transferred to planners as the planners' roles grew. National conferences were seminal arenas for local and national rivalry, often expressed in parallel rivalries between engineers and

planners, later joined by travel demand modelers. The recommendations of the conferences became the basis for intense lobbying by actors at all government levels. Some lobbying was in competition across professional and government level; some was cooperative including different groups to achieve common goals agreed upon at the conferences. As new legislation was spawned by these recommendations, USDOT staff as well as local MPOs recognized that increased institutional capacity in the form of new professional levels of expertise was needed to meet the new requirements. New federal-level training agencies were created to fill this need. The National Highway Institute (1970) and the National Transit Institute (1992) were formed to give standardized training at a local level throughout the country at little or no cost to the students or the state and local agencies from which the students mainly came. These training sessions were also direct conduits for the suggestions of local planners to the national level.

Federal agency implementation of national laws through the administrative lawmaking process was another way to get the opinions of local planners and propose regulations. The administrative rulemaking process requires that the proposing agency publicize the proposed regulations in the Federal Register and request comments from local planners and others prior to final adoption.

Federal agencies cooperate in the enforcement of rules through interagency review of MPOs and local transit service providers. This is a part of the delegation of tasks to various levels, including regional offices of federal agencies, state, and local agencies. Federal directives provide guidance for federal agency review of local programs and provide Title VI and EJ issue guidance for local agencies. This process

culminates in on-site federal interagency review of local planning processes and transit service.

Finally, the results of court cases emphasized a local view of aspects of transit law. The courts recalibrated the balance of transit between the middle class and the poor and minority group members. The main shift was in the balance of transit provision between the rail service that was seen to disproportionately benefit suburban middle class residents and inner city bus service that mainly was used by the economically disadvantaged and minority group members. In the process, the courts added another source of planning directives, as they set specific standards of crowding and bus deployment for local transit agencies to meet.

In the next chapter I will examine the dynamics of the specific service standards that evolved from this complex process. I will start with the civil rights issues involved in identifying the target groups that were to be protected from unequal service. A further examination of the service standards that were required by federal fiat and the response of the local MPO to meet them will conclude with a list of the standards relevant to the rest of my research.

CHAPTER 5

IMPLEMENTING SOCIAL GOALS:

TITLE VI/EJ AND THE RTC OF SOUTHERN NEVADA

This chapter outlines how the institutional capacity to meet transit equality requirements changed as relationships among regional transit offices, the local MPO, and the Nevada Department of Transportation changed. I focus on the case of the RTC of Southern Nevada and its relationship with federal, state, and other local agencies. Specifically, the RTC increased the size and transformed the orientation of its planning staff to meet federal requirements. The federal agencies—primarily the FHWA and FTA—had a dual role in introducing new standards and judging the success of the MPO’s plans. The majority of MPOs included the new standards in their plans in order to guarantee that they would be judged successful in their planning efforts by the federal agencies. To attempt creation of new standards would possibly put federal funding for the MPO’s projects in jeopardy. Local MPO planning directors were not about to jeopardize funding and likely lose their jobs.

At the same time, the MPOs’ new roles required an increased institutional capacity that enabled more input from the local level. This encouraged Institutional Entrepreneurs to urge federal agencies to modify Title VI/EJ reporting requirements (Pierson 2004). In the case of the RTC, as staff capabilities grew, the auxiliary expertise of national experts was called on to help make the case for change. The most relevant was the national law firm, which advised RTC staff on how to make their case with these federal agencies and where to focus their lobbying efforts. The national perspective of the

specialized consultants and attorneys also helped to increase the RTC's internal institutional capacity in addressing many concerns, including Title VI/EJ issues. My analysis is limited to these employees of the RTC.

AGENCY PLANNING RESPONSE TO MANDATES

Local MPO Institutional Capacity: Management

The institutional capacity of the MPO grew significantly over time due to the increased experience of the initial MPO planning staff, retention of external expert staff, and hiring expert staff from outside. In 1989, the RTC hired a transportation planner who had previously worked for a private consultant as Planning Manager, the most senior position in the MPO at the time, to supervise two other planners. He in turn hired a Principal Planner to update and develop the federally-required reports. This was the situation in 1990 when the RTC became the beneficiary of a new sales tax initiative dedicated to a new, public transit system. The RTC initiated the takeover of the private Las Vegas Transit System (LVTS) in 1990-1991. In 1991, as the RTC started operating the local public transit service, the local planning staff had little direct transit experience and followed federal directives as closely as possible. The RTC initiated the public Citizens Area Transit (CAT) service in 1992, taking over the transit service from the LVTS, a private provider (RTC 1993). Previously the RTC had acted primarily as a conduit for federal money to purchase buses for the use of the LVTS. The buses were provided to the LVTS at concessionary rates with little supervision of the routes or the nature of the service. From 1992 on, the RTC staff were directly involved in the specification of transit service as the agency assumed the role of transit provider. The

transit service standards and routes were specified by RTC staff. A private transit service contractor was hired through a competitive bid process to operate the bus system. RTC planning staff were involved in writing contracts, supervising required federal reporting activities, and seeing that it was all carried out to local and federal specifications. These activities all contributed to a considerably increased capability of onboard MPO staff; in addition, new RTC staff with additional capabilities were hired to help with the new tasks of transit operation (RTC 1991a; 1993; 1994; 2004; 2007a).

Consultants were also a source of institutional capacity. The MPO planning staff hired transit-knowledgeable attorneys, both as a direct on-staff employee and a retained private law firm in Washington, D.C. The consulting attorneys on retainer were helpful from the standpoint of immediate expert knowledge and also from the longer-term benefit of informally tutoring the RTC staff. In particular, one had been a Deputy Civil Rights Officer in the Civil Rights Division of UMTA in Washington. This gave direct insight into the federal regulators' views, both historic and immediate. In many cases of regulatory proposals, advance notice of the proposal was available to the MPO staff before it was published in the Federal Register. From 1993 to the current day these private attorneys have played an integral part of the RTC's transit service and the MPO function of certifying Title VI/EJ compliance. As a specific example, in the 2004 Title VI Program Update Report, the local manager followed federal regulations with input from the civil rights attorney; new locally-devised elements were added to the compliance report (RTC 2004).

Local institutional capacity was increased in 2005 with the hiring of an MPO staff member at the Principal Planner level who had worked on transit Civil Rights issues for a

private-sector consultant. When she was put in charge of developing a Title VI/EJ compliance report, she chose a format significantly different from those that had gone before, with much more reliance on general staff assurances of compliance with Title VI/EJ and fewer references to specific federal standards (RTC 2006b).

Local MPO Institutional Capacity: Technical/Modeling

A new profession arose during this period that worked in MPOs with both planners and engineers: that of transportation demand modeler. The rise of Travel Demand Modeling (TDM) as an MPO-related federal requirement was reviewed previously in this dissertation. In the Las Vegas area, such modeling had been carried out in relation to street and highway traffic capacity from its inception. In the early 1980s Travel Demand Modeling was carried out by the Clark County Department of Public Works Traffic Engineering Division for the MPO with the occasional participation of consultants. A conscious decision to improve the institutional capacity of the MPO was made by the RTC with the hiring of the engineer responsible for the TDM at Clark County as the new Director of the RTC in 1988. A major part of the development of a fully independent modeling capability was the development of a Geographic Information System (GIS). The RTC and its consultant completed the GIS database in August, 1991. The GIS system was not used in the 1991 report due to compliance demands of other agencies (RTC 1991a; 1991b). Due to the increasingly-complex computer modeling demands of air quality requirements in the Las Vegas Valley, the MPO held a national recruitment for a modeling supervisor in 1991 at a Principal Planner level. To support this, the MPO paper mapping personnel retrained in GIS and modeling support. By 2004,

the GIS and mapping staff were moved from the MPO into the public relations department and two professional modelers were hired at the Senior Planner level to fill modeling support positions (RTC 2007a). GIS, which began as a technical planning analysis tool, was now seen as primarily a public relations asset; modeling was confirmed as a technical planning tool.

Outside Influences on Institutional Capacity

Outside influences were reflected both in the institutional capabilities of the MPO and the elements that were considered in the Title VI reports. The Title VI/EJ compliance reports changed over time to reflect the new social measurement situation. The federal agency involved—at first known as UMTA and later FTA—relaxed measures to allow compliance demonstration using locally determined methods and initiatives. The content of the RTC compliance documents reflects that change over time. This dissertation includes information from RTC Title VI/EJ documents from 1991, 1994, 2004, and 2006 (RTC 1991; 1994; 2004; 2006).

Administrative and legislative changes followed the promulgation of the 1994 Environmental Justice (EJ) Executive Order and the increased scrutiny of modeling under the National Ambient Air Quality Standards (NAAQS) (U.S. Department of Transportation 1987). In 1997 NAAQS added Ozone and particulate matter to the standards that had to be met for MPO areas. MPO modelers had been preparing for these changes for years in order to meet federal requirements necessary for MPOs to retain local control over transportation projects and associated federal funding. The local models are a part of the State Implementation Program (SIP) required of the state. MPO

modelers upgraded their skills, and engaged with their state and federal counterparts in extensive discussions. Taken together, these two elements produced MPO computer modeling capabilities considerably in advance of those of a decade earlier. In the case of the RTC, rapid growth in the local area required more detailed and sophisticated modeling as the population of the Las Vegas Valley rose by 185%, from 768,203 in 1990 to 1,428,690 in 2000. Rapid growth continued: by 2006, the Nevada State Demographer estimated a population of 1,912,654, a further 34% increase in six years (RTC 2007a:3). (See Table 40 in the appendix.)

The increased population required an increase from approximately 460 TAZs in the Las Vegas Valley in 1984 to over 1,644 TAZs in 2005. This meant an increase in the size of the modeled matrix from 211,600 to 2,702,736 TAZ cell interactions—a ten-fold increase in complexity that required a dedicated staff of three transportation planning modelers to maintain the model—two with master’s degrees in travel demand modeling and a Planning Manager for Travel Demand Modeling with a PhD. (RTC 2008: 21)

Institutional Capacity and Geography

MPOs must show that they meet the social goals of transit service over wide geographical areas. The MPOs’ ability to demonstrate compliance is influenced by their technical capabilities to map the geographical areas they cover. Over time these technical capabilities became much more sophisticated, enabling the MPOs to make increasingly finer distinctions within and across geographical areas. New technical capabilities expanded the information available for MPOs to judge the degree to which they were

meeting federal service requirements. Below, I discuss more specifically three ways technical changes increased the MPO's institutional capacity.

Federal regulators often did not change to match MPOs' mapping efforts as MPOs shifted from physical paper maps to computerized mapping technologies. In 1988 the requirements for MPO Title VI program reports called for clear acetate overlay data attached to a paper base map of the area (U.S. Department of Transportation 1988). As computerized technologies advanced, offering more efficient and effective mapping approaches, federal guidance did not change to take advantage of the new approaches. Yet MPOs began to use these techniques as they gained the technical ability to carry out more sophisticated mapping and analysis using Geographic Information Systems (GIS) and travel analysis software became more accessible (TRB 1988).

Simultaneously, the federal government asked MPOs to take on more tasks. The initial requirements for travel demand modeling and cost-benefit analyses for new projects were joined by several other mandates. In 1990 the Clean Air Act Amendments added the more complex requirements to model the effect on air quality of all MPO capital plans. This change virtually required that MPOs invest in new technology and personnel to meet the federal mandates. Federal funding to local agencies depended upon it. New software increased mapping complexity. GIS capability expanded; in particular ESRI's ARC GIS software family integrated databases into mapping and thereby allowed much more detailed analyses (TRB 2000). In addition, computer travel demand modeling (TDM) software began to be much more presentable to the public and elected officials. The predominant modeling software up into the 1990s had been topological, not topographical. Its streets were exact in terms of their relevant characteristics for travel

demand analysis, but did not correspond to the exact location of features on the ground. Citizens and elected officials did not like to see these apparently incorrect maps. This was not just an aesthetic issue. Officials and citizens ridiculed the maps produced in such software as TranPlan, suggesting that they indicated incompetence on the part of the agency staff, and questioned their conclusions. New computer simulation models, such as TransCAD, were both effective for simulation and to demonstrate exact location features such as intersections (TRB 1998; 2000).

In sum, MPOs' technical institutional capacity in mapping grew during this period and was recognized by the federal agencies. This recognition allowed and encouraged interaction between the federal agencies and the MPOs, resulting in an evolution in federal geography requirements. Technical, human, and software factors were intertwined in this. The move from paper to computer mapping allowed more detailed analysis and FTA's directives to MPOs in turn began to require such analysis. Technical aspects allowed more detailed analysis through modeling of air quality and social factors; MPO staff dedicated to modeling emerged. New hardware and software resulted in MPO maps that were more informative and accessible to elected officials and the public just as the FTA began to require more citizen involvement in transit decisions.

Designating the required area to be covered by the mapping is relatively simple. According to the FTA it must, at a minimum, match the service area of the transit agency whose Title VI/EJ policies are being assessed by the MPO. A major difficulty in mapping and assessment is that transportation plans are at a minimum 20 years long and some may span 30 years. Accurate estimations require cooperation with the local entities, i.e. cities, counties, and regional agencies to determine the future land use and projected population

based upon their plans and to select transportation projects, including streets, highways, and transit. Accurate travel demand and air quality models then must be able to account for streets and other land uses, such as retail and housing, in future years. At best, the mapping models are only approximations.

The scale at which the subarea analysis is carried out is also related to technological advances in hardware and software and the related federal mandate. There are two main subarea types that MPOs use in social analysis. Initially travel demand models used traffic analysis zones (TAZs) as the unit of greatest resolution. Each TAZ is populated with the activities that will generate trips. Transportation modelers develop TAZs in approximately equal populations and areas, with the greatest degree of TAZ density in the most populated areas. TAZs, however, are set up so that they are relatively homogeneous in area and population. In a typical situation, the TAZs range from 160 acres (1/4 square mile) in the most densely populated central areas to 640 acres (1 square mile) on the periphery of the modeled area. The peripheral areas usually have a very small population at the time of their designation; they are created to allow generalized analysis of their future state. In the case of Las Vegas, where the preponderance of land is federally owned and uninhabited, many peripheral TAZs have no population at all (RTC 2008).

MPOs also use census tract data for their demographic information; however, census tracts do not align with TAZs. Census Tracts (CTs) are developed to meet the needs of the Census Bureau for demographic analysis. While the US Bureau of the Census consults with local governments when developing the CTs, the federal agency is the final arbiter of their configuration. In peripheral areas where population is low, there

may be many square miles in each CT. This incongruity between TAZs and CTs requires significant reconciliation work when using them together, such as in the analysis of Title VI/EJ factors. Since the Census Bureau reconfigures the CTs with each decennial census, there is usually no congruity with TAZs developed up to 30 years in advance. This can make comparison difficult and requires a variety of statistical and mapping generalization techniques to use the two for a single analytic process. MPO institutional capacity had to increase in two ways: (1) at first, technical mapping patches had to be created locally to allow the two or more software programs to work together; later (2) MPO staff had to use the new complex software incorporating both the mapping and analytic capacities (RTC 2008).

The geography used in Title VI/EJ analysis of transportation planning affects the analysis in several ways based upon the method, area covered, and subarea scale. In the next section, I will briefly discuss expansion of MPO institutional capacity in both management and technical ability. The increased institutional capacity in these fields was necessary to successfully manage plans to meet the increased planning requirements and to respond technically to demonstrate compliance. I contend that this increased institutional capacity was in part based upon intergovernmental interaction. These two elements, capacity and interaction, combined to affect plan results based upon the changing federally-mandated standards and geography of the planning and analysis processes.

INTERGOVERNMENTAL RELATIONSHIPS AND STANDARDS

Local MPO Institutional Capacity Expansion: Personnel and Technical

As shown in the last sections, the Clark County, Nevada, MPO, the RTC, significantly expanded its personnel to meet evolving reporting requirements associated with changing technological capacity and new Title VI and EJ rules. The redirection of the RTC from a mainly engineering-oriented agency to one with wider capabilities was symbolized in 1999, when the name of the top post was changed to Executive Director and the position was for the first time filled by a planner, rather than by an engineer.

In July, 1981, the RTC was designated the Metropolitan Planning Organization (MPO) for Southern Nevada. Prior to the MPO, the Clark County board of commissioners contracted with a private transit provider to provide service in the Las Vegas Valley. At its creation in 1981, the RTC inherited this arrangement and had to add this to their federally-mandated responsibilities relating to non-discrimination (Board of County Commissioners, Clark County, Nevada 1983). From 1981 until 1992, the RTC contracted with the private Las Vegas Transit System (LVTS) for transit services in the Las Vegas Valley, providing a subsidy in the form of transit buses. These buses were leased to LVTS at concessionary rates, which allowed LVTS to make a profit from the Las Vegas Boulevard South (“Strip”) route that in turn subsidized all the residential routes. This arrangement worked well in the early years, but by the late 1980s the relationship had become strained. The LVTS residential routes were inadequate to the needs of the community, which had grown by 360% between 1960 and 1980 (US Bureau of the Census 1995). In 1990, Clark County approved an initiative to provide a quarter-cent sales tax mainly dedicated to transit. The RTC developed its federally-mandated

Title VI Program document of August, 1991, in anticipation of starting up the public transit system allowed by this funding (Regional Transportation Commission of Clark County, Nevada 1991a).

Initially, engineers carried out RTC planning tasks. As the community and federal mandates increased, the RTC hired a transportation planner in 1976 to carry out the development of plans under the supervision of a staff engineer. In 1983, a second transportation planner was hired. These masters-level planners had extensive experience in other related fields, but had no transportation experience. The first planner had an MBA and was an auditor experienced in carrying out complex tax evaluations of private business; the second planner had a Master's degree in planning with coursework in transportation planning and experience working for the USDOT in Washington, D.C. In 1988, the RTC created a Planning Manager position and hired a transportation planner with experience as a consultant to supervise the other two planners (RTC 1993).

Even with these three planners, the RTC found it difficult to meet federal transportation planning requirements. When the previous Director retired in 1989, the agency hired a new Director who was also an engineer. The Planning Manager moved on in 1989 and a new Planning Manager was hired to aggressively pursue certification of the RTC's required plans by federal agencies such as the FTA and FHWA (RTC 1993).

In 1990, the RTC hired a new Principal Planner tasked solely with writing federally-mandated MPO long and short range transportation plans. This fourth planner had a dual planning degree in land use and transportation, but his main previous experience had been in development of land use plans for small communities in rural Oklahoma (RTC 1991a).

At this juncture in the RTC's history, the relationship changed between the RTC as an MPO and the federal government. The RTC planning staff pursued a much closer relationship with the federal agencies overseeing transit. The federal agencies were anxious to cooperate in the effort to have the MPO of a burgeoning metropolitan area complete acceptable plans. The regional offices of federal agencies felt that lack of certification of an MPO in a community of 1 million reflected poorly on them as well as the local MPO. Extensive meetings and almost daily phone calls between MPO staff and their federal and state counterparts resulted in a thorough MPO knowledge of what was required to meet the federal and state mandate requirements. This federal agency familiarity with local MPO staff and their capabilities also produced a degree of confidence among federal staff in the RTC's abilities. After several months of concentrated effort in 1990, the Clark County Planning Department produced a 20-year Regional Transportation Plan, a 3-year Transportation Improvement Program and a Title VI Document. In September, 1990, the RTC received its program certification letters and thereby maintained its eligibility to receive federal funds. The federal certification of the MPO's plans both allowed continuation of federal funding and set an official seal of approval on the RTC's proposed movement into public transit operation (RTC 1993).

Local MPO Institutional Capacity Expansion: Intergovernmental Contacts

As a designated Metropolitan Planning Organization (MPO) tasked with supervising the transit service provider's compliance with federal regulations, the Regional Transportation Commission of Southern Nevada (RTC) responds to federal requirements to demonstrate that the transit service does not discriminate against members of minority

groups or the poor. It has a dual role in that it is also the transit service provider—it operates the bus service—and can directly make changes to the system to improve its compliance with the federal Title VI/EJ requirements. Periodical reports are required to demonstrate the local transit agency’s compliance with Title VI/EJ issues. The period of interest for this research is from 1992, when the RTC assumed responsibility for Title VI transit reporting, to 2006. The RTC reports reflect a change in both the federal attitude toward what constitutes compliance with Title VI and the institutional capacity of the MPO. Table 5 shows the Institutionalist characterization of the full range of “state managers” involved in RTC institutional capacity at each level of government. Table 6 summarizes the influences on changes to RTC Title VI/EJ compliance reports from 1991 through 2006.

Table 5. Institutional “State Managers” - Transportation Civil Rights and Environmental Justice

State Managers’ Role	Level	Agency	Position	Function
Autonomous political leaders	Local	RTC	Commissioners / Elected Officials	Representing constituents
	National	U.S Congress	Nevada delegation Senate / House	Intervention at local request
	State	State of Nevada	Governor	Designates MPO
Policy Intellectuals / “Expert Knowledge” in Public Policy Making	National	Universities, transit operators (Often via federal agencies; e.g. TRB)	“Technical Experts”	Create background documents: basis of regulations
	National	Ad hoc, e.g., Comm. Racial Justice, United Church of Christ	“Technical Experts” EJ	Create background documents; initiate legal action
Professionals (National)	National	U.S. Congress	Staff members	Liaison w elected delegates; presence with federal agencies
	National	Law firm, Washington, DC	Attorneys: Civil Rights, Contracting, Transit Operations	MPO Purchased expertise
	National	Transit Planning Consultant	National firm staff	Wrote initial transit plans; advised ADA, transit operations and Civil Rights issues
	National	RTC Transit Operator	National firm staff	Operates transit under RTC staff direction
High Government Officials	National	UMTA / FTA, Washington, DC	National Civil Rights Officer	General directives, liaison w regional offices; occasional local agency contact
Middle Government Officials	Regional	UMTA Reg 8, / FTA Reg 9, (1)	Regional Deputy Civil Rights Officer	Liaison with MPO, review, approve MPO plans
	Regional	UMTA / FTA Regional Offices	Regional Planner	
	Regional	FHWA Nevada Division	Division Administrator	Liaison with MPO, reviews and <u>advises</u> on MPO plans
	Regional	EPA Region 9	Air Quality Officer	
Low Government Officials	Local	MPOs	RTC agency directors	Occasional liaison between MPO state, state / federal officials
Professionals (MPO)	Local	Planners, Engineers, Attorneys, Modelers, GIS, Transit Operations	MPO staff	Collaborate w MPO planning department
	Local	Local attorney	Transportation law opinion; liaison with national law firm	Private contractor to RTC; former Congressional staff / transportation law
Middle Class Reformers	Regional	e.g. Los Angeles Bus Riders’ Union	Protestors / Petitioners	Suits / complaints influence regulations

Skocpol 1984: 27; Brents 1987: 45.

(1) UMTA Region 8 until 1995; Nevada was reassigned to FTA Region 9 thereafter

Table 6. Influences on changes to Title VI/EJ Compliance Reports

Federal Regulatory Stance	Local MPO Institutional Capacity: Management	Local MPO Institutional Capacity: Technical/Modeling	Outside Societal Influences
1991 Rigid: (1) Paper cartography with acetate overlay requirement; overlays reproduced in report without base map (2) Geographic-based comparison required (3) Proportional analysis required	1991 Local manager followed federal directives in detail 1992-on Transit management oversight resulted in more knowledgeable MPO staff	1980s-Travel Demand Modeling (TDM) carried out by Clark County and consultants 1991 GIS database completed August; not used in 1991 report at federal direction	
1994 Initial flexibility: (1) Paper cartography used in published document with base map to make the overlay understandable; Acetate overlay still required to be submitted (2) Geographic-based comparison required (3) Proportional analysis required	1993-current Civil Rights attorney in Washington, DC put on retainer to advise on issues by MPO	1994-2004 (1) More complex computer modeling required highly trained staff: national recruitment began (2) Paper graphics personnel retrained in GIS & modeling support (3) Moved from using consulting modelers to in-house staff	1994 EJ Executive Order 1994-2004 (1) Increased population in MPO area required more modeling work
2004 More flexible: (1) GIS / computer modeling acceptable alternative mapping methods (2) Geographic-based comparison required (3) Proportional analysis required	2004 (1) Local manager followed federal regulations with input from civil rights attorney (2) New locally-devised elements added to compliance report	2004 Support staff: GIS moved to different department; professional modelers hired to fill modeling support positions	2000 Census increase in minority tracts and routes made previous methods moot
2006: Most flexible Compliance Plan, generalized assurances meet federal Title VI/EJ requirements	2006 Principal Planner with Title VI/EJ experience hired from consultant		

The RTC's increasing institutional capacity led to many more contacts among federal, regional, and local level transit authorities. (See Figure 4.) Congress' 2005 approval of federal transportation authorization legislation (SAFETEA-LU) required a broad range of new activities that implied new contacts at all governmental levels to achieve them (RTC 2006a). Upon the passage of SAFETEA-LU, e mail messages were sent from Washington FTA staff to regional offices. The San Francisco regional office forwarded the federal office e-mail under cover to its local MPOs, both directly to the heads of the MPOs and to the directors of planning for each MPO. Subsequently, the Washington and San Francisco office held conference calls with MPO planning staff to exchange ideas on possible final rule content. The MPO had achieved a level of institutional capacity that engendered a two-way consultation, not simply a top-down directive, in creating the final rules. RTC increased institutional capacity also took the form of collaboration with private experts. RTC placed Washington transportation civil rights lawyers on retainer. This was another source of information to the RTC, a source that the RTC could effectively utilize due to its increased institutional capacity. The civil rights division of the Washington attorneys on retainer to the RTC, through their contacts at FTA, provided the RTC senior staff with copies of the memos and proposed draft rulemaking. RTC senior staff and MPO planning staff met with their local and Washington attorneys and developed a response for FTA, to be transmitted both formally and informally. As the official rulemaking process was delayed without changing the MPOs' deadline for Title VI/EJ report submission, the RTC Planning staff developed a series of talking points for the use of the Executive Director and senior staff when meeting with the Nevada Congressional delegation and their staff members. RTC staff

joined with the RTC of Washoe County and the Washington attorneys in a meeting with the delegation, who then passed along the concerns of the Nevada MPOs directly to FTA Washington staff and in creating draft amendment legislation for SAFETEA-LU. The RTC's increased institutional capacity in several forms resulted in more input to federal rulemaking.

Like all MPOs nationwide, the RTC was worried about lack of guidance and uncertain status of the SAFETEA-LU requirements. In the talking points memo dated May 31, 2006, the RTC Planning Manager expressed this concern. The following excerpt includes only those passages relevant to Title VI/EJ conformity requirements.

The central issue relating to SAFETEA-LU for MPOs is the current uncertainty of the requirements for plan certification due to delay in the rulemaking process. This can have draconian effects on MPOs, as we have no guidance to tell us that what we are doing is the right thing. When we met with our FTA and FHWA representatives in April, they reviewed the new SAFETEA-LU requirements with us and continually reiterated that the rulemaking had either not concluded or had not begun. The rulemaking process, in clarifying the language of the law, may operationalize the rules in such a way that MPOs find themselves with significant additional requirements to carry out beyond the current requirements; optionally the requirements may simply be different and require additional effort that could have been avoided if we had begun the process according to the final rules. Public participation process [memo heading]. We have adopted and carried out in our current RTP cycle a new public participation process that we believe will meet the SAFETEA-LU standards. We need to know if it will be acceptable for our next plans or if the rulemaking will change it (RTC 2006a).

By this time the RTC's institutional capacity had developed to the point that its members were seen as the experts on federal transit legislation and rulemaking among a wide range of entities such as national and regional FTA offices, other Nevada MPOs, and the Nevada Congressional delegation. This new capacity was also reflected in the

agency's ability to produce plans that established its own individual methods to meet the Title VI/EJ requirements.

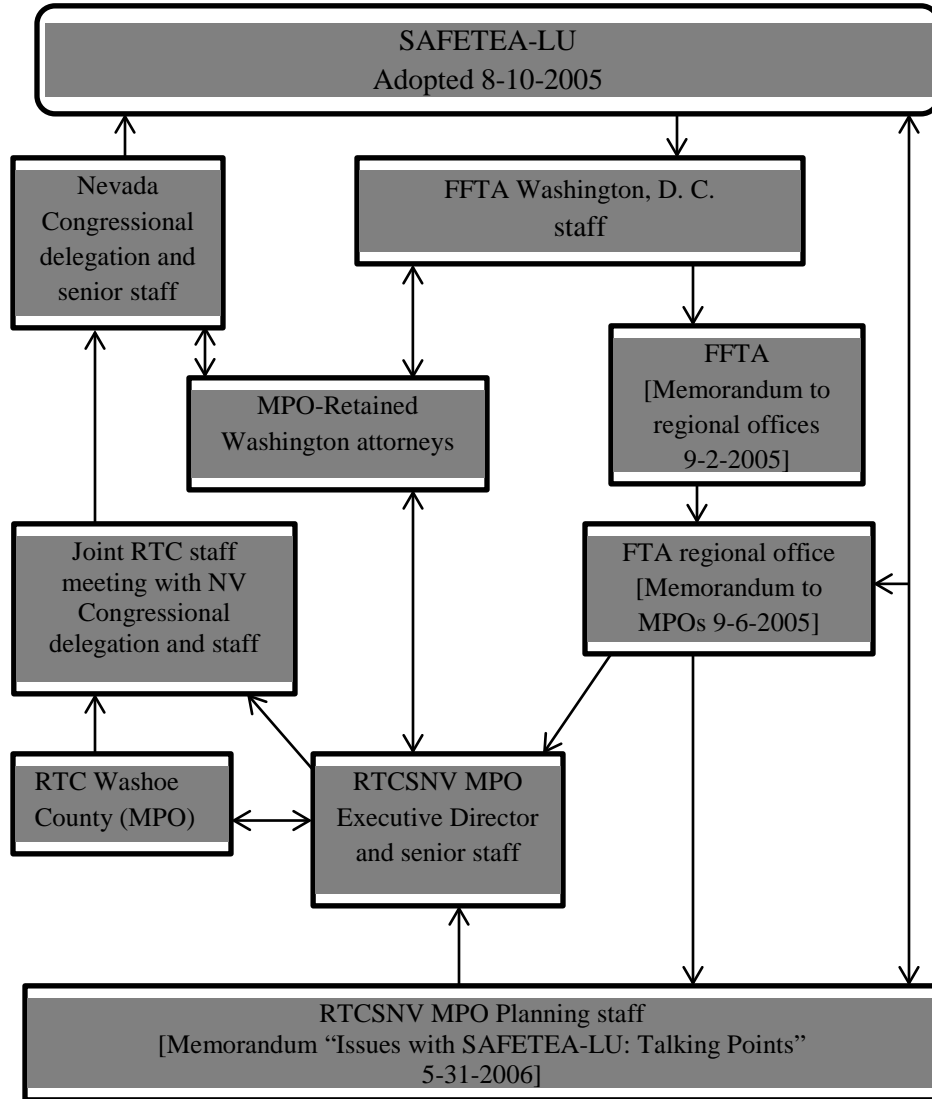


Figure 4. Nevada MPO Increased Institutional Capacity: Flow of Information Regarding Federal Transportation Legislation

PLAN CHANGES BASED ON FEDERAL GUIDANCE:

COMPARISON OF TITLE VI PROGRAM DOCUMENTS

The RTC was able to establish new measures in its plans in the late 1980s and early 1990s to meet federal transit reporting requirements. There are three types of

statutory requirements related to Title VI/EJ documentation by MPOs: mapping / technical changes, service standards, and public participation. Each changed to different degrees with the passage of successive federal transportation authorization laws.

Mapping/Technical

The local MPO met federal requirements through changes to its own structure to include more planning and computer modeling capability. The close relationship of the RTC with federal FHWA and FTA officials and the Nevada Department of Transportation illustrates the importance of intergovernmental relationships in achieving conformity with Title VI/EJ requirements. It can fairly be said that the technological spur to innovation was translated into institutional capacity through cooperation across the levels of government (U.S. Department of Transportation 2011).

Increased technical capacity in the form of computer capability paralleled changes in mapping technology. Improvements in appearance may seem to be only cosmetic. In fact these changes had important impacts. The improvement in map appearance gave the RTC additional credibility with elected officials, the public, and federal agencies. These computer-based mapping improvements were both a response to FTA's evolving requirements and an illustration of the increasing institutional capacity of the MPO. In each of the three documents there were more maps than in previous plans that exhibited increased capabilities on the part of RTC (RTC 1991a; 1994; 2004). A critical need emerged in the late 1980s and early 1990s for MPOs to carry out computerized travel demand modeling. Federal legislation added air quality modeling requirements to the earlier mandate for transportation congestion predictive modeling (Library of Congress

1990; Garrett and Wachs 1993). At the same time, Geographic Information Systems (GIS) software expanded its capabilities as smaller and cheaper computers began to run more sophisticated software that could manage more variables. Combining GIS with the existing travel demand models enabled professionals to make their proposals more comprehensible to the general public and elected officials.

RTC mapping improved with new staff hires and retraining previous staff members. RTC, as an engineering-oriented agency, had two draftsmen who were familiar with traditional drafting rendered on paper. Their abilities encompassed mapping for streets and highways and had been extended over time to include area-wide mapping. The engineer who took over as Director in 1989 had extensive experience in several kinds of modeling, including travel demand modeling and GIS. The Director expanded the draftsmen's training to develop their capabilities in Computer Aided Design (CAD) rendering and GIS mapping. This set up the base map and data layer development GIS capability of this staff. Early in his tenure, the new director took steps to bring on board professional staff with specific computer modeling training and experience (RTC 1991b; 1993).

The RTC did not find the move to modeling to be simple. For instance, they were constrained by antiquated requirements for paper maps with plastic overlays as the main format for presenting their modeling information. This information format was both difficult to produce as well as to interpret, especially compared with GIS information. At the same time, UMTA was creating requirements that could not be carried out without GIS capability. The RTC planner in charge of document development brought to the attention of the UMTA civil rights planner the fact that RTC could provide a series of

GIS maps with all data shown in a much more easy-to-read format that fit better with the UMTA information needs. The UMTA planner acknowledged that the requirement for paper and acetate overlays was “silly” but nevertheless could not be waived. This was one instance in which informal contacts with the federal agency did not produce a smoothly cooperative compromise.

Nevertheless, RTC moved to incorporate GIS in its planning program. It stated that the hard copy Title VI database was

. . . designed to provide an initial database for the Geographic Information System (GIS) being developed at the RTC. First demonstrations of this system’s capabilities were carried out on August 15, 1991. Additional staff to support the GIS effort have been interviewed and will be hired in September, 1991. The initial purchases of equipment are in process (Regional Transportation Commission 1991b).

The RTC had to adjust to conflicting rulings of federal agencies. In discussions with the MPO staff of RTC, the FHWA and UMTA strongly recommended that the RTC pursue an internal GIS and expanded computer modeling capability to meet new federal planning requirements. At the same time, the Civil Rights Office of UMTA hewed to a different technical standard based on acetate overlays. As a result, to attain plan approval and remain eligible for federal funding, the RTC had to aggressively pursue GIS modeling capability with two federal agencies while sustaining antiquated modeling approaches for the Civil Rights Office of one of the federal agencies. In fact, the RTC was fully capable of carrying out the GIS modeling when it submitted the Title VI Program Document; it was just more diplomatic to point to the hard copy database demanded by the UMTA Civil Rights Office when needed. The RTC had contracted with a private consultant to set up and demonstrate a GIS database that could meet the UMTA

and FHWA requirements, which eventually led to an expanded local modeling effort. The hard copy materials provided to the Civil Rights Office on paper with acetate overlays were in fact products of that GIS system, done in the expected low-tech format.

The RTC changed in structure and attitude in line with federal requirements. As we have seen, Title VI/EJ requirements needed intergovernmental cooperation. Technology engendered institutional capacity through innovation. Intergovernmental cooperation across all levels was needed to meet Title VI/EJ requirements.

Service standards

Title VI/EJ service standards remained the same in the 1991, 1994, and 2006 Title VI Program Reports from RTC. The basic service standards were those developed by a consultant for the agency in advance of the RTC's takeover of the transit system's operations in December 1992. Other service standards related to the increased scope of the Citizens Area Transit (CAT) transit system (now RTC Transit). The 2006 Title VI document expanded the performance standards to reflect the wider range of different route types; the 2006 document includes nine distinct route types. In 1991, there had been only two (RTC 1991a; 1994; 2006b).

Public participation

Public participation had been the task of the planners since the creation of MPOs. Public affairs staff supplemented and then supplanted planning staff as regulations became more complex. Federal public participation requirements developed from 1991 through 2006 to meet Title VI/EJ standards required MPOs to drastically shift how they

interacted with the public. This change is a movement toward a separate Public Participation Plan developed and administered by a professional public affairs staff distinct from the MPO planning staff. (See Table 7.) This change is in itself an increase in institutional capacity as MPOs nationwide and RTC added public affairs staff. The added staff illustrates another aspect of institutional capacity building in response to federal requirements. Rather than simply adhering to the list of requirements in the Title VI/EJ guidance, RTC planning staff became Institutional Entrepreneurs, who expanded their role by selecting their own methods of demonstrating their conformity with the law. The RTC greatly increased its institutional capacity between 1991 and 2006. MPO managers gained confidence and drew upon in house expert advice in law and computer-based travel demand modeling. This expert advice allowed it to set its own standards and justify them to the federal agencies. Legal advice from its Washington attorneys suggested alternative methods of meeting the Title VI/EJ requirements while the federal requirements themselves were undergoing significant changes.

One illustration of the use of new public participation standards is the change in meeting the requirements for advisory committees. In 1991, the citizens advisory committees were listed in the plans by racial composition as required; in 1994, gender had been added by the FTA (RTC 1991; 1994). RTC included tables in the text to show committee composition by race and gender. In the 2006 document, however, the RTC simply referred to its newly-required Public Participation Plan—a new requirement of SAFETEA-LU—but did not include a listing of its committees or their composition in any documents. It adhered to the undefined alternate local method of indicating equal treatment of all members of the public, relying on its undefined assurances of recruiting

among representative minority stakeholder groups. The 2006 Title VI/EJ Program Update Report included a “Community Leadership Contact List” of those who had been solicited to nominate members to the advisory committees in Appendix II, but did not give specifics of committee membership by race or ethnic group (RTC 2006b: II-2). RTC gave more emphasis to community outreach events carried out by their own public affairs staff. The RTC public participation process had moved during the 1991-2006 period from specific measurement of membership composition to general assurances of equal treatment in citizen participation. Public participation plan requirements became more generalized over time as the MPO was able to draw on the federal agencies’ perception of its demonstrated institutional capacity. By the 2006 plan, it was only necessary to refer to a separate public participation plan created by the RTC’s public affairs staff. The formerly planning tasks of receiving public input on plans and introducing RTC plans to the public was disengaged from the planning process.

The changes in RTC’s planning for Title VI/EJ conformity were based on increased institutional capacity. In the cases of the mapping/technical aspects and the service standard aspects, this represented an additional ability of the planning staff. As we have seen, it was assigned to the planners through a process of consultation among all levels of government that assisted in development of institutional capacity and confirmed its strength. This gave credibility to the RTC as a partner in this collaborative process. In the case of public participation, the task was assigned to another group within the RTC: public affairs staff. The public affairs staff had a different goal than planners. Planners wanted to receive public comment for incorporation in plans to provide greater legitimacy and relevance to the plans. Public affairs staff were mainly interested in a

positive image for the RTC as an agency. The more complex citizen participation process removed the assurance of citizen participation from one related directly to planning and made it the responsibility of a different profession. It also moved from the idea of demonstrating equal citizen participation to one of general assurances of public participation.

Table 7. Public Participation Changes in Title VI Documentation 1991-2006

	<i>RTC Title VI Report 1991</i>	<i>RTC Title VI Update 1994</i>	<i>RTC Title VI EJ 2006 Update Report</i>
Basic Requirements	“Continuous good faith efforts”	“Continuous good faith efforts”	Separate Public Participation Plan based on SAFETEA-LU
Advisory Committees	Report on % minority	Report on % minority, member gender	Report on minority recruitment; no % by committee
Comment Period Length	None specified	None specified	45 days initial, 30 day response from RTC
Point of public comment entry	Compliance with Nevada state Open Meeting Law; notice of public meetings	“Prior to changes” included in Title VI evaluation items	Prior to plan / action adoption
Advertising	On minority-interest radio stations and minority and general interest newspapers, legal and display ads, mail notices, “informal interviews” on radio and television stations	On minority-interest radio stations and minority and general interest newspapers, legal and display ads	On minority-interest radio stations and minority and general interest newspapers, legal ad display ads
Limited English Proficiency (LEP)	Meeting notices in Spanish, compliance with Nevada state Open Meeting Law	All schedules in Spanish, Customer Service Spanish-Speaking staff, Spanish speakers at all public outreach activities	All schedules in Spanish, Customer Service Spanish-Speaking staff, appropriate native speakers at all public outreach activities

SUMMARY

In this chapter I have considered the relationship of federal agencies and staff to the RTC. Standards evolved with the continuing demands made by Washington on the federal agencies' regional offices and the increasing institutional capacity of the RTC. Slowly the RTC took on more of a role in developing its own standards for judging Title VI/EJ compliance. The RTC was enabled in this process by its relationship with federal and state agencies and private experts, along with the increasing abilities of its own staff.

The rules for MPO Title VI/EJ planning were set at the federal level but modified by the state agencies and local entities tasked with creating the plans to implement the federal requirements. The foundation for this federal, state, and local interaction was the development of standards to measure the level of discrimination prohibited by federal law. Institutional capacity was increased to meet these administrative demands, both in terms of technology and local personnel needed to carry out the tasks. Increasing computer hardware capabilities at lower cost led to the imposition of additional federal technical requirements in travel demand forecasting to meet the newly-added air quality conformity standards. The prevalence of this new GIS competence at the MPO level resulted in new possibilities in reporting to meet Title VI/EJ standards. Nevertheless, the RTC continued to follow the specific directives of the Federal Transit Administration to meet its Title VI/EJ standards in the 1990s. New requirements also stemmed from the nature of the agency itself. In 1991, the RTC had not yet started to manage the operation of the transit system directly; an addition in 1994 reflects the RTC's assumption of operations management and therefore includes the changes to routes made and

anticipated; the 2006 report is a mature review of those items of interest to regional federal staff members in reviewing the agency both as the MPO and the transit operator.

Only in the 2006 report did the RTC, provided with additional legal capabilities through consultation with its Washington, D. C. based attorneys, follow its own methods of demonstrating conformity with the federal requirements. This is in part due to an increased sense of its abilities, in part due to the additional staffing to meet all federal requirements of transportation planning in the Twenty-First Century. The overall effort took engineers, planners, GIS-based cartographers, travel demand modelers, and attorneys, both in-house and on retainer in Washington. Its requirements for public participation were met through the efforts of RTC full-time public affairs staff working with the MPO department. The next chapter will examine the standards they used and the outcome-based GIS and statistical analysis of the 2006 on-board transit survey and other data. I will examine the geographic-based social assumptions underlying federal legislation and administrative rulemaking.

CHAPTER 6

MEASURING SUCCESS:

ASSESSING COMPETING MEASURES OF INSTITUTIONAL CAPACITY AT THE RTC OF SOUTHERN NEVADA

SOCIAL CHARACTERISTICS COMPARISON

This chapter will examine transit operational standards and how they relate to Title VI/EJ with suggestions for their improvement. I will begin with a review of the RTC's efforts to demonstrate compliance with federal transit civil rights standards under Title VI/EJ regulations. I will then draw on results of a 2006-7 ridership survey to compare two methods of assessing compliance, the current practice of proportion measures based on geography and the numerical measure based on social measures.

Defining Race

The two main elements in Title VI/EJ compliance certification of transportation planning programs are (1) the identification of the protected group and (2) the determination of transit service quality. Service quality must be equal for members of minority groups and low-income persons when compared with the general population of the transit service area. The big question is how to define minority groups and low-income persons. The U.S. Census is the main allowable source of data under federal standards for local MPOs' Title VI/EJ programs. Below, I describe how the concept of race developed in the U.S. Census as a precursor to explaining how the MPOs applied the race concept to determine minority group status as they sought to comply with Title

VI/EJ standards. I discuss the required federal association of Title VI/EJ minorities with specific geographic areas (“predominately minority areas”) and the transit indicators of service quality used to compare these minority areas with non-minority areas of the overall transit service area. I review changes to these service standards. I review the interplay of agencies from federal to MPO and how this complex relational network was created and how it relates to institutional capacity of local agencies.

Identification of the Protected Group

MPOs had three major challenges in identifying protected groups. First is that political efforts by neoconservatives continually challenged the act of collecting data, which can vary from year to year in racial categories. Second is the question of how to categorize mixed race groups. Third is the use of geographical region as a basis for analysis, which can often lump varied minority groups with different levels of cohesion, political capital and income. Geographical bases for analysis also fail to identify one of the most basic of transit considerations: equality of access to the full transit service area, not simply areas with large proportions of minority group residences.

This analysis reviews the first aspect of regulatory requirements, the evolutionary process of identifying the protected groups. The first part of this process involved both legislation and Executive Order. These in turn were modified through an iterative process of Administrative Law development, litigation, and agency directives.

MPOs had three major challenges in identifying protected groups. First is that political efforts by neoconservatives continually challenged even the collection of racial data. As a result, MPOs must rely on Census data, which can vary from year to year in

racial categories. Second is the question of how to categorize mixed race groups. Third is the use of geographical region which can often lump varied minority groups with different levels of cohesion, political capital and income together.

Evaluating policies related to race requires that race be clearly defined.

Historically, defining racial categories for administrative purposes and self-identification has been a task fraught with cultural obstacles and ambiguity, particularly in the context of polarized biracialism among blacks and whites as well as tensions with immigrants from Asia, Latin America, and the Caribbean (Edmonston and Schultze 1995; OMB 1997; Lipsitz 1998; Hall and Lindholm 1999: 134; Rodriguez 2000: 72; American Sociological Association 2003; Krysan and Lewis, 2004; Humes, Jones, and Ramirez 2011; U.S. Congress 1993, 1994). Defining race for administrative purposes has been difficult considering all the cultural and political conflict over race. Federal Title VI/EJ rules required race to be a key factor in evaluating transit service. MPOs had to deal with this issue in their planning. The MPOs' approach is considered next. There were significant implications for institutional capacity and on-the-ground service enforcement.

Trying to enforce equitable service rules on the ground requires subtle and varied approaches which depend upon the type of local program and the predominant clientele. FTA directives include a standard geographical measurement linked to local geographical units for racial categories and low income status. FTA directives consider minority geographic unit as those whose minority proportion is above the local area-wide minority average. In the FTA's words:

Predominantly Minority Area means a geographic area, such as a neighborhood, Census tract, or traffic analysis zone, where the proportion of minority persons residing in that area exceeds the average proportion of minority persons in the recipient's service area (FTA 2007: II-5).

Areas of low-income population are likewise defined by use of poverty guidelines that are developed for each local geographic area by a federal agency.

Low-Income means a person whose median household income is at or below the Department of Health and Human Services' poverty guidelines (FTA 2007: II-5).

The minority area and poverty standard raises three questions about the size of the geographic unit used to measure minority group size and impacts on service. First, the size of the geographic unit of analysis may influence the degree to which the minority group appears to be significant as a cohesive community and recipient of services. A large unit of analysis may dilute a cohesive minority community among other groups. A significant cohesive minority community concentrated in one corner of a large Census Tract, for instance, might not represent a large enough proportion of the population in that Census Tract to be considered a "Predominantly Minority Area." The same analysis using a smaller unit, for instance a Traffic Analysis Zone (TAZ) could well meet the criteria for inclusion as a minority area in the analysis. A second consideration is the tipping point of needed population percentage required for a community to be considered a Predominantly Minority Area. It seems unlikely that a single percentage of a community in the minority category will be meaningful as a national measurement standard. As a result, MPOs use a proportion of minority persons across the local area as the standard without a numerical ceiling or floor. In a community with few minority members, for instance, does the presence of 5% minority members in a census tract constitute a community that needs protection

from discrimination in provision of transit services? In addition, this is considered without reference to Environmental Justice distributions. In the case of some minority populations that do not have a high poverty rate, questions can be asked about whether or not poor transit service discriminates against the well-to-do, which is clearly not an aim of the Title VI/EJ mandates. Conceivably, this could result in a diversion of scarce resources away from the poor regardless of racial minority status. (In this regard, the FTA does encourage analysis of superimposed minority and poverty areas.) (FTA 2007: V-2)

Measuring the Quality of Transit Service

Once the federal regulations established protocols for measuring minority and poverty status of the groups they needed to define in their regulations precisely what constituted transit service quality. The FTA required MPOs to develop and use specific quantifiable system-wide service standards to compare with the locations of minority groups. While local service providers could propose their own measurements, in practice the agency's locally derived standards had to include at least the minimum standards of the FTA, found in FTA Circular C 4702.1A. FTA lists five service quality indicators and two policies. The FTA's required systemwide service quality standards are: (1) Vehicle load (Crowding); (2) Vehicle headway (Service frequency); (3) On-time performance (Reliability); (4) Distribution of transit amenities; (5) Service availability (Access to the transit service). The minimum recommended indicators are: (1) Vehicle assignment—Vehicles in minority areas may not be disproportionately old or of an inferior type for the

need of the community; (2) Transit security—Security must be equal in all racial/ethnic areas of the transit service (U.S. Department of Transportation 2007).

EVOLUTION OF TRANSIT STANDARDS

Private transit operators from the nineteenth century through the 1960s collected and examined data on transit operations to assess the monetary effectiveness and efficiency of their transit systems. Basic questions included the number of passengers on each route, the crowding of certain routes during portions of the day, and if the number of passengers per hour of transit service on each route was sufficient to justify continued operation of the route. As transit moved during the 1950s from profit-making systems to those provided as a government utility, federal money became a major funding source. At this point, efficiency standards expanded to reflect both local operators' measures of operational efficiency as well as metrics to determine how well each local transit operator agency was using its federal funding. The Urban Mass Transit Administration (UMTA) mandated the continuous collection of data regarding the exact number of riders per route and where they boarded and alighted. This "Section XV" data requirement forced agencies to hire transit monitors to carry out the random surveys. This set the context for the introduction of social service standards.

Tay Wilson and Charlotte Neff (1983) point out that the types of transportation social assessment measures chosen to assess the degree of benefit of any transportation project or system depend primarily on the orientation of the planners making the choice of assessment methods. Since planners tend to be instrumentally biased and future oriented, they choose those measures that assume a need for the project being considered

in the future. The dynamics of social indicator selection in transportation affects which indicators are selected, how they are used, and how long they are used.

Wilson and Neff (1983) cite several “attributes and consequences” of interest to transit operators and supervising agencies when contemplating use of a particular social indicator to assess social consequences of a transportation project. Wilson and Neff bring useful orientations to this issue: Tay Wilson is an applied psychologist teaching in a transportation program, while Charlotte Neff is a lawyer and elected county official. Table 8 below lists the attributes with a brief précis of Wilson and Neff’s assessment of the consequences of each.

Table 8. Wilson and Neff Transportation Social Service Indicators

<i>Attribute</i>	<i>Consequences</i>
1. Social indicators inflationary bias	The more we measure something, the more it seems to be increasing.
2. Hard to remove social indicators that are no longer useful	Political structures and laws have grown up around transit measurements that make changes difficult.
3. Future capability and current capability require different measures	Assessing a social structure (current) requires a different measure from the social structure's performance (future).
4. Generalized measures may mask logical inaccuracies	E.g., since the data gathering methods are seen as valid, the logic of the assessment may be subject to a lesser scrutiny.
5. Citizens unfamiliar with measures	May be manipulated by planners and officials.
6. Invasion of privacy; potential exploitation by private firms	Question of who should have access to the data.
7. Aggregate indicators may distort more specific indicators	Specific indicators may produce more valid data but are hard to analyze.
8. Bias toward quantification	Can bias data against individual-level understanding.
9. A theory of society based on the value systems of the surveyors will be used.	Can make the outcome invalid and any actions taken based on it ineffective.

Source: Wilson and Neff 1983: 77-78.

Indicators used for measurement of transit operations efficiency and effectiveness often overlap with the social indicators. Operational indicators such as on-time performance are the antecedents of social indicators in transportation. Transit operators set operational policies and standards for both internal management use and to meet federal transit requirements. Transit operators collect data to indicate their success or

failure in meeting their performance standards. The fact that transit operators must regularly collect operations indicators and that they are necessarily quantifiable sets the form of the added social indicators. Social indicators must be quantifiable to match the data collected as a part of routine transit operational management. The type of data collected routinely influences the creation of social mandates. Table 9, “Operational Performance Standards”, is an example of the types of standards reported in the RTC’s operationally based Short Range Transit Plan Fiscal Years 1994-1998.

Table 9. Operational Performance Standards

RTC Standard	Criteria	Actual	Meets Standard?
Preventive Maintenance	95% on time	100 % on time	Exceeds
On-Time Performance	95% on time	95% on time	Yes
Trip Completion	98 % completed	99% completed	Yes
Road Calls	4,000 miles between calls	17,027 miles between calls	Exceeds
Farebox Recovery Non-tourist	20%	14%	No
Tourist ¹	100%	80.4%	No
Service Productivity Passengers/service hour			
Non-tourist	25	17.3	No
Tourist	-	55.5	-
Customer Complaints per 1,000 Passengers Boarded	10	1.4	Exceeds

¹ Does not include ridership from Las Vegas Transit System, which will be reflected in June, 1993, data.

Source: RTC 1993: 28.

Table 10 “Operational and Social Performance Standards” illustrates the overlap between transportation operational efficiency measures and social indicators related to service quality. In general, the efficiency standards predate the social standards; most have been adapted to the needs of Title VI/EJ assessment in cases which are measured

individually by routes. If routes serving a predominately minority or low-income ridership show consistently lower operational standards, the operational standard can be a relevant indicator of discrimination in service provision.

Table 10. Operational and Social Performance Standards

<u>RTC Standard</u>	<u>Relevance of Standard</u>	
	<u>Operational Management</u>	<u>Social Title VI/EJ Standard</u>
<u>System Efficiency</u>		
Preventive Maintenance	X	
Farebox recovery rate	X	
Service productivity (Passengers per service hour)	X	
Customer Complaints per 1,000 Passengers Boarded	X	
<u>Service Quality</u>		
Access	X	X
Frequency	X	X
Span of Service	X	X
Directness	X	X
<u>Passenger Comfort and Convenience</u>		
<u>System Reliability</u>		
Trip Completion (Missed Trips)	X	X
On-time Performance	X	X
Service Disruptions (Road repair calls)	X	
Line Speed by area: core, urban, outlying	X	X
Loading (Crowding) by peak hour, peak period, base periods, and school trips	X	X
Bus stop spacing (Availability) by population density	X	X
Amenities (Shelters, benches, signs by number of passengers using stop)		X

Source: RTC 1993: 28; RTC 1991: 15-18.

A third category of requirements for analysis is that of reporting requirements, designated as “Requirement to Evaluate Service and Fare Changes.” These additional items were transformed into standards due to the fact that they had to be monitored for

compliance with Title VI/EJ compliance. This monitoring of route changes, span of service, and fare changes was required implied a standard of sorts. The standard in each case is that there will be no difference between areas based on Title VI/EJ criteria. The RTC considered all 14 of the efficiency criteria in its transit contracting requirements for the private company that provided the transit service, however, it only reported on seven of the fourteen in its official Short Range Transit Plans (RTC 1991: 15-18; 1993: 28).

Title VI/EJ Service Standards

Federally-mandated required service standards changed between 1988 and 2007 to incorporate new measures, such as on-time performance. (See Table 7). These changes have had significant effects on the quality of service. For instance, increased attention to on-time performance caused transit operators to improve their adherence to published schedules. The Federal Transit Administration (FTA) added transit security as a service policy in response to the attacks on the World Trade Center of September 11, 2001. FTA also added new standards inherent in the reporting requirements—route changes, span of service, and fare changes—to help evaluate the equality of significant changes in the system, physical, temporal, or fiscal. The additional reporting requirements were not simply additions to the standards and policies that had previously been required. They also added a dimension of oversight to all service changes. These new requirements included how the transit operator had met its FTA-approved public participation policies prior to the service change, what the result of the public input had been, the adequacy of the analysis and the outcome of the mandated examination of the result.

These various transit service standards were nominally set up through the FTA rulemaking. The basic 5-7 required standards expanded into 10 or more standards that had to be complied with in practice, both over time and due to the “service evaluation” requirements. (See Table 10).

The federal transit agency responsible for Title VI/EJ compliance oversight evolved over the period of this study, beginning as the Urban Mass Transit Administration (UMTA) and ending as the Federal Transit Administration (FTA). The change in name also represented a change in direction. Rural and suburban transit was included. In addition, the FTA practices and regulations reacted to the greater MPO institutional capacity by allowing more leeway in the demonstration of compliance. Federal directives on compliance with Title VI/EJ reports always allowed MPOs to choose either the prescribed detailed tables and maps or an alternative, “equivalent”, method to demonstrate compliance. In practice, the majority of MPOs followed the federal directives to the letter: it was not worth risking the agency’s federal funding to use an equivalent method that would have to be justified to the federal agencies prior to funding approval. This resulted in some ludicrous situations.

In at least one case the institutional capacity of the RTC to demonstrate compliance with Title VI/EJ standards was in advance of the expectations of the federal UMTA. The UMTA Title VI regulations in place in 1991 were based on archaic cartographic technology. Agencies were required to use clear acetate overlays of minority areas, “minority” and “non-minority” routes, and major institutions over a base map. These would help determine if the transit routes (1) adequately served minority areas and (2) made major activity centers, such as employment centers, retail areas, health facilities,

and schools, accessible by transit. The RTC Principal Planner in charge of transit planning pointed out to the UMTA headquarters official that greater accuracy could be achieved using the Geographic Information System (GIS) mapping capabilities of the RTC (RTC 2004). The RTC planner was told that he could use the GIS system to create the acetate overlays, but that the acetate overlays had to be submitted separately and reproduced exactly in the printed report. The result was that the report had a base map and several separate overlays. One of the federal arguments was that the maps had to be published for the use of local civil rights groups. The groups, of course, could make no more sense of the required published paper maps than the professionals at federal, state, or local levels. The paper overlay maps could not be read without the base map visible behind them; since they were printed on paper, they were unintelligible. The federal agency approved the unintelligible paper document and the separate acetate overlays.

Later compliance regulations reviews gradually allowed use of GIS-generated paper maps to demonstrate compliance with Title VI/EJ. For the RTC reports, the 1991 Title VI Program included paper maps with no base maps in the paper report (RTC 1991a). The acetate overlays were done using GIS technology to conform to the UMTA directives. These 11 x 17 inch clear plastic sheets were attached to a paper base map that was sent to the Denver Western Area UMTA Deputy Civil Rights Officer for forwarding to the UMTA Washington headquarters Civil Rights Compliance office (RTC 1991b). UMTA showed some initial flexibility in its review of the subsequent 1994 Title VI Program Report (RTC 1994). The 1994 document included paper maps with data superimposed on a base map and were therefore intelligible in the paper version; however, a separate set of acetate overlays still had to be dispatched to the UMTA

Western Area office and the Washington office. A decade later, in 2004, there was significantly more flexibility: GIS-based maps and information generated through computer modeling technology were acceptable alternative mapping methods (RTC 2004). In the 2006 plan mapping as a visual analysis tool was superseded. By 2006, the plan relied on generalized assurances of non-discrimination and a list of impacts by route on recent transit route changes. This major change of federal attitude was not due strictly to the input of any single MPO, but the RTC, through its staff contacts and its Washington, D.C., attorneys, was one of the most active agencies promoting the acceptance of technical changes.

Changes in the demographic profile of the local MPO area rendered many of the previously standard methods for demonstration of compliance with federal Title VI/EJ regulations irrelevant. The method of demonstrating compliance is based on geography and proportion of minority residents. In each MPO, an analysis area, either Census Tract or Traffic Analysis Zone, is considered to be a minority area if it has a minority population greater than the average for the MPO. Based on the 1990 census the Las Vegas Valley had 29.9 percent minority residents; based on the 2000 census, it was 30.2 percent. This could provide a relatively meaningful distinction between minority and non-minority routes in the 1990s and before. With the 2000 census, however, the number of census tracts that had a minority population that was greater than the local average increased to encompass a much greater area of the Las Vegas Valley. Consequently, the transit routes designated “minority” outnumbered the “non-minority” transit routes. There were not enough “minority” routes to compare with “non-minority” routes based on federal procedures. (See Figure 5.) As a result of MPO staff complaints, the FTA more

readily entertained locally-devised alternative methods to demonstrate compliance with regulations.

These elements combined to foster increased cooperation between the federal, state, and local levels of agencies responsible for regulation of Title VI/EJ issues. This collaborative turn engaged with the increased institutional capacity, both managerial and technical, of the MPOs. The geographical and proportional elements of compliance reporting were questioned by MPOs nationwide through the Association of Metropolitan Planning Organizations (AMPO). The FTA recognized the previous measures as being less useful in determining to what degree the social goals of nondiscrimination were being effectively carried out. This begs the question: if geographically-based proportional measures are less relevant, can another method of analysis more effectively measure equality of service?

COMPLIANCE REPORTING: A COMPARISON OF TWO METHODS

In the remainder of this chapter I will propose a method based on social factors of the riders of routes themselves, rather than simply the geographic locations of homes of low income minority groups. In order to get to their destinations in a large urban area such as Las Vegas, people must often travel outside of their neighborhoods. In addition, I believe that use of actual numbers of persons in the groups served by each route allows more relevant service measurement than the proportions of people by race and income.

I will then compare the existing measurement methods with my proposed method using data from an on-board transit survey of 8,173 transit riders carried out in 2006-2007. The large number of respondents ensures that all routes will have enough responses

to provide meaningful data. The date of 2006-2007 represents a period when the changes to Title VI/EJ reporting had adapted to the new situation of the post-2000 census data. It is also congruent with the 2006 RTC Title VI/EJ report update. The survey represents an independent review that complies with the FTA's requirement as an unbiased report of the actual situation on the ground. It was carried out by an independent consultant, Cambridge Systematics, under contract to the RTC as the supervisory MPO (RTC 2007b).

Analysis is carried out at the route level to conform with the federal regulations' reporting requirements to demonstrate Title VI/EJ conformity. For analysis in this dissertation, I have used Microsoft Office Excel 2010 to compute the coefficient of determination R^2 to measure the relationship between variables. It is only the relationship between variables that needs to be measured, as the Title VI/EJ reporting does not impute causality. What specific aspects of regulation changed over this time? The following section covers the changes made in the requirements for Title VI/EJ compliance.

Designation of Minority Routes and Areas

Designation of minority routes by the MPO is a central task of Title VI compliance. Comparison of minority with non-minority routes allows federal agencies to determine if there is discrimination. Federal agencies use a geographical method of determining minority or non-minority status. If a route has 30% or greater of its route through a minority area, it is considered to be a minority route. A minority population proportion of an area that is greater than the minority population of the MPO area is considered to be a minority area. As previously stated, based on the 1990 census the Las

Vegas Valley had 29.9 percent minority residents; based on the 2000 census, it was 30.2 percent. The area itself can be a Census Tract, a Traffic Analysis Zone (TAZ), or another census-based area that can be defended by the MPO. In practice, this means that Census Tracts and TAZs are used in these reports almost exclusively.

Changes in the demographic profile of the local MPO area in the 2000 census rendered many of the previously standard methods for demonstration of compliance with federal Title VI/EJ regulations irrelevant (U.S. Bureau of the Census 1995). A great increase in the number of Census Tracts considered to be minority occurred based on the 2000 Census. Figure 5 shows the change in the designated minority area. The increased number of Census Tracts designated “minority” under federal regulations resulted in a greatly increased number of routes designated minority routes. As Table 12 shows, the proportion of minority routes rose from 46% in 1994 to 91% in 2004. In 2006 there were only 3 routes that were considered to be non-minority. The RTC 2006 Title VI/EJ report update reviewed all the routes for elements that would have put the agency in non-compliance with Title VI/EJ regulations and listed actions to meet the Title VI/EJ specifications. Based on this change, the geographical method of demonstrating Title VI/EJ compliance was no longer a viable method.

A-1 Comparison of 1990 and 2000 Minority Census Tracts

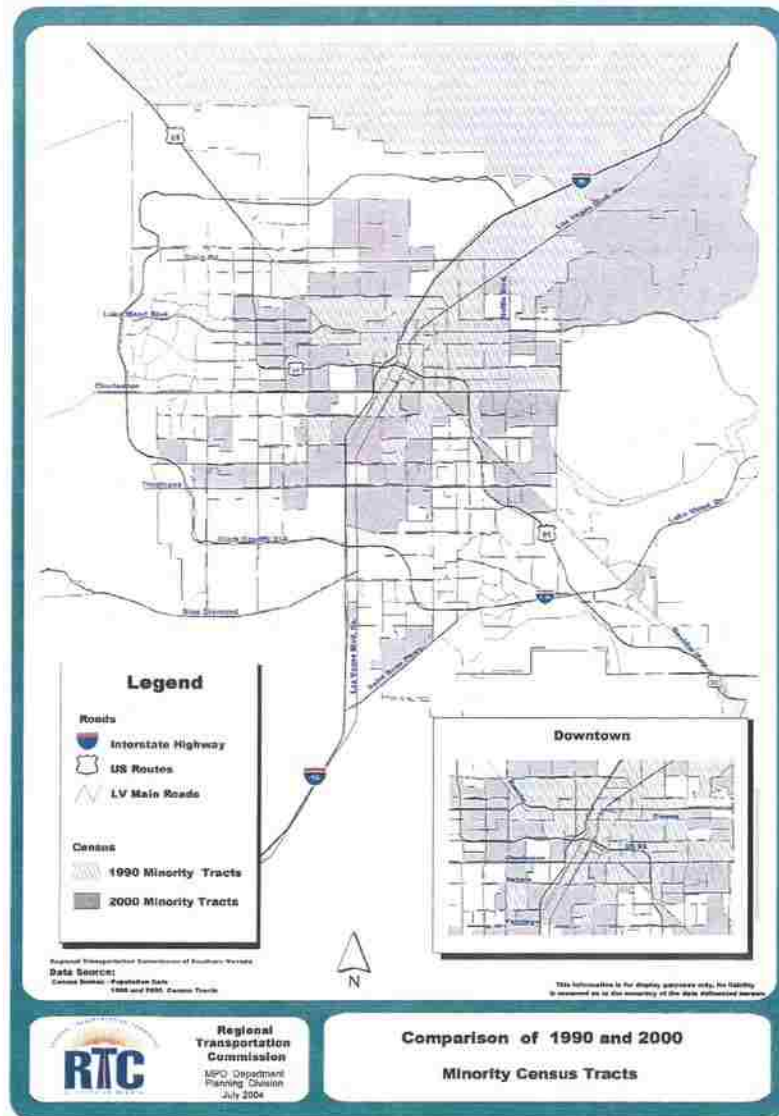


Figure 5. Area of Minority Census Tracts 1990 and 2000 Comparison of Minority Routes

The federal route comparison method followed in the RTC 1994 Title VI Compliance Report had two steps (RTC 1994). First, the routes were designated minority or non-minority. The second step was to choose ten of each category at random and map them as an overlay on the minority census tracts. The resulting map was the major visual analysis tool of the report. In later reports this method of comparison was no longer viable due to the increase in minority routes and the decrease in non-minority routes. Table 11 is a listing of the routes included in the on-board survey including both the route number and name (RTC 2006b:2-2).

Table 11. Transit Route Numbers and Names 2006

Route		Route	
Number	Name	Number	Name
101	Rainbow	204	Sahara
102	Jones	206	Charleston
103	Decatur	207	Alta/Stewart
104	Valley View/Torrey Pines	208	Washington
105	Martin Luther King/Koval	209	Vegas/Owens
106	Rancho	210	Lake Mead Blvd.
107	Boulder Highway	211	Smoke Ranch/Carey
108	Paradise/Monorail Con./Fremont Street Experience	212	Sunset Road
109	Maryland Parkway	213	Harmon/The Lakes
110	Eastern Avenue	214	H Street/D Street
111	Green Valley/Pecos	215	Bonanza
112	Desert Inn/Lamb	217	Warm Springs
113	North Las Vegas Blvd.	218	Cheyenne
114	Green Valley Circulator	219	Craig Road/Centennial Hills
115	Nellis	402	Crosstown Connector/Boulder City
117	South Las Vegas Blvd.	403	DTC/Craig Connector
201	Tropicana	406	West Downtown Henderson
202	Flamingo	501	MAX Line, Las Vegas Blvd. North
203	Spring Mountain/Twain		

Regional Transportation Commission of Southern Nevada. 2006b: 2-2.

Table 12 lists the routes that were designated minority or non-minority as determined by the RTC using federal criteria in each Title VI/EJ report from 1991 to 2004. Table 12 illustrates the increase in the number of routes that were considered to be minority after the 2000 census.

The 1991 report occurred as the MPO was taking over the operation of the transit system from the Las Vegas Transit System (LVTS). The Title VI report for 1991 represents a commitment by the RTC to operate the transit system without discrimination. The Denver UMTA Civil Rights Office gave the MPO a special dispensation from deeper analysis since all routes were changing drastically. The LVTS routes are represented in the table by asterisks, since they are greatly different from the subsequent RTC routes and are therefore not comparable. LVTS routes were operated as large loops, so that the routes passed each location only once. A route from a residence to downtown might represent a 20 minute trip; however, the return trip to the residence from downtown would take a circuitous route and could take up to 2 ½ hours. LVTS operated ten non-Strip routes, six of which were designated minority; however, the method used to determine their minority status is not recorded. The 2004 report followed the federal standards, with a result that designated minority routes represented 31 of 33 routes—91%. There were far fewer than 10 routes of each category to compare, so comparison was simply by table to indicate how the MPO promoted the ideals of Title VI/EJ based on the five required areas of comparison. The 2006 report followed this same strategy.

Table 12. Routes Designated Minority by Federal Criteria by Year

Route	1994	2004	Route	1994	2004
101	n	MIN	204	n	MIN
102	n	MIN	206	n	MIN
103	n	MIN	207	MIN	MIN
104	n	MIN	208	MIN	MIN
105	MIN	MIN	209	MIN	MIN
106	MIN	MIN	210	MIN	MIN
107	n	MIN	211	MIN	MIN
108	n	MIN	212	MIN	MIN
109	MIN	MIN	213	*	MIN
110	MIN	MIN	214	*	MIN
111	n	MIN	215	*	MIN
112	n	MIN	217	*	n
113	MIN	MIN	218	*	MIN
114	MIN	MIN	219	*	*
115	n	MIN	402	*	MIN
117	*	n	403	-	-
201	n	MIN	406	*	n
202	n	MIN	501	*	*
203	n	MIN	TOTAL	12/26	31/34
			% Minority	46%	91%

Las Vegas Transit System (LVTS) in 1991 was noted as operating 6 minority routes but the criteria for designation are not specified.

n = Non-minority route

* = Route did not exist in year or was not comparable

Social Characteristics Comparison: Regulation Bases

The initial question in this research is the appropriateness of the underlying Title VI/EJ regulations. Are these two regulations redundant? There are two parts to this question. First, how appropriate are they to the task of determining non-discrimination regarding each group? The second question centers on the nature of what is measured. Administrative law has mandated that they be measured as proportions. Is the

proportionate (percentage) measurement the most effective? I compare percentage relationships with the actual number of riders by race and low-income status.

Title VI Race Criteria

In all cases, a geographically-based comparison was required between minority and non-minority routes. “Minority routes” were defined by the proportion of their length that traversed minority geographic areas. If over 30% of a route’s length was in a minority area, it was considered to be a minority route. A minority area was defined as one with a minority population over the transit service area’s average minority population. Areas were either Census Tracts or Traffic Analysis Zones (TAZs). TAZs are used in MPOs’ Travel Demand Models. As they are usually smaller than the Census Tracts, TAZs provide a more apparent accuracy than Census Tracts, but they have two drawbacks. First, their smaller size means that more of them must be analyzed than if the larger Census Tracts are used; second, they require allocation of population from the larger Census Tracts based on algorithms. Because of the larger-to-smaller conversion, the apparent increased accuracy of TAZs may be spurious; further, it invites questioning of its accuracy and lack of bias. For those reasons, the RTC used Census Tracts.

Environmental Justice (EJ) Criteria

The EJ criteria used in the MPO reports is the census poverty level. This varies by family size. Las Vegas transit riders surveyed in the 2006-7 onboard survey had an average family size of 3.43. This would set their poverty level somewhere between the weighted average threshold for three people (\$16,079) and that for four people (\$20,614) (U.S. Bureau of the Census 2007). The average of \$18,347 is a good approximation of

the poverty threshold for a family of 3.5. The survey data do not exactly match this number. The survey used four categories of income, with the lowest category “under \$25,000” (RTC 2007b Appendix A: 7). The “under \$25,000” category, used as a close approximation for “low income” families, allows assessment of the issues considered below.

Social Criteria Relationship: Title VI and EJ

I am interested first to determine if race and poverty levels are distinctive or redundant measurements. The coefficient of determination has a possible range of +1.0 to -1.0, with a figure approaching 1.0 indicating a completely congruent positive relationship and -1.0 showing a completely congruent negative relationship. The percentage of minority transit riders and low income riders by route is represented graphically in Figure 6. (See also Figure 42 in the appendix.) The R^2 for percentage of race and low income riders indicates a very low correlation: minority/low income has a coefficient of determination (R^2) of .064: no relationship. As a further disaggregation that might reveal a relationship of a single group, the African-American to low income correlation of determination was calculated. (See Figure 7 and Table 43 in the appendix.) The R^2 for African American to low income is -.088: virtually no relationship. These results would seem to indicate that there is no relationship between race and poverty level of transit riders; a departure from the conventional wisdom for these factors. We might conclude from these results that Title VI Civil Rights and EJ Environmental Justice are distinct issues in this case: there is only a very weak relationship between the two among the bus riders interviewed. When using the proportional numbers, there appears to be no redundancy of regulation in this case.

When using the actual number, instead of percentage, of minority and low income riders by route, there is a significantly different result. (See Figure 8 and Table 44 in the appendix.) Using the number of minority and low-income riders, the coefficient of determination is .944, a very close relationship, shown in Figure 8. These great differences between the federally-prescribed geographical method and the use of actual numbers seem to bring the federal method into question.

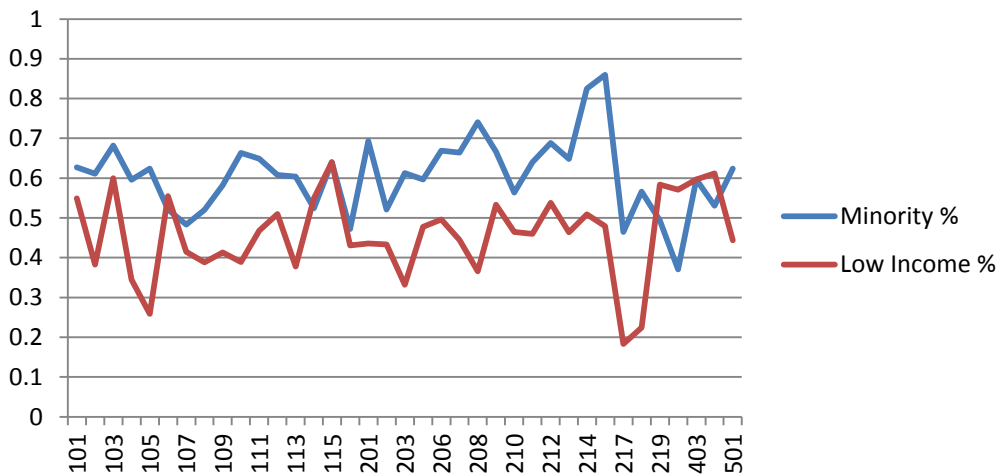


Figure 6. Percentage of Minority Transit Riders and Low Income Riders by Route

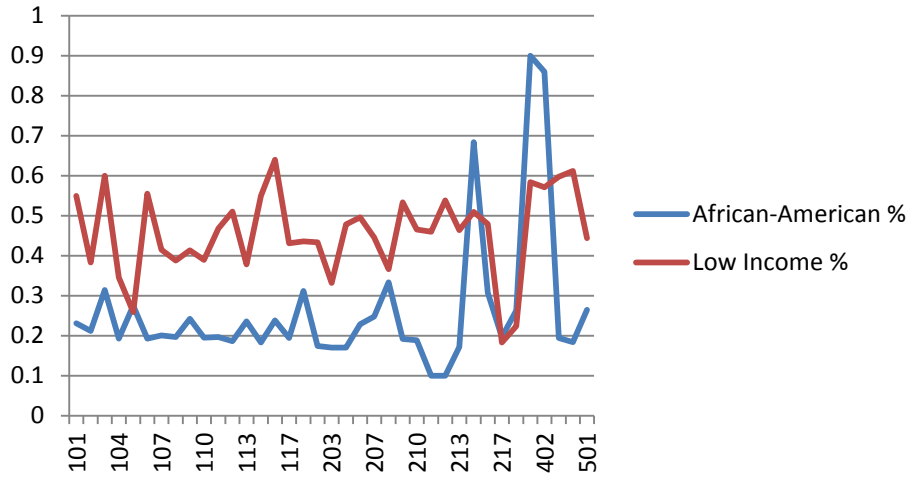


Figure 7. Percent African-American and Low Income by Route

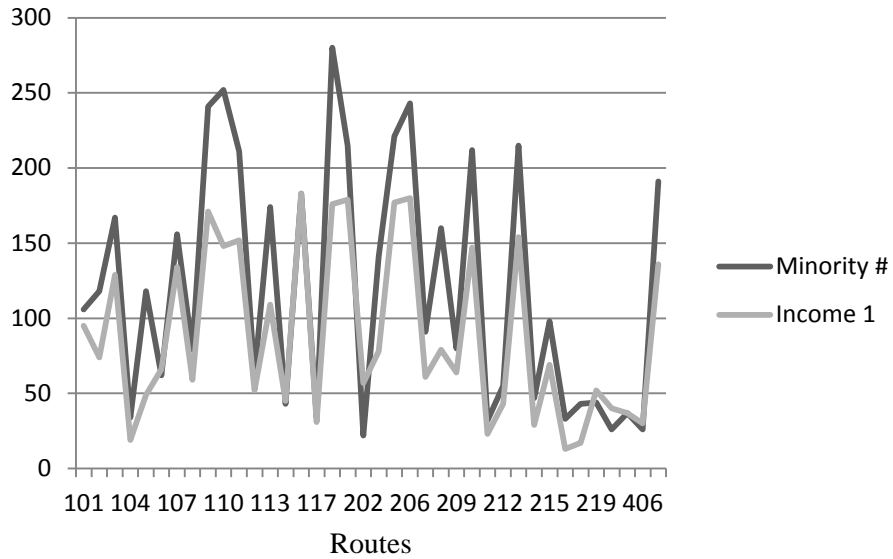


Figure 8. Number of Minority Low Income Transit Riders by Route

Social Characteristics: Race/Ethnicity (Title VI)

In this section I compare proportional geographic with numerical social measures to determine the degree of discrimination based on criteria of the Title VI/EJ federal

directives. The use of geography as a measure of equal service has its place, based on a body of legal precedent covered earlier in this dissertation; equal service by community is a significant measure. However, the exclusive use of these proportions masks the fact that members of minority groups travel throughout the transit service area. Proportion of minority riders served is a measure of the degree to which equal service is given under the federal guidelines. A proportional measure of minority group members is applied geographically: the average of minority group member for the county is taken; any geographical area, census tract or traffic analysis zone, that has a greater proportion of minority residents than the overall average is considered to be a minority area. In the Title VI reports, this proportion was 29.9 percent based on the 1990 census and 30.2 based on the 2000 census. The systemwide proportion of minority transit riders, 60.6%, is nearly twice the proportion of minority members in the Las Vegas Valley. This preponderance of minority riders is an initial indicator that quality service must exist throughout the transit service area in order to provide the best service for all, including Title VI/EJ riders. Table 13, "Race of Transit Riders Systemwide," shows that the largest proportion of riders was of Hispanic origin (31.9%), while the second largest proportion is Black, at 22.0%. Figure 9, "Percentage Minority Riders by Route," show that transit ridership is predominately minority, with an average of 61% and only one specialized route below 45%. (See also Table 45 in the appendix.) The range of variation is very narrow. Figure 10, "Percentage Race by Route," breaks this down into the specific racial identities of passengers on each route. (See also Table 46 in the appendix.) The largest proportion of minority on any route is that of 214, which has 82.4% minority, of which 68.4% are black and 14% Hispanic. This is not surprising for a route that extensively

serves the historically most African-American area in the Las Vegas Valley. This confirms that geography plays a role in Civil Rights assessment of transit systems; the generally high proportion of minority transit riders on all routes shows that geography is not the whole story.

Table 13. Race of Transit Riders Systemwide

Race	Transit Riders Percent
Black	22.0%
American Indian and Alaska Native	2.6%
Asian/PI	4.1%
Persons of Hispanic or Latino origin	31.9%
White, not Hispanic	27.6%
Other	2.1%
No Response	9.1%
Total overall percent	99.4%
Total Minority percent	60.6%

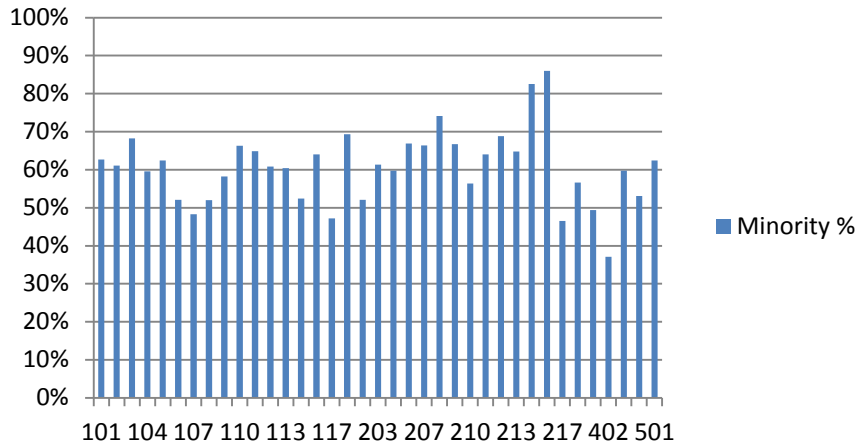


Figure 9. Percentage Minority Riders by Route

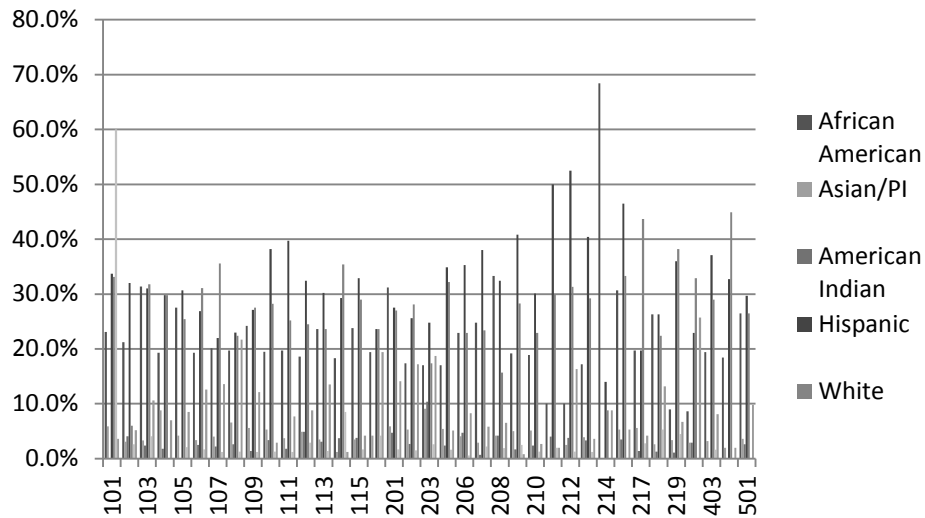


Figure 10. Percentage Race by Route

Social Characteristics: Low Income Transit Riders (EJ)

The expectation is that the range of family income for transit riders will have a significant proportion of low income riders. The survey uses a four-category listing of family income.

As noted above, the approximate income for a family of 3.5 is \$18,347, while the data available from the 2006-2007 onboard survey is based on four categories, with “Less than \$25,000” the lowest income category (RTC 2007b, Appendix A: 7). Although it is not completely congruent with the federal standard, the “under \$25,000” category, used as a close approximation for “low income” families, allows consistent consideration of the issues. Figure 11 illustrates the proportion of persons with incomes of \$25,000 or below riding each transit route on the average. (See also Table 47 in the appendix.) Those in this lowest income category represent 45.7% of the transit riders overall. Very close to half of the transit riders have family incomes below \$25,000. As might be expected, the lowest percentage of low income transit riders was found on suburban routes. This is true especially for Route 217, Warm Springs, at 18.3%, and Route 218, Cheyenne, at 22.4%. The highest proportion of low income riders is found on Route 115, Nellis, with 64.0% low income riders. This route traverses a heavily Hispanic area. The 400-series routes are specialized routes designed as connectors to other major routes or to serve underserved communities. In contrast, Route 105, Martin Luther King/Koval, which stereotypically would be assumed to have one of the highest percentages of the poorest riders, has a relatively low 25.9% in the lowest income category. One possible explanation of this apparent anomaly is the proportions is that this route’s direct connection between the suburbs to the north and downtown attracts commuters with higher incomes. The basic point that transit riders have a disproportionately high proportion of low income riders seems to have been made, however. Almost half of the riders are in the lowest income category.

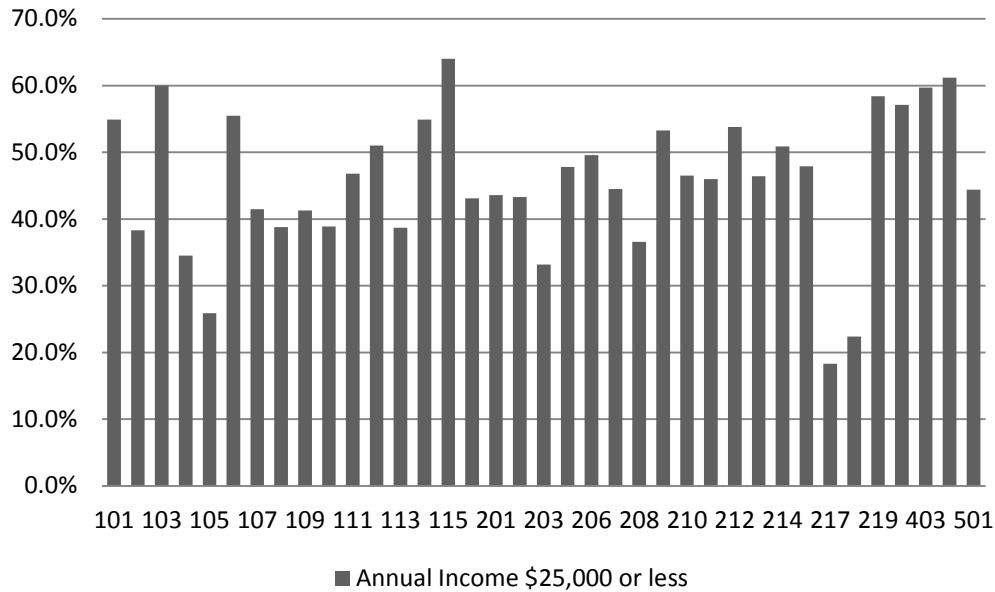


Figure 11. Lowest Category (<\$25K) Income Percentage by Route

Social Characteristics: Transit Dependency

The U.S. Bureau of the Census 2006 American Community Survey shows that only 4.1% of households in Clark County had no vehicle available. (See Table 14.) Families with one vehicle available represented 25.7% of all households; those with two or more vehicles accounted for 70.2% of households. The number of vehicles per household of transit riders, as might be expected, is significantly lower than this. Table 15, “Mean Transit Dependency of Transit Riders,” shows the average household size (3.4), average number of wage earners per household (2.2), the autos available (1.0), and the deficit of autos to earners. The number of wage earners per household is high and the average number of autos available is low. The average of one vehicle available puts the transit riders in the lowest 30% of auto owners. This allows the creation of an index to measure the degree to transit dependence by route. On an average, each family would need to add

1.1 cars to provide one to each earner. This necessitates carpooling, not always possible where working hours or locations vary—say for construction workers who move from jobsite to jobsite. In this index, the larger the number, the greater the relative transit dependence. This could potentially provide another measure of Environmental Justice. Are those who are most transit dependent being adequately served? Comparison of these measures with service quality can provide insights into the equality of transit service to those who need it most.

Table 48 in the appendix, “Transit Dependency by Route,” disaggregates the figures by route. Routes showing the greatest transit dependence in this case are those that traverse poor areas of the valley. The highest index, for Route 211, Smoke Ranch/Carey, is 1.5. Route 501, the premium express MAX line, was designed to serve the most transit dependent residents with a high quality service. It seems to have succeeded in targeting the group needing such service: the MAX line auto dependency index is 1.2.

Table 14. Number of Vehicles Per Household for Clark County

Vehicle Availability	Number of Households	Percent
No vehicle	35132	4.1%
1 vehicle	219572	25.7%
2 vehicles	377699	44.2%
3 vehicles	154237	18.0%
4 vehicles	51073	6.0%
5 or more vehicles	16798	2.0%
Total:	854511	100.0%

Source: U.S. Bureau of the Census, 2006 American Community Survey

Table 15. Mean Transit Dependency of Transit Riders

	Household Size	Wage Earners	Average # Auto Available	Earners/Auto Deficit Index
Mean	3.4	2.2	1.0	1.1

SERVICE QUALITY MEASUREMENT

This section turns to service quality. If an equal service quality for all users of transit regardless of race or income is the goal, how do we determine that the quality of service is equal for all transit riders? Service quality can be effectively measured in several ways. Table 16 shows the 2006 service standards used by the RTC in anticipation of the announced federal standards. The use of standards in preparing the documents in advance of the incorporation of the federal requirements is an instance of increased institutional capacity that included members of the RTC Planning staff, the regional Federal Transit Administration (FTA) office, and direct discussions of Washington-based attorneys with the national FTA headquarters Office of Civil Rights. The standards in bold were those that had been tracked by the RTC prior to 2000.

This preliminary examination of possible elements of a transit service quality index includes two elements: on-time performance (OTP) and frequency of service (headway). These two elements were chosen as examples of standards that directly affect transit riders. In addition, the data for 2006 were made available for this research by the RTC (RTC 2007a). These two elements, while important, are not exhaustive. Any attempt to develop a thorough quality of service measure to supplant or supplement current requirements will require additional analysis of the usefulness of potential service quality measures in determining equality of service.

On-time performance (OTP) is perhaps the most important measure of transit service quality for the transit rider. If a bus is too late, the rider will be late to employment or other appointment. OTP is a simple concept that becomes more complicated in practice. In transit, vehicles must arrive at their scheduled timepoints either on or after the time listed in the schedule. To arrive early deprives passengers of their ability to plan their trip and may have consequences both for those boarding the transit system on the first leg of their trip and those attempting to transfer to another scheduled route. The question then becomes how late a bus may arrive at timepoint and still technically be “on time”. Generally, there is a 5-minute standard and a 10-minute standard; that is, buses may reach their timepoints within 5 or 10 minutes after the scheduled time without being counted as “late.” The percentage of late times is calculated based on all timepoints along the route, so a route that is on time within 5 minutes overall could have many timepoints at which it arrives within 1 minute and one or two at which it arrives 15 minutes late. Traditionally, OTP was recorded as a part of the federally-required transit monitoring process by an RTC employee riding the route at random. A route’s OTP for a particular period, such as a month or a year, was the average of the observed results by route recorded on site by the monitor riding the route. That was the system in 2006. More recently, with on board GPS transponders, the bus dispatch office can follow the OTP of a particular run on a specific route in real time; that is, it can watch a screen in the office showing the actual location of the bus along its route and its current OTP as it happens. OTP is a particularly significant metric for the private transit provider under contract to the RTC, as it is a service standard under the terms of the contract. If the buses are late too many times, the private bus operator under contract to the RTC must pay liquidated damages to the

agency. OTP is calculated using both 5 and 10 minute intervals after the scheduled arrival and is measured in percentage the vehicle is on time. This is usually a very high proportion—expected to be over 90% and usually above 95% in the 10-minute measurement.

Service frequency, also known as “headway”, is important as a measure of service quality. The passenger’s ideal is a service that has vehicles available as soon as the passenger arrives at the stop or station. This is usual on the heavy rail rapid transit, such as subways, that operate on their own exclusive ways and do not have to contend with traffic. The 501 bus rapid transit service on North Las Vegas Boulevard is an example of this type of service in the Las Vegas Valley. It runs frequently and has no printed schedule. Passengers rely on a changeable screen at its stations that tell when the next vehicle is due.

Maintaining OTP is more difficult for a bus system in mixed traffic. In the case of the most frequent RTC bus routes in mixed-flow traffic, such as the 109 Maryland Parkway route, it is not unusual for buses to be nose-to-tail at the far end of the route, as they contend with traffic conditions that overcome their printed schedule. Headways are expressed in this demonstration as the number of buses that pass a point in an hour during the route’s peak periods. This has the advantage of giving a positive number to compare with the social characteristics of the riders (Title VI/EJ).

Table 16. Title VI/EJ Service Standards

	Explanation	Source of data
SYSTEMWIDE SERVICE STANDARDS		
Vehicle load	Measure of crowding	Section 15 federal reporting requirement
Vehicle headway	How often buses run	Section 15 federal reporting requirement
On-time performance	What % of time are buses within 5 and 10 minutes of their schedules	Section 15 federal reporting requirement; Contractual
Transit amenities distribution	Are bus stops equally equipped, including benches, shelters, “next bus” signs	Title VI/EJ requirement; Contractual; Internal RTC data base
Service availability	Are opportunities to board equally spaced: are bus stops and stations distributed equally?	Title VI/EJ requirement; Contractual; Internal RTC data base
SYSTEMWIDE SERVICE POLICIES		
Vehicle assignment	Are new and old buses in good condition equally assigned to routes?	Contractual
Transit security	Are security personnel and monitoring equipment distributed equally?	Contractual
SYSTEMWIDE SERVICE CHANGES		
Monitor service for compliance; equity analysis of fare changes and major service changes; detailed procedures shown; EJ incorporated	Do fare and other related policies have equal impacts on all transit users?	RTC staff monitoring of internal policies and contractual elements.
REPORTING REQUIREMENTS (“REQUIREMENT TO EVALUATE SERVICE AND FARE CHANGES”)		
Route Changes	Route changes must have neutral impact in Title VI/EJ target areas	RTC staff monitoring of internal policies, on public information and contractual elements
Span of Service	The length of time each day a transit route is in service must have neutral impact in Title VI/EJ target areas	RTC staff monitoring of internal policies and contractual elements
Fare Changes	Fare changes must have neutral impact in Title VI/EJ target areas	RTC staff monitoring of internal policies and contractual elements

Source: USDOT 2007; Regional Transportation Commission of Southern Nevada 2006b.

Index Creation

In the following section the two measures will be compared as possible components of a socially-based service quality index. Comparison should give some determination of which factors are most effective in achieving social goals in transit provision; at least those that are most closely associated with the elements of service equality desired.

The quality of service factors can be used to create an index to compare minority and non-minority routes. The quality of service factors are here considered as potential socially-based supplements or substitutes for the elements of the proportional geographical-based system recommended by the federal transit agencies. The first question to consider is the appropriateness of these measures against proportional or absolute social measures. Examination of social elements used to determine minority and non-minority routes previously showed that the actual numbers of persons riding each route produced a higher coefficient of determination than the use of proportions. Calculation of percentages showed no relationship between Title VI and EJ social elements; use of actual numbers of riders yielded an R^2 of .944. Based on previously-calculated proportional factors, expectations are that the relationship between proportional measures and the service quality factors will be low. Table 17, "Coefficients of Determination for Proposed Service Quality Factors," indicates that the R^2 figures for all of the proportional elements show virtually no relationship between the social elements and service quality factors.

For actual numbers of minority group members (race) and low income riders, the relationships are slightly higher, but not to the point that a relationship can be determined. The relationship between numbers of race and low income riders with frequent transit

service, however, shows a closer degree of association, with race having an R^2 of .722 and low income showing an R^2 of .742. These are high enough to indicate some degree of relationship. Tables 49 and 50 in the appendix disaggregate these proportional figures by route; table 51 in the appendix shows numerical figures by route.

What do these figures mean? When considering OTP, we need to ask whether this indicates that there is in fact no relationship or if this means that the transit system has succeeded in providing an equal quality of service in terms of on-time performance. In this case, the service quality ramifications of this factor are so significant to the riders that further research seems to be called for. Research involving multiple transit systems will be needed before any conclusion can be drawn. In the case of the social factors of race and low income to frequency, the relationship is clear. Here again, the coefficients of determination are not definitive. The relatively high R^2 here augurs well for the use of this service quality factor in a socially-based system; however, it appears that this relationship would indicate that routes with high numbers of minority and low income riders are associated with frequent service. High quality service appears to be provided for the target groups in this case.

Table 17. Coefficients of Determination for Proposed Service Quality Factors

Factor	OTP 5	OTP 10	Frequency
Proportional Race	-.057	-.053	-.060
Proportional Low Income	-.149	-.161	-.123
Numerical Race	.157	.216	.722
Numerical Low Income	.167	.215	.742

The numerical relationship is shown in Figure 12 for on time performance (OTP) and Figure 13 for service frequency. In Figure 13 the number of buses used as a frequency of service proxy has been expanded by a factor of 30 to allow a better visual comparison with the number of minority and low income riders by route.

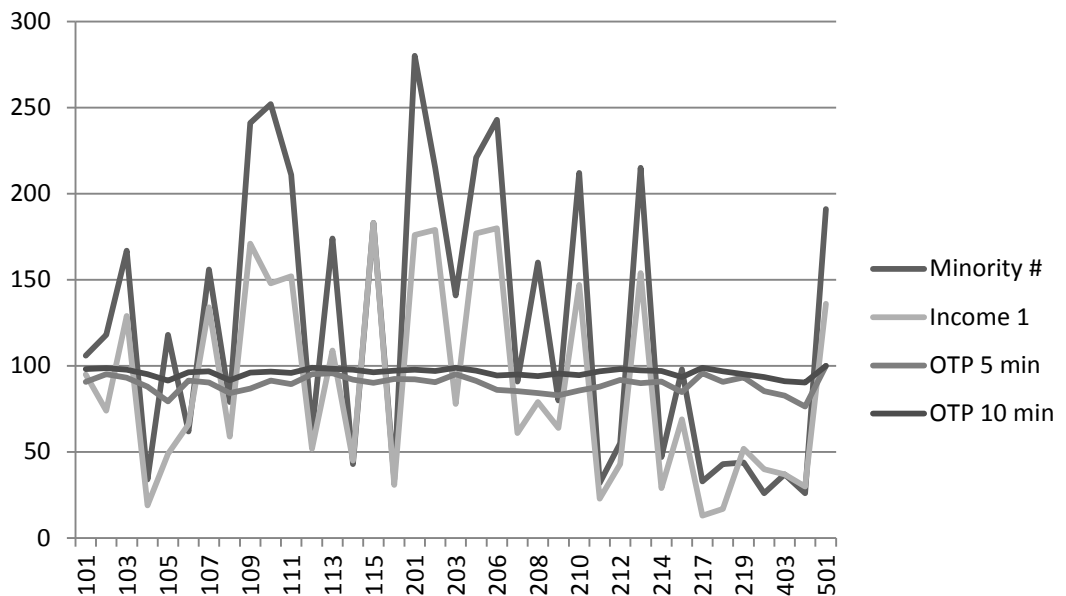


Figure 12. Minority and Low Income Transit Riders and On Time Performance by Route

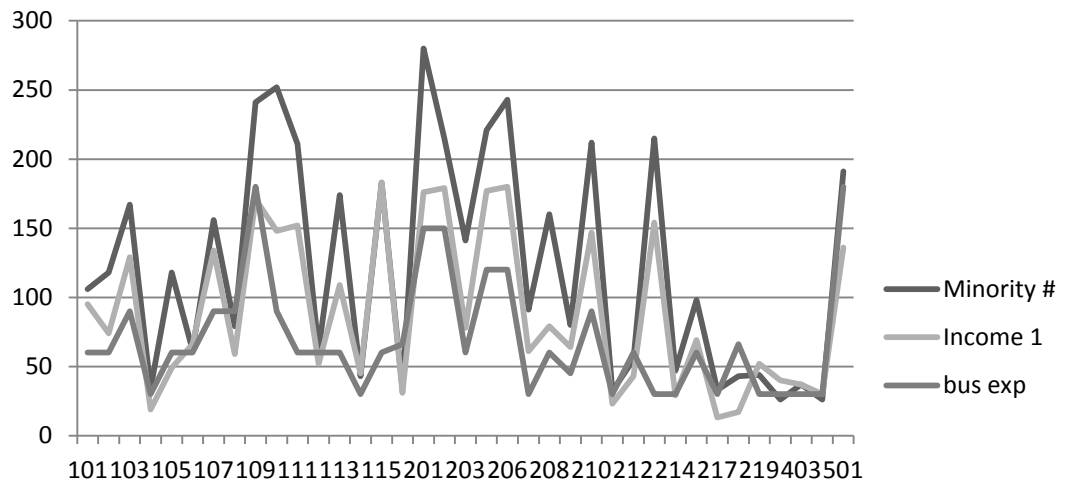


Figure 13. Minority and Low Income Transit Riders and Service Frequency 2006

Figure 13. Minority and Low Income Transit Riders and Service Frequency 2006

Socially-Based Measures of Title VI/EJ Conformity

How do these socially-based measures work in practice? The two most useful measures of service quality are on time performance (OTP) and service frequency. RTC shows very good statistics regarding on time performance. There is no demonstrable relationship between a route's Title VI/EJ status and OTP. This would make a good standard to use in a measure of service equality across these two measures. A good standard of equal service would show no correlation with Title VI or EJ status. Routes outside the standards set for the system as a whole could be targeted to improve OTP to meet the standard. Success or failure in this would be easy to measure at the next Title VI/EJ review. The local service provider would have wide-ranging flexibility in how this

would be achieved; this would negate complaints about federal interference in local transit management.

The RTC appears to meet equality standards as well for the simple element of service frequency. Routes that run more frequently are relatively closely associated with minority ridership levels. This relationship varies across the three example years. Generally the R^2 rises for each of the three years 1994, 2004, and 2006 included in Title VI/EJ reports. In the following tables and charts, the service frequency is displayed as the number of buses that will pass a given point on the route during the peak hour. This gives a positive number. In addition, the number of buses passing a point has been expanded on the charts for readability by multiplying each number of buses by 30. This makes the relationship easier to see. It is not reflected in the tables and has no effect on the computation of the coefficient of determination.

Can the factors considered here provide effective, robust measures in future socially situated Title VI/EJ group service assessments over time? In the case of the service frequency measure, based on three years, the answer appears to be yes. The figure for the relationship between Title VI/EJ groups and service frequency seems to rise over the period from 1994-2006. (See figures 14, 15, and 16 in the text and tables 53, 53, and 54 in the appendix.) The R^2 of relationship between Minority and Low Income riders remains high, varying from .939 to .949. This indicates that the close relationship between the number of riders in each category is stable, auguring well for the use of these measures as a base for the socially-based system. We continue to be able to measure the target groups. A disaggregated view of the relationship of each of these social factors to transit frequency is revealing. The R^2 of the number of minority riders with bus

frequency rises from .567 in 1994 to .722 in 2006. The R^2 of the number of low income riders with bus frequency rises from .653 in 1994 to .711 in 2006. (See Table 18.) The fact that these are positive number indicates that there is some positive relationship between the presence of riders from the target groups on transit routes and the frequency of the routes: the system is serving members of minority groups and low income riders well. One caveat is that the number of routes increased over this time period, particularly the number of minority routes. This would tend to increase the R^2 figure. The fact that the trend was upward over time is, however, positive: the service frequency was at least not being degraded for members of the target group. This would seem to indicate that the measure could be an effective one when combined with other appropriate measures.

Table 18. Title VI/EJ Routes and Service Frequency Yearly Correlation Comparison

Year	R^2 Minority Riders and Low Income Riders	R^2 Minority Riders and Bus Frequency	R^2 Low Income Riders and Bus Frequency
1994	.945	.567	.653
2004	.939	.649	.603
2006	.949	.722	.711

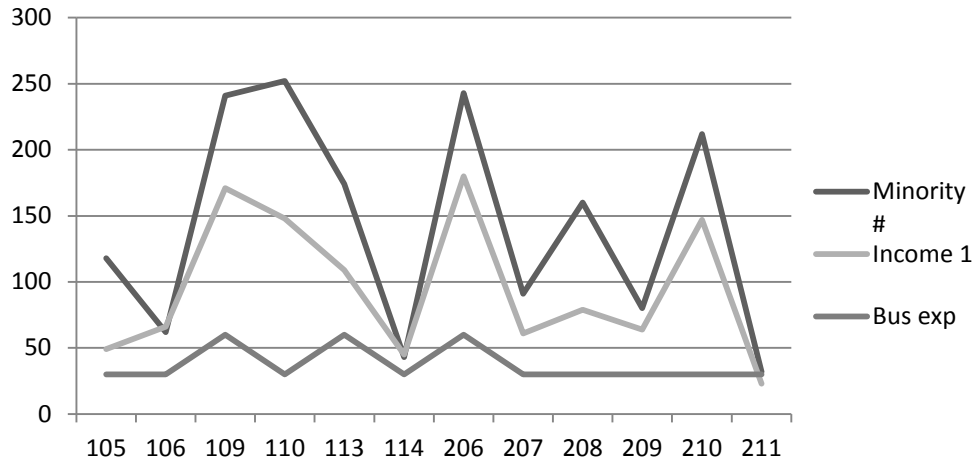


Figure 14. Minority Routes Bus Frequency 1994

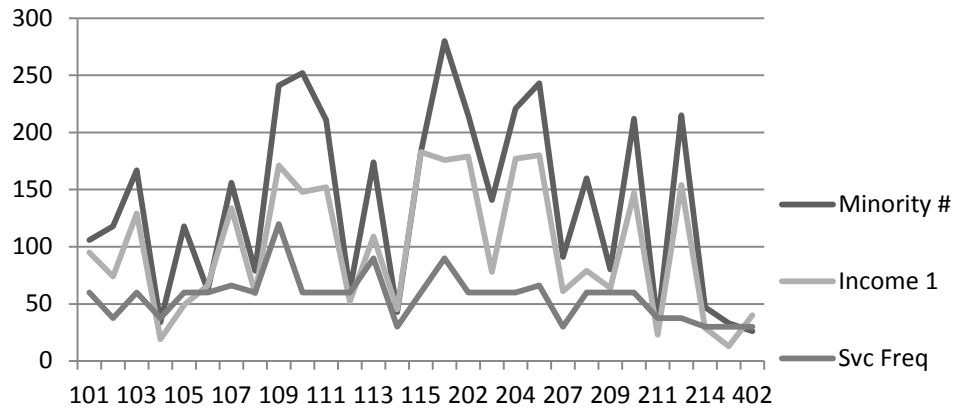


Figure 15. Minority and Low Income Transit Riders and Service Frequency 2004

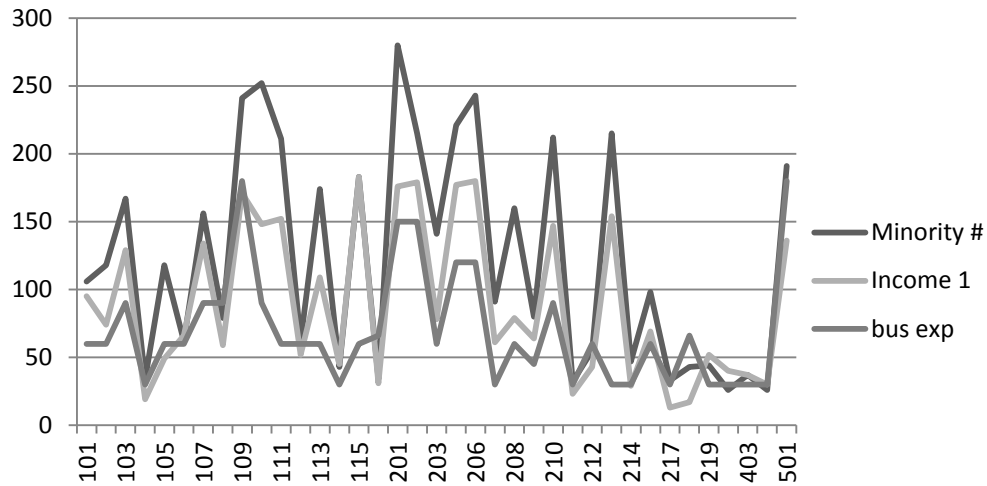


Figure 16. Minority and Low Income Transit Riders and Peak Hour Buses 2006

SUMMARY

This chapter reviewed the increased institutional capacity of a specific MPO. An interactive, complex process of institutional development created a mature institution with the technical and managerial ability to interact with federal and local officials to mutually develop improved methods to assess compliance with federal law. The relationship with the federal oversight agencies changed over the study period to develop a more flexible measure of compliance. This was due to both the technical improvements, including GIS and modeling abilities, and expanded managerial capacity. Managerial capacity expansion was manifest in the increased scope of local planning efforts internalizing technical capacity and in the integration of outside consultants into the routine planning processes. In addition, the need to respond to social changes in Southern Nevada, embodied in the proliferation of minority areas based on the 2000 census,

created an opportunity for local autonomy in creating new measures of Title VI/EJ compliance.

The federal directives initially encountered by the MPO in 1991 were based on a proportional method with a geographical foundation. This is to a large extent founded on a concept of race relations in which the minority groups occupy specific areas in which they are the majority. The proportion suggests the idea of the “tipping point” at which it was assumed a district would become such a majority-minority area. Legal precedents had been based on this idea: minorities, primarily African-Americans, were confined by economics and tradition to areas that might have received a lower level of service than others. These highly transit-dependent areas were often provided with a transit service quality lower than that provided to the prosperous minority. I suggest that MPOs could well use their increased institutional capacity to create new measures of Title VI/EJ compliance based on social factors.

In the case of the RTC as MPO, the bases for declaring an area minority and from their judging a transit route a minority route, are inadequate. They fail to incorporate the full range of concerns of all riders, minority and non-minority. Examination of data from the RTC 2006 on board transit survey including 8,173 individual surveys found that the approximately 30% threshold used to determine a minority area was dwarfed by the actual transit ridership, which was over 60% minority. To adequately serve the minority transit ridership, it is necessary to realize that they ride not only on routes that extend through minority census tracts, but to jobs, shopping, and recreation throughout the entire transit system: high rates of minority ridership are found on virtually all routes in the system. Further, the proportional percentage-based measurement of routes was far less

effective in explaining relationships than the actual numbers of minority and low income riders.

Transit needs of the riders must be compared with service quality measures. Looking at just two measures for which data are available, on-time performance and the frequency of service, it appears that the quality of on-time performance has always had a low relationship to target populations on the routes. The Title VI/EJ population has at least not been discriminated against in this factor compared with the rest of the population. For the frequency of service, the relationship is a positive one, with an R^2 of over 0.7 for both race and poverty. The larger the number of minority group members and low income riders on a route, the more frequent the service is likely to be. In this case, the target populations have been well-served by the system.

How did the measures do when applied to routes designated “minority” under the federal standards? The consistency of the frequency of service measure over time for the years that data is available, from 1994 through 2006, is good. It shows a gradual improvement in frequency and target group members that follows the trend reasonably expected as the transit system’s routes and ridership increase.

These results suggest that a series of additional Title VI/EJ standards based on surveys of transit riders compared with the service standard metrics currently gathered on a daily basis could provide an addition to the current proportional/geographic system that would give a much better picture of the overall compliance with Title VI/EJ regulations. When used in cooperation with the regional federal agencies, this addition of socially-based standards would not require any changes to current law or administrative directives. Use of standards based on Title VI/EJ would allow a greater exercise of the

increased institutional capacity of MPOs. The actual number of riders found outside the geographical minority residence areas shows that service to minority members and those in poverty (Title VI/EJ) gives a fuller picture of where they actually travel. It does not restrict Title VI/EJ concerns to specific minority areas, but considers their full transit needs. These methods give a truer measure of equal service for all community members.

The final chapter will review the arguments thus far about how the institutional capacity of the RTC as a Metropolitan Planning Organization developed over time. It will offer both conceptual insights about institutional capacity building processes and revisit theories in terms of “findings” to incorporate evaluative insights about the effectiveness of the program in general. It will offer policy recommendations on how to improve social goal outcome measures based on changes in institutional capacity to meet the RTC’s federal mandate.

CHAPTER 7

CONCLUSION AND ASSESSMENT OF INSTITUTIONAL CAPACITY

This dissertation has examined the relationship of social ideals to legislation and implementation of those ideals as social goals. My main research question is: How did the institutional capacity of the RTC, as a representative MPO, change over time and was it ultimately adequate to the tasks of Title VI and Environmental Justice? I considered the changing relationship among the professions involved in the development of the project of social goal implementation in transportation. This is most specifically embodied in the initial rivalry between engineers and planners. Institutional capacity increase shows, among other things, in the creation of the new profession of transportation demand modeler. As internal turf wars were resolved over the years, new institutional capacity allowed more policy initiatives by the local MPOs. This agency entrepreneurship is exemplified in the proposals of the local MPO to the federal Department of Transportation to change the planning process and measurement of social goal achievement. I conclude that institutional capacity of MPOs improved over time and that they were adequate to the tasks of social goals as defined by federal legislation. The MPOs currently have resources and institutional capacities that exceed this federal mandate and they are now in the process of changing the rules and methods of social policy related to transportation. I further suggest the addition of social aspects to the current geographically-based methods of social goal measurement that can contribute to the precision of this policy project.

I found that informal and formal relationships among institutions and actors played a significant role in carrying out legislation. Along the way I examined the interplay of legislation and rules with the people actually carrying out the tasks set up by

legislation and rulemaking. I found that the roles of institutions changed and created opportunities for increased institutional capacity. The changing institutional roles were due in large part to the relationships of the professionals within them. In turn, the professions themselves took on new roles and activities as a part of their changing positions within a hierarchy of governmental organizations from the federal to the local levels. Social mandates are not simply a top-down fiat implemented under duress. A partnership among institutional actors across lines of profession and governmental level has been key in defining the specifics of social policy implementation. Finally, this is illustrated in the practices of measurement of social goal success. In general, the example social goals were well-met by the institutions and actors. I recommended some additional practices that added socially-based criteria to the geographically-based system of measurement initially set forth by federal agencies. Finally, I propose future research topics based on the findings of this dissertation.

This dissertation uses the example of civil rights legislation applied to transit systems as its example. Actors who implemented civil rights legislation in the context of transit systems exemplified the complex relationship of government agencies and the professionals who work in them. I focused on the idea of social equity expressed through legislation. Implementation of social equity through law must consider the procedure of social goal legislation in context. Contrary to the simplified view of legal implementation, this is a complex process. Congress cannot simply settle an issue by passing a law. The social equity legislation process extends from the passage of laws, through the creation of administrative regulations, to the implementation of the idea of social equity in specific terms.

Implementation of social-goal legislation requires people, often with personal or professional agendas that are not congruent with the legislation that they are being asked to apply. The example I considered may seem mundane. Transit systems are much like any other public utility at first glance. People use water and sewer lines; they either have these services or they do not. In the case of transit, however, the quality of service can vary widely and this can have profound effects on the riders. A poor transit system can help to keep people in subordinate positions; if the bus is slow, the rider may not be able to have a job and take care of a child or attend school after work. When this is applied to members of minority groups or the poor, this disparity is particularly pernicious. My example of social legislation was the mandate for transit agencies carry out civil rights legislation—Title VI of the Civil Rights Act of 1964—and environmental justice—the 1994 Executive Order 12,898. The actors needed to fully implement these regulations extend throughout all levels of government, from federal legislators through state administrators to local staff members.

I wanted to refute the perception, held by many people of all political beliefs, that federal mandates are simply federal fiats handed down to local governments without input and with no consideration of the reality on the ground. I believe that I have demonstrated that channels of communication and influence move both ways, from top to bottom, but also from bottom to top—and from the middle both ways. This is facilitated by a complex set of relationships among professionals and state managers. We have seen that roles at all levels are continually negotiated and renegotiated through formal and informal contacts. Old professions such as engineering took on new tasks and new professions, primarily planning and computer modeling, were integrated into the process.

While I was prepared to see changes to professions and additions of new professions in the process of social goal implementation, I was surprised by just how creative some of the old professions were. Engineers were instrumental in creation of innovative planning law that require a comprehensive, cooperative, and continuing (“3-C”) planning process.

How successful was the process in achieving social equity? I found that the transit system in Las Vegas did a good job of achieving social equity using the geographically-based method recommended by the federal agencies. At the same time, however, more could be done to achieve a more relevant measurement. Current area-based measures could be improved by considering the transit system as a whole. I found that minority transit routes are not simply those that cross minority areas; all routes serve primarily members of minority groups and the poor. I examined the relationship between service quality and the numbers of minority group members and low income persons to demonstrate possible additional measures of service related to the target group.

The historical institutionalist theoretical viewpoint informed this dissertation. This body of theory is firmly grounded in examination of real institutions and the vicissitudes they encounter as they carry out their roles. Briefly, Theda Skocpol’s idea of the “semi-autonomous state” (Finegold and Skocpol 1995), drawn from Louis Althusser’s ([1965] 1969) idea of institutional “relative autonomy” provides a good fit for the institutions studied. Institutions work within laws, both legislative and administrative, to achieve tasks. These laws are influenced by parties within and without. Agency professionals and local elected officials were influential in setting up the relevant institution, the transportation MPO. They influenced the federal legislation that created MPOs as local governments’ foil to counter state influence. There was cooperation between localities

and federal agencies initially in this competition between localities and the state transportation agencies. MPOs were tasked with social equity goals upon their creation. There was an element of self-interest in this. MPOs needed to demonstrate that they were complying with formal federal administrative law to keep federal money flowing into their coffers. At the same time, local implementation of these goals was achieved through informal means. These informal means were often outside and supplementary to the formal channels. A good example of this in the case of the RTC MPO was its direct meetings with officials of the Federal Transit Administration (FTA) at regional and national levels. RTC MPO staff influenced federal civil rights reporting requirements through these person-to-person contacts and continuing relationships. These relationships created a first-hand understanding of issues from local to national levels. Understanding of the institutional needs and capabilities created a context of trust and confidence. With a direct relationship came a federal agency confidence in the institutional capacity of the MPO.

MPOs' institutional capacity increased over time as more federal planning requirements were added to their mission. This increased institutional capacity was accomplished largely through competition and cooperation between federal agencies and local actors. There were two main aspects of this increase in institutional capacity: professional rivalry and intergovernmental competition.

The conflict between different professions was found within institutions and different levels of government. This was exemplified by the MPOs. Engineers were the main influences in transportation planning from 1916 to the late 1950s. The MPO as an institution was advocated by engineers to rationalize the federal highway funding

process. The expansion of tasks to include transit helped to open the way for planners. The role of planners increased to meet the expansion of tasks during the 1970s and 1980s. Further expansion of tasks over the 1980s and 1990s to include computer modeling of future transportation demand and air quality created a third profession: travel modeler. The rivalry between engineers and planners is largely low-key today. Both professions have learned to cooperate in MPO tasks; both depend on the output of the travel demand modelers in their work. Both of Nevada's two largest MPOs, RTC of Washoe County in Reno and RTC of Southern Nevada in Las Vegas, have planners as their top officers. This is a change from the 1980s, when both were run by engineers. As an earnest of the lowered level of rivalry between engineers this change is significant; one of the planners was recommended by the engineers that preceded him in the top MPO position.

Intergovernmental competition helped to increase institutional capacity of MPOs during the period of the 1970s through the 1990s. MPOs were constituted in the 1970s to vest power in local governments as opposed to states. The state departments of transportation would no longer have the final say on highway projects. Local powers had to be supported by managerial and technical expertise represented largely by the three professions—engineers, planners, and travel demand modelers—that had begun as intra-agency rivals. The increased institutional capacity allowed the MPOs to successfully compete for influence at the federal level with state departments of transportation (DOTs). MPOs and DOTs worked together on projects to meet federal requirements, a cooperation that highlighted the technical abilities of each. In cases where local technical ability and knowledge outshone the state DOTs, they came to cooperate for mutual advantage in challenging federal policies. As MPOs and DOTs recognized each other's

competence, they moved beyond rivalry to cooperation. Each recognized that a united front would be more effective in dealing with federal agencies. The RTC MPO holds monthly meetings with state and federal agencies. Nevada Department of Transportation (NDOT) personnel are an integral part of this relationship; in fact, the RTC-NDOT relationship has become so close that the NDOT Southern Nevada Region 1 Planning Department has its offices in the RTC building.

Legislation and administrative law were the building blocks that created the institutions in which the relationships of staff members evolved. Legislation was not the only influence, however. Legal challenges through the court system effected changes in the transit planning processes of the MPO. In a cogent example, the LA Bus Riders' Union cases (1994-2005) reemphasized the interests of the urban poor and influenced the project lists of MPO transit plans throughout the country. Suburban rail projects were displaced by transit projects that could be demonstrated to primarily serve the interests of low income persons. Local legal actions, more limited in scope, were concerned with specific routes and types of service. All had their effects; locally-focused legal challenges influenced local plans, but the cumulative effect was national.

Society changed. Transit adapted. The expanding institutional capacity and professional ability demonstrated by MPO staff would have been meaningless unless they resulted in success in carrying out the social equity mandate embodied in Title VI/EJ regulations. Determination of success requires measurement. As with any service that was aimed at providing a general service equally to all members of society, civil rights issues were of great interest. Title VI/EJ regulations were mainly based on race. Initially this was centered on residents of color, confined by prejudice to certain specific areas.

Throughout the latter half of the Twentieth Century two processes occurred. First, more people made their way out of the ghettos and took up more widely spread residences throughout communities. Second, the definition of “minority group” membership changed dramatically. A greater proportion of people identified themselves as belonging to a wider variety of racial and ethnic groups. Both movement of persons out of limited-area minority communities and the increased number and variety of self-identified racial and ethnic groups combined in the 2000 census to make the definition of “minority area” under federal regulations cover the majority of census tracts in the Las Vegas Valley. This expansion of the area entitled to Title VI/EJ protections in transit service renders moot the federally-mandated comparisons of transit service quality in minority areas with the service quality in non-minority areas. Geographically-based standards based on proportional measures of what constitutes a minority area have largely been superseded by changes in society. New standards are needed to measure the successes or failures of transit service equality. Areas and percentages of population deemed to be minority group members based on specific geographical units are no longer the sole factors useful in determining equality of transit service.

The initial federal measures were very specific. Today, MPOs have the power to show more creativity in demonstration of conformity to Title VI/EJ requirements. In the case of the RTC, as with most MPOs, the method of measurement is geographically-based. The geographically-based method assumes that a particular minimum percentage of minority population in an area defines that area (usually a census tract) as a “minority” area. This legislative/administrative directive is based on a mental image of a separate society in a specific place. It is useful to define discrimination against isolated groups but

has less utility in measuring transit success. Transit routes serve minority group members by connecting them with the entire community. There is limited utility in measuring the service for a limited geographic area. All transit routes in the Las Vegas Valley serve predominately minority members. Compared with a geographical threshold of 30% minority to identify an area as “minority”, transit routes had an average of 60% minority riders. The RTC showed a high degree of service equality when using these geographic measures.

In the survey comparing these two measures, I found that the actual number of riders of each group is much more closely associated with route service quality than percentages. I calculated coefficients of determination for two service quality measures by route: (1) on-time performance and (2) frequency of service. There was little relationship between on-time performance and the number of minority riders on each route. This is a positive measurement outcome: all riders experienced the same degree of on-time performance regardless of race or income. The frequency of service showed a positive relationship between minority or low-income status and how often the buses run. The positive $0.7 R^2$ measure of the relationship also demonstrates that the RTC met the equality standards of Title VI/EJ. The larger the number of minority group members and low income riders on a route, the more frequent the bus service will be. Obviously, by these measures the equality standards have been surpassed. I believe that a combination of the geographic and socially-based measures of service equality would provide a better measure of transit service equality for Title VI/EJ implementation.

FUTURE RESEARCH

Based on the findings of this dissertation, I recommend three areas for future research. First, a further examination of the utility of socially-based service criteria for measures of equality of service seems warranted. Second, more detailed study of the nature of inter- and intra-institutional professional interaction could provide insights into current views of which professions retain relevance for transit equality today and which may predominate in the future. Third, consideration of the changing nature of intergovernmental collaboration might be of interest in assessing the place of personal relationships in institutional capacity in a time of computer-mediated interaction. I will briefly review each of these.

Socially-based transit service criteria should be integral to any future assessment of transit Title VI/EJ implementation success. The initial results of this dissertation seem to indicate that these criteria could be of great utility in measurement of transit service equity. Research should expand the scope of this preliminary work to include other measures and other transit systems. Statistically valid detailed examination of other transit service quality criteria should be carried out that will pick the best criteria for the job. Such research should be spread over multiple transit systems to determine which criteria have the most universal utility in measurement. This would also allow systems to determine the best criteria for the dollar. Some criteria can be determined with a slight expansion of the current requirements to measure transit use by route and stop; some will require a more expansive on board transit survey such as the 2006-7 RTC survey that forms the basis for chapter 6 of this dissertation. The high cost of the on board survey may restrict its use to less frequent or less comprehensive surveys with fewer interviews.

Future research should determine whether more frequent or more detailed data provide the best criteria for measurement of success in social equity. In summary, future research on transit service criteria should use statistical techniques over a larger number of transit routes to identify a greater range of valid socially-based criteria. This in turn can lead to a practical review of which criteria are most useful for each transit operator. The operator can then choose criteria matched to an appropriate data source, either basic routinely gathered ridership information or more elaborate on board surveys.

Research on the roles of professions within transportation planning in MPOs should be brought up to date to include at least one new profession: public relations. Between 2006 and 2012, interaction with citizens, elected officials, and other government agencies became the purview of the public relations specialists. This initially was done to relieve the planners of a major part of their public contact tasks. Planners spent a significant part of their time in contact with the public from the inception of the profession in the early Twentieth Century to the early Twenty-First Century. After 2001, new ways of interacting with citizens were emphasized. The relatively haphazard citizens' committees and meetings with those interested in specific plans and projects were superseded in the Bush era by "stakeholder groups," which emphasized land owners and business owners rather than ordinary citizens. These stakeholder groups had more limited agendas. Public relations personnel were brought on to manage them and focus their attention where the management of MPOs felt it to be most useful. Engineers, planners, and travel demand modelers found themselves providing information for the public relations personnel beyond that needed for transportation plans. Often this was simplified to make it "more interesting" to the stakeholders. A full consideration of the

new dynamics of MPOs based on the inclusion of this new profession would shed light on integration of professions and the changing roles of each within and beyond the MPOs themselves.

Roles of institutions and professions in the transit planning world are changing due to the more frequent use of web-based communication in intergovernmental relations. Studies should compare the nature and degree of interaction within the transit planning groups responsible for Title VI/EJ documentation. Study of the number and nature of meetings and collaborations between agencies at the same level of government and the relationships among local MPOs, state, and federal agencies is also of interest.

CONCLUSIONS

The social goals related to transit service were carried out through social means. Society created institutions to regulate transit service through legislation. Laws generally assumed a structuralist view of society: an institution was created to carry out certain programs; in the case of transit these programs often had a social goal. Social goals included assisting riders to get and keep jobs and to interact with the rest of society outside their home areas. Although a rigid structuralism obscures the nuances of the institutions created through legislation, institutions had certain specific tasks to carry out. The nature of the institutions and the relationships of professionals within them evolved over time. Institutional capacity grew through technical improvements, such as more general use of computer modeling, and managerial innovation. Managerial innovation was fostered by the changes of relationships among agency staff. The MPO as an institution overcame inter-profession rivalry and was strengthened by cooperation among

engineers, planners, and travel demand modelers. This inter-professional cooperation fostered increased institutional capacity among MPOs that resulted in their admission to the full cooperation of local, state, and federal agencies. Sociology, political science, and public administration can all learn from this research.

In the end, however, the main lessons of this research are sociological. Society's goals are carried out through institutions created and modified by that society. The complex and evolving interactions of persons working together in the context of their society create the social outcome.

APPENDIX A: IRB EXEMPTION



**Social/Behavioral IRB – Exempt Review
Deemed Exempt**

DATE: June 2, 2011

TO: Dr. Robert Futrell, Sociology

FROM: Office of Research Integrity – Human Subjects

RE: Notification of review by /Cindy Lee-Tataseo/
Ms. Cindy Lee-Tataseo, BS, CIP, CIM

Protocol Title: **Cooperation, Competition and the Development of Institutional Capacity: Civil Rights and Public Transportation in Southern Nevada/Research Data: 2006 Onboard Transit Survey of the Citizens Area Transit**

Protocol # 1104-3808M

This memorandum is notification that the project referenced above has been reviewed as indicated in Federal regulatory statutes 45CFR46 and deemed exempt under 45 CFR 46.101(b)4.

PLEASE NOTE: Upon Approval, the research team is responsible for conducting the research as stated in the exempt application reviewed by the ORI – HS and/or the IRB which shall include using the most recently submitted Informed Consent/Assent Forms (Information Sheet) and recruitment materials. The official versions of these forms are indicated by footer which contains the date exempted.

Any changes to the application may cause this project to require a different level of IRB review. Should any changes need to be made, please submit a **Modification Form**. When the above-referenced project has been completed, please submit a **Continuing Review/Progress Completion report** to notify ORI – HS of its closure.

If you have questions or require any assistance, please contact the Office of Research Integrity - Human Subjects at IRB@unlv.edu or call 895-2794.

APPENDIX B: SUPPORTING MATERIAL

Table 19. Establishment of Federal Agencies Related to Transportation

1916 Bureau of Public Roads
1966 Department of Transportation
1966 Federal Highway Administration
1966 Federal Railroad Administration
1968 Urban Mass Transportation Administration
1991 Federal Transit Administration
1991 Bureau of Transportation Statistics

From: Weiner, Edward. 1999: 3

Table 20. Milestones in Early Transportation Planning, 1916-1962

Action	Highway	Transit
1916 Bureau of Public Roads established		Transit companies privately-owned; planning part of daily management
Federal Highway Act 1921	States designate continuous system of interstate/intercounty roads (Max 7% of total road mileage) to be eligible for federal funding	
Federal-aid Highway Act of 1934	Set aside 1.5% of federal appropriation to state for surveys, engineering and other highway planning activities	
1930-35 Presidents' Conference Committee		Heads of private transit systems devised a standard, improved transit vehicle
Federal-aid Highway Act of 1944	Increase in federal funds to aid states in road building; anticipated post-war conditions. Interstate Highway system set out; unfunded.	
Establishment of public transit authorities to replace private companies due to dropping ridership		1947: Chicago, Boston; 1955 New York City; 1956 San Francisco Bay area (funded 1962)
Housing Act of 1954	Section 701 federal planning funding assistance; state, local, regional; implied that transportation could be included as a part of land use plans	
Federal-aid Highway Act of 1956	Funded Interstate Highway System through gas taxes & highway trust fund	
Housing Act of 1961		First federal legislation to deal with transit; loans for government purchase of commuter routes; modified Section 701 planning assistance to include transportation plans
Federal-aid Highway Act of 1962		Introduced multimodal transportation system including transit as ideal; Established "Three C" transportation planning process requirement (Continuing, Comprehensive, Cooperative)

From: Weiner, Edward. 1999; Solof, Mark. 1998.

Table 21. Federal Transportation Legislation

Highway Federal Reauthorization Laws

Bureau of Public Roads (BPR) 1916; Federal Highway Act of 1921;
Federal-Aid Highway Act 1934, 1944, 1956, 1962, 1968, 1970, 1973,
1976, 1978, 1981, 1987

Intermodal Federal Reauthorization Laws

Intermodal Surface Transportation Efficiency Act (ISTEA) 1991
Transportation Equity Act for the Twenty-First Century (TEA-21) 1998
Safe, Accountable, Flexible, Efficient Transportation Equity Act: A
Legacy for Users (SAFETEA-LU) 2005

Source: U.S. Department of Transportation: 2005.

Table 22. MPO Staff Size by Area Population

MPO Size	Mean Number of Full-Time Staff	Mean Number of Part-Time Staff	Median Number of Full-Time Staff	Median Number of Part-Time Staff
Small (Population of Less Than 200,000)	3.19	1.43	2.00	1.00
Medium (Population of 200,000 – 999,999)	8.19	1.50	7.00	1.00
Large (Population of 1 Million and Above)	49.27	3.90	31.00	1.00
All MPOs	10.96	1.77	4.00	1.00

Source: U.S. Government Accountability Office 2009: 12.

Table 23. MPO Responsibilities

Land Use (at least some) - 70%

11%: Land Use responsibility required by state; USUALLY a planning responsibility in cooperation with local land use agencies

Project Selection – 100%

Project Implementation – 37%

Transit Operations – 16%

Environmental Planning – Air Quality - 21%

Additional Environmental or Water Quality Planning - 32%

Source: U.S. Government Accountability Office 2009.

Table 24. Formative Conferences, 1957-1965

Year	Meeting	Participants	Issues
1957	The Hartford Conference	Sponsor: Connecticut General Life Insurance Company	Main question: Should urban interstate highway construction stop until cities developed comprehensive land use plans? Seen by highway advocates as being captured by “‘anti-highway’ people”; federal and state highway officials absent; few local officials
1958	“Sagamore” National Conference on Highways and Urban Development	Automotive Safety Foundation; American Municipal Association-American Association of State Highway Officials Committee (AMA-AASHO); National Association of County Officials (NACO)	Set as a reaction by highway-oriented engineers and elected officials to the Hartford Conference; established the AMA-AASHO-NACO Action Program; seen as influencing the 1962 Federal-Aid Highway Act
1962	Hershey, PA Freeways in the Urban Setting	American Association of State Highway Officials, American Municipal Association, National Association of County Officials, Automotive Safety Foundation, Federal Bureau of Public Roads	Transportation planning conflict resolution between highway officials (largely state) and federal housing officials and land use planners; tried to emphasize urban values and planning as central to transportation planning.
1965	Williamsburg, VA Highways and Urban Development	AASHTO, National League of Cities, National Association of Counties	Identified need for a continuing transportation planning process; transportation projects to be consistent with local land plans

Source: Meyer 2000; Weiner 1999; Transportation Research Board 1992, 1993a, 1993b, 1997, 1998, 2000b

Table 25. Administration and Legislation Conferences, 1971 – 1982

Year	Meeting	Participants	Issues
1971	Pocono Mountain, PA Organization for Continuing Urban Transportation Planning	First conference sponsored by TRB	Sought middle ground between land use planners and engineers. Focus was multimodal planning: moving people via the most efficient modes for each trip. Emphasized state enabling legislation and local participation. Continuous citizen participation should be only as an input to local elected officials' decision making
1972	Williamsburg Conference on Urban Travel Forecasting	Highway Research Board, USDOT	Need to change forecasting methods to meet new policy issues and options. Increase capabilities to use actual travel behavior methods; simplify reporting for citizens and elected officials; establish dissemination of methods program to increase institutional capacity of agencies.
1982	Airlie House, VA Urban Transportation Planning in the 1980s		Transportation planning process needlessly complex; need for more flexibility in transportation planning; decision making to the local level; technical aspects of planning need to be updated to meet the needs of more complex planning.

Source: Meyer 2000; Weiner 1999; Transportation Research Board 1992, 1993a, 1993b, 1997, 1998, 2000b

Table 26. Regulatory and Administrative Conferences, 1988 to 1995

Year	Meeting	Participants	Issues
1988	Washington, DC A LooAhead:Year 2020	Conducted by: TRB; Sponsored by: FHWA, USDOT, AASHTO, National Association of Regional Councils, Transportation Alternatives Group	Institutional responsibilities; urban form; economic productivity elements of transportation; impact of demography
1989	Boston, MA Statewide Transportation Planning	TRB	Specifics of policies toward federal requirements for statewide planning.
1990	Transportation, Urban Form, and the Environment. Beckman Center, Irvine, CA	FHWA, TRB	Heavily weighted toward physical urban form and transportation; little interest in social aspects; providing information to decision- makers/elected officials
1992	Charlotte, NC Moving Urban America	Conducted by: TRB; Sponsored by USDOT FHWA, FTA	Role of MPOs: movement from technical with major project bias to selection of small projects with regional impacts; simplifying information for elected officials; cooperation between local and state elected officials on project selection
1992	Irvine, CA ISTE A and Intermodal Planning	Conducted by: TRB; Sponsored by USDOT FAA, FHWA, FRA, FTA, Maritime Administration	Promulgated requirements of ISTEA; Intermodal connections (e.g. between bus and rail); stakeholder participation; performance orientation in planning; institutional barriers
1992	Seattle, WA Transportation Planning, Programming, and Finance	Transportation Research Board, in conjunction with the Federal Highway Administration, the Federal Transit Administration, and the Washington State Department of Transportation	Practical Issues of financing and programming multimodal systems with emphasis on needed changes in institutions
1994	Chicago, IL National Conference on Transportation, Social Equity, and Environmental Justice, November 17-18	FTA, Surface Transportation Policy Project	USDOT meeting with community activists to identify issues of interest to their communities
1995	Atlanta Inter-departmental Public Meeting	USDOT, other federal agencies	A group of federal agencies invited public comments on EJ issues related to federal programs. Used a national TV satellite downlink.

Source: Meyer 2000; Weiner 1999; Transportation Research Board 1992, 1993a, 1993b, 1997, 1998, 2000b

Table 27. Regulatory and Administrative Conferences, 1996 to 2000

Year	Meeting	Participants	Issues
1996	Coeur d'Alene, ID Statewide Transportation Planning	Transportation Research Board (TRB) Committee on Statewide Multimodal Transportation Planning, "In conjunction with" AASHTO Midyear meeting of the Standing Committee on Planning	Interpret regulations of ISTEA for state DOT planners and receive their feedback
1998	Irvine, CA Statewide Travel Forecasting	TRB Committee on Statewide Multimodal Planning	Technical issues of travel demand modeling for statewide grantees
1999	Washington, DC Refocusing Transportation Planning	TRB, FHWA, FTA	Environmental Justice and the conflicts between human and environmental rights; linking planning to decision making
2000	Irvine, CA Performance Measures to Improve Transportation Systems and Agency Operations	TRB, National Transit Institute, AASHTO, FHWA	Issues of measurement; selection of criteria and measures; use by decisionmakers

Source: Meyer 2000; Weiner 1999; Transportation Research Board 1992, 1993, 1996, 1998, 2000.

Table 28. Legislation: Relevant Authorization Acts

Year	Act	Issues
1962	Federal-Aid Highway Act of 1962	Reaction to the Interstate Highway construction and planning process. First requirement by Congress of planning: (1) A requirement for receiving federal funds; (2) must be “continuing, comprehensive, and cooperative” (3-C Planning).
1970	Urban Mass Transportation Assistance Act of 1970	Requirements for public hearings including social and environmental impacts, environmental analysis of proposed projects required.
1970	Federal-Aid Highway Act of 1970: Pub.L. 91-605, title I, December 31, 1970, 84 Stat. 1713	State and local governments in selection of national federal-aid urban highway system; local jurisdictions gained influence; highways funds could be used for busways for the first time.
1973	Federal-Aid Highway Act of 1973: Pub.L. 93-87, title I, August 13, 1973, 87 Stat. 250	Established MPOs; Flexibility from Mt. Pocono conference; (1) federal urban system highway funds could be used for mass transit; (2) states could return funds for Interstate Highways and spend an equivalent amount of federal money on mass transit; funded transportation planning separately.
1974	National Mass Transportation Act of 1974	Federal funding for transit operating assistance (to be used for projects or operating assistance at local discretion); formalized a single highway-transit planning process; Section 15 transit data requirements.
1982	STAA -- Surface Transportation Assistance Act of 1982	Mainly known for Section 405, protecting whistleblower on truck safety.
1987	STURAA -- Surface Transportation and Uniform Relocation Assistance Act of 1987	Initially vetoed by President Reagan for “Pork”, it is considered the last authorization bill of the Interstate era. Requires development of long-range funding plans for transit.
1991	ISTEA 1991 Intermodal Surface Transportation Efficiency Act of 1991	Balance of power swung toward MPOs: Devolved coordination of route continuity to local level MPOs; larger MPOs gained more authority over project selection and funding, state DOTs have authority over intercity route funding; local governments paid more attention to them; mandate multimodal, including environmental and social issues.
1998	TEA-21 1998 Transportation Equity Act for the 21st Century	MPOs’ control over specific federal funding sources reaffirmed.
2005	SAFETEA-LU Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) 2005	Essentially reaffirms MPO role: Required to consult with local planning agencies; specifies public meeting requirements.

Table 29. Legislation and Federal Department of Justice Title VI Implementation Actions

Year	Action	Effect
1964	Civil Rights Act of 1964, Section 601 of Title VI; 42 USC § 2000d.	Bars racial discrimination in federally-funded projects, overt or unintentional
1966	Department of Justice (DOJ) Order No. 365-66, 31 Federal Register (FR) 10265	Inserts language of 1964 Act into the Federal Register; notice of agency activities necessary for compliance
1969	The National Environmental Policy Act of 1969 (NEPA)	Federally-funded projects must demonstrate no disproportionate effect (good or bad) by race in construction or operation (includes transit by implication); consider adequately in Environmental Assessment (EA), Environmental Impact Statement (EIS)
1970	Federal-aid Highway Act of 1970: <u>23 United States Code 109(h)</u>	Required compliance with Title VI; established requirement for states to name Title VI coordinator, annually certify Title VI compliance, develop a complaint procedure
1973	DOJ Order No. 519-73, 38 FR 17955	Additional material specifying information and record keeping required for federal department assessment of compliance with the Civil Rights Act of 1964
1987	Civil Rights Restoration Act of 1987	Reaction to Supreme Court Grove City vs. Bell case, which apparently limited compliance with nondiscrimination requirements only to programs that received federal funding. Clarified the intent of Congress to include <u>all</u> programs and activities of Federal- aid recipients, subrecipients and contractors.
2006	DOJ Order No. 2679-2003, 68 FR 51364	<u>Requires</u> affirmative action if discrimination is found to have occurred; <u>allows</u> affirmative action even if no such finding has been made.

Table 30. Title VI and EJ Regulations for Transit 1964-1987

Year	Action	Effect	Main emphasis				
			Discrimination	Agency relationships	Planning	Standards	Public Participation
1964	Civil Rights Act of 1964 40 CFR 21	Bars racial discrimination in federally-funded projects, overt or unintentional	X				
1969	The National Environmental Policy Act of 1969 (NEPA)	Federally-funded projects must demonstrate no disproportionate effect (good or bad) by race in construction or operation (includes transit by implication); consider adequately in Environmental Assessment (EA), Environmental Impact Statement (EIS)	X	X	X		
1970	DOT regulation, 49 CFR part 21, "Nondiscrimination in Federally-Assisted Programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964"	Guidance on meeting requirements of Title VI.		X			
1976	Department of Justice regulation, 28 CFR part 42, Subpart F, "Coordination of Enforcement of Nondiscrimination in Federally-Assisted Programs"	Sets out full range of requirements for transit agencies to meet DOJ directive implementing Civil Rights Act of 1964, includes service criteria and public participation rules.	X	X		X	X
1987	<u>Civil Rights Restoration Act of 1987</u>	Reaction to Supreme Court Grove City vs. Bell case. Clarified the intent of Congress to include <u>all</u> programs and activities of Federal-aid recipients, subrecipients and contractors.	X	X	X		
1987	Joint FTA/Federal Highway Administration (FHWA) regulation, 23 CFR part 771	Implementation of NEPA for transit projects; sets out requirements of FTA/FHWA	X	X	X		

Table 31. Title VI and EJ Regulations for Transit 1988-1998

Year	Action	Effect	Main emphasis				
			Discrimination	Agency relationships	Planning	Standards	Public Participation
1988	FTA Circular 4702.1 "Title VI Program Guidelines for Federal Transit Administration Recipients," dated May 26, 1988.	Guidance and instructions to carry out USDOT Title VI regulations; included updates based on Civil Rights Restoration Act of 1987,	X	X	X		
1992	USDOT FHWA Notice N 4720.6, Impacts of the Civil Rights Restoration Act of 1987 on FHWA Programs September 2, 1992	Delegated to regional FHWA offices requirement to inform local entities of changes to Title VI applicability and requires local entities to change nondiscrimination language to meet requirements		X			
1993	Joint FTA/FHWA regulation, 23 CFR part 450 and 49 CFR part 613, "Planning Assistance and Standards," (October 28, 1993, unless otherwise noted).	Updates transportation planning regulations to meet previous legislation and Title VI issues			X	X	
1994	EJ Executive Order 12898 Feb 11, 1994	Added income to Civil Rights criteria to be considered in equal distribution of transit services.	X			X	
1995	DOT Order to Address Environmental Justice, June 21, 1995	Sets out the USDOT agencywide strategies to comply with EJ requirements in planning and programming; directs administrations and departmental offices to develop policies. Specific concerns: health and transportation system development; transportation and environment; community relations including interests and communications.	X	X	X	X	X
1995	DOT FHWA Final EJ Strategy for Environmental Assessments/Environmental Impact Studies (EA/EIS) June 29, 1995	Sets out the USDOT FHWA standards to comply with EJ requirements in highway environmental documents		X	X	X	
1997	USDOT Order 5610.2 April 15, 1997	Describes policy to incorporate EJ issues into plans and programs of USDOT at the federal level.			X		
1998	USDOT FHWA Order 6640.23, December 2, 1998	Policies to (1) integrate EJ principles with existing programs, (2) prevent and (3) address disproportionately high and adverse effects	X		X		

Table 32. Title VI and EJ Regulations for Transit 1999-2006

Year	Action	Effect	Main emphasis				
			Discrimination	Agency relationships	Planning	Standards	Public Participation
1999	USDOT FTA/FHWA Memorandum Implementing Title VI Requirements in Metropolitan and Statewide Planning October 7, 1999	Sets requirements and criteria for Title VI compliance evaluations of state and local agency plans by federal FHWA Division Administrators and FTA Regional Administrators. Tightens local agencies self-certification by requiring answers to specific questions on planning strategies, measurement of service equity, and public involvement. Sets corrective actions to be required by federal reviewers.		X		X	
2000	DOT FTA/FHWA Memorandum January 7, 2000	Reviews all FTA/FHWA activities in support of Environmental Justice at the federal level		X			
2000	Executive Order 13166 of August 11, 2000 : Limited English Proficiency	Recipients of federal funding must provide materials and information accessible to those of limited English proficiency (LEP)	X				X
2001	DOT FTA/FHWA Interim Guidance December, 2001	Interim guidance on LEP requirements for recipients	X		X	X	X
2005	DOT Policy Guidance Concerning Recipients' Responsibilities to Limited English Proficient Persons, 70 FR.74087 (December 14, 2005).	Specified requirements for agencies service policies regarding Limited English Proficiency (LEP) persons.	X		X	X	X
2006	Section 12 of FTA's Master Agreement, FTA MA 13 (October 1, 2006).	Section 12, Civil Rights, sets out all the federal laws and administrative directives that must be adhered to by recipients of federal transportation funding.		X	X		

Table 33. Title VI and EJ Regulations for Transit 2006-2007

Year	Action	Effect	Main emphasis				
			Discrimination	Agency relationships	Planning	Standards	Public Participation
2007	Federal Register Notice on Circular 4702.1A (72 FR 18732) April 13, 2007	Notice of upcoming Circular issuance					
2007	Title VI Circular 4702.1A, May 13, 2007, "Title VI and Title VI-Dependent Guidelines for Federal Transit Administration Recipients"	Guidance and instructions to carry out USDOT Title VI regulations and integrate USDOT Order 5610.2 on Environmental Justice and Policy Guidance Concerning Limited English Proficient ("LEP") Persons (70 FR 74087, December 14, 2005).	X	X			X

Sources: Federal Register 1995; U.S. Department of Transportation 1997, 1998.

Table 34. Foundational Court Actions that Set the Context for Transit Regulation

Year	Case Name	Result Relevant for Transit Regulation
1977	Village of Arlington Heights v. Metropolitan Housing Development Corporation	Developed a 4-point list of factors for evaluation of whether a decision showed intentional discrimination: (1) Historical background revealing invidious practices, (2) Sequence of events, (3) Departure from normal policies and practices, (4) Legislative and administrative history, including statements of officials
1983	Guardians Association v Civil Service Commission. 463 U. S. 582, 103 S. Ct. 3221, 77 L. Ed.2d 866 (1983)	Establishes authority of the authorized federal regulators to set the standard for as “disparate impact.” Title VI language is ambiguous; DOT regulations, by their implications, establish disparate impact standard.
1984	Grove City College v. Bell, 465 U.S. 555 (1984)	Limited compliance with nondiscrimination requirements only to programs that received federal funding; other programs did not need to comply with Title IX of the Civil Rights Act of 1964.
1985	Alexander v Choate 469 U. S. 287, 293 (1985)	(1) Title VI Sec. 602 proscribes only “intentional” discrimination. (2) Title VI legislation delegates to the federal agencies the determination of what constitutes disparate impacts; the “complex determination” of what current policies and practices of federal grantees should be changed to mitigate the adverse impacts.
2001	Alexander v. Sandoval, 532 U.S. 275, 121 S. Ct. 1511, 149 L. Ed. 2d 517 (2001).	Upholds enforcement of disparate impact regulations and policies. There is no private right to sue to enforce these. Transportation planners and agencies may be required to meet the standards in regulation, but individuals may not be held individually liable.

Source: NCHRP, 2003; TCRP 1997, 2008, 2011.

Table 35. Court Actions that Specifically Affect Transit Regulation

Year	Case Name	Result Relevant for Transit Regulation
1994	Labor/Community Strategy Center and Bus Riders Union Lawsuit against MTA	Initial issues were raising single ride bus fares and unlimited use monthly bus pass.
1994	Temporary Restraining Order against the MTA issued by Federal Judge Terry Hatter of the United States District Court for the Central District of California September 1, 1994	Inserted the court directly into the process of setting standards for transit. Prohibited Los Angeles Metropolitan Transit Authority (MTA) from raising bus fares and eliminating the unlimited use bus pass.
1996	Consent Decree United States District Court for the Central District of California approved October 29, 1996.	Inserted the court directly into the process of setting standards for transit. Established a test for balance between expenditure on bus and rail transit systems; rail transit systems that disproportionately serve white suburban commuters must balance with minority inner city bus riders. Joint Working Group (JWG) established to devise a 5-year transit plan.
2001	Labor /Community Strategy Center v. Los Angeles County Metropolitan Transportation Authority	JWG unable to reach agreement on 5-year transit plan.
2004	United States District Court for the Central District of California, Labor Community Center et al v Los Angeles County Metropolitan Transit Authority, et al, Memorandum Decision II and Final Order on Remedial Service Plan to meet 1.25 and 1.20 Load Factor Target Requirements, January 12, 2004.	Inserted the court directly into the process of setting standards for transit. Directed the MTA to buy 145 buses to meet service standards for crowding in minority areas of central Los Angeles.
2005	U. S. District Court, Central District of California, Proceeding Before Special Master Donald T. Bliss Final Memorandum and Order, In Re MTA's New Service Implementation Plan, November 30, 2005.	Recognized JWG failure and directed MTA to develop a new plan in compliance with Memorandum Decision II. Accepted use of Bus Rapid Transit (BRT) in central areas to improve transit. Concerned with BRT service standards in MTA plans.
2011	Darensburg v Metropolitan Transportation Commission Case No. 09-15878 (C.A. 9, Feb. 16, 2011)	Rail vs. bus complaint disproportionate funding favoring rail (Riders 66.3 white; 51.6% minority) over bus. Initial ruling favored MTA. Court on appeal found statistical measures inadequate to establish discrimination.

Source: Transportation Cooperative Research Program (TCRP) 1997, 2008

Table 36. Summary of Federal Transit Administration Title VI Complaints—2000 to August 2007

Year Filed	Case Name	Allegations	Status	Action Taken
2000-0315	<i>Piras and Williams v. MTC</i>	Discrimination in funding against buses in favor of heavy and commuter railroads	Closed	No violation
2001-0062	<i>West Harlem Environmental Action v. MTA and MTA NYCT</i>	Siting of diesel bus depots and open-air parking lots in minority communities	Closed	No violation
2001-0084	<i>Metropolitan Atlanta Transportation Equity Coalition v. MARTA</i>	Fare increase, poorly maintained rail stations in minority communities, delivery of services to the disabled, committing funding for construction of new rail stations in primarily white suburban communities	Closed	Undisclosed mediation resolution agreement
2003-0110	<i>Bazan v. Harris County MTA</i>	Reduction in bus service in favor of funds for a tram/trolley system	Closed	No violation
2001-0177	<i>Washington Street Corridor Coalition v. MBTA</i>	Failure to replace elevated Orange Line; level of service provided consistently better in white communities	Closed	No violation
2003-0241	<i>Winkleman v. Bi-State</i>	Route alignment of new Cross-County Metro Link Extension Project alleged to be discriminatory	Closed	No violation
2004-0194	<i>Payne v. CTA</i>	Decision not to fund Gray Line transit route proposal alleged to discriminate against South Side minority riders	Closed	No violation
2006-0238	<i>Leese v. SMART</i>	Reduction in level of service; shift in state funding	Closed	No violation

Source: Transportation Cooperative Research Program (TCRP) 2008:10.

Table 36 Notes

2000-315 Patricia Piras and Matt Williams were AC Board members who represented East Bay areas largely unserved by BART rail and were attempting to redirect rail funding for their own bus service (Hayward Daily Review June 24, 2004, Oakland Tribune April 21, 2002).

2001-0062 West Harlem Environmental Action is an environmental group formed by three Harlem democratic party activists. Its 2001 Title VI complaint was to remove a planned diesel bus depot from Harlem. It has joined with four other environmental advocacy groups in the New York State Transportation Equity Alliance (NYSTEA), which advocates in favor of transit, both rail and bus, against what it perceives to be the car bias of the City of New York and MTA (Shepard 2009).

2001-0084 The Metropolitan Atlanta Transportation Equity Coalition was an outgrowth of research at the Environmental Justice Resource Center at Clark Atlanta University. It was founded by sociology professor Clark Bullard and included academics, community activists, religious leaders, and members of the Amalgamated Transit Union Local 732 (Environmental Justice Resource Center 2000).

2001-0177 Founded in 1986 by four Episcopal Churches, the Washington Street Corridor Coalition was the product of community members concerned about gentrification of their neighborhoods during the mid-1980s. The group represented local businessmen and neighborhood associations. Its main issue was that of rail versus bus. The Orange Line rail transit elevated structure had been removed with the promise that it would be replaced by equal service. When the MBTA proposed building the bus rapid transit underground Silver Line as a replacement, the Coalition opposed it (Northeastern University 2011, Office of Civil Rights 2006).

2003-0110 Bazan v. Harris County Metropolitan Transit Authority. Tom Bazan has opposed rail development in Houston and ran in 2004 as an independent for Houston's 18th Congressional District on a populist ticket. He ran as a conservative Hispanic activist, decrying the actions of the black incumbent in a majority-Hispanic district. His campaign literature favored bus improvement over rail (Knight 2009). This rail project was opposed by Representative Tom DeLay, who removed federal funding for it specifically from the reauthorization bill and the Texas Public Policy Institute, supported by conservative activist millionaire James R. Leininger (Light Rail Progress 2001, Knight 2009).

2003-0241 Winkleman v BiState. David G. Winkleman is a fundamentalist Christian social activist and founder of the David G. Winkleman Foundation who describes his mission as "creating and networking tools and services to help the needy across southern il" [sic] (Winkleman 2011). The complaint focuses on the fact that the alignment goes through the Washington University area while ignoring the largely minority area to the South of Forest Park.

2004-0194. Payne v. CTA. Mike Payne was a citizen member of the The Gray Line Coalition, a non-profit advocacy group founded after a conference at the University of Chicago in 2004 to specifically to promote the development of the Gray Line transit route serving South Chicago (Payne 2004).

2006-0238 Leese v. SMART. Harold Leese is an advocate of rail transit in Southeast Michigan, employed by a railroad. He advocates preserving the use of state taxes for transit and alleges discrimination in that the Michigan Department of Transportation gas tax funding is used exclusively for roads. (Leese, Harold. 2006)

APPENDIX C: FEDERAL TRANSIT DIRECTIVES

FTA Circular 4702.1A Title VI Program Checklists for Transit Agencies

FTA Circular 4702.1A is the definitive guidance document for transit agencies seeking to meet Federal Transit Administration (FTA) Title VI program requirements. As such, it provides information in several formats. The following two tables are compliance checklists; the first one applies to all agencies that have Title VI programs. It deals mainly with public participation. The second applies to agencies that fit various categories, including states, areas with populations up to 200,000, and areas with populations of 200,000 or over. In this case, since the RTC is an MPO for an urbanized area with a population over 200,000, it is the only specialized checklist reproduced. The specialized checklist covers the elements of transit service quality standards that must be met in a Title VI program. Environmental Justice issues are included, although they do not appear in the title. The checklist includes specific references to the location of the requirement in the circular.

Table 37. Title VI Program Checklist for All Grantees

All recipients should submit the following information to the Federal Transit Administration (FTA) as part of their Title VI Program. Subrecipients shall submit the information below to their direct recipient.

Provision	Circular Reference	Citation in DOT Title VI Regulations or reference to the DOT Order on Environmental Justice	Reporting Requirement
Title VI Complaint Procedures	Chapter IV, part 2	49 CFR 21.9(b)	A copy of their procedures for filing a Title VI complaint
Record of Title VI investigations, complaints, or lawsuits	Chapter IV part 3	48 CFR 21.9(b)	A list of any Title VI investigations, complaints, or lawsuits filed with the agency since the time of the last submittal
Access to Services by Persons with LEP	Chapter IV, part 4	49 CFR 21.5(b) and the DOT LEP Guidelines	Either a copy of the agency's plan for providing access to meaningful activities and programs for persons with limited English proficiency which was based on the DOT LEP guidance or a copy of the agency's alternative framework for providing access to activities and programs.
Notifying beneficiaries of their rights under Title VI	Chapter IV part 5	49 CFR 21.9(d)	A notice that it complies with Title VI and procedures the public may follow to file a discrimination complaint.
Inclusive public participation	Chapter IV part 9	DOT Order 5610	A summary of public outreach and involvement activities undertaken since the last submission and a description of steps taken to ensure that minority persons had meaningful access to these activities.

Table 38. Title VI Program Checklist for Recipients Serving Urbanized Areas with Populations of 200,000 People or Greater

All recipients providing service to geographic areas with 200,000 people or greater should submit the following information to the Federal Transit Administration (FTA) as part of their Title VI Program.

Provision	Circular Reference	Citation	Information to be included in the Title VI report
Demographic Data Collection	Chapter V, Part 1	49 CFR 21.9(b);	Either demographic maps and charts prepared since the most recent decennial census, results of customer surveys that include demographic information, or demographic information on beneficiaries through locally developed procedure.
Service Standards	Chapter V, Part 2	49 CFR 21.5(b)(2); 49 CFR 21.5(b)(7); Appendix C to 49 CFR 21	System-wide service standards (such as standards for vehicle load, vehicle headway, distribution of transit amenities, on-time performance, transit availability, and transit security).
Service Policies	Chapter V, Part 3	49 CFR 21.5(b)(2); 49 CFR 21.5(b)(7); Appendix C to 49 CFR 21	System-wide policies (such as policies for vehicle assignment or transit security).
Equity Evaluation of Service and Fare Changes	Chapter V, Part 4	49 CFR 21.5(b)(2); 49CFR 21.5(b)(7); Appendix C to 49 CFR 21;	An analysis of the impacts on minority and low-income populations of any significant service and fare changes that occurred since the previous report was submitted.
Monitoring	Chapter V, Part 5	49 CFR 21.5(b)(2); 49CFR 21.5(b)(7); Appendix C to 49 CFR 21	The results of either level of service monitoring, quality of service monitoring, analysis of customer surveys, or locally developed monitoring procedure.

**Comparison of Title VI Requirements and Guidance for FTA Recipients and
Subrecipients per Circular 4702.1 and Circular 4702.1A
(Federal Transit Administration Document)**

The following table is a freestanding document from the FTA website that compares the changes to Title VI/EJ requirements between Circular 4702.1 (circa 1988) and the superseding Circular 4702.1A (2007). It includes general references to the location of the specific language of each circular. It is reproduced here in its original form.

Table 39. Comparison of Title VI Requirement and Guidance for FTA Recipients and Subrecipients per Circular 4702.1 and Circular 4702.1A

This document lists the guidelines of the old Title VI Circular 4702.1 in the order that they appeared in this circular and references the respective guideline in FTA's updated Title VI Circular 4702.1A

General Reporting Requirements	Circular 4702.1	Circular 4702.1A
List of Title VI complaints and lawsuits	Grantees were required to provide a list of any active Title VI lawsuits or complaints against the grantee.(Chapter III Part 2a).	This requirement remains and, in addition to describing any complaints and lawsuits, the grantee is required to provide a list of any Title VI investigations conducted by entities other than the FTA. (Chapter IV, part 3).
List of applications for financial assistance	Grantees were required to submit a description of all pending applications for financial assistance and all financial assistance provided by other Federal agencies. (Chapter III part 2b).	No comparable provision (FTA does not need to rely on grantees to describe their applications for financial assistance, we have access to this information in TEAM). However, first-time applicants for FTA funding who have received financial assistance from other Federal agencies need to describe any Title VI compliance reviews to which they have been subject (Chapter III part 2).
Summary of Compliance Reviews	Grantees were required to provide a list of all civil rights compliance review activities conducted in the last three year (Chapter III part 2c).	No comparable provision in the new circular, however first-time applicants for FTA funding who have received prior Federal funding from an entity other than FTA should report this information (Chapter III part 2).
Certifications of compliance	Grantees were required to submit a signed UMTA civil rights assurance and a standard DOT Title VI assurance. (Chapter III parts 2d and 2e).	Grantees must submit the annual certs and assurances, which includes a Title VI assurance (Chapter IV part 1).
Fixed Facility Impact Analysis	Grantees were required to provide a fixed facility impact analysis of construction project's effects on minority communities, or can reference relevant NEPA document that contains the required information.(Chapter III part 2f).	Guidance is offered on how grantees should incorporate EJ principles into NEPA documentation (including documentation needed to support a categorical exclusion) (Chapter IV part 8).
Other information	FTA may request information other than that required by the circular in order to resolve questions concerning compliance with Title VI. (Chapter II part 3).	This provision remains in the updated circular (Chapter IV part 6).

Program Specific Requirements for large agencies

Demographic maps, overlays, and charts	Recipients were required to prepare demographic and service profile maps, overlays, and charts. (Chapter III part 3a(1))	Recipients are required to collect and analyze racial and ethnic data showing the extent to which members of minority groups are beneficiaries of programs receiving Federal financial assistance. Recipients can meet this requirement through maps and overlays or analysis of customer surveys that identify minority and low-income riders (Chapter V part 1).
Service Standards and Policies	Grantees were requested to develop system-wide service policies and standards and recommended standards for vehicle load, vehicle assignment, vehicle headway, distribution of transit amenities and transit access.(Chapter III Part 3(a)(2)).	Grantees are required to set system-wide service standards and system-wide policies. In addition to the indicators in the old circular, grantees are encouraged to adopt standards for on-time performance and transit security (Chapter V parts 2 and 3).
Assessment of Compliance by Grantees	Grantees were required to develop procedures and guidelines for monitoring compliance with Title VI. Grantees must evaluate system-wide service changes to determine if benefits and costs of changes are distributed equally.(Chapter III part 3a(3)).	Grantees are required to monitor service provided for compliance with Title VI (Chapter V part 5) and to conduct an equity analysis of fare changes and major service changes. More detailed procedures on these analyses are offered and EJ language is included in the procedures (Chapter V part 4).
Changes in Service Features	Grantees were required to provide a discription of service changees proposed over the next three years and a statement of the effect of the changes on minority communities and transit users.(Chapter III Part 3a(4)(a))	Grantees are required to conduct an equity analysis of service and fare changes at the planning and programming stages (ie, after an agency knows that it may have to change service and fares but before the change is implemented). Equity analysis should include EJ concepts (Chapter V part 4).
Information Dissemination	Grantees to which this chapter applied were required to provide a description of the methods used to inform minority communities of service changes.(Chapter III Part 3a(4)(b)).	The circular offers guidance to all recipients and subrecipients on how to incorporate EJ principles into all of the public involvement activities and recommends specific tactics to promote inclusive public involvement (Chapter IV part 9).
Minority representation ondecisionmaking bodies	Grantees were required to provide a racial breakdown of non-elected boards and to describe the efforts made to	No comparable provision, per grantees objections that they have no authority to appoint or recommend board members.

Multilingual facilities	<p>encourage minorities to participate on such boards, councils or committees. (Chapter III Part 3a(4)(c)).</p> <p>Grantees to which this chapter applied were required to describe the extent to which bilingual persons/and or materials are or will be used to assist non-English speaking persons.(Chapter III Part 3a(4)(d)).</p>	<p>All recipients and subrecipients are required to take responsible steps to ensure meaningful access to programs, services, and activities for LEP persons. The circular recommends that recipients and subrecipients develop a language implementation plan, per the DOT LEP Guidance (Chapter IV part 4).</p>
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Requirements for MPOs

Assessment of planning efforts	<p>MPOs over 200,000 were required to describe planning efforts that are responsive to Title VI.(Chapter III Part 3b(1)).</p>	<p>All MPOs need to have an analytical basis in place for certifying compliance with Title VI. Examples of basis can include demographic analysis, inclusive public involvement, and analysis of benefits and burdens of transportation plans on minority and low-income populations (Chapter VII part 1). FTA recipients that pass through funds to subrecipients should monitor subrecipients. These recipients are also encouraged to provide technical assistance to subrecipients.(Chapter VI part 3, Chapter VI part 4).</p>
Monitor Title VI activities	<p>MPOs were required to monitor the Title VI activities and/or programs of the local transit system to help agencies identify minority communities that will be affected by proposed service changes and provide technical assistance to local transportation providers.(Chapter III part 3b(2)).</p>	<p>This provision is included in the broader guidance to all recipients and subrecipients on how to incorporate EJ principles into all of the public involvement activities and refers to specific tactics to promote inclusive public involvement. The DOT planning regulations also include requirements to seek out the views of minority and low-income persons (Chapter IV part 9).</p>
Information Dissemination	<p>MPOs were required to provide a description of the methods used to inform minority communities of planning efforts. (Chapter III part b(3)).</p>	<p>This is included in the broader guidance to all recipients and subrecipients on how to incorporate EJ principles into all of the public involvement activities and refers to specific tactics to promote inclusive public involvement. The DOT planning regulations also include requirements to seek out the views of minority and low-income persons.</p>
Minority participation in the decisionmaking process	<p>MPOs required to describe how minority groups are persons are afforded the opportunity to participate in local decision making processes. (Chapter III part b(4)).</p>	<p>This is included in the broader guidance to all recipients and subrecipients on how to incorporate EJ principles into all of the public involvement activities and refers to specific tactics to promote inclusive public involvement. The DOT planning regulations also include requirements to seek out the views of minority and low-income persons.</p>

Minority representation on decisionmaking bodies	MPOs were required to provide a racial breakdown for nonelected boards, advisory councils, or committees and a description of the efforts made to encourage participation of minorities on these committees.(Chapter III part b(5)).	No comparable provision in the new circular.
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Requirements for State DOTs

Grant Administration	States were required to describe their criteria for selecting 5310 and 5311 subrecipients and to provide a list of applicants requesting assistance, whether the applicant was a minority organization or organization providing assistance to minority communities, and whether the application was approved.(Chapter III part 3c(1) and part 3d(1)).	Recipients should document that they pass through Federal Transit Administration (FTA) funds under the Transportation for Elderly Individuals and Individuals with Disabilities, Rural and Small Urban Area Formula Funding, JARC, and New Freedom grant programs without regard to race, color, or national origin. The documentation process should include references to low-income populations as well as minority populations (Chapter VI part 2).
Subrecipient monitoring	States were required to ensure that subrecipients are in compliance with the requirements contained in the circular and to conduct Title VI assessments of subrecipients..(Chapter III part 3c(2) and part 3d(2)).	State DOTs or other State administering agencies should monitor their subrecipients for compliance with Title VI. FTA also recommends that states provide technical assistance to subrecipients to help them meet the general reporting requirements (Chapter VI part 3).

Service Related Research, Development, and Demonstration

Project evaluation	Grantees were requested to determine whether their research project will have a significant impact on minorities or will result in benefits that will be made available to minority persons and communities.	No comparable provision in the new circular.
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Monitoring Procedures for Transit Providers

Level of service and quality of service monitoring	All transit providers were required to conduct level of service and quality of service monitoring, per the procedures in the circular.. (Chapter IV part 2c(1) and 2c(2)).	Transit providers serving areas of over 200,000 are required to conduct monitoring, and can choose between level of service, quality of service, or analysis of customer surveys, or locally developed procedure.(Chapter V part 4).
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Public Information

Information to beneficiaries and participants	Grantees were required to display posters which state the recipient complies with Title VI and notifies persons how to obtain more information and how to file a complaint. (Chapter VIII part 2b).	This requirement remains and grantees are advised to disseminate this information using methods that are not limited to posting on their website. (Chapter IV part 5).
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APPENDIX D: FEDERAL TRANSIT ADMINISTRATION PROGRAM AND REPORTING REQUIREMENTS

Federal Transportation Administration Circular 4702.1A Title VI Program and Reporting Requirements May 13, 2007

This appendix reproduces portions of FTA Circular 4702.1A relevant to Title VI/EJ requirements for the RTC, as the example MPO and transit provider. Since these are separate agencies in most urban areas, the chapters are separate. This includes Chapter V, “Program-Specific Requirements and Guidelines for Recipients Serving Large Urban Areas; Chapter VII, “Program-Specific Guidance for Metropolitan Transportation Planning Organizations”; and Chapter VIII, “Compliance Reviews.” In some cases options are offered to meet the reporting standards in different ways. Chapter V includes three options for collecting demographic data, two options for evaluation of service and fare changes, and three options on monitoring transit service. Section 2, “Requirement to set systemwide service standards” and Section 3, “Requirement to set systemwide service policies” offer alternatives only when the standards or policies listed are not applicable to the type of transit service being assessed. Sections 2 and 3 include detailed explanations of their service standards and policies. Chapter VIII, “Compliance reviews” gives a detailed review of the procedures by which the FTA regional office carries out its Title VI/EJ compliance reviews of local transit providers and agencies. In general, this is done without a site visit exceptions that result in an onsite review include agencies with outstanding suits or Title VI complaints, or a record of problems.

CHAPTER V **PROGRAM-SPECIFIC REQUIREMENTS AND GUIDELINES FOR** **RECIPIENTS SERVING LARGE URBANIZED AREAS**

This chapter provides program-specific guidance for recipients that provide service to geographic areas with a population of 200,000 people or greater under 49 U.S.C. 5307. These recipients should also follow the general requirements in Chapter IV Of this circular.

1. **REQUIREMENT TO COLLECT DEMOGRAPHIC DATA.** In order to comply with 49 CFR Section 21.9(b), recipients to which this chapter applies shall collect and analyze racial and ethnic data showing the extent to which members of minority groups are beneficiaries of programs receiving Federal financial assistance. FTA recommends that recipients fulfill this requirement by implementing one or more of the following three options:
 - a. **Option A: Demographic and Service Profile Maps and Charts.** Recipients may prepare demographic and service profile maps and charts. These maps and charts will help the recipient determine whether transit service is available to minority and low-income populations within the recipient’s service area. Maps and charts should be prepared after

each decennial census and prior to proposed service reductions or eliminations (per the instructions of Section 4 of this Chapter). These maps may be prepared using Geographic Information System (GIS) technology, although recipients without access to GIS may prepare the maps in alternative formats. The Federal Transit Administration (FTA) recommends that recipients provide the following maps and charts:

- (1) A base map of the agency's service area that includes each Census tract or traffic analysis zone, major streets and highways, fixed transit facilities (including the alignment of fixed guideways and transit stations, depots, maintenance and garage facilities, and administrative buildings) and major activity centers or transit trip generators (major activity centers and transit trip generators can include, but are not necessarily limited to, the central business district, outlying high employment areas, schools, and hospitals). This map should also highlight those transit facilities that were recently modernized or are scheduled for modernization in the next five years.
 - (2) A demographic map that plots the above information and also shades those Census tracts or traffic analysis zones where the percentage of the total minority and low-income population residing in these areas exceeds the average minority and low-income population for the service area as a whole. Transit agencies may elect to produce maps that highlight separately those areas with a predominantly minority population, a predominantly low-income population and a population that is both predominantly minority and low income, if such specialized maps would assist the agency in determining compliance with Title VI. Transit agencies may also elect to produce additional maps showing the presence of individual minority populations if this information would assist the agency in determining compliance with Title VI.
 - (3) A chart for each Census tract or traffic analysis zone that shows the actual numbers and percentages for each minority group within the zone or tract and the total population for each zone. This chart should also show the total number and percentage of low-income people within each zone or tract. Those tracts where the total minority population percentage and the total low-income population percentage exceed the system wide average for the agency's transit service area should be highlighted in the chart.
- b. Option B: Survey Information on Customer Demographics and Travel Patterns. Recipients may collect information on the race, color, national origin, income, and travel patterns of their riders. FTA recommends that recipients collect the following information (recipients may request additional information from their riders, as appropriate, or request different information that is more applicable to the type of service they provide):
- (1) Information on riders' race, color, and national origin.
 - (2) Whether the rider speaks or understands English "not well" or "not at all."
 - (3) Information on riders' income or income range.
 - (4) The mode of transit service that riders use most frequently (when applicable).
 - (5) The frequency of transit usage.
 - (6) The typical number of transfers made.
 - (7) The fare payment type and media most frequently used (when applicable).
 - (8) Riders' auto availability.
 - (9) Riders' opinion of the quality of service they receive (this could include questions such as satisfaction with the system, willingness to recommend transit to others, and value for fare paid).

- (10) In administering the above option, grantees should keep the following guidance in mind:
- (a) Timing. The information recommended in Section 1.b.(1) can be integrated into customer surveys routinely employed by transit agencies and can be collected at the time that such surveys are routinely performed.
 - (b) Language access. The recipient should take steps to translate customer surveys into languages other than English, or to provide interpretation services in the course of conducting customer surveys consistent with the DOT LEP guidance.
 - c. Option C: Locally Developed Alternative. Recipients may modify the above options or develop their own procedures to collect and analyze demographic data on their beneficiaries. Any locally developed alternative shall meet the expectations of 49 CFR Section 21.9(b).
2. REQUIREMENT TO SET SYSTEMWIDE SERVICE STANDARDS In order to comply with 49 CFR Section 21.5(b)(2) and (7), Appendix C to 49 CFR part 21, recipients to which this chapter applies shall adopt quantitative system-wide service standards necessary to guard against discriminatory service design or operations decisions.
- a. Effective Practices to Fulfill the Service Standard Requirement. FTA recommends that recipients develop quantitative standards for the following indicators. (Transit agencies may set standards for additional indicators as appropriate or set standards for different indicators that are more applicable to the type of service they provide, in lieu of the ones presented below.)
 - (1) Vehicle load. Vehicle load can be expressed as the ratio of passengers per vehicle or the ratio of passengers to the number of seats on a vehicle during a vehicle's maximum load point. Vehicle load is generally measured at peak and off-peak times and on different modes of transit. When recipients observe that the vehicle load on certain routes is consistently exceeding its service standard, they should consider adding additional vehicles or expanding the capacity of vehicles serving that route. Recipients may set different vehicle load standards for peak and for off-peak times and for different modes of transit service (such as bus, rail, bus rapid transit, and commuter rail).
 - (2) Vehicle headway. Vehicle headway is the time interval between two vehicles traveling in the same direction on the same route. The frequency of service is a general indication of the level of service provided along a route and a component of the amount of travel time expended by a passenger to reach his/her destination. It is generally expressed for peak and off-peak service as an increment of time (e.g., peak: every 15 minutes; and off peak: every 30 minutes). Recipients may set different vehicle headway standards for different modes of transit service (such as bus, rail, bus rapid transit, and commuter rail). A vehicle headway policy might establish a minimum frequency of service by area based on population density. For example, a 15 minute peak and 30 minute off-peak service might be the standard for routes serving the most densely populated portions of the service area. Thirty (30) minute peak hour service might be the standard in less densely populated areas. Headway policy is also typically related to vehicle load. For example, a policy might state that service frequency will be improved first on routes that exceed the load factor standard or on routes that have the highest load factors.
 - (3) On-time performance. On-time performance is a measure of runs completed as scheduled. This criterion first must define what is considered to be "on time." For example, it may be considered acceptable if a vehicle completes a scheduled run within five minutes of the established schedule. The percentage of times that vehicles on a

particular route or line complete runs within this standard is then measured. An acceptable level of performance must then be defined. For example, an agency might define on-time as 95 percent of all runs on a particular route or line completed within the allowed “on-time” window (e.g., five minutes).

- (4) Distribution of transit amenities. Transit amenities refer to items of comfort and convenience available to the general riding public. These items include, but are not limited to, benches, shelters, route maps, timetables, trash receptacles, and intelligent transportation systems (such as electronic fare payment and vehicle arrival information displays) along bus routes and at fixed guideway stations and elevators, escalators and “park-and-ride” facilities, at fixed guideway stations. Transit agencies may set different service standards for the different modes of service that they provide. Policies or standards in this area address how these amenities are distributed within a transit system, and the manner of their distribution determines whether transit users have equal access to these amenities. Standards for the installation of transit amenities along bus routes are often based on the number of passenger boardings that occur at stops along the routes. Transit agencies should not set standards for amenities such as bus shelters that are solely installed and maintained by a separate jurisdiction, such as a municipality. Transit agencies should set standards for amenities such as bus shelters that are installed and maintained under contract between the transit agency and a private entity. In these cases, the transit agency should communicate its service standard to the private entity.
- (5) Service availability. Service availability is a general measure of the distribution of routes within an agency’s service area. For example, a policy might be to distribute service so that 90 percent of all residents in the service area are within one-fourth of a mile of bus or rail service. A policy might also indicate the maximum distance between stops along bus routes. These measures of coverage and stop distances might also vary by population density. For example, in more densely populated areas, the standard for bus stop distance might be a shorter distance than it would be in suburban or rural areas. In less densely populated areas, the percentage of the total population within one-fourth of a mile to routes or lines might also be lower. Commuter rail service availability standards might include a threshold of residents within a certain driving distance as well as within walking distance of the stations. The standards or policies covering this area apply to existing services as well as proposed changes in levels of service (e.g., expansion, addition, or deletion of routes).
3. REQUIREMENT TO SET SYSTEM-WIDE SERVICE POLICIES. In order to comply with 49 CFR Section 21.5(b)(2) and 49 CFR Section 21.5(b)(7), Appendix C to 49 CFR part 21, recipients to which this chapter applies shall adopt system-wide service policies necessary to guard against service design and operational policies that have disparate impacts. System-wide policies differ from service standards in that they are not necessary based on a quantitative threshold.
 - a. Effective Practices to Fulfill the Service-Policy Requirement. FTA recommends that recipients develop policies for the following indicators. (Transit agencies may set policies for additional indicators as appropriate or set policies for different indicators that are more applicable to the type of service they provide, in lieu of the ones presented below.)
 - (1) Vehicle assignment. Vehicle assignment refers to the process by which transit vehicles are placed into service in depots and routes throughout the recipient’s system. Policies

for vehicle assignment can be based on the age of the vehicle; for example, a recipient may have a policy to assign vehicles to depots so that the age of the vehicles at each depot does not exceed the system wide average. The policy could also be based on the type of vehicle. For example, an agency could assign vehicles with more capacity to routes with higher ridership and/or during peak periods. The policy could also be based on the type of service offered. For example, certain types of vehicles could be assigned for express or commuter service. Agencies deploying vehicles equipped with technology designed to reduce emissions may choose to set a policy for how these vehicles will be deployed throughout the service area. For example, a policy could be to distribute vehicles so that the level of emissions per bus at each depot is comparable.

- (2) Transit security. Transit security refers to measures taken to protect a recipient's employees and the public against any intentional act or threat of violence or personal harm, either from a criminal or terrorist act. These actions include, but are not limited to, deploying surveillance technology and security personnel along routes and at stations, implementing security training programs for employees and security awareness programs for the public, and conducting inspections of facilities and passengers. Decisions to provide a greater level of security at some but not all of a recipient's fixed guideway stations in its area or along some but not all of a recipient's transit routes should be based on neutral criteria such as an assessment of security threats to facilities, data showing higher levels of criminal activity at certain facilities or in vehicles traveling along certain routes, or objective information that leads officials to believe that certain facilities or routes are more likely to be at risk. Policies associated with observing suspicious activity should ensure that suspicious activity is observed without regard to race, color, or national origin.
4. REQUIREMENT TO EVALUATE SERVICE AND FARE CHANGES. In order to comply with 49 CFR Section 21.5(b)(2), 49 CFR Section 21.5(b)(7) and Appendix C to 49 CFR part 21, recipients to which this chapter applies shall evaluate significant system-wide service and fare changes and proposed improvements at the planning and programming stages to determine whether those changes have a discriminatory impact. For service changes, this requirement applies to "major service changes" only. The recipient should have established guidelines or thresholds for what it considers a "major" change to be. Often, this is defined as a numerical standard, such as a change that affects 25 percent of service hours of a route. FTA recommends that recipients evaluate the impacts of their service and/or fare changes using one of the following two options:
 - a. Option A: Recipients are encouraged to evaluate the impacts of proposed service and fare changes according to the following procedure:
 - (6) Assess the effects of the proposed fare or service change on minority and low-income populations.
 - (a) Route changes. For proposed major service changes that would reduce or expand frequency of service or add or eliminate routes, the recipient should produce maps of the routes that would be eliminated, reduced, added, or expanded, overlaid on a demographic map of the service area, that highlights those Census tracts or traffic analysis zones where the total minority and low-income population is greater than the service area average.
 - (b) Span of service. For proposed changes that would reduce or expand hours and days of service, the recipient should analyze any available information generated from ridership

surveys that indicates whether minority and low-income riders are more likely to use the service during the hours and/or days that would be eliminated.

- (c) Fare changes. For proposed changes that would increase or decrease fares on certain transit modes or by fare payment type or payment media, the recipient should analyze any available information generated from ridership surveys indicating whether minority and low-income riders are more likely to use the mode of service, payment type, or payment media that would be subject to the fare increase.
 - (2) Assess the alternatives available for people affected by the fare increase or major service change.
 - (a) Service changes. For proposed service changes, the recipient should analyze what, if any, modes of transit or transit routes are available for people affected by the service expansions or reductions. This analysis should compare the travel time and cost of the current route with the travel time and cost to the rider of the alternatives.
 - (b) Fare changes. For proposed fare changes, the recipient should analyze what, if any, alternative transit modes, fare payment types, or fare payment media are available for people affected by the fare change. This analysis should compare the fares paid under the change with fares that would be paid through available alternatives.
 - (3) Describe the actions the agency proposes to minimize, mitigate, or offset any adverse effects of proposed fare and service changes on minority and low-income populations.
 - (4) Determine which, if any of the proposals under consideration would have a disproportionately high and adverse effect on minority and low-income riders. Recipients can implement a fare increase or major service reduction that would have disproportionately high and adverse effects provided that the recipient demonstrates that the action meets a substantial need that is in the public interest and that alternatives would have more severe adverse effects than the preferred alternative.
 - b. Option B: Locally Developed Evaluation Procedure. Recipients have the option of modifying the above option or developing their own procedures to evaluate significant system-wide service and fare changes and proposed improvements at the planning and programming stages to determine whether those changes have a discriminatory impact. This locally developed alternative shall include a description of the methodology used to determine the impact of the service and fare change, a determination as to whether the proposed change would have discriminatory impacts, and a description of what, if any, action was taken by the agency in response to the analysis conducted.
5. REQUIREMENT TO MONITOR TRANSIT SERVICE. In order to comply with 49 CFR Section 21.5(2), 49 CFR Section 21.5(b)(7) and Appendix C to 49 CFR part 21, recipients to which this chapter applies shall monitor the transit service provided throughout the recipient's service area. Periodic service monitoring activities shall be undertaken to compare the level and quality of service provided to predominantly minority areas with service provided in other areas to ensure that the end result of policies and decision making is equitable service. Monitoring shall be conducted at minimum once every three years. If a recipient's monitoring determines that prior decisions have resulted in disparate impacts, agencies shall take corrective action to remedy the disparities. FTA recommends that recipients fulfill this requirement by implementing at least one of the following four service monitoring procedures:
- a. Option A: Level of Service Methodology.

- (1) Recipients should select a sample of bus routes and (if applicable) fixed guideway routes that provide service to a demographic cross-section of the recipient's population. A portion of the routes in the sample should be those routes that provide service to predominantly minority and low-income areas. Recipients should bear in mind that the greater the sample size, the more reliable the results.
 - (2) Recipients should assess the performance of each route in the sample for each of the recipient's service standards and policies.
 - (3) Recipients should compare the transit service observed in the assessment to the established service policies and standards.
 - (4) In cases in which observed service does not meet the stated service policy or standard, recipients should determine why the discrepancy exists and take corrective action to correct the discrepancy.
- b. Option B: Quality of Service Methodology.
- (1) Recipients should identify an appropriate number of Census tracts or traffic analysis zones that represent a cross-section of the recipient's population. A portion of this sample should include Census tracts or traffic analysis zones where minority and/or low-income residents predominate. Recipients should keep in mind that the greater the sample size, the more reliable the results.
 - (2) Recipients should identify the most frequently traveled destinations for riders using the recipient's service.
 - (3) For each of the three most frequently traveled destinations, recipients should compare the average peak hour travel time to destination, average non-peak hour travel time to destination, number of transfers required to reach the destination, total cost of trip to the destination, and cost per mile of trip to the destination for people beginning the trip in the selected Census tracts or traffic analysis zones.
 - (4) If disparities exist in any of these factors along the trips to any of the destinations analyzed, recipients should determine whether the differences are significant. FTA recommends that recipients employ standard statistical tests for significance to make this determination.
 - (5) If significant disparities in one or more quality of service indicators have been confirmed, recipients should determine why the disparity exists and take corrective action to correct the disparity.
- Option C: Title VI Analysis of Customer Surveys.
- (5) For their most recent passenger survey, recipients should compare the responses from individuals who identified themselves as members of minority groups and/or in low-income brackets, and the responses of those who identified themselves as white and/or in middle and upper-income brackets.
 - (6) To the extent that survey data is available, recipients should determine whether the different demographic groups report significant differences in the travel time, number of transfers, and overall cost of the trip or if different demographic groups gave significantly different responses when asked to rate the quality of service, such as their satisfaction with the system, willingness to recommend transit to others, and value for fare paid.
 - (7) If the agency concludes that different demographic groups gave significantly different responses, it should take corrective action to address the disparities.
- Option D: Locally Developed Alternative. Recipients have the option of modifying the above options or developing their own procedures to monitor their transit service to

ensure compliance with Title VI. Any locally developed alternative should be designed to ensure that the agency's service meets the expectations of 49 CFR part 21 as illustrated by the example in Appendix C of the same, which provides that "no person or group of persons shall be discriminated against with regard to the routing, scheduling, or quality of service of transportation service furnished as a part of the project on the basis of race, color, or national origin. Frequency of service, age and quality of vehicles assigned to routes, quality of stations serving different routes, and location of routes may not be determined on the basis of race, color, or national origin."

6. **REQUIREMENT TO PREPARE AND SUBMIT A TITLE VI PROGRAM.** To ensure compliance with 49 CFR Section 21.9(b), FTA requires that recipients to which this chapter applies document their compliance with the program-specific requirements in Sections 1 and 2 of this chapter and submit to FTA's regional civil rights officer a Title VI program that also includes documentation of compliance with the general reporting requirements in Sections 1 through 7 of Chapter IV. This program shall be submitted once every three years on or prior to a date arranged by FTA.
 - a. **Contents.** Recipients to which this chapter applies shall include the following information in their compliance report:
 - (8) A copy of the agency's demographic analysis of its beneficiaries. This should include either any demographic maps and charts prepared or a copy of any customer surveys conducted since the last report that contain demographic information on ridership, or the agency's locally developed demographic analysis of its customer's travel patterns.
 - (9) Copies of system-wide service standards and system-wide service policies adopted by the agency since the last submission.
 - (10) A copy of the equity evaluation of any significant service changes and fare changes implemented since the last report submission.
 - (11) A copy of the results of either the level of service monitoring, quality of service monitoring, demographic analysis of customer surveys, or locally developed monitoring procedures conducted since the last submission.
 - b. **Eliminating Redundancy.** If, prior to the deadline for subsequent reporting periods, the recipient has not altered its existing demographic analysis, service standards, or service policies, the recipient should submit a statement to this effect in lieu of copies of the original documents.

CHAPTER VII

PROGRAM-SPECIFIC GUIDANCE FOR METROPOLITAN TRANSPORTATION PLANNING ORGANIZATIONS

This chapter describes the procedures that metropolitan planning organizations (MPOs) should follow in order to comply with the Department of Transportation's (DOT) Title VI regulations.

1. **GUIDANCE ON CONDUCTING METROPOLITAN TRANSPORTATION PLANNING.** In order to integrate, into metropolitan planning activities, considerations expressed in the DOT Order on Environmental Justice, MPOs should have an analytic

basis in place for certifying their compliance with Title VI. Examples of this analysis can include:

- a. A demographic profile of the metropolitan area that includes identification of the locations of socioeconomic groups, including low-income and minority populations as covered by the Executive Order on Environmental Justice and Title VI.
 - b. A metropolitan transportation planning process that identifies the needs of low-income and minority populations.
 - c. An analytical process that identifies the benefits and burdens of metropolitan transportation system investments for different socioeconomic groups, identifying imbalances and responding to the analyses produced.
2. **REPORTING REQUIREMENTS.** Those MPOs that are direct recipients of Federal Transit Administration (FTA) shall report to FTA consistent with the reporting procedures in Chapter II part 4. Other MPOs should report to their direct recipient, the State Departments of Transportation (State DOTs), consistent with reporting procedures established by the State DOT.

CHAPTER VIII **COMPLIANCE REVIEWS**

This chapter describes the review process that the Federal Transit Administration (FTA) will follow when determining if a recipient's or subrecipient is deficient or noncompliant after the award of Federal financial assistance and what information and actions are expected from recipients and subrecipients that are subject to these reviews.

1. **COMPLIANCE PROCEDURES.** After a grant has been awarded, FTA may conduct reviews as part of its ongoing monitoring responsibilities, pursuant to its authority under 49 CFR Section 21.11(a). These reviews exist separate and may be in addition to the Triennial Review, State Management Review, or Planning Certification Review and will be conducted either as a desk audit or at an on-site visit. They may cover all or a portion of the recipient's compliance with the requirements of this circular. Such reviews are conducted at the discretion of FTA, and their scope is defined on a case-by-case basis.
2. **CRITERIA.** The following list of factors will contribute to selection of recipients for compliance reviews:
 - a. Lawsuits, complaints, or investigations conducted by organizations other than FTA alleging that the recipient or subrecipient is deficient or non-compliant with Title VI;
 - b. Problems brought to the attention of FTA by other Federal, State, or local civil rights agencies;
 - c. Incomplete Title VI program submissions that were previously submitted to FTA by a recipient;
 - d. Title VI findings or recommendations on prior Triennial, State Management, or Planning Certification Reviews that have not been sufficiently resolved or implemented, or repeat findings in any FTA review concerning Title VI; or
 - e. The length of time since the last compliance review.
3. **SCOPE.** In general, compliance reviews will assess the following information:

- a. The recipient's or subrecipient's efforts to meet the requirements under the "general reporting" and program-specific sections of this circular.
- b. Other information that is necessary and appropriate to make a determination that the grantee is in compliance with Title VI.
4. **DETERMINATIONS.** After reviewing the recipient's or subrecipient's efforts to meet the general reporting and program-specific reporting sections of the circular, FTA will issue findings of no deficiency, deficiency or noncompliance.
 - a. **Findings of no deficiency** are determinations that no deficiency was found in review of the recipient or subrecipient's Title VI program or after the results of an investigation or compliance review. Agencies are not expected to take any corrective action in response to findings of no deficiency except with regard to advisory comments. Advisory comments are recommendations that the recipient or subrecipient undertake activities in a manner more consistent with the guidance provided in the pertaining section of the circular. Recipients and subrecipients are expected to notify FTA as to whether they will take action in response to the advisory comments.
 - b. **Findings of deficiency** are determinations that the recipient or subrecipient has not complied with one or more of the pertinent provisions of this circular. Recipients and subrecipients are expected to take corrective actions in response to findings of deficiency and the compliance review will provide specific instructions to the recipient on how the corrective action should be taken.
 - c. **Findings of noncompliance** are determinations that the recipient or subrecipient has engaged in activities that have had the purpose or effect of denying persons the benefits of, excluding them from participation in, or subjecting persons to discrimination on the basis of race, color, or national origin under the recipient's program or activity, FTA will consider the grantee to be non-compliant with the DOT Title VI regulations. If noncompliance cannot be corrected informally, the recipient or subrecipient may be subject to remedial action or proceedings under Chapter X of this circular and the DOT Title VI regulations at 49 CFR Sections 21.13, 21.15, and 21.17.
5. **RESULTS OF COMPLIANCE REVIEW ACTIVITIES.** FTA will summarize the results of the review in a draft report, which will include findings of no deficiency, findings of deficiency and advisory comments, as appropriate. The recipient or subrecipient will have the opportunity to review and respond to the draft report. After FTA has received and reviewed the agency's response, it will publish a final report that will be provided to the recipient or subrecipient and will also be subject to requests from the public under the Freedom of Information Act (FOIA). If findings of deficiency remain in the final report, the recipient or subrecipient will be required to take corrective action, develop a timeline for compliance, and report on its progress to FTA on a quarterly basis. Once FTA determines that the recipient or subrecipient has satisfactorily responded to the review's findings, it will inform the agency that the review process has ended and release it from further progress reporting in response to the review. Compliance reviews may be followed up with additional reviews as necessary.
6. **EFFECTING COMPLIANCE.** Consistent with the provisions in Chapter X of this circular, if the recipient or subrecipient fails to take appropriate corrective action in response to the findings of deficiency in the report, FTA may initiate Effecting Compliance proceedings that could result in action taken by Department of Transportation (DOT) to suspend, terminate, refuse to grant or continue Federal financial

assistance to a recipient or subrecipient or a referral to the Department of Justice (DOJ) with a recommendation that appropriate proceedings be brought to enforce any rights of the United States under any law of the United States or any assurance or other contractual undertaking.

Table 40. Title VI Compliance Review Flow Chart

FTA selects recipients for review and notifies selected recipients

FTA conducts an on-site review

FTA writes report and provides draft to recipient
(report generally provided 60 days after the site visit)

Recipient responds to the draft report (response is generally expected
within 30 days of receiving the report).

FTA finalizes the report and transmits it to the recipient

Recipient reports quarterly on progress in correcting deficiencies in
accordance with established timeline.

FTA responds to recipient's progress reports.

When FTA determines that all deficiencies have been adequately
corrected; it informs the recipient that it has closed the review.

APPENDIX E: RESEARCH DATA TABLES

Table 41. Clark County Population History – 1990 to 2006

Year	Population
1990	768,203
1995	1,040,688
2000	1,428,690
2001	1,498,279
2002	1,578,332
2003	1,641,529
2004	1,747,025
2005	1,815,700
2006	1,912,654

Source: Clark County Demographer, NV Department of Employment Security, February, 2007. From Regional Transportation Commission of Southern Nevada. 2007a: 3.

Table 42. Percentage of Minority Transit Riders and Low Income Riders by Route

Route	Minority Race Percentage	Low Income Percentage	Route	Minority Race Percentage	Low Income Percentage
101	62.7%	54.9%	204	59.7%	47.8%
102	61.1%	38.3%	206	66.9%	49.6%
103	68.2%	60.0%	207	66.4%	44.5%
104	59.6%	34.5%	208	74.1%	36.6%
105	62.4%	25.9%	209	66.7%	53.3%
106	52.1%	55.5%	210	56.4%	46.5%
107	48.3%	41.5%	211	64.0%	46.0%
108	52.0%	38.8%	212	68.8%	53.8%
109	58.2%	41.3%	213	64.8%	46.4%
110	66.3%	38.9%	214	82.5%	50.9%
111	64.9%	46.8%	215	86.0%	47.9%
112	60.8%	51.0%	217	46.5%	18.3%
113	60.4%	37.8%	218	56.6%	22.4%
114	52.4%	54.9%	219	49.4%	58.4%
115	64.0%	64.0%	402	37.1%	57.1%
117	47.2%	43.1%	403	59.7%	59.7%
201	69.3%	43.6%	406	53.1%	61.2%
202	52.1%	43.3%	501	62.4%	44.4%
203	61.3%	33.2%	Average	60.7%	45.7%

$R^2 = 0.065$

Table 43. Percentage of African-American Transit Riders and Low Income Riders by Route

Route	African American Percentage	Low Income Percentage	Route	African American Percentage	Low Income Percentage
101	23.1%	54.9%	204	17.0%	47.8%
102	21.2%	38.3%	206	22.9%	49.6%
103	31.4%	60.0%	207	24.8%	44.5%
104	19.3%	34.5%	208	33.3%	36.6%
105	27.5%	25.9%	209	19.2%	53.3%
106	19.3%	55.5%	210	18.9%	46.5%
107	20.1%	41.5%	211	10.0%	46.0%
108	19.7%	38.8%	212	10.0%	53.8%
109	24.2%	41.3%	213	17.2%	46.4%
110	19.5%	38.9%	214	68.4%	50.9%
111	19.7%	46.8%	215	30.7%	47.9%
112	18.6%	51.0%	217	19.7%	18.3%
113	23.6%	37.8%	218	26.3%	22.4%
114	18.3%	54.9%	219	9.0%	58.4%
115	23.8%	64.0%	402	8.6%	57.1%
117	19.4%	43.1%	403	19.4%	59.7%
201	31.2%	43.6%	406	18.4%	61.2%
202	17.4%	43.3%	501	26.5%	44.4%
203	17.0%	33.2%	Average	22.0%	45.7%

$R^2 = .088$

Table 44. Number of Minority Low Income Transit Riders by Route

Route	Minority Number	Low Income	Route	Minority Number	Low Income
101	106	95	203	141	78
102	118	74	204	221	177
103	167	129	206	243	180
104	34	19	207	91	61
105	118	49	208	160	79
106	62	66	209	80	64
107	156	134	210	212	147
108	79	59	211	32	23
109	241	171	212	55	43
110	252	148	213	215	154
111	211	152	214	47	29
112	62	52	215	98	69
113	174	109	217	33	13
114	43	45	218	43	17
115	183	183	219	44	52
117	34	31	402	26	40
201	280	176	403	37	37
202	215	179	406	26	30
202	22	57	501	191	136

R² .944

Table 45. Percentage Minority Riders by Route

Route	Minority Percentage	Route	Minority Percentage
101	62.7%	204	59.7%
102	61.1%	206	66.9%
103	68.2%	207	66.4%
104	59.6%	208	74.1%
105	62.4%	209	66.7%
106	52.1%	210	56.4%
107	48.3%	211	64.0%
108	52.0%	212	68.8%
109	58.2%	213	64.8%
110	66.3%	214	82.5%
111	64.9%	215	86.0%
112	60.8%	217	46.5%
113	60.4%	218	56.6%
114	52.4%	219	49.4%
115	64.0%	402	37.1%
117	47.2%	403	59.7%
201	69.3%	406	53.1%
202	52.1%	501	62.4%
203	61.3%	Average	60.7%

Table 46. Percentage Race by Route

Route	African American	Asian / Pacific Islander	American Indian	Hispanic	White	Other	No Response
101	23.1%	5.9%	0.0%	33.7%	33.1%	60.0%	3.6%
102	21.2%	3.1%	4.1%	32.0%	6.0%	2.6%	5.2%
103	31.4%	3.3%	2.4%	31.0%	31.8%	4.1%	10.6%
104	19.3%	8.8%	1.8%	29.8%	29.8%	0.0%	7.0%
105	27.5%	4.2%	0.0%	30.7%	25.4%	2.1%	8.5%
106	19.3%	3.4%	2.5%	26.9%	31.1%	1.7%	12.6%
107	20.1%	4.0%	2.2%	22.0%	35.6%	1.2%	13.6%
108	19.7%	6.6%	2.6%	23.0%	22.4%	1.3%	21.7%
109	24.2%	5.6%	1.4%	27.1%	27.5%	1.2%	12.1%
110	19.5%	5.3%	3.4%	38.2%	28.2%	1.3%	2.9%
111	19.7%	3.7%	1.8%	39.7%	25.2%	1.2%	7.7%
112	18.6%	4.9%	4.9%	32.4%	24.5%	2.9%	8.8%
113	23.6%	3.5%	3.1%	30.2%	23.6%	1.4%	13.5%
114	18.3%	1.2%	3.7%	29.3%	35.4%	8.5%	1.2%
115	23.8%	3.5%	3.8%	32.9%	29.0%	1.7%	4.2%
117	19.4%	4.2%	0.0%	23.6%	23.6%	4.2%	19.4%
201	31.2%	5.9%	4.7%	27.5%	27.0%	1.7%	14.1%
202	17.4%	5.3%	2.7%	25.6%	28.1%	1.5%	17.2%
203	17.0%	9.1%	10.4%	24.8%	17.4%	2.6%	18.7%
204	17.0%	5.4%	2.4%	34.9%	32.2%	1.6%	5.1%
206	22.9%	4.1%	4.7%	35.3%	22.9%	0.6%	8.3%
207	24.8%	2.9%	0.7%	38.0%	23.4%	2.2%	5.8%
208	33.3%	4.2%	4.2%	32.4%	15.7%	1.9%	6.5%
209	19.2%	5.0%	1.7%	40.8%	28.3%	2.5%	0.8%
210	18.9%	5.1%	2.4%	30.1%	22.9%	1.3%	2.7%
211	10.0%	0.0%	4.0%	50.0%	30.0%	2.0%	2.0%
212	10.0%	2.5%	3.8%	52.5%	31.3%	1.3%	16.3%
213	17.2%	3.9%	3.3%	40.4%	29.2%	1.2%	3.6%
214	68.4%	0.0%	0.0%	14.0%	8.8%	0.0%	8.8%
215	30.7%	5.3%	3.5%	46.5%	33.3%	0.0%	5.3%
217	19.7%	5.6%	1.4%	19.7%	43.7%	2.8%	4.2%
218	26.3%	2.6%	1.3%	26.3%	22.4%	5.3%	13.2%
219	9.0%	3.4%	1.1%	36.0%	38.2%	4.5%	6.7%
402	8.6%	2.9%	2.9%	22.9%	32.9%	0.0%	25.7%
403	19.4%	3.2%	0.0%	37.1%	29.0%	1.6%	8.1%
406	18.4%	2.0%	0.0%	32.7%	44.9%	0.0%	2.0%
501	26.5%	3.6%	2.6%	29.7%	26.5%	0.0%	9.8%
Mean	22.0%	4.1%	2.6%	31.9%	27.6%	3.5%	9.1%

Table 47. Lowest Category Income¹ Percentage by Route

Route	Percentage < \$25,000	Route	Percentage < \$25,000
101	54.9%	204	47.8%
102	38.3%	206	49.6%
103	60.0%	207	44.5%
104	34.5%	208	36.6%
105	25.9%	209	53.3%
106	55.5%	210	46.5%
107	41.5%	211	46.0%
108	38.8%	212	53.8%
109	41.3%	213	46.4%
110	38.9%	214	50.9%
111	46.8%	215	47.9%
112	51.0%	217	18.3%
113	38.7%	218	22.4%
114	54.9%	219	58.4%
115	64.0%	402	57.1%
117	43.1%	403	59.7%
201	43.6%	406	61.2%
202	43.3%	501	44.4%
203	33.2%	Mean	45.7%

¹ Annual Income \$25,000 or less

Table 48. Transit Dependency by Route

Route	Household Size	Wage Earners	Average Number of Autos Available	Earners/Auto Deficit Index
101	3.5	2.1	0.9	1.2
102	3.5	2.2	1.1	1.1
103	3.4	2.1	1.0	1.1
104	3.3	2.3	0.9	1.4
105	3.4	2.2	1.3	0.9
106	3.2	1.8	0.9	1.0
107	3.2	2.0	0.8	1.2
108	3.3	2.2	1.1	1.1
109	3.1	2.0	0.8	1.3
110	3.6	2.2	1.2	1.1
111	3.7	2.3	1.1	1.2
112	3.2	2.0	0.8	1.2
113	3.2	2.1	0.9	1.2
114	3.2	2.3	1.1	1.1
115	3.3	2.1	0.9	1.1
117	3.2	2.1	0.9	1.2
201	3.4	2.2	1.0	1.1
202	3.2	2.0	0.9	1.1
203	3.8	2.7	1.4	1.3
204	3.4	2.1	1.1	1.0
206	3.3	2.0	0.9	1.1
207	3.6	2.4	1.1	1.3
208	3.6	2.4	1.4	1.0
209	4.0	2.2	1.3	0.8
210	3.5	2.3	1.0	1.2
211	3.6	2.1	0.7	1.5
212	3.6	2.0	1.2	0.8
213	3.6	2.4	1.0	1.3
214	3.6	2.6	0.9	1.7
215	3.1	1.9	0.8	1.1
217	3.3	2.2	1.2	0.9
218	3.8	2.3	1.0	1.3
219	3.3	2.3	1.3	1.0
402	3.2	2.0	0.9	1.1
403	3.2	2.0	0.7	1.3
406	3.9	1.8	1.4	0.4
501	3.3	2.0	0.8	1.2
Mean	3.4	2.2	1.0	1.1

Table 49. Proportional Race and Service Quality Factors

Route	Race Percentage	Percentage OTP 5 minute standard	Percentage OTP 10 minute standard	Service Frequency	Number of buses
101	62.7%	90.8	98.1	0.5	2
102	61.1%	95.2	98.8	0.5	2
103	68.2%	93.2	97.8	0.33	3
104	59.6%	88	95.3	1	1
105	62.4%	79.4	91.5	0.5	2
106	52.1%	91.5	96.4	0.5	2
107	48.3%	90.3	96.8	0.33	3
108	52.0%	84.3	91.6	0.33	3
109	58.2%	86.9	96.1	16.7	6
110	66.3%	91.4	96.7	0.33	3
111	64.9%	89.4	95.9	0.5	2
112*	60.8%	95.3	99	0.5	2
113	60.4%	95.8	98.3	0.5	2
114	52.4%	92.1	97.8	1	1
115	64.0%	90.1	96.3	0.5	2
117	47.2%	92.4	97.2	0.58	2.2
201	69.3%	92.3	97.9	0.2	5
202	52.1%	90.6	97.1	0.2	5
203	61.3%	95.3	99	0.5	2
204	59.7%	91.3	97.3	0.25	4
206	66.9%	86.1	94.5	0.25	4
207	66.4%	85.3	95.1	1	1
208	74.1%	84.2	94.1	0.5	2
209	66.7%	83	95.6	0.75	1.5
210	56.4%	85.8	94.6	0.33	3
211	64.0%	88	96.9	1	1
212	68.8%	91.9	98.2	0.5	2
213	64.8%	90	97.5	1	1
214	82.5%	91	97	1	1
215	86.0%	84.8	93.6	0.5	2
217	46.5%	95.8	98.9	1	1
218	56.6%	90.7	96.8	0.58	2.2
219	49.4%	93.3	95.2	1	1
402	37.1%	85.4	93.5	1	1
403	59.7%	82.7	91.2	1	1
406	53.1%	76.4	90.4	1	1
501	62.4%	100	100	0.2	6

*Based on 203: replaced 112

Table 50. Proportional Low Income and Service Quality Factors

Route	Income Percentage	OTP 5 min	OTP 10 min	Number of buses
101	54.9%	90.8%	98.1%	2
102	38.3%	95.2%	98.8%	2
103	60.0%	93.2%	97.8%	3
104	34.5%	88.0%	95.3%	1
105	25.9%	79.4%	91.5%	2
106	55.5%	91.5%	96.4%	2
107	41.5%	90.3%	96.8%	3
108	38.8%	84.3%	91.6%	3
109	41.3%	86.9%	96.1%	6
110	38.9%	91.4%	96.7%	3
111	46.8%	89.4%	95.9%	2
112	51.0%	95.3%	99.0%	2
113	38.7%	95.8%	98.3%	2
114	54.9%	92.1%	97.8%	1
115	64.0%	90.1%	96.3%	2
117	43.1%	92.4%	97.2%	2.2
201	43.6%	92.3%	97.9%	5
202	43.3%	90.6%	97.1%	5
203	33.2%	95.3%	99.0%	2
204	47.8%	91.3%	97.3%	4
206	49.6%	86.1%	94.5%	4
207	44.5%	85.3%	95.1%	1
208	36.6%	84.2%	94.1%	2
209	53.3%	83.0%	95.6%	1.5
210	46.5%	85.8%	94.6%	3
211	46.0%	88.0%	96.9%	1
212	53.8%	91.9%	98.2%	2
213	46.4%	90.0%	97.5%	1
214	50.9%	91.0%	97.0%	1
215	47.9%	84.8%	93.6%	2
217	18.3%	95.8%	98.9%	1
218	22.4%	90.7%	96.8%	2.2
219	58.4%	93.3%	95.2%	1
402	57.1%	85.4%	93.5%	1
403	59.7%	82.7%	91.2%	1
406	61.2%	76.4%	90.4%	1
501	44.4%	100.0%	100.0%	6

Table 51. Number of Minority and Low Income Transit Riders and On Time Performance (OTP) and Service Frequency by Route 2006

Route	Minority	Low		OTP 5 min	OTP 10 min	# buses
		Income				
101	106	95		90.8%	98.1%	2
102	118	74		95.2%	98.8%	2
103	167	129		93.2%	97.8%	3
104	34	19		88.0%	95.3%	1
105	118	49		79.4%	91.5%	2
106	62	66		91.5%	96.4%	2
107	156	134		90.3%	96.8%	3
108	79	59		84.3%	91.6%	3
109	241	171		86.9%	96.1%	6
110	252	148		91.4%	96.7%	3
111	211	152		89.4%	95.9%	2
112	62	52		95.3%	99.0%	2
113	174	109		95.8%	98.3%	2
114	43	45		92.1%	97.8%	1
115	183	183		90.1%	96.3%	2
117	34	31		92.4%	97.2%	2.2
201	280	176		92.3%	97.9%	5
202	215	179		90.6%	97.1%	5
203	141	78		95.3%	99.0%	2
204	221	177		91.3%	97.3%	4
206	243	180		86.1%	94.5%	4
207	91	61		85.3%	95.1%	1
208	160	79		84.2%	94.1%	2
209	80	64		83.0%	95.6%	1.5
210	212	147		85.8%	94.6%	3
211	32	23		88.0%	96.9%	1
212	55	43		91.9%	98.2%	2
213	215	154		90.0%	97.5%	1
214	47	29		91.0%	97.0%	1
215	98	69		84.8%	93.6%	2
217	33	13		95.8%	98.9%	1
218	43	17		90.7%	96.8%	2.2
219	44	52		93.3%	95.2%	1
402	26	40		85.4%	93.5%	1
403	37	37		82.7%	91.2%	1
406	26	30		76.4%	90.4%	1
501	191	136		100.0%	100.0%	6

Table 52. Title VI/EJ Riders and Service Frequency by Route 1994

Route	Number of Minority Riders	Number of Low Income Riders	Bus Frequency (Number of buses)
105	118	49	1
106	62	66	1
109	241	171	2
110	252	148	1
113	174	109	2
114	43	45	1
206	243	180	2
207	91	61	1
208	160	79	1
209	80	64	1
210	212	147	1
211	32	23	1
R ² with frequency	.567	.653	

Table 53. Title VI/EJ Riders and Service Frequency by Route 2004

Route	Number of Minority Riders	Number of Low Income Riders	Bus Frequency (Number of buses)
101	106	95	2
102	118	74	1.25
103	167	129	2
104	34	19	1.25
105	118	49	2
106	62	66	2
107	156	134	2.2
108	79	59	2
109	241	171	4
110	252	148	2
111	211	152	2
112	62	52	2
113	174	109	3
114	43	45	1
115	183	183	2
201	280	176	3
202	215	179	2
203	141	78	2
204	221	177	2
206	243	180	2.2
207	91	61	1
208	160	79	2
209	80	64	2
210	212	147	2
211	32	23	1.25
213	215	154	1.25
214	47	29	1
217	33	13	1
402	26	40	1
R ² with frequency	.939	.649	

Table 54. Title VI/EJ Riders and Service Frequency by Route 2006

Route	Number of Minority Riders	Number of Low Income Riders	Bus Frequency (Number of buses)
101	106	95	2
102	118	74	2
103	167	129	3
104	34	19	1
105	118	49	2
106	62	66	2
107	156	134	3
108	79	59	3
109	241	171	6
110	252	148	3
111	211	152	2
112	62	52	2
113	174	109	2
114	43	45	1
115	183	183	2
117	34	31	2.2
201	280	176	5
202	215	179	5
203	141	78	2
204	221	177	4
206	243	180	4
207	91	61	1
208	160	79	2
209	80	64	1.5
210	212	147	3
211	32	23	1
212	55	43	2
213	215	154	1
214	47	29	1
215	98	69	2
217	33	13	1
218	43	17	2.2
219	44	52	1
402	26	40	1
403	37	37	1
406	26	30	1
501	191	136	6
R ² with/ frequency	.722	.711	

APPENDIX F: ABBREVIATIONS

AASHO – American Association of State Highway Officials
AASHTO – American Association of State Highway and Transportation Officials
AMA – American Municipal Association
BPR – Bureau of Public Roads
CAAA – Clean Air Act Amendments (1990)
CAD – Computer Aided Design
CAT – Citizens Area Transit
CIP – Capital Improvements Program
COG – Council of Governments
CRPNYE – Committee on the Regional Plan of New York and Its Environment
CT – Census Tract
DOT – United States Department of Transportation
EA – Environmental Assessment
EIS – Environmental Impact Statement
EJ – Environmental Justice
FHWA – Federal Highway Administration
FTA – Federal Transit Administration
GAO – Government Accountability Office
GIS – Geographic Information System
HI – Historical Institutionalism; Historical Institutionalists
ISTEA – Intermodal Surface Transportation Efficiency Act of 1991
JWG – Joint Working Group of the MTA and Los Angeles Bus Riders’ Union
LVTS – Las Vegas Transit System
MAP-21 – Moving Ahead for Progress in the 21st Century (2012)
MPO – Metropolitan Planning Organization
MTA – Metropolitan Transit Authority (Los Angeles)
NAAQS – National Ambient Air Quality Standards
NACO – National Association of Counties
NCHRP – National Cooperative Highway Research Program
NDOT – Nevada Department of Transportation
NEPA – National Environmental Policy Act
NHI – National Highway Institute
NLC – National League of Cities
NTI – National Transit Institute
OMB – Office of Management and Budget
OTP – On Time Performance
RTC – Regional Transportation Commission of Southern Nevada

RTP – Regional Transportation Plan
SAFETEA-LU – Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A
Legacy for Users (2005)
SIP – Statewide Implementation Program
SRTP – Short Range Transit Plan
STP – Statewide Transportation Plan
STURAA- Surface Transportation and Uniform Relocation Act of 1987
TAZ – Traffic Analysis Zone
TCRP – Transportation Cooperative Research Program
TDM – Travel Demand Modeling
TEA-21 – Transportation Equity Act for the Twenty-First Century (1998)
TIP – Transportation Improvement Program
Title VI – Title VI of the Civil Rights Act of 1966
TRB – Transportation Research Board
UMTA – Urban Mass Transit Administration
UPWP – Unified Planning Work Program

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