

## Reconsidering Social Equity in Public Transit

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*Over the course of this century, public transit systems in the U.S. have lost most of the market share of metropolitan travel to private vehicles. The two principal markets that remain for public transit systems are downtown commuters and transit dependents — people who are too young, too old, too poor, or physically unable to drive. Despite the fact that transit dependents are the steadiest customers for most public transit systems, transit policy has tended to focus on recapturing lost markets through expanded suburban bus, express bus, and fixed rail systems. Such efforts have collectively proven expensive and only marginally effective. At the same time, comparatively less attention and fewer resources tend to be devoted to improving well-patronized transit service in low-income, central-city areas serving a high proportion of transit dependents. This paper explores this issue through an examination of both the evolving demographics of public transit ridership, and the reasons for shifts in transit policies toward attracting automobile users onto buses and trains. We conclude that the growing dissonance between the quality of service provided to inner-city residents who depend on local buses and the level of public resources being spent to attract new transit riders is both economically inefficient and socially inequitable. In light of this, we propose that transportation planners concerned with social justice (and economic efficiency) should re-examine current public transit policies and plans.*

### Introduction

Public transit in the United States has become first and foremost a social service. Despite broad public support for mass transit, the automobile is the mode of choice for the vast majority of travelers. Eighty-six percent of all trips nationally are made by automobile (U.S. DOT, 1999). Rising personal income, the greater availability of automobiles, low fuel prices, and substantial public investment in metropolitan street and freeway systems have combined to reduce the general demand for public transit. Still, many people without regular access to automobiles depend on public transit as their main mode of transportation. For these “transit dependents” the continued availability of public mass transit is vital for access to jobs, schooling, medical care, and other necessities of life.

Over the past few decades, the proportion of low-income transit riders has been rising as more well-to-do travelers have shifted to automobiles. Outside of a few dense city centers like New York or San Francisco, the majority of local transit riders are poor. Most of these transit users live in the inner-city and many are members of minority groups, while so-called "choice" riders — those with regular access to private vehicles — are more likely to be in the suburbs and are predominantly white. Under public pressure to help address traffic congestion and air pollution problems in metropolitan areas, transit operators across the country are expected to provide services that will be attractive to automobile users, especially single-occupant commuters who tend to have higher incomes and far more travel options than transit dependents. However, the increased emphasis on commuter-oriented express bus and rail service is increasingly at odds with the growing inner-city ridership base of transit, who lack adequate access to private transportation due to age, income, or disability. The resulting inattention to many inner-city bus services raises troubling questions about how current public transit policies affect poor and minority urban residents.

This paper examines the growing tension transit planners face between meeting the strong demand for transit services by predominately low-income and minority inner-city residents on the one hand, and accommodating the political interests and desires of a more mobile, dispersed, and largely white, suburban-based electorate on the other. We argue that a number of exogenous and endogenous factors have contributed to a socially inequitable provision of public transit. In the next section, we provide a brief theoretical context for our discussion. In the following sections, we analyze the changing demographics of transit ridership and the current trends in U.S. transit policy. We conclude with a discussion of the role that politics has played in the increasing lack of connection between the needs of transit dependents for adequate, affordable local bus service and the policy response, which favors shifting resources to serving suburban commuters.

### **Transit Equity**

The allocation of transit services between rich and poor, whites and people of color, suburbanites and inner-city residents, is not happenstance, but is directly connected to social and economic processes that have produced the current racial and economic polarization between suburbs and central cities. Mainstream planning has paid insufficient attention to the redistribution of economic and political power that is at least partly responsible for

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these patterns of uneven urban development. The tradition of equity planning, on the other hand, has been centrally concerned with reducing such urban inequalities.

Norman Krumholz (1982:163) has eloquently defined equity planning as an effort to provide more “choices to those...residents who have few, if any choices.” In his tenure as Planning Director for the City of Cleveland, Krumholz formulated his notion of equity planning to counteract what he perceived to be the inherent unfairness and exploitative nature of the urban development process, a process that excluded the poor from the suburbs and concentrated them in declining inner-city areas. A key factor in the process of isolating the poor was the lack of adequate public transportation. Related to this was the government’s policy during this era of massive public investment in urban freeways that helped to empty out central cities of middle- and upper-income residents.

Over the years, planners influenced by the ideas of equity planning have fought highway construction projects and urban renewal schemes that would have further displaced or disrupted low-income communities. Equity planners have also worked to improve public transit service for those who depend on it for access to jobs, shopping, school, and other services. In some cases, they have opposed expensive rail transit projects serving wealthier, suburban commuters at the expense of inner-city bus riders. For example, during the 1970s, city planners in Cleveland fought against costly city proposals to extend commuter rail lines and to construct a downtown people-mover system to serve the business community. They argued instead for lower bus fares and expanded bus service for transit dependent persons on the grounds that new fixed rail systems would not increase accessibility, but would draw resources away from suitable bus services (Krumholz and Forester, 1990).<sup>1</sup>

Nevertheless, planners in government agencies have too often tended to overlook the uneven distribution of public investment and public services in urban regions and their consequences for the lives of affected residents. Lately, though, some transit planners and others concerned with social equity have begun to address how regional political arrangements have led to allocations of public transit resources that have done little to increase transportation

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<sup>1</sup>Krumholz and his fellow planners were successful in negotiating a deal providing for 1) a fare reduction to 25 cents for three years, 2) free non-peak fares for seniors and handicapped persons and half fares at peak hours, 3) improved neighborhood service, and 4) demand-responsive transit service for elderly and handicapped individuals.

choices for low-income residents. In a particularly interesting recent development, advocates for transit dependents have turned to the courts to confront transit policies that disadvantage poor and minority transit riders. By raising objections to fixed rail projects and agency transit fare policies, recent civil rights litigation against several major U.S. regional transit authorities represents in many ways a continuation of the work begun two decades ago by the Ohio planners in a new guise.<sup>2</sup>

Transit equity issues go well beyond disputes over particular projects, however, raising fundamental questions about the provision of urban transportation services. The policy-driven shift in population, particularly among middle-income whites, away from central cities and toward suburbs and outlying areas, has altered the historic ridership base for transit. Today, transit riders are, on average, much poorer than the general population, with disproportionate numbers of elderly and minority passengers. Current federal and state transit subsidy policies have generally not been consistent with these demographic shifts in urban transit use, but have tended to support suburban and downtown commuter services, including radial rail transit networks, in an effort to attract more discretionary commuters out of their automobiles. While this trend in funding priorities may have improved the range of options available to suburban commuters, the shift in emphasis toward serving suburban travelers and, in many cases, the resulting inattention to local bus service has diminished accessibility for inner-city residents, particularly to employment opportunities.

This issue of job accessibility has particular salience for the current debate over welfare reform, since nearly half (42%) of all trips on public transit are work-related (Hu and Young, 1993).<sup>3</sup> Although central cities contain only 20 percent of all workers, they still account for 69 percent of all transit use. In contrast, suburbs have half of all workers but generate only 29 percent of transit trips (Pisarski, 1996). Some public transit proponents argue, however, that commuter-oriented bus and rail transit systems are needed to

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<sup>2</sup>See *Committee for a Better North Philadelphia v. Southeastern Pennsylvania Transportation Authority (SEPTA)*, 1990 U.S. Dist. Lexis 10895 (E.D. Pa 1990), 935 F.2d 1280 (3rd Cir. 1991); *New York Urban League, Inc. v. Metropolitan Transportation Authority, et al.*, 95 Civ. 9001 (RPP); reversed *New York Urban League, Inc. v. The State of New York, Metropolitan Transportation Authority, et al.*, 71 F.3d 1031 (2nd Cir. 1995); *Labor/Community Strategy Center, et al., v. Los Angeles Metropolitan Transportation Authority, et al.*, Case No. CV 94-5936 T.JH.

<sup>3</sup>By comparison, only about 23 percent of private automobile trips are for work.

provide transit-dependent inner-city residents better access to suburban employment. While opportunities clearly exist to better link central cities and suburbs with public transit, the role of these so-called "reverse commutes" in metropolitan travel should not be overstated. Very long commutes are the exception, not the rule -- especially for low-income workers who must balance the time and expense of commuting against the wages from a given job. Further, most commutes are within suburbs or central cities, and not between them. A minority of commutes are from suburbs to central cities, and even a smaller share are reverse commutes to the suburbs (Pisarski, 1996). And while it is true that many *new* jobs are being created in the suburbs, the majority of job *opportunities* for low-income workers are still located in central cities (Shen, 1998). This is because most job openings are created by a worker vacating an existing position, and not through the creation of a new position.

Fixed-route transit systems work best at connecting dense suburban residential concentrations to dense central areas. They are far less effective in connecting inner-city residents to dispersed suburban employment sites, especially without time-consuming transfers. In a study of low-wage job access by mode in Los Angeles, Ong and Blumenberg (1999) find that the number of low wage jobs that can be accessed in a 30-minute trip by transit is 77.1 percent lower than by automobile in the central city neighborhood of Pico-Union. It is 97.1 percent lower in the low-income suburb of Watts.

The enormous employment access advantage of automobiles helps to explain why, in 1990, over 60 percent of the workers living in poverty households drove to work alone (Pisarski, 1992). It also explains why so many reverse-commute transit programs lose riders to automobiles when low-wage reverse commuters buy cars (Ong, 1996; Rosenbloom, 1992). Reverse commute transit programs can play a role in increasing job access for low-income central city residents. However, improving the quality of heavily patronized local transit service and reducing fares for short and off-peak trips would clearly do more to connect workers without cars to urban employment opportunities (Wachs and Taylor, 1998).

The incongruence between transit ridership patterns and subsidy policies has both social and spatial consequences that can potentially reinforce existing patterns of racial, ethnic, and economic segregation. Poor or mediocre public transit service in areas with high proportions of transit dependents exacerbates problems of social and economic isolation. From the standpoint of

equity planning, this serves only to decrease choices for those who already have limited transportation options.

### **The Changing Demographics of Transit**

Transit use peaked in the U.S. during World War II at over 23 billion trips annually but declined quickly thereafter. While transit use in general has remained fairly constant since the early 1970s, at about 7½ -8 billion annual trips, the proportion of all trips made by transit, particularly buses, has been decreasing, due to the increase in privately owned vehicle (POV) travel. In 1969, 7.8 percent of all unlinked trips were made by transit. In 1983, transit made up 2.3 percent of all trips, but declined to 1.8 percent by 1990 (Vincent, Keyes, and Reed, 1994).<sup>4</sup> By 1995, only 1.7 percent of all trips made were by transit (U.S. DOT, 1999).

Commuter trips exhibit a similar pattern. Transit makes up a larger proportion of commuter trips than of overall travel. Between 1980 and 1990 the number of commuters grew by nearly 19 million. However, the number of daily public transit riders fell slightly to about 5.9 million (Pisarski, 1996). As a result, the transit share of all commuter trips declined from 6.3 percent to 5.3 percent (Vincent, Keyes, and Reed, 1994). More importantly, there have also been changes in ridership demographics within public transit services, specifically, the distribution of riders across different modes of transit (bus, subway, and commuter rail) have become increasingly segregated both economically and racially.

The growing dichotomy in transit services can be seen in recent statistics on modal shifts within public transit from buses and subways to commuter rail. Between 1977 and 1995, the number of all transit trips rose from 7.28 billion to 7.76 billion. However, the number of bus trips declined somewhat from 4.94 billion to 4.84 billion and the number of heavy rail trips fell from 2.14 billion to 2.03 billion. As a result, the proportion of transit trips made by bus declined from 67 percent to 63 percent and those by subway fell from 29 percent to 26 percent. On the other hand, the number of trips by light rail and commuter rail have been increasing over the same period. Light rail trips rose from 103 million to 251 million annually, an increase from 3.3 percent to 4.4 percent. Between 1980 and 1995 annual commuter rail trips increased from 280 million to 344 million, going from 1.4 percent to 3.2 percent of all transit trips (APTA, 1999).

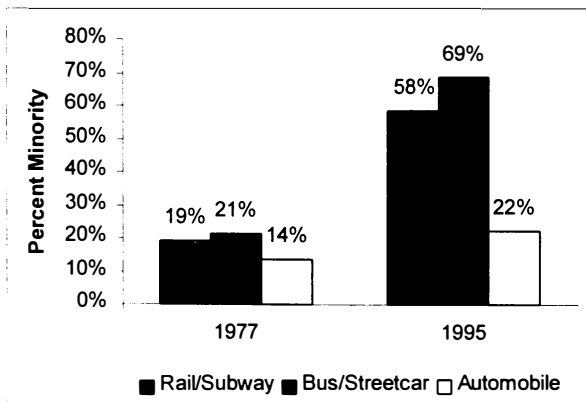
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<sup>4</sup>In large urban areas with rail transit service the share of transit trips declined from 8.8 percent to 5.2 percent over the period.

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Transit use varies significantly by income, gender, race, and ethnicity. For example, 57 percent of bus transit riders in Los Angeles earn under \$15,000 a year compared to only 20 percent of all county residents. Of these riders, nearly 83 percent are nonwhite and most are female (MTA, 1991-1993). The typical Southern California commuter rail rider, by contrast, is a white male earning \$65,000 with a monthly parking subsidy from his employer and ready access to alternative transportation (Rubin, 1994). Nationwide, Hispanic and especially African-American workers have much higher rates of transit usage than non-Hispanic whites, and these differences are particularly pronounced for bus and subway use. Among suburban workers nationwide, whites use commuter railroads slightly more than blacks or Hispanics (Pisarski, 1996). As shown in Figure 1, even as the overall share of transit trips has declined, the proportion of transit riders who are minority has been increasing. In 1977, about 20 percent of all rail transit and bus riders were nonwhite compared to about 14 percent of those traveling by private vehicle. By 1995, minorities made about two-thirds of all bus trips, compared to 60 percent of subway and commuter rail patrons. In contrast, during the same period the percentage of auto trips made by minorities rose slightly to 24 percent.

**Figure 1. Unlinked Trips by Race and Travel Mode (1977-1995)**



Source: National Personal Transportation Surveys 1977 & 1995.

There has also been a shift in transit mode used between those low-income “captive” riders who take local buses and wealthier, “discretionary” riders who use more express buses and commuter rail services. By 1995, the median household income of an urban bus passenger was below \$20,000, compared to over \$40,000 for commuter rail patrons and over \$45,000 for drivers of private vehicles (U.S. DOT, 1999). Studies have shown that bus ridership declines with rising income, but the use of streetcars, subways and commuter railroads tends to increase with higher income (Pisarski, 1996).

Finally, there is a spatial dimension to the changes occurring in transit use. Public transit service is concentrated in the oldest, largest, and most densely developed American cities. Nearly 60 percent of transit passengers nationwide are served by the ten largest big city transit systems, and the remaining 40 percent by the other 5,000 plus systems (Taylor and McCullough, 1998). While overall transit use has declined slightly since the 1980s, the drop in the number of transit riders has been greatest in central cities, though ridership losses were proportionately greater in suburbs. Use of buses, streetcars, and subways is highest in central cities, while commuter railroads account for a higher percentage of all suburban trips (Pisarski, 1996). These shifting patterns of transit use mirror the growing economic and racial disparities in urban areas since central city residents tend to be poorer, mostly minority, and more transit dependent than suburbanites.

To summarize, the demographic shifts within transit modes have created a two-tier system characterized by differences in race, ethnicity, income, and location. Inner-city residents, who on average are much poorer and more often from minority groups than the general population, rely far more on buses and subways, while suburban commuters are by and large white, comparatively well-off and more likely to use automobiles, express buses, and commuter rail. Policy makers and planners have generally failed, however, to acknowledge these distinct patterns in transit ridership demographics. In fact, more and more, transit subsidy policies favor investment in suburban transit and expensive new commuter bus and rail lines that disproportionately serve a wealthier, less transit-dependent population than do central city transit services.

### **Transit Subsidies**

In spite of the trends in ridership demographics (or perhaps because of them) transit systems around the U.S. have devoted substantial resources in recent years to building and operating commuter-oriented bus and rail services in an attempt to appease

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more affluent constituencies and lure middle-class riders back from automobiles. A number of factors — growing traffic congestion, public ambivalence toward further metropolitan highway construction, and heightened environmental awareness — have all contributed to a political base of support for this type of public transit.

In a 1981 study of public transit ridership, Pucher et al. (1981) found that the poor, the elderly, minorities, and women comprised a much higher percentage of bus ridership than of subway ridership, and a higher percentage of subway ridership than of commuter rail ridership. Moreover, the transit modes most used by these groups were the least subsidized modes:

The average per-passenger operating subsidy to commuter rail in the United States is almost three times as great as that to bus service. Differences in capital subsidies by mode are even more to the disadvantage of bus riders (Pucher, Hendrickson, and McNeil 1981:481).

These patterns have only grown more pronounced in the intervening years. During the past two decades, over a dozen new rail transit systems have been constructed, mostly in lower-density, more auto-oriented cities like Miami, Portland, Sacramento, and San Jose. These costly new systems have required substantial public subsidy and have tended to attract far fewer new riders than expected (Pickrell, 1983; Pickrell, 1992).

All public transit service in the U.S. is heavily subsidized. Operating funds and capital expenditures over and above farebox revenues must be obtained from local, state, and federal sources. In 1997, transit providers nationally received about \$7.7 billion in capital funds from various sources. The federal government provided about 54 percent from general revenues and the Mass Transit Account of the Highway Trust Fund, which is mainly funded through federal motor fuel taxes. State sources accounted for about 13 percent and local sources combined for another 11 percent. The remainder came from taxes levied by transit agencies and other directly generated sources (APTA, 1999).

Capital spending is skewed toward rail development and away from bus investment. As shown in Table 1, capital spending on rail transit amounted to over 60 percent of total 1997 expenditures even though bus usage is much higher than other transit modes.

Spending on commuter rail was considerably higher compared to patronage.<sup>5</sup>

	<b>Passenger Trips</b>	<b>Capital Expenses</b>	<b>Operating Expenses</b>
<b>Bus</b>	60.7%	30.0%	58.0%
<b>Heavy Rail</b>	28.4%	30.6%	18.3%
<b>Light Rail</b>	3.1%	10.7%	2.5%
<b>Commuter Rail</b>	4.2%	23.6%	12.0%
<b>Other</b>	3.6%	5.1%	9.2%

Source: APTA 1998 Transit Fact Book

Operating subsidies are provided mainly by state and local sources. Over half of the \$18.9 billion in operating funds received by U.S. transit providers in 1997 came from farebox revenues and other directly generated sources. State and local sources accounted for about 21 percent each while the federal government supplied only about \$578.1 million, or 3 percent (APTA, 1999). Table 1 also shows that operating expenditures more closely matched patronage levels though spending on commuter rail was still proportionately higher.

Federal transit grants for 1997 totaled \$4.38 billion of which \$2.15 billion (49%) was allotted to formula grants and \$1.9 billion (43%) for discretionary capital investment grants (APTA, 1999).<sup>6</sup> Under the Intermodal Surface Transportation and Efficiency Act (ISTEA) of 1991, the formula allocations were weighted heavily toward new construction; for fiscal year (FY) 1997, budget appropriations provided \$1.58 billion for urbanized area capital

<sup>5</sup>Though the capital expenditure data are not amortized to reflect annualized capital expenditures, they do reflect the clear emphasis in transit subsidy policy toward rail capital investments.

<sup>6</sup>Federal capital grant approvals amounted to \$4.05 billion for FY 97, of which \$1.77 (43.8%) went to capital investment programs and \$2.07 billion (51.2%) to formula grants. Of these funds, 39.1% went for buses, while 37.1% went to rail modernization and another 22.8% to new starts (APTA 1999).

projects but only \$400 million for operating expenses. With passage of the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21),<sup>7</sup> areas over 200,000 population are no longer eligible for operating assistance. However, some preventative maintenance expenses can be funded through capital grants.<sup>8</sup>

Of the funds made available under the Urbanized Area Formula program (Section 5307), the federal government provides only a 50 percent match of operating costs but 80 percent of the net project cost of new capital projects.<sup>9</sup> The remaining funds must be supplied by state and local sources. This formula encourages local operators to cover a higher proportion of operating expenses from system revenues in order to be in position to leverage larger amounts of federal dollars for capital projects. In addition to encouraging capital expenditures, federal law favors expenditures for rail projects over expanding bus service. Slightly more than 90 percent of the funds available under Section 5307 are reserved for urbanized areas over 200,000 in population.<sup>10</sup> Of that share, approximately one-third is apportioned according to the amount of fixed guideway service provided by the transit operator and the remaining two-thirds based on bus service, despite the fact that approximately 95 percent of all transit service is provided by buses.<sup>11</sup>

Thus federal transit subsidies favor expanding service area coverage, over increasing ridership. Nearly 60 percent of the formula funds allocated for fixed guideway systems is apportioned according to the number of miles covered by vehicles in service

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<sup>7</sup>Public Law 105-178, as amended by title IX of Public Law 105-206 [hereafter TEA-21].

<sup>8</sup>TEA-21, section 3007 (amending 49 U.S.C. section 5307(b)). Areas under 200,000 population are eligible to receive operating assistance grants without prior limitations. Id. section 3027(b) (repealing 49 U.S.C. section 5336(d)).

<sup>9</sup>49 U.S.C. section 5307(e). A "net project cost" means the cost of a project that reasonably cannot be financed from revenues. 49 U.S.C. section 5302(a)(8).

<sup>10</sup>49 U.S.C. section 5336(a)(2). A total of 9.32% of the budgeted funds are available to areas with a population of less than 200,000 and are distributed through state governors. The funds are apportioned based 50% on population and 50% on population density weighted by population. Id. section (a)(1).

<sup>11</sup>49 U.S.C. section 5336(b)&(c). TEA-21 generally continues these funding formulas. Urbanized areas formula grants now receive 91.23% of the allocation while non-urbanized areas receive 6.37%. Grants for individuals with disabilities receive the remaining 2.4%. 49 U.S.C. section 5338(a)(2)(C)(iii). Over the operative period of TEA-21 (FY98-FY03), authorizations for Urbanized Area Formula grants (guaranteed and non-guaranteed) total \$18.033 billion (FTA, 1999).

while close to 40 percent is allocated based merely on total track mileage.<sup>12</sup> Less than 5 percent is allotted on the basis of how many passengers are actually carried and this is weighted both by distance traveled, and by per-passenger operating costs.<sup>13</sup> In short, systems that cover larger areas and run more cars receive larger shares of federal subsidy almost irrespective of the actual number of patrons served. The same is true for the two-thirds portion allocated on the basis of existing bus service. Only 9.2 percent of the amount available is apportioned based on the number of bus passenger miles traveled weighted by operating costs.<sup>14</sup> Over 90 percent of these funds are distributed to individual urbanized areas by a formula that is weighted as follows: 50 percent for miles of bus service, 25 percent for population, and 25 percent for population density.<sup>15</sup>

Discretionary funding also favors capital intensive programs. Of the \$1.9 billion in budget appropriations for FY 97, the fixed guideway rail modernization and new starts programs each received \$760 million. Bus and bus-related projects were allocated only \$380 million in the FTA budget. Under TEA-21, rail modernization and new starts receive 40 percent each from guaranteed funding and bus capital projects only 20 percent.<sup>16</sup>

In addition to federal funding mechanisms, the states also contribute significantly to highway and transit finance. The State of California, for example, supplies funds to transit but does not allow funds collected from sales taxes in one county to be expended in another county. Within counties (with one exception), state law distributes transit funds based on the service area population only, not ridership. Since larger, more densely populated areas have a higher percentage of transit riders, the allocation favors smaller areas with low levels of transit ridership. The combined effect of these federal and state policies is that areas with low population, low density, and a large number of service miles receive a proportionately higher amount of transit funding per passenger than

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<sup>12</sup>49 U.S.C. section 5336(b)(2)(A).

<sup>13</sup>49 U.S.C. section 5336(b)(2)(B).

<sup>14</sup>49 U.S.C. section 5336(c)(2).

<sup>15</sup>49 U.S.C. section 5336(c)(1). Of the 90.8 percent, 73.39% is apportioned to urbanized areas with a population of at least 1,000,000 and 26.61% to urbanized areas with a population of between 200,000 and 999,999.

<sup>16</sup>49 U.S.C. section 5309. Over the operative period of TEA-21 (FY98-FY03), authorizations for rail modernization total \$6.592 billion, new starts total \$8.182 billion and \$3.546 billion goes for bus and bus-related projects (FTA, 1999).

areas with higher population and densities. As a consequence, suburban systems tend to spend far more per transit rider than central city areas and generally can afford to operate newer buses over longer routes with fewer passengers (Taylor, 1991).

With respect to rail development, this shift in policy emphasis has been quite dramatic. Between 1983 and 1994, bus service nationwide increased 10.7 percent; during this same period subway and elevated rail transit service increased 28.8 percent, commuter rail service increased 31.6 percent, and light rail (streetcar) service increased 108.1 percent (TCRP, 1997). In 1993, buses carried over twice as many passengers (5.4 billion) as all rail transit modes combined (2.6 billion) (APTA, 1998), but total expenditures on bus and rail transit (most of which came from government subsidies) were approximately equal (\$10.1 billion) (Price Waterhouse 1998).<sup>17</sup> Why the emphasis on subsidizing rail service over buses? A number of factors are at work.

### The Politics of Public Transit

Given that both transit ridership and low-income transit dependents are concentrated on buses in central city areas, we might expect that transit providers would target more resources to improving central city bus service on both efficiency and equity grounds. But transit agencies, by and large, have shown more concern recently with attracting riders out of cars than with serving the needs of those who — due to age, poverty, or disabilities — must depend on public transit. The reasons for this include: (1) a public clamoring to reduce traffic congestion; (2) legal mandates to improve air quality; (3) inter- and intra-metropolitan competition for limited fiscal resources; and (4) a changing political landscape that makes it more difficult to implement redistributive social programs. As a result of these factors, transit planning and policy has been characterized by a shift in emphasis from local to commuter service, from bus operations to rail development, and from inner-city to suburban riders.

Given the overwhelming domination of private vehicle use in most metropolitan areas, even substantial increases in transit use would be unlikely to significantly reduce suburban traffic congestion. By the early 1980s, public transit captured only 3 percent of suburban journeys-to-work, and an even smaller share for other trip purposes (Downs, 1992). In 1990, public transit's share of overall metropolitan commuting (both central cities and suburbs) had declined to less than 5 percent of all journey-to-work

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<sup>17</sup>Figures represent increased vehicle miles in revenue service.

trips (Rossetti and Eversole, 1993). Thus, even doubling the share of transit commuters would at best make only a small dent in reducing automobile travel (Downs, *ibid.*). Moreover, the share of metropolitan jobs located in central business districts is on a long declining trend, making radial, downtown-centered transit systems attractive to fewer and fewer commuters over time.

There is also no guarantee that the road space freed up by former auto travelers attracted onto buses and trains, will not be replaced by other travelers. This phenomenon, known as the "latent demand" for travel, is part of what Downs calls the "triple convergence" of drivers from (1) other routes, (2) other times, and (3) other modes on to newly uncongested roads (Downs, *ibid.*). If transit systems succeed in snaring a substantial share of former auto users, congestion could decline noticeably in the short-term. But other automobile travelers, who have chosen to avoid the previously congested routes will quickly be attracted onto the less crowded roads thereby diminishing the congestion benefit of higher transit use. The San Francisco-Oakland Bay Bridge corridor is an excellent example of this phenomenon. While the opening of the transbay tube under the bay attracted large numbers of former auto and bus travelers, the congestion reductions on the Bay Bridge following the addition of BART proved fleeting. Congestion levels quickly returned to, and then eventually exceeded, pre-BART levels. While it is possible that congestion today might be substantially worse had BART not been built, it is also unlikely that so many people would choose to work in downtown San Francisco and live in the far flung suburbs of Alameda and Contra Costa Counties to the east. Systems such as BART may make it easier to commute to the CBD without a car, but they also make it easier to live farther away and still work downtown (Webber, 1976). In fact, some argue that radial transit systems may increase congestion in some situations by encouraging downtown development and thereby attracting other commuters onto already congested highways (Downs, 1992).

Heightened public concern over air pollution has also focused attention on the role transit can play in reducing auto travel, thereby lowering exhaust emissions (Garrett and Wachs, 1996). Federal clean air and surface transportation legislation have been integrated in recent years to bring about reductions in motor vehicle emissions. Many air quality plans in federal "non-attainment" areas, including those for Los Angeles and the San Francisco Bay Area, call for reducing automobile use. Even though most air quality forecasts suggest that public transit will make very small contributions to air quality (Bae, 1993), transit systems are

nonetheless charged with the task of attracting automobile drivers onto public transit on air quality grounds.<sup>18</sup> Transit policy is therefore geared to providing incentives to reduce the number of single occupant vehicle (SOV) trips. To compete with private automobiles, transit operators must offer drivers substantial incentives, since these automobile commuters tend to have higher incomes and more travel options than transit dependents. Providing high quality alternatives to the automobile typically entails expensive public investments in new fixed rail or express bus service that tends to raise the overall costs of transit service. This, in turn, can lead to pressure for fare increases or service reductions, both of which may lower ridership overall.

Not only is capital spending higher for suburban systems, but fare structures promote cross-subsidization of wealthier riders by poorer ones. Typically, higher-income persons are less sensitive to price changes than are lower-income people. With respect to transit fares, however, this relationship is just the opposite. With fewer available alternatives, low-income riders are *less* sensitive to fare increases than higher income riders who can often choose to drive rather than pay higher fares (Cervero, 1990). As a result, transit fares, on a per mile basis, tend to be lower on commuter and suburban transit systems than on central city bus systems in order to attract and retain discretionary commuters. In Los Angeles, for example, the base local fare on the central city system is \$1.35, compared to \$0.50 on the suburban Santa Monica system and \$0.60 on the suburban Culver City system.

Beyond air quality and congestion concerns, large public works projects have always been popular with elected officials and voters,

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<sup>18</sup>There is credible evidence that the air quality benefits of public transit are not measurably better than automobiles. Bae (1993) found in a study of transportation and land use measures in Los Angeles designed to achieve the air pollution emission reduction targets of the 1991 Air Quality Management Plan (AQMP), that measures aimed at reducing vehicle miles traveled would have only a modest impact on reducing air pollution and that more transit use is not necessary to achieve clean air objectives. According to regional planning forecasts cited by Bae, the then current \$150 billion bus and rail improvement plan for the region would only achieve a 10 percent work trip transit share by 2010, not the 19.3% share outlined in the AQMP. All mode shift strategies combined (transit investments, ridesharing incentives, alternative work schedules and job-housing balance strategies) would account for only a 0.9 percent decrease in reactive organic gases (ROGs), a 2.0 percent decline in nitric oxides (NOx) and a 4.3 percent drop in carbon monoxide (CO) emissions.

and transit investments are no exception to this rule. Cutting ribbons to open new rail transit lines get elected officials and transit agencies media attention, reducing headways on existing bus service generally does not. Declining transit use also threatens transit agencies' political claims on public resources. As transit agencies have increasingly turned to local voters for financial support in recent years (TCRP, 1997), the focus on large transit capital projects has only heightened. When asked to approve county sales tax increases for transportation, California voters have shown a clear preference for major capital investments over increased funding for planning, operations, or maintenance (Zell 1989).

The general preference for large capital investments, concern over urban traffic congestion and air quality, and the lack of public consensus on what to do about these problems, has led many public officials to embrace rail transit as a clear and dramatic alternative to the automobile/highway system. Richmond (1991) has examined the popularity of rail transit among elected officials in Los Angeles and found that their support for rail transit is due more to positive, highly symbolic perceptions of trains than to any analyses or other direct evidence on the wisdom of rail transit investments.

The policy choice to favor new rail construction is reinforced by the overall spatial logic of federal and state regulations, which is to spread transit funds to voters on a roughly geographical basis rather than in accordance with transit use or need. And since the transit subsidy allocations are based on fixed characteristics such as population, density, and existing service, eligible areas do not need to compete directly for these funds. Therefore, each service area has an incentive to apply for and expend the full amount available regardless of any regional planning rationale to the contrary. The combination of federal funds for new rail starts, and dedicated local and state transportation funding programs, often produce politically powerful constituencies for rail development, even in situations where it fails to satisfy either the usual social equity or economic efficiency rationales. Rail is championed more frequently for its ability to stimulate local economic development than from any transit planning rationale (Richmond, 1991). Local business and civic interests that benefit from publicly-funded construction projects can be expected to lobby hard for a share of the funds made available.

Finally, it is important to recognize that transit dependents do not represent a strong constituency for improved bus service since fewer poor and minority persons are registered to vote, and are less

likely to vote, compared to suburban residents. In addition, many urban transit users (especially in areas like Los Angeles) may also be new immigrants or undocumented persons and unable to vote (Meyers, 1996).

Voters who might support higher transit spending are increasingly located in newer, auto-oriented cities and suburbs. But since most transit riders have disproportionately low incomes, public spending on transit riders tends to redistribute tax revenues from wealthier to poorer individuals, and from suburbs to cities. In recent years, voters have clearly grown increasingly resistant to explicitly redistributive policies and programs, which does not argue for highlighting public transit's emerging role as a largely redistributive social service. Hence, transit operators often downplay this aspect of public transit subsidies in light of the declining popularity of explicitly redistributive fiscal policies, emphasizing instead its advantages in reducing traffic congestion, improving air quality, and stimulating economic development.

Transit providers thus have a strong political incentive to make transit service more attractive to suburban and discretionary riders in order to maintain broad public support for transit (Wachs, 1985; Wachs, 1989). At a policy level, this means providing wider service area coverage by shifting resources to new lines to capture additional riders. Consistent with the new suburban electoral majority, it also means focusing on improving the suburb to downtown work commute. In short, to secure popular, political, and financial support for their systems, transit operators and funding agencies must balance the demand for local service in high ridership central city areas, against the service preferences of suburban residents who tend to favor commuter transit systems. From an operational standpoint, these trends are particularly problematic since the total per-passenger subsidies needed to operate these new suburban lines are typically much higher than those for inner-city buses. While providing larger subsidies to certain lines or modes in an effort to attract new riders may make sense politically, such policies tend to decrease both efficiency *and* equity because low-income, central city riders are, on average, less costly to serve than suburban commuters. Research has consistently shown that the poor actually require lower subsidies per rider than do wealthier patrons (Hodge, 1995; Pucher, Hendrickson, and McNeil, 1981; Pucher, 1981; Pucher, 1983). Moreover, the small number of new riders brought onto the systems are often exceeded by the loss of existing ridership brought about by increased fares and the reduced quality of bus service (Rubin and Moore II, 1996). Declining revenues and increasing costs place

even greater pressure on transit operators to either cut existing bus service or raise fares, further exacerbating these disparities.

Given all these factors it is not surprising that many transit systems have responded by directing their planning efforts toward expanding suburban commuter services over improving local operations and increasing rail service over buses, despite the shift in demand towards an increasingly poor ridership base. The combination of federal transportation funds for new rail projects and dedicated local and state funding programs have produced a natural political constituency for rail development, even in situations where it fails to satisfy either the usual social equity or economic efficiency rationales. The pressure to appeal to discretionary riders (who vote in larger numbers) over transit dependents (who do not) also favors capital intensive investments, such as rail transit. Such investments need heavy ridership to be cost effective, though fewer and fewer urban areas have sufficient residential and employment density to generate the required level of patronage. As we have noted, the result of this tension has been an increasing dichotomization of transit service and subsidies between those lines and systems serving more higher-income riders at substantial public subsidy on one hand, and those serving mostly poor, minority riders at substantially lower public subsidy on the other. Unfortunately, these implicit tradeoffs between transit dependents and discretionary users are rarely spelled out in the usual debates between bus and rail investment.

## **Conclusion**

In summary, the dissonance between shifting ridership demographics and the policy response is a function of the diverging spatial logics shaping the demand for transit service on one hand, and guiding the public subsidization of transit service on the other. Indeed, while the transit demand is concentrated in high-density, low-income areas, subsidies favor lower-density, higher income areas. Since the majority of transit-dependent riders are poor and members of minority groups, the ongoing shifts in ridership patterns and the failure of transit authorities to respond to the growing disparity in service between transit-dependent and discretionary riders, have made transit planning a social justice issue. As a result, advocates for transit dependents throughout the nation have begun to challenge transit operators publicly, and even in court, over service policies that have a discriminatory impact on poor and minority communities.

The foregoing raises a number of normative questions regarding the value of public transit: how should fairness be defined in the

context of public transit? Who is being served by the shift in transit investment to suburban services and, in some cities, from bus to rail? Should public transit policy strive for greater geographic *mobility*, regardless of the available alternative modes of transportation, or would it be preferable to improve *accessibility* for those with few private alternatives? How have transit planners responded to the changing spatial and social realities of cities and regions? Are current transit policies increasing or decreasing social equity? An important step in beginning to answer these questions is to clearly define the frame of reference for judging equity and fairness. Under our current system of public transit finance, equity is typically defined by comparing funding allocations among jurisdictions or agencies. Shifting the focus onto the distribution of subsidies for individual transit users or classes of transit users would significantly alter debates over transit equity by challenging the fairness of public transit service provision in the U.S. If indeed public transit is increasingly a social service for the poor and disadvantaged, then planners should begin to view the funding and deployment of public transit in a new light.

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