Highway to Inequity: The Disparate Impact of the Interstate Highway System on Poor and Minority Communities in American Cities

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> he Interstate Highway System constitutes one of the most substantial federal investments in the nation's infrastructure and has provided innumerable benefits in transportation infrastructure. The positive impacts of the road building campaign sparked by President Dwight Eisenhower in the mid-1950s, however, are not without their negative counterparts. Construction of the expressway network had a profound impact on American cities, often cutting through developed neighborhoods and forever changing the social and physical characteristics of urban landscapes. In discussions of the oft-devastating effects of the Interstate Highway System on urban communities, it is impossible to ignore the impact that the system has had on poor and minority communities. A growing body of research has addressed the racial effects of the landmark federal initiative, with many academics alleging that the system's construction constituted, at least in some cities, a civil rights violation that served to formalize Jim Crow-era discriminatory patterns and some of the original racial boundaries imposed in some urban spaces. In the present context, the still-evolving expressway teardown movement points to the reevaluation of the highway system on the part of policy scholars and public officials, many of whom have addressed the disparate outcomes of the network and have sought to remedy the harm it imposed on urban America.

Introduction

In Tennessee, opposition to proposed routing of the Interstate Highway System was, in many ways, a tale of two cities (Mohl, 2014). Protests in Memphis focused on the planned destruction of Overton Park, while in Nashville the citizens who coalesced to challenge the Tennessee State Highway Department spoke out against the disparate impact the roadway would have on the city's black community (Mohl, 2014). Both cases were taken to court and both received media attention, but the outcomes could not have been further apart (Mohl, 2014). While the Memphis highway was redirected to avoid disturbing the treasured community park, the stretch of road in Nashville was constructed as planned, leaving the city's black community in ruins (Mohl, 2014).

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The Interstate Highway System, in large part the brainchild of President Dwight D. Eisenhower, was hailed by the president in his State of the Union Address on January 6, 1955, as "essential to meet the needs of our growing population, our expanding economy, and our national security" (Weingroff, 2014, p. 1). Construction of the expansive network of roadways was authorized the following year by the Federal-Aid Highway Act of 1956, the passage of which signified the beginning of a new chapter in the history of American cities (Mohl, 2014). As state highway departments released plans for the urban stretches of the highway network, it quickly became clear that few city amenities would be spared (Mohl, 2014). The system became controversial even before its construction would begin in some cities, particularly when historic districts, schools, parks, churches and waterfronts found themselves in the path of the "concrete monsters" (Mohl, 2004, p. 674) that would forever alter city landscapes (Mohl, 2014; Weingroff, 2000). As Raymond Mohl (2004) remarks, "pushing expressways through the social and physical fabric of American cities inevitably resulted in housing demolition on a large scale, the destruction of entire communities, severe relocation problems, and subsequent environmental damage" (p. 674). The physical transformations brought to American cities by the since-completed Interstate Highway System are well documented and easily visible in the present day. What can be less visible, and noticeably absent from much of the literature on the topic, is how the massive federal highway program dealt an especially devastating blow to poor, minority communities – effects that have been posited by some scholars as constituting significant civil rights violations.

The present article seeks to examine a range of published reports on America's Interstate Highway System, assessing its purpose and evaluating its impact on urban spaces across the country. In the latter respect, subsequent sections make the case that the highway system had a disproportionately negative effect on particular populations in a way that has led some scholars to research the intent – both blatant and hidden – behind the design of the system of roadways. This article also contains an introduction to the still-evolving highway teardown movement, a glimmer of what could very well be a mea culpa on the part of American policymakers. Beyond the literature review portion of this article is a discussion intended to reflect on the recent policy shifts that have taken place, as well as to propose criteria that should be incorporated into any future efforts to remove, replace or relocate urban stretches of the roadway system.

The Reason behind the Road

In the years before the proposal of an Interstate Highway System, issues of congestion stretched across the country, with the loss of billions of hours of time and productivity attributed to detours and traffic jams, not to mention civil lawsuits related to congestion occupying the time of court systems (Weingroff, 2014). Poor routes also served to slow the delivery of goods, and the annual fatalities and injuries related to the nation's system of roads topped 40,000 and 1.3 million, respectively (Weingroff, 2014). These pitfalls were joined by concerns related to the country's readiness for national defense and the need to prepare for the possibility of atomic warfare (Weingroff, 2014). Eisenhower's proposal of an expansive nationwide system of highways, 90-percent of which would be funded with federal dollars, sought both to remedy these ills and enhance connectivity across the country (Weingroff, 1996; Biles, 2014; The Tennessee State Museum, 2014b). The system is considered to have been the president's favorite domestic initiative, and was described by Eisenhower himself as a landmark policy initiative, as noted in his memoir: "more than any single action by the government since the end of the war, this one would change the face of America...Its impact on the American economy – the jobs it would produce in manufacturing and construction, the rural areas it would open up – was beyond calculation" (Weingroff, 1996, p. 14).

While the Interstate Highway System would make progress in achieving the objectives put forth by Eisenhower, the network also paved the way for a number of challenges – particularly those related to cities (Weingroff, 2000). Rapid rates of urbanization had already contributed to the crowding of central city neighborhoods, which in turn sparked increased interest in suburban living for many who found employment in city centers but wished to reside elsewhere (Weingroff, 2000). In many ways, the Interstate Highway System exacerbated these contextual issues, all while gutting urban cores to make way for the large, unsightly stretches of roadways (Weingroff, 2000). While the system effectively ended rural isolation, it would also give

rise to new issues of equity and justice in inner-city neighborhoods displaced or destroyed by the very presence of the highways (Warner, 1972). These issues would be compounded as programs focused entirely on highway construction neglected to address impacts on surrounding urban neighborhoods while allowing local groups to play only an "obstructive role" in the process (Warner, 1972, p. 52).

Freeway Revolts

While the Interstate Highway System's proposals were geared towards meeting deficiencies in the nation's transportation network and offering a wide array of enhancements to travel, commerce and defense capacities, the system's construction was not without its proverbial and literal roadblocks. And while the highway proposals presented their own challenges to American cities, the existing context offered additional struggles, as detailed by Warner:

Long lines of disparate historical trends, including private land speculation, attempts at regulation, private controls over public building, and the Balkanization of metropolitan political units, all came together after World War II to create in American cities the worst of all possible worlds. The freedom of the individual, which had been the dominant concern of our land-law tradition, disappeared with the growing scope of the influence of all manner of highway, urban renewal, and housing officials. (1972, p. 52)

It was not long after passage of the 1956 legislation that federal leaders and state highway departments announced proposed routes for the urban stretches of the Interstate Highway System, plans that were met in some cities with staunch opposition (Wells, 2012). Freeway revolts, as they have since been deemed, erupted in several dozen American cities in the wake of the landmark federal legislation as protesters took to the streets to advocate against the destruction the routes would bring to existing communities (Wells, 2012). Opposition centered on the social costs of highway construction and the disparate impact that the routes would have on particular neighborhoods, notably as neighborhood amenities were left square in the path of bulldozers (Mohl, 2008).

The freeway revolt first took hold in San Francisco, when in 1959 organized opposition spurred the city's board of supervisors to reverse course and rescind support for any new highway construction (Mohl, 2004). Such opposition could likely be traced to the city's previous experiences with the construction of the Embarcadero Freeway, which was erected prior to Eisenhower's system and had the effect of dividing the city from its harbor along the bay (Mohl, 2004). Subsequent highway proposals, as Mohl (2004) posits, "...pitted neighborhoods against CBD [central business district] interests, as well as city residents against suburban commuters" (p. 679). Protests hinged on issues of aesthetics as well as historic preservation, and were supported by a groundswell of support from various community organizations and neighborhood associations (Mohl, 2004). Similar revolts would gain momentum in cities like New York, Philadelphia and Chicago, and some movements achieved modest results – with a well-organized citizen protest in Saint Paul, Minnesota successfully convincing the city council to revoke its approval of the proposed highway route through the city (Wells, 2012). The Residents in Protest over 35-E, aptly abbreviated as RIP-35E, eventually failed in its attempt to stave off any stretch of the Interstate Highway System through Saint Paul, but the originally-proposed six-lane, partially elevated freeway was replaced by a low-speed parkway restricted only to cars, designed and constructed with the input of members of the community (Wells, 2012).

The Case(s) of Tennessee

Organized attempts to "stop the road" in cities across America extended from the streets to the courts, as some groups sought judicial intervention to block the construction of spans of highway that would cut through existing neighborhoods (Mohl, 2004). Returning to Tennessee, two significant court challenges with divergent outcomes demonstrate some of the complexities of freeway revolts and the powerful interests they sought to block (Mohl, 2004; Mohl, 2014). In Memphis, opposition mounted following the approval of U.S. Secretary of Transportation John Volpe for a stretch of Interstate 40 that would bisect the city's Overton Park, destroying some 26 acres of existing parkland (Gibson, 2011). Citizens to Preserve Overton Park, the

group that coalesced around opposition to the plan, based their protests on a provision of the Department of Transportation Act of 1966 that allowed for the approval of parkland for highway routes "only where there was no feasible and prudent alternative and all possible planning was employed to preserve the parkland" (Gibson, 2011, p. 727; Mohl, 2014). Final funding approval for the stretch of road left the grassroots organization with no other choice but to take the challenge to court (Gibson, 2011). Lower courts denied their claim, rulings that were later supported by the U.S. District Court and the Circuit Court of Appeals, each of which essentially neglected to consider whether an alternative route existed (Gibson, 2011). The latter judicial body, in adopting the holding of the lower courts, went further to suggest that the substantial work already completed in securing the right-of-way through the park, as well as the disruption of nearby homes and businesses, would mean that adopting an alternative route for the highway could constitute a significant socioeconomic impact (Gibson, 2011).

The case was subsequently granted consideration by the United States Supreme Court, which focused its study on the scope of judicial review that would be allowable by judicial bodies related to the authority granted to the Secretary of Transportation (Gibson, 2011). The Court held that Volpe's actions were subject to judicial review, further interpreting the federal statutes as providing that parklands had to be spared for the purposes of highway construction in all "but the most unique situations" (Wilson, 2011, p. 738; U.S. Supreme Court, 1971). The Court reversed the lower courts' holdings, remanding the action in *Citizens to Preserve Overton Park v. Volpe* to the District Court for a more thorough review of the Secretary of Transportation's decision (Wilson, 2011). While additional hearings followed the Supreme Court's holding, Volpe eventually reversed his initial plans, later finding that there were alternative routes that would be feasible for the stretch of Interstate 40 through Memphis (Mohl, 2014). The Supreme Court's ruling would signal a new chapter in administrative and environmental law, and tipped the high court's hat, so to speak, to the persistence of the grassroots organization that took its challenges from the city streets to the nation's highest court (Gibson, 2011). As a result of Citizens to Preserve Overton Park, the parkland remains a central feature of downtown Memphis to the present day (Gibson, 2011; Mohl, 2014).

The legal opposition to the proposed stretch of Interstate 40 through Nashville, however, took on a vastly different flavor and brought about a polar opposite outcome (Mohl, 2014). There, planners announced proposals to route the expressway through the middle of what was a predominantly African-American community, a move that aroused concern among residents that the roadway would lower property values and destroy the sense of community there (Tennessee State Museum, 2014). In response to the proposal, a group of 40 citizens formed the I-40 Steering Committee, which launched a legal battle to halt the project (Tennessee State Museum, 2014). The context of Nashville likely played a part in the racial tone of highway plans and opposition there; racial violence followed the death of Martin Luther King, Jr., in Nashville, which was already a hot-bed for demonstrations and civil rights organizing (Mohl, 2014). Scholars point out that in both Memphis and Nashville, "many public policies had racial implications and racial intentions," and the steering committee argued that the proposed highway route through the latter city was no exception (Mohl, 2014, p. 879). More than a decade after the I-40 Steering Committee would see the inside of a courtroom, it was revealed that the original plan for the Nashville stretch of road had been redirected to the north, "where it carved through the center of the large North Nashville black community" (Mohl, 2014, p. 880).

While that detail had not been made public, the steering committee was certain that the proposed path of the interstate would isolate black-owned businesses from their client base, a projection that was complicated by concerns that the community had not been given adequate notice of the public hearing concerning the route (Mohl, 2014; Tennessee State Museum, 2014). The group brought their concerns to the General Sessions Court of Davidson County, Tennessee, which ruled in favor of state officials who argued that the committee had exaggerated the impact the project would have in the community (Tennessee State Museum, 2014). The committee appealed the court's decision to the U.S. Circuit Court of Appeals, which held that the hearing had been conducted similar to those in other areas of the state, and further ruled that "no discrimination is charged or shown" in the plans (U.S. Circuit Court of Appeals Sixth Circuit, 1967). The ruling also suggested that any route through an urban space could impact at least some portion of its

population and that "alternative routes undoubtedly would impose hardships upon others, further asserting that such weighing of hardships in road design is a task for engineers rather than a judicial body (U.S. Circuit Court of Appeals Sixth Circuit, 1967). While the steering committee appealed the decision to the U.S. Supreme Court, the case was denied certiorari and construction continued as planned (Tennessee State Museum, 2014).

The results of the Nashville stretch of Interstate 40 are difficult to dispute. Within a year of the project's completion, most businesses in the neighborhoods surrounding the road had suffered financially and some closed while property rates declined by nearly a third (Tennessee State Museum, 2014). As Raymond Mohl (2014) describes:

Eventually, the I-40 expressway demolished more than 620 black homes, twenty-seven apartment houses, and six black churches. It dead-ended fifty local streets, disrupted traffic flow, and brought noise and air pollution to the community. It separated children from their playgrounds and schools, parishioners from their churches, and businesses from their customers. (p. 880)

Some have suggested that the routing of the highway might have been engineered in part to slow the progress being made in school desegregation following the Supreme Court's ruling in *Brown v. Board of Education* (Mohl, 2014).

It is difficult to ignore the divergent outcomes of organized freeway revolts in Memphis and Nashville, the disparate results being attributed to a number of factors. In comparison with the lengthy battle against the road in Memphis, the Nashville fight was markedly short-lived, owing in large part to the late start the movement received (Mohl, 2014). This was undoubtedly triggered, at least in part, by the lack of knowledge among many in the community of the revised proposal for the highway's route (Mohl, 2014). In addition, organizers of the I-40 Steering Committee were primarily black professionals who had expressed condemnation of the racial violence that touched the city in the past – and consequentially, did not consider engaging the broader, potentially more radical factions of the community in organizing demonstrations against the highway department (Mohl, 2014). Perhaps most striking about the movement's failure to successfully protect Nashville's black community from the Interstate Highway System was the fact that, according to Mohl (2014), the organizers "never seemed to realize that an expressway through a black community was not unique to Nashville, and that African Americans in other cities had been dealing with this issue with some success elsewhere" (p. 887).

Discriminatory Impact

Setting aside considerations of intent, there is little doubt among scholars who have studied American transportation history and policy that the Interstate Highway System took a particularly cruel toll on minority communities in urban spaces. As Raymond Mohl (2004) writes, "Trapped in inner-city ghettos, African Americans especially felt targeted by highways that destroyed their homes, split their communities, and forced their removal to emerging second ghettos" (p. 700).

Indeed, black communities found themselves in the path of seemingly relentless bulldozers at an inordinate rate, a trend that became more difficult to combat given the scant political leverage among minority communities in many cities (Biles, 2014; Mohl, 2004). In Miami, for instance, highway construction captured 40 square blocks of city space, demolishing some 10,000 homes and a predominantly black business community (Mohl, 2008). The impact in Detroit was similar, as the route of the highway tore through minority communities and left behind large swatches of cleared neighborhoods (Biles, 2014). There, as in many other cities, highway plans were announced long before construction would begin, resulting in significant drops in property values even before bulldozers lined up to clear the roadway's path (Biles, 2014). In some cases, time would elapse even between condemnation orders and actual demolition, leaving "demoralized homeowners and businessmen (who) lost all incentive to make repairs" to their properties —

leading to even worse general neighborhood conditions and contributing to further difficulties among remaining property owners to sell their homes or businesses and flee their soon-to-be former community (Biles, 2014, p. 850). Scholars have documented the plight faced by African Americans not only in trying to oppose highway plans that would uproot their neighborhoods, but also in finding safe and sanitary housing to replace what had been taken through eminent domain (Biles, 2014). It would appear to many that officials would pay more attention to clearing land for the Interstate Highway System than finding adequate housing for those the massive project would displace – something that would lead at least one scholar to conclude that "racial politics guided these unfortunate developments" (Biles, 2014, p. 851).

The disparate impact that the highway system would have on urban spaces has led many to conclude that more deliberate, discriminatory intent was at work in crafting plans for the system. As Mohl (2004) posits, "freeway construction coincided with black political empowerment and the rising civil rights movement, developments that took on added significance when black neighborhoods were targeted by the highwaymen" (pp. 674-675). In Miami, researchers have pointed to highway planning as a means for the city's political and civic elite to essentially recapture space within the central portions of the city that had previously been occupied by minority communities – racism and discrimination, perhaps, under the poorly veiled guise of economic development (Biles, 2014; Mohl, 2004). The aforementioned concept of emerging, second ghettos also came to light in some spaces, as displaced minority families and businesses were haphazardly – and often without much formal support or assistance – rerouted to surrounding neighborhoods (Biles, 2014; Mohl, 2004).

Racial Politics and the American Highway

Returning to considerations of the intent behind plans for the Interstate Highway System, many scholars have pointed to the massive infrastructure project as a means through which racial objectives of the political elite could be realized. Fotsch offers a depiction of the freeway as a "racist institution," and one that has forever changed the fabric of American cities through altering neighborhood structures and inserting physical barriers within and between particular communities (2007, p. 169). Some of these routing schemes, Hanlon (2011) argues, can be closely connected with a growing fear of slums in many American cities, with highways being utilized as a means for slum clearance that could combat blight. Minority communities already saddled with the issues of disinvestment, inadequate schools, deteriorating housing conditions and property values, can be further plagued by challenges related to spatial separation in urban environments (Houston, Wu, Ong & Winer, 2004). The "white man's lane" that would traverse urban spaces compounded these problems, and what neighborhoods that were not be destroyed to make way for the roadway faced the very possible fate of becoming isolated ghettos with little relief in sight (Lieb, 2011, p. 51). The distinction between neighborhoods of priority for planners was perhaps most clearly made in Baltimore, when civic leaders were assured that the areas slated for highway construction would not include anything "familiar and cherished," but communities and neighborhoods that would "not constitute a loss to Baltimore" (Lieb, 2011, p. 56). Another example can be found in Birmingham, Alabama, where a 60-block, mainly black neighborhood was cleared in an effort that both residents and researchers characterize as a means to separate black and white communities (Connerly, 2002). In effect, the construction of the urban span of the Interstate Highway System there essentially maintained original racial boundaries that can be traced back to Birmingham's 1926 racial zoning legislation, and the period of highway building has been attributed to the subsequent loss of a significant portion of the city's black community (Connerly, 2002).

It is difficult to dispute the conclusion that the victims of highway construction and routing were predominantly poor, minority urban residents (Rose & Mohl, 2012). Many also argue that highways were routed through black neighborhoods in a routine and purposeful manner, claims that are supported in part by planning documents and revisions in many American cities (Rose & Mohl, 2012). Many have alleged that such decisions connect to organized efforts among public officials to maintain lines of residential segregation and discrimination, and to support efforts to rid central city neighborhoods of minority communities (Rose & Mohl, 2012). While this is perhaps more pronounced in some cities than others, scholars have concluded that it was the explicit attempt of highway planners to achieve discriminatory results along with creating the

massive federal infrastructure program (Rose & Mohl, 2012). The case of St. Paul, Minnesota presents an example of this type of targeted planning, when Interstate 94 spliced the city's small black community while avoiding the other, larger portions of the city (Rose & Mohl, 2012). As one critic posits, "very few blacks lived in Minnesota, but the road builders found them" (Rose & Mohl, 2012, pp. 108-109).

Robert Bullard (2004) concludes that the Interstate Highway System was blatantly and, in most cases, effectively utilized as a tool in what he describes as "transportation racism" (p. 15). In analyzing the effects of urban highway construction, Bullard discusses the concept of transportation equity, and the various costs of such infrastructure creation that should be weighed against the benefits (2004). A range of inequities have been attributed to this landmark federal undertaking, including the isolation of communities, environmental hazards that have had profound effects on particular neighborhoods, and the inadequate mitigation of the negative side effects of infrastructure – including noise and displacement of community amenities (Bullard, 2004). Putting the highway system in the context of racial segregation in America, Bullard posits that "transportation planning has duplicated the discrimination used by other racist government institutions and private entities to maintain white privilege" (2004, p. 20).

The Broader Context of Racial Disparities

It is critical to nest discussions of the impact of the Interstate Highway System in the context of racial segregation and urban race relations during the period of the 1950s and 1960s. President Eisenhower made the vast infrastructure project a major focus of his presidential administration (University of Virginia, 2014). However, unlike the successes he realized in his infrastructure programming, Eisenhower has been historically cited as having failed in his managing of civil rights during his time in office, perhaps reflecting his reported dislike for dealing with issues of race (University of Virginia, 2014). In this context, he is described by scholars as being "tepid" in his support of the cause of civil rights, and simultaneously unwilling to take a moral stance on the issue (University of Virginia, 2014). African Americans have been plagued with a higher likelihood of living in poverty, and urban conditions like zoning laws have historically presented barriers both to mobility and progress for many minority families and communities (Rothstein, 2014). Even recent studies on segregation attribute blame to urban highways and their routing in explaining some of the challenges facing poor, minority communities that have persisted to the present day (Rothstein, 2014). From red-lining to public housing and urban renewal efforts, scholars lump together efforts towards slum clearance and the reclamation, so to speak, of downtown neighborhoods as evidence of a concerted effort to combat the ghettoization of American cities - an issue conceived and addressed by public officials in a majority of cases as being rooted in race, and one that resulted primarily in the targeting of African American neighborhoods and communities through the lens of public policies and economic development programs (Seitles, 1998).

Lutz (2014) makes the argument that American dependence on cars, and the resulting priority given to vehicular transportation in American policies and infrastructure, constitutes a form of discrimination along the lines of mobility and income. Cars, she argues, contribute to broader socioeconomic inequities perpetuated most blatantly in urban spaces, with nearly all symptoms of inequality connected in some way to culture, status or a number of economic indicators (Lutz, 2014). It is difficult to ignore the financing and pricing discrimination that also takes place, factors that can further govern access to cars (Lutz, 2014).

American Dependence on the Highway

Setting aside for a moment the racial disparities related to the Interstate Highway System, it is helpful to include a discussion of what has become, in the opinion of some researchers, a potentially crippling dependence on the system and related transportation infrastructure. This discussion has evoked the interest of a broad base of researchers, including those who recommend studies into federal transportation spending and priorities, especially related to highways (Goldstein & Jurow, 1979). Historically, the growth of cars as a popular means for transportation granted planners additional credence as they charted plans for infrastructure systems to accommodate cars and facilitate rapid movement between spaces (Brown, Morris & Taylor, 2009). The freeway, and particularly its ability to connect rural and suburban spaces to the central business districts of American cities, has had a profound and lasting impact on urban environments and travel patterns among

Americans, patterns that have been perpetuated by the earlier discussion of the dependence upon automobile transportation and the political focus on supporting such mechanisms for movement both within and outside of cities (Brown, Morris & Taylor, 2009).

The growing use of, and dependence upon, portions of the Interstate Highway System has also supported the growth of "exit commerce," described in a study of Interstate 75 that focused on the unique nature of commercial development and sustainability along rural, previously undeveloped stretches of the roadway (Norris, 1987, p. 23). Research has revealed that development that takes place in the area surrounding a highway interchange often does not follow the traditional norms guiding such building and commercialization (Norris, 1987). Norris (1987) finds that "like almost all interstate highways, I-75 has spawned numerous, relatively new, and generally anonymous 'places' in the American scene – more than three hundred clusters of roadside services spaced, on average, at a five-mile interval" (p. 31). This is yet another impact of the federal highway system developed in the Eisenhower administration, suggesting an additional set of structures and frameworks – in this case, in the sense of business and economic development – that has become heavily dependent upon the viability of the freeway network (Norris, 1987). If not for the highways, those small commercial clusters along the route's exits and interchanges would arguably be left without the customers the concrete expanses deliver to their market.

A 2008 report on America's infrastructure offers the argument that the federal government needs to reassess its transportation systems and infrastructure, and devise new approaches to transportation policies and land use planning mechanisms (Reid, 2008). The report resonated in the civil engineering community, particularly through its argument that the nation has been resting on the laurels of previous efforts without significant investment, reinvestment or development following initial surges of funding and planning efforts (Reid, 2008). The report offers some criticism of federal deference to state and local authorities for such endeavors, and highlights the dependence on transportation across the United States as an argument for more concerted attention to the matter (Reid, 2008). Coupled with this declaration, environmental scholars have offered pleas for further studies related to air pollution and air quality in urban spaces, as well as the impact that freeways have in contributing levels of pollution or other potential health threats – particularly within neighborhoods adjacent to spans of roadway (Fuller, et. al., 2012).

In addition to discussions of America's dependence upon the highway system as a core of its transportation infrastructure, some researchers have analyzed the lessons that can be learned from the road network, both in the United States and on an international scale. Boarnet (2014) argues that analyses of the American model of national highways often neglect to include the full gamut of effects that the system has had, particularly the impacts experienced in urban environments. Other scholars have tied highways into broader discussions about the impact of federal urban public policy in American cities, seeking to respond to concerns that such efforts have constituted more negative than positive change and development (Plotkin, 2003). Another branch of current discussions and research related to highways focuses on efforts among planners and officials to consider options to improve freeway design and perception (Muller, 2014). But despite what previous efforts may have been made to revamp the highway system's image or functionality, no considerations have been as significant as the still-developing expressway teardown movement taking shape in cities across the United States.

The Expressway Teardown Movement: A Mea Culpa?

In a July 2014 article published in Governing magazine, Daniel Vock poses a question that has long guided the studies of American transportation scholars: "why would you have a highway run through a city?" (p. 1). The article details many of the earlier discussions of the various impacts of the urban stretches of the Interstate Highway System, while also examining studies and efforts unfolding in a number of major cities to evaluate the feasibility of removing elevated highways from city centers and replacing them with ground-level boulevards or other public spaces (Vock, 2014). Part of this movement has been driven by the realization among planners and transportation officials that preserving freeway functionality and vitality will require considerations of a number of challenges facing the aging infrastructure system (Li, Hard & Bochner, 2013).

Among the chief points for further study and evaluation is the range of improvements that could be made to help alleviate congestion, especially along portions of the system that would not allow for large expansions to better accommodate traffic flows that have only increased over time (Li, Hard & Bochner, 2013). Research also suggests that further attention should be paid to options that might encourage the more efficient use of highways and other transportation systems, as well as general efforts to ensure that highways will remain functional (Li, Hard & Bochner, 2013).

Much has changed in American politics and culture since the passage of the Federal-Aid Highway Act, and researchers have spent extensive time in the period following the legislation's passage examining the impact of highway routing and construction in cities across the country (Biles, Mohl & Rose, 2014). Many of these considerations have focused on the negative effects the road system has had on minority communities – impacts that, in most cases, have yet to be addressed in a comprehensive fashion (Biles, Mohl & Rose, 2014). Another contemporary school of thought in urban planning revolves around the concept of "livability" (Fein, 2014). Brought to the forefront of federal policy and administration by a June 2009 speech by U.S. Secretary of Transportation Ray LaHood in his unveiling of the Sustainable Communities program, the idea includes promoting health, offering cost-effective transportation options and reducing dependence on gasoline and oil (Fein, 2014). Such a concept is arguably foreign to the design of much of the Interstate Highway System, especially given the local destabilization it left behind in urban neighborhoods as well as the lack of walkable, transit-oriented development included in original plans for the network (Fein, 2014). In fact, a plurality of public policies related to transportation in the past decades have served to undermine the concept trumpeted by LaHood, and significant efforts would have to be taken to remedy the effects that have already been doled out in American cities (Fein, 2013).

Fein's conclusions offer a nearly perfect cue for discussions of the evolving expressway teardown movement. The developments are offered by Mohl as evidence of a contemporary response to the wellstudied impacts of the highway system, and a desire on the part of public leaders and planners to remedy the ill-effects that have been experienced in various cities (2012). To date, more than 20 American cities have planned, or at least considered, removing inner-city stretches of the system, and several have already completed such projects (Mohl, 2012). Boston, New York and Portland have already replaced formerly elevated routes with a variety of alternatives ranging from tunnels to a park (Mohl, 2012). Mayors, community groups and planners have gathered around the idea of reevaluating past transformation policy, in particular analyzing the long-term effects that expressways have had on the social and economic character of American cities (Mohl, 2012). In recent years, more cities have undertaken studies or begun conversations surrounding similar plans, notably as the existing infrastructure nears the end of its expected lifespan and hefty bills for repairs and rebuilding are confronting local, state and federal officials at an increasing rate (Mohl, 2012). And while initial research on the matter reveals some intriguing patterns among cities considering such policy reversals, the movement is far from a decisive 'mea culpa' on the part of elected officials. As Mohl (2012) remarks, "As in the past, automobility remains a key divisive issue. In many ways, the expressway removal movement highlights the continuing ambiguities surrounding the city and the highway, the American people and their automobiles" (p. 98).

Discussion: The Future of America's Highways

The ambiguities that Mohl (2012) presents serve to create a challenging context for policymakers across America who might be contemplating the future of the Interstate Highway System. Given the evidence presented in the preceding review of literature on the topic, it is difficult to dispute the lasting impact that the construction of this massive network of highways has had on communities throughout America, as well as the acute effects it has had on particular segments of those communities. Less clear, however, is the future of this public policy initiative. Vock (2014) and Mohl (2012) detail the still-evolving movement to revisit this segment of transportation policy as cities raze urban stretches of the highway system or conduct studies to evaluate such an option, but this remains an area that has received relatively little research attention both in the popular press and in academia. And while this movement might indicate that some policymakers wish to make amends, so to speak, for the ills that the policy initiative has created in many cities, it is far from a

coherent effort – at least presently – to fully remediate the negative consequences of the Interstate Highway System.

The expressway teardown movement also presents a series of decision points for legislators and officials who explore such an option. In some cases, motives appear to be related to addressing the less-than-pleasing aesthetics of the cement stretches of overpasses slicing through city neighborhoods, while in other cases – San Francisco being one instance – community development schemes drove such decisions (Vock, 2014). In cities like Nashville, plans are being developed to restore the "vitality" of urban neighborhoods through removing portions of roadway (Mohl, 2012), bringing with it the potential that the communities that the road system divided could once again be united. However, given the preceding literature review and the conclusions that can be drawn from the body of research on the impacts of the Interstate Highway System, the following considerations – adopted, in part, from Eugene Bardach's (2012) piece on policy analysis – should be taken into consideration by policymakers reevaluating the viability of existing, urban stretches of the road:

- 1. Stakeholders - Perhaps best illustrated in the case of Nashville - where highway officials have been accused of acting deliberately to circumvent including all community members in the discussion about proposed highway routes - particular stakeholders have historically been left out of the planning process for the Interstate Highway System. These tend to include low-income, minority communities that have often suffered the worst effects of the roadway. Policymakers seeking to revisit this aspect of transportation policy should better evaluate the means through which stakeholders are identified and included in planning discussions and processes. If one of the motives behind the expressway teardown movement is to work towards mitigating the ills caused by the system at the time of its original construction, this level of involvement and engagement among affected members of the community is a must. Merely removing and replacing stretches of the road is not enough to exhaustively make amends for the negative consequences of this public policy initiative. Research on the subject suggests that the consequences experienced in some communities are more or less permanent, as businesses closed, families moved and communities were divided. Given these consequences, it is critical that officials and community leaders work in tandem to ensure more fairness and equity in future chapters of transportation policy development.
- 2. Community Values – In the past decade, cities that have removed urban stretches of highway have replaced them with community amenities like promenades or, in the case of Portland, a waterfront park (Mohl, 2012). Cities are presented with a wide range of options in terms of what could take the place of highways once they are torn down, but with this opportunity comes a great deal of responsibility. This duty centers not only on creating something that will suit its host community and is attractive to residents and visitors, but also something that could potentially restore what was destroyed by the highway when it was first constructed. Policymakers and local officials should consider whether the neighborhoods that were divided by highways could be restored or repaired; while this might not be possible in every case, it should be something that is explored with community leaders and stakeholders. Otherwise, cities run the risk of further perpetuating the negative impact that construction of the highway left in some neighborhoods. In replacing a highway with a public space that could potentially spur new gentrification efforts that could further affect these neighborhoods, the highway teardown movement could further divide these urban communities.
- 3. **Equity** The concept of equity is intertwined with the preceding discussions of stakeholders and community values in sum, it represents the importance of fully involving communities in future policy discussions. However, in this case equity can be employed in describing the ideal outcome of potential policy shifts. The literature review in the present article makes the case that the Interstate Highway System has had an impact that, in many

cities, constitutes a civil rights violation, targeting particular populations and razing certain neighborhoods to make way for the road. Given the disproportionate impact that the system has had in American cities, it is imperative that plans to remove, replace or relocate existing urban stretches of the system incorporate principles of equity. It could be argued that, if this approach had been fully considered starting in the 1950s, the very effects that have made the system detrimental to many cities would never have come to fruition.

These criteria are presented not as a fully comprehensive, exhaustive listing of necessary components of policy shifts, but rather as factors that should be taken into consideration – factors drawn from analyzing some of the effects of the Interstate Highway System in American cities. The importance of particular factors might vary between different cities, given the population makeup and historical context, and it is possible even in the infancy of the expressway teardown movement to document cases when leaders have arguably fallen short in addressing some of these factors. In Boston, for example, the so-called "Big Dig" project that replaced a central, above-ground roadway with a tunnel was bogged down by slow progress, enormous costs and a series of construction stumbles and failures (Mohl, 2012). The now-completed project has also brought considerable change to particular neighborhoods that are now better-connected to other sections of the city, introducing more concerns about the equity of the project's outcomes – as well as who is better served by the finished product.

Conclusions

In a 2012 study, Rose and Mohl capture the enormity of the Interstate Highway System and its impact on urban America: "Few public policy initiatives have had as dramatic and lasting an impact on modern America as the decision to build the Interstate Highway System" (p. 95). It is difficult to understate the significance of the national network of roads, either in the sense of the advances it has brought to travel and commerce, or the devastating effects it has perpetuated against urban communities. And in discussions of the latter angle, it is impossible to ignore the disparate, negative impacts the system has had on poor, minority communities. The highway construction process was essentially used by some planners both as a step towards enhanced national infrastructure and connectivity, as well as a tool to achieve discriminatory objectives along the lines of race and class. A growing body of transportation and race scholars has made the connection between the highway and race relations in American cities, pointing to the oft-blatant targeting of African American neighborhoods on the part of transportation planners and officials. A thorough review of research pertaining to the effects of President Eisenhower's network of roadways reveals what could be considered a significant civil rights violation – carried out in many cities by discriminatory officials with the objective of formalizing Jim Crow-era segregation under the guise of economic and transportation development. The evolving expressway teardown movement offers a glimpse at what could best be described as the onset of an eventual about-face for policymakers in America, some of whom have expressed the desire to return to the highway planning process and find ways to remedy the ills that have resulted from the development of the Interstate Highway System. Removing, replacing or rerouting urban expanses of the road network presents policymakers and community leaders with the opportunity to revisit this integral national transportation system while including considerations of equity and in identifying and involving stakeholders and the community throughout the process – elements notably absent in the initial rendition of highway construction some decades ago. Whether this comes to fruition, however, is a subject worthy of further research and investigation.

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