

## **Regional Connectivity Policies: A Transportation Success or Failure?**

Planning scholars nationwide write and theorize extensively about the contrast between the monocentric urban form cities followed in the first half of the 20<sup>th</sup> century and the polycentric form observed today. Cause and effect relationships for this phenomenon are difficult to prove. There is considerable evidence, however, that connections exist between the form that modern metropolitan areas take and federal regional connectivity policies implemented in force at the end of World War II. This paper presents that evidence and argues that while federal initiatives for a nationwide transportation network may not have been entirely motivated by a desire to socially engineer metropolitan areas toward suburban dominance, this has largely been the result.

Part I outlines the historical origins of regional connectivity policies, namely the interstate highway system and beltways that loop around metropolitan areas. Part II examines the intended and unintended consequences that both the interstate highway system in general and beltways in particular have had on transportation and land use in metropolitan regions. This paper concludes that better regional planning initiatives could have prevented some of the unanticipated and potentially detrimental consequences that resulted from regional connectivity policies that were initially intended to facilitate transportation.

### **I. Origins of Regional and Metropolitan Connectivity Policies**

#### **a. Interstate Highway System**

Conflicting explanations have been given on the impetus behind the construction of the interstate highway system. Official rationales include decongestion of the central business districts (CBDs) and creation during the Cold War Era of a national defense network in case of attack.<sup>1</sup> Underlying the manifest motivations, critics speculate that the primary motivations stem more from a cultural preference for freedom of the automobile and government support of the automakers' industry. Nonetheless, the interstate highway system affected the spatial development of land uses throughout regions nationwide.

Highways were considered a public good that should be built to serve the automobile that was largely regarded as the most "democratic" transportation choice.<sup>2</sup> While federal highway funds were first appropriated in 1916, prior to the 1950s they were mostly spent on the

development and maintenance of rural roads.<sup>3</sup> Congress authorized the interstate highway system in 1944 for the express purpose of connecting regions and major metropolitan areas.<sup>4</sup> Congress was initially slow, however, in providing special funds for interstate highways partially due to a debate about whether the highways should be built around or through metropolitan areas. The Interstate Highway Act of 1956, however, propelled the development of today's highway networks.<sup>5</sup> The Automobile Manufacturers Association was a strong supporter of directing the highways through metropolitan areas.<sup>6</sup> A report published by researchers working for the Association in 1961 emphasized the need for freeways expressly to help CBDs survive and provide routes for express buses.<sup>7</sup> Ironically, facilitation of transit was one of the rationales for the interstate highway system when many researchers today believe that the system was a major contributor to transit's demise.

The development of the interstate highway system is linked to the funding formula used to build it. Specifically, Congress enticed state and local governments to build interstate highways, because the federal government provided 90 percent of the funding compared to 10 percent by local governments.<sup>8</sup> For non-interstate highways, federal funding aid was capped at 50 percent.<sup>9</sup> Thus, despite the fact that interstate highways were more expensive to build, they were more attractive to state and local governments than maintenance or improvement of existing roads and highways due to funding incentives.

#### **b. Beltways**

Beltways, defined as interstate or state limited access highways that create a continuous loop around the urban core, began to materialize along with the emergence of the Interstate Highway System.<sup>10</sup> Despite the perceived function of beltways today to facilitate access to land uses in a loop far out from the CBD, beltways were originally designed as bypasses around major cities to avoid congestion near the CBD.<sup>11</sup> The 1956 Interstate Highway Act expressly stated that central city bypasses must be built around congested cities for this purpose, reserving 2,300 of the 40,000 miles of highways authorized to be built for beltways.<sup>12</sup> The Act also greatly accelerated the spread of beltways for the distinct purpose of facilitating access to new suburban populations that settled in the corridors around them. The first high-speed, limited-access beltway was Massachusetts Route 128 completed around Boston in the 1950s primarily served to facilitate inter-suburban trip making.<sup>13</sup>

Building beltways in this era did not require the same type of advance planning and research that would be required today. The focus of the projects seemed to be getting the

network accessible across the entire country as quickly as possible rather than anticipating future needs or effects of the systems. The federal standards in place did not provide a lot of guidance, and local officials focused on the technical components of building.<sup>14</sup>

## **II. Effects of Regional and Metropolitan Connectivity Policies**

### **a. Interstate Highways**

The interstate highway system originally was intended as a means of linking regions. For this purpose, it succeeded. High-speed, limited access interstate highways decreased travel times significantly. By 1992, urban interstate highways carried 26 percent of daily vehicle miles traveled in urban areas although they only comprised 1.8 percent of total road mileage.<sup>15</sup> Higher speeds also significantly decreased travel time; a 365-mile trip took 10 hours in 1956 and by 1970 that same trip took only 8 hours on the interstate highway system.<sup>16</sup> These greater efficiencies in travel spurred the development of increased trade between regions in the form of the trucking industry.

Besides the good it facilitated, however, the system had mostly unanticipated negative secondary effects. First, the system disrupted poor neighborhoods and city parks by cutting through them and undermining social cohesion in inner cities. When selecting routes, transportation agencies usually consulted public officials but not the public itself.<sup>17</sup> The bulldozing mentality driving these initiatives often paid little attention to the social and environmental consequences. By the 1970s, freeway revolts led by civil rights activists and even downtown business groups protested the federal aid for highway projects that seemed to be destroying downtowns for the benefits of the suburbs.<sup>18</sup> Destroying the social fabric of inner cities resulted in one of the greatest injustices caused by the interstate highway system.

As a secondary negative effect, the system heavily oriented the national transportation system toward the automobile at the expense of transit. While the interstates had been built to alleviate congestion, they quickly filled to capacity and became congested themselves. Better facilities created more demand, rather than merely servicing the existing flow of cars. The improved travel conditions encouraged more travel by automobile and discouraged other more time-consuming or less desirable modes such as bus transit. A consequence of the rise of the highway system was the popular view that transit was a dying industry. Between 1954 and 1963, 194 medium-sized cities abandoned transit services altogether.<sup>19</sup> By the 1960s and 1970s, some public attention was being paid to the decline of transit. Due to cutbacks in service resulting

from decreasing demand, policymakers were concerned about the mobility of disadvantaged or elderly populations who did not drive. The emerging environmental movement of the 1960s and 1970s also focused on the air quality and environmental impacts of the decline of transit. Passage of the National Environmental Policy Act (NEPA) in 1969 changed the ambit of freeway building by requiring an environmental impact statement for a major federal action.<sup>20</sup> While negative consequences reported in an environmental impact statement could not stop a federally funded project like a highway, it at least required attention to environmental impacts that may not have been fully considered. Air quality also became an issue with the passage of the Clean Air Act Amendments of 1970, requiring state implementation plans (SIPs).<sup>21</sup> This also forced states to consider the interstates' air quality effects.

By the 1970s, concerns about the decline of transit lent more attention to the problem as well as some transfers of federal funding away from highways toward transit alternatives. For the most part, however, it was too little too late. The interstate highway system reduced the competitive advantage of transit by biasing transportation investments toward high-speed highways and limiting the ability of transit to efficiently serve the scattered suburbanized communities that developed with the increased accessibility the highways provided. Decreased service and efficiency of transit caused further defection to the automobile and the transit industry suffered a further downward slide. An associated problem was that in the haste to build the interstate highway network, transportation decisions were made on a piecemeal basis rather than with a coordinated plan. This further debilitated transit as provisions were not made to create a multi-modal network integrated to best meet different sectors of transportation needs.

#### **b. Beltways**

The effect that regional connectivity policies had on land use development patterns and the economies of urban areas is best illustrated through the effects of beltways. The U.S. Department of Transportation and the U.S. Department of Housing and Urban Development sponsored the first major study on the effects of beltways in the 1970s.<sup>22</sup> The report attempted to mitigate the federal government's responsibility for the effect of beltways on urban areas by attributing the dispersed patterns of land use around beltways to other factors like cultural travel preferences, local favorable tax rates and zoning restrictions.

Even this report, however, admitted that beltways had significant, unanticipated effects on urban form and economies. Regarding urban form, the beltways' primary effect was to eliminate the regionwide centrality advantage of the CBD.<sup>23</sup> Beltways made any location on that

expressway easily accessible and often more accessible than locations in the congested center. This in turn accelerated residential deconcentration as residents could live on more spacious plots of land farther out from the center without relinquishing ease of access or efficiency. Besides fostering accessibility, the beltway corridors also encouraged suburban growth along them.

By the 1980s, researchers were beginning to recognize the emergence of downtown-like suburban cores that were developing centers of retailing, business and industry. Many of these centers rose at the intersection of beltways. These suburban centers became increasingly self-sufficient providing goods and services to surrounding populations. This new polycentric, urban form contrasted starkly to the central cities that dominated regions in the first half of the 20<sup>th</sup> century. Now, at the beginning of the 21<sup>st</sup> century, these suburban centers, or “edge cities,” are thriving while many traditional CBDs are struggling.<sup>24</sup>

Edge cities are thriving due to the economic benefits provided by beltways and the interstate highways. One example of this phenomenon is the office center that arose at the intersection of Minneapolis/St. Paul’s beltway, consisting of Interstates 494 and 694, and local Highway 100 that parallels the western edge of the loop.<sup>25</sup> This beltway is somewhat unique in that it runs entirely through the suburbs outside the central cities, six to twelve miles outside the downtowns.<sup>26</sup> The beneficial impact it provided for the suburban economy at that location is not unique, however, and parallels the effects of beltways in other regions.

Aside from the benefits they provide to suburban centers, however, beltways may actually detract from the metropolitan economy as a whole. The results of a comparison between cities with and without beltways reveal statistically significant differences; those with one or more beltways had fewer sales per capita than those without beltways.<sup>27</sup> The authors theorize that the results are due to the fact that beltways deconcentrate populations such that businesses at the margins cannot survive.<sup>28</sup> Thus, residents at the very periphery of urban areas turn to outside mail order and Internet service providers for goods rather than local enterprises they would be close enough to patronize were the area a little more concentrated in the absence of a beltway. The authors conclude that policymakers and planners may want to reconsider plans for new beltways that are proposed in Atlanta, Denver, Phoenix, and Portland due to these economic considerations.<sup>29</sup>

### III. Conclusion

Regional connectivity policies succeeded at creating an easily accessible, nationwide transportation network. Those policies also had secondary effects, however, particularly in the destruction of existing central city neighborhoods and alteration of land use patterns and urban economies. Stronger regional planning initiatives could have researched those possible side effects to develop policies to avoid them. While existing networks and most of their associated effects cannot be changed, coordinated planning for proposed additions to the existing networks can mitigate future potential adverse effects.

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<sup>1</sup> See TRANSPORTATION RESEARCH BOARD, NATIONAL RESEARCH COUNCIL, CONSEQUENCES OF THE DEVELOPMENT OF THE INTERSTATE HIGHWAY SYSTEM FOR TRANSIT 3-6 (1997).

<sup>2</sup> M.S. Foster, *The Role of the Automobile in Shaping A Unique City: Another Look*, in THE CAR AND THE CITY 186-193 (M. Wachs and M. Crawford eds., 1992).

<sup>3</sup> TRANSPORTATION RESEARCH BOARD, *supra* note 2, at 10.

<sup>4</sup> *Id.*

<sup>5</sup> PETER O. MULLER, CONTEMPORARY SUBURBAN AMERICA 170 (1981).

<sup>6</sup> *Id.* at 6.

<sup>7</sup> WILBUR SMITH AND ASSOCIATES, THE AUTOMOBILE MANUFACTURERS' ASSOCIATION, FUTURE HIGHWAYS AND URBAN GROWTH (1961).

<sup>8</sup> J.R. MEYER AND J.A. GOMEZ-IBANEZ, AUTO TRANSIT AND CITIES (1981).

<sup>9</sup> *Id.*

<sup>10</sup> A.C. Nelson & Mitchell Moody, *Effect of Beltways on Metropolitan Economic Activity*, 126 JOURNAL OF URBAN PLANNING AND DEVELOPMENT 189, 192 (2000).

<sup>11</sup> MULLER, *supra* note 5, at 170.

<sup>12</sup> PAYNE-MAXIE CONSULTANTS AND BLAYNEY-DYETT, U.S. DEPARTMENT OF TRANSPORTATION AND DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, THE LAND USE AND URBAN DEVELOPMENT IMPACTS OF BELTWAYS: SUMMARY 5 (1980).

<sup>13</sup> MULLER, *supra* note 5, at 170.

<sup>14</sup> PAYNE-MAXIE CONSULTANTS, *supra* note 12, at 7.

<sup>15</sup> FEDERAL HIGHWAY ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, HIGHWAY STATISTICS (1992).

<sup>16</sup> TRANSPORTATION RESEARCH BOARD, *supra* note 2, at 10.

<sup>17</sup> *Id.* at 6.

<sup>18</sup> *Id.* at 6-7.

<sup>19</sup> *Id.*

<sup>20</sup> *Id.*

<sup>21</sup> *Id.*

<sup>22</sup> PAYNE-MAXIE CONSULTANTS, *supra* note 12.

<sup>23</sup> Peter O. Muller, *Transportation and Urban Form: Stages in the Spatial Evolution of the American Metropolis*, in THE GEOGRAPHY OF URBAN TRANSPORTATION 41 (Susan Hanson ed. 1986).

<sup>24</sup> See generally JOEL GARREAU, EDGE CITY: LIFE ON THE NEW FRONTIER (1991) (defining and describing edge cities as a new type of urban form that materialized in the 1980s and 1990s).

<sup>25</sup> *Id.*

<sup>26</sup> PAYNE-MAXIE CONSULTANTS AND BLAYNEY-DYETT, U.S. DEPARTMENT OF TRANSPORTATION AND DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, THE LAND USE AND URBAN DEVELOPMENT IMPACTS OF BELTWAYS: CASE STUDIES M-1 (1980).

<sup>27</sup> Nelson & Moody, *supra* note 10.

<sup>28</sup> *Id.*

<sup>29</sup> *Id.*