

***Perspectives on Advancing Economic and Social Equity in Federal Transportation Policy:
Briefing papers for the 10/25/12 Forum of the Equity Caucus at Transportation for America***

The following briefs have been prepared by several leading transportation researchers to inform the dialogue during a forum hosted by the Equity Caucus at Transportation for America in Washington DC on October 25th, 2012.

Each brief provides information about past, current and projected trends that are important to examine as context for a discussion on advancing economic and social equity in federal transportation policy. The briefs also include each author's perspective on policy provisions that hold promise for leveraging federal transportation investment to expand opportunity for low-income people, communities of color, and other socially-disadvantaged groups.

PolicyLink and Transportation for America requested that each author review the Equity Caucus at Transportation for America's [Guiding Principles for the Transportation Authorization](#) and supplemental materials produced by/for the Caucus, as context for the preparation of each brief.

The perspectives presented in the briefs consist of each author's point of view and do not necessarily represent the perspectives of PolicyLink, Transportation for America, or members of the Equity Caucus at Transportation for America. For permission to cite information from the briefs, please contact the authors directly.

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The Equity Caucus at Transportation for America — formed by the nation's leading civil rights, community development, racial justice, economic justice, faith-based, health, housing, labor, environmental justice, tribal, public interest, women's groups and transportation organizations — drives transportation policies that advance economic and social equity in America.

For more information, see: <http://t4america.org/equitycaucus/> or contact Anita Hairston, PolicyLink, at 202-906-8034 or anita@policylink.org.

TRANSPORTATION EQUITY MATTERS: CONNECTING THE DOTS

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Transportation provides access to opportunity and serves as a key component in addressing poverty, unemployment, and equal opportunity goals while ensuring access to education, health care, and other public services.

TRENDS

POLICY: Preserve Public Transportation, Biking and Walking Investments

Expand Transportation to Address Social Inequality. Transportation touches every aspect of our lives. How we fund and build transportation impact equity.¹ Cuts in public transit have a negative ripple effect in people of color communities since they are less likely to own cars and face higher than average unemployment, poverty, and economic hard times. Cutting transit service and raising fares will only exacerbate social inequality. Spending on transportation is lowest in metro regions with strong public transit systems.² On average, Americans spend about 18 cents out of every dollar earned on transportation expenses.³ Generally, Americans spend more on transportation than they do on food, education, and health care. Public transit riders save on about \$1,400 in gas per year.⁴ The nation's poorest families spend more than 40 percent of their take home pay on transportation. The working poor spend a much higher portion of their income on commuting.⁵ Improving public transportation in urban centers could lower costs and raise living standards for low-income households. Americans who live in areas served by public transportation save more than \$13 billion in congestion costs annually.⁶

Enhance Transportation to Address Economic Isolation and Unemployment. The economic isolation of people of color is complicated by inadequate public transit (limited, unaffordable, or inaccessible service and routes, and security and safety concerns), lack of personal transportation (no privately owned car available to travel to work), and spatial mismatch (location of suitable jobs in areas that are inaccessible by public transportation). Almost 70 percent of jobs in the 100 most populous U.S. metropolitan areas are not within a 90-minute, one-way transit trip; and more than 700,000 households in the 100 most populous U.S. metropolitan areas that lack access to a vehicle also have no public transportation service available.⁷ No other group in the U.S. is more physically isolated from jobs than African Americans. UCLA scholar Michael Stoll's research reveal that more than 50 percent of blacks would have to relocate to achieve an even distribution of blacks relative to jobs; the comparable figures for whites are 20 to 24 percentage points lower.⁸

KEY STUDIES

In their 2008 book, *Growing Cooler: The Evidence on Urban Development and Climate Change*, Reid Ewing and his colleagues report that Americans living in compact urban neighborhoods where cars are not the only transportation option drive a third fewer miles than those in automobile-oriented suburbs.⁹ The authors contend that less auto-dependent development is key to shrinking the nation's carbon footprint and mitigating climate change. *Growing Cooler* pins CO₂ reduction on a “three legged stool, with one leg related to vehicle fuel economy, a second to the carbon content of the fuel itself, and a third to the amount of driving or vehicle miles traveled – VMT.” The authors warn that if sprawl development continues to fuel growth in driving, the projected 48 percent increase in the total miles driven between 2005 and 2030 will nullify expected gains from vehicle efficiency and low-carbon fuels.

A 2009 study published in the *New England Journal of Medicine* shows Americans are living longer because the air they breathe is getting cleaner. The average drop in pollution seen across 51 metropolitan areas between 1980 and 2000 appears to have added nearly five more months to people's lives. Life expectancy for the corresponding time periods rose from 74 years to 77 years. The researchers calculate that reductions in air pollution accounted for as much as 15 percent of the increase in life expectancy. Residents of cities that did the best job cleaning up air pollution showed the biggest jump in life span.

The 2010 American Public Health Association report, *At the Intersection of Public Health and Public Transportation: Promoting Healthy Transportation Policy*, clearly documents that the built environment, including transportation systems, directly and indirectly affect human health by influencing a wide range of environmental, physical and social factors.¹⁰ Transportation and community design are described as “social determinants of health.”¹¹ Transportation-induced environmental threats have become major justice and equity concerns in low-income and people of color communities.¹² Some transportation and related land-use decisions affect the health and safety of residents in a harmful way, specifically by reducing opportunities for physical activity, polluting the air (which also contributes to the climate crisis), increasing likelihood of traffic incidents, and exacerbating poverty and inequity.¹³ The dominant transportation and related land-use policies favor sprawl, auto-dependent growth.¹⁴ Sprawl is unhealthy and fueled by is fueled by the finance, land use planning, and transportation.¹⁵

The 2012 American Lung Association *State of the Air* report shows that the nation is making steady progress in cutting air pollution. Still, over 127 million people (41 percent of the nation) still suffer pollution levels that are too often dangerous to breathe. More than 4 in 10 people (41%) in the United States live in counties that have unhealthy levels of either ozone or particle pollution. Of the 25 cities with the most ozone pollution, 22 saw improvements in air quality over last year's report.

POLICY: Strengthen Civil Rights Enforcement, Environmental Justice and Health Equity

Enforce Transportation as Civil Rights. Transportation as civil rights issue dates back more than a century beginning with the *Plessy v Ferguson* U.S. Supreme Court decision.¹⁶ The struggle against transportation apartheid has always been about human rights.¹⁷ If transportation planners are going to

adequately serve residents of diverse ages, races, and income levels, they need to address basic issues of equity and social justice.¹⁸

Build Transportation to Support Healthy People and Healthy Communities. Reduction in motor vehicle emissions can have marked health improvements. For example, the CDC reports that “when the Atlanta Olympic Games in 1996 brought about a reduction in auto use by 22.5%, asthma admissions to ERs and hospitals also decreased by 41.6%.”¹⁹ Asthma has an environmental link. This problem is exacerbated for people of color who are more likely than whites to live in nonattainment areas. A 2001 CDC report, *Creating a Healthy Environment: The Impact of the Built Environment on Health*, points a finger at transportation and sprawl as major health threats.²⁰ According to the Office of Minority Health (OMH), African Americans were 30 percent more likely to have asthma than non-Hispanic Whites, in 2010. In 2009, African Americans were three times more likely to die from asthma related causes than the White population. African Americans had asthma-related emergency room visits 4.5 times more often than Whites in 2004. The total U.S. health cost associated with poor air quality from transportation is between \$40 billion and \$64 billion per year.²¹

Support Green Transportation that Improves Air Quality. Transportation-related sources account for over 30 percent of the primary smog-forming pollutants emitted nationwide and 28 percent of the fine particulates. Emissions from cars, trucks, and buses cause 25-51 percent of the air pollution in the nation’s nonattainment areas. Reduction in motor vehicle emissions can have marked health improvements. Air pollution threatens the health of millions of Americans, especially those who live in urban areas. Air pollution from vehicle emissions causes significant amounts of illness, hospitalization, and premature death. Air pollution claims 70,000 lives a year, nearly twice the number killed in traffic accidents.²² Moving to “greener” and “cleaner” transportation will save lives and money.

Expand Transportation that Reduces Carbon Footprint. Addressing transportation equity will have positive impacts beyond improved mobility and access to opportunity, but will have added health benefits by reducing deadly air pollution, decreasing automobile dependency, and shrinking the carbon footprint mitigating climate change. According to the Energy Information Agency (EIA), the transportation sector is the second largest source of CO2 emissions—at 33.1 percent of total emissions.²³ Only the electric power sector is larger with 40.5 percent of the total CO2 emissions. Public transportation reduces petroleum consumption by a total of 4.2 billion gallons of gasoline, representing 11.5 million gallons of gasoline per day.²⁴ Public transportation saves more than 37 million metric tons of carbon dioxide annually. From 1996 to 2006, U.S. transportation greenhouse gas emissions increases represented almost one half (47 percent) of the increase in total U.S. greenhouse gas emissions.²⁵

Promote Transportation Infrastructure Investments That Secure Our Future. Every \$1 invested in public transportation generates \$4 in local economic activity.²⁶ Every \$1 billion invested in the nation’s transportation infrastructure supports 36,000 jobs.²⁷ The clean energy investment agenda could improve the accessibility and convenience, improve air quality, and reduce air-pollution related illnesses. Local residents could save 1 - 4 percent of their incomes if they increase their use of public

transportation to between 25 percent and 50 percent of their local travel. Households that limit their use to one car could reduce their living costs by roughly 10 percent.

End Notes

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Policy Perspective (DRAFT)

Equity Caucus at Transportation for America
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I. Impact of Transportation and Link to Equity

Transportation is vital. The Supreme Court has recognized the right to travel as one of the fundamental rights guaranteed by the Fourteenth Amendment to the U.S. Constitution. Given this important role, it would be expected that policy makers would debate over transportation policy. Too often, however, those debates are over what specific projects will be funded and in which states or congressional districts, and scant attention is paid to larger social and economic effects.

Transportation mobility is a hallmark of full membership in American society with mobility and access representing social and economic opportunity. The early challenges of racial discrimination and segregation involved discriminatory practices that directly limited transportation access and mobility of people of color. The lack of mobility helped create ghettos, de facto segregated schools and housing, and social and community isolation. Transportation mobility and access will continue to be critical to how cities, regions, and nations grow and prosper. Advances in technology have created new opportunities for communications and movement of information, but people and goods will still need to move from place to place. We are in an age of the “new mobility” where physical, social, and electronic forms of movement are necessary for full participation.

It is important to keep in mind that transportation, while having significant implications for physical infrastructure, ultimately has far greater implications as social infrastructure. Like public capital facilities and systems, social infrastructure also requires planning, development, maintenance, and feedback for evaluation. And like physical infrastructure, social infrastructure experiences shocks and disruptions that test its strength, durability, and resiliency. Also like physical infrastructure, social infrastructure keeps cities and regions economically vibrant, clean, safe, and livable. However, large scale physical infrastructure is uniquely the responsibility of government while social infrastructure can and should be the product of decentralized, democratic processes in collaboration with government agencies and other stakeholders. The role of public involvement cannot be overstated.

II. Equity Caucus Policy Platform

A government's role in infrastructure is to build and maintain interconnections and services that no individual or small group can do alone. At the same time, collaboration with the public is necessary to determine the appropriate mix of services and service characteristics. Along these lines, the Equity Caucus policy platform includes four principles and priorities with an emphasis on government's role and perhaps less on the need for collaborative efforts:

1. Create affordable transportation options for all people.
2. Ensure fair access to quality jobs, workforce development, and contracting opportunities in the transportation industry.
3. Promote healthy, safe, and inclusive communities.
4. Invest equitably and focus on results.

These four principles include consideration of affordable options across modes that connect people with good jobs, economic opportunities, housing, and education in healthy, sustainable, and equitable ways. Implicit to each of the four is an emphasis on social goals with important implications for equity. Over time, efforts to challenge discrimination, segregation, and inequitable transportation policies have become increasingly sophisticated to encompass a broad range of social impacts and often referred to as *transportation equity* – which includes a range of strategies and policies that aim to address inequities in localities, regions, and the nation's transportation planning and project delivery system. Across the country, community-based organizations of low-income and minority residents that organized to improve their communities are recognizing the significant role played by transportation in shaping local investment and opportunities. In general, the focus of these is on inputs, outputs, and outcomes, and less on the decision-making process. Moving forward, transportation equity efforts should re-double efforts in two particular areas:

- Ensure opportunities for meaningful public involvement in the transportation planning process, particularly for those communities that most directly feel the impact of projects or funding choices.
- Agencies responsible for transportation planning should be held to a high standard of public accountability, fruitful process, and financial transparency backed by effective neutral, objective, equitable, and prompt enforcement mechanisms.

One of the major breakthroughs of the transportation equity movement came when the Los Angeles Metropolitan Transportation Authority (LAMTA) and the Los Angeles Bus Riders Union, a

project of the Labor/Community Strategy Center, negotiated a consent decree as part of a court settlement in 1996. In the case, Labor/Community Strategy Center and Los Angeles Bus Riders Union v. Los Angeles Metropolitan Transportation Authority, the court was asked to find that LAMTA had provided inferior services to Los Angeles's largely minority and low-income bus riders. Furthermore, LAMTA was directing resources to its commuter rail lines, which served a more affluent and primarily white population, at the expense of its bus users. Prior to trial, the judge directed that the parties work to settle the case. This settlement included hundreds of millions of dollars for new buses, which are ridden primarily by people of color and low-income people.

III. The Role of Technology – Looking Forward

In theory the adoption of social media should leverage the creativity of the public while increasing their level of interest and participation, and reducing their level of dissatisfaction with government services. Also given the trends in youth Internet and mobile communications activities, the hope is that increases in civic engagement will increase over time. As they become politically aware and active, the Web 2.0 generation will come to expect open and accessible processes utilizing these technologies. The challenge will not be technical barriers as much as dealing with the barriers resulting from years of social and political disenfranchisement.

The democratic process relies on interaction between citizens, other residents, and government institutions, and digital technologies are rapidly changing the extent and nature of those interactions. The rapid rise of social media has played a significant role in electoral politics and campaigning, as was widely reported concerning the Barack Obama presidential election in 2008. In four short years this is now the standard. Many-to-many communications create the capacity for far-reaching, real-time organizing and mobilization. Supporters are kept up to date on gatherings (physical or virtual), fund-raising activities, canvassing, and general communications. In addition, grassroots-initiated organizing and public protests are witnessing a sea change in speed and global reach, as evidenced by responses in Tunisia, Egypt, and Libya, during the so-called Arab Spring. In response, the government of Egypt attempted to cut off and seize control of telecommunications. Closer to home, in August 2011 the Bay Area Rapid Transit (BART), shut down cell phone access within its system for hours at a time, because it feared that protestors against its police actions would use cell phones to coordinate their demonstrations.

IV. Importance of Expanding the Network

There is great concern about the quality of life of all people in the United States, and not just from the perspective of 1, 47, or 99 percent of us. There are limitations in what government can do, what the people will tolerate--even for their own benefit--how much inertia there is in social circumstances, and how political obstacles can prevent doing what is fair. In this context, non-profit

organizations (NPOs) and community-based organized (CBOs) play very important roles throughout U.S. communities. The constellation of organizations involved in advocating social justice is vast, arguably under-resourced, and under-powered, especially compared to governmental organizations and private entities, such as corporations and right-wing foundations, they often compete with. Housing is typically considered a private good, although the private market fails to adequately provide affordably priced product, primarily because the lack of profit incentive. The same is true for public transportation. The market cannot or will not provide adequate supply to meet the needs of lower-income groups because little incentive exists for them to do so. The US economy is still automobile-centric, and cars are purchased by individuals. Anyone who cannot afford to buy, maintain, and operate a car is at a huge disadvantage in physical and social mobility.

Besides housing and public transportation, we see NPOs, CBOs, and other non-governmental organizations (NGOs) working directly with constituencies around labor issues, environmental protection, legal representation, voting rights, immigration, and other civil rights. These organizations are able to engage communities more directly than governmental agencies because they can target and assist specific populations where publicly funded organizations generally represent the needs of broad constituencies or jurisdictions. In other words, NPOs and CBOs exist to overcome or balance the economic inequities that exist in society. The wide range of issues and types of NPOs and CBOs highlights the many areas where under-representation occurs and the resulting inequalities lead to deprivation or discrimination.

These organizations can play an invaluable role in continuing to increase awareness, build coalitions, and create change by leveraging social connections through personal and organizational networks. Advocacy organizations like PolicyLink and the Transportation Equity Network (TEN) have hundreds of partners and affiliates that will continue to expand their reach into communities to strengthen the voice of those relying on mobility services.

Resources

Advancing Social and Economic Equity in the Surface Transportation Authorization is a 2010 Framing Paper by PolicyLink and Transportation for America. For copies, please contact Anita Hairston, PolicyLink at 202-906-8034 or anita@policylink.org.

The Transportation Prescription: Bold New Ideas for Healthy, Equitable Transportation Reform in America is a 2009 report by PolicyLink and Prevention Institute, and commissioned by the Convergence Partnership. This policy guide analyzes the intersection of transportation, health, and equity. To access this report, please see the "Publications" section of the PolicyLink website:

<http://www.policylink.org/publications/TransportationPrescription>

All Aboard! Making Equity and Inclusion Central to Federal Transportation Policy is a 2009 PolicyLink report. To access this report, please see <http://www.policylink.org/publications/AllAboard>

An Engine of Opportunity: A User's Guide to Advocate for Transportation Equity in the 2009 Recovery Act is a 2009 PolicyLink report. To access this report, please see:

<http://www.policylink.org/publications/EngineOfOpportunity>

A Bridge to Somewhere: Rethinking American Transportation for the 21st Century is a 2008 Brookings Institution report that can be downloaded from: [http://](http://www.brookings.edu/reports/2008/06_transportation_puentes.aspx)

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Using Technology and Market-Based Approaches to Improve Equity and Access in Public Transit

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A principal goal of the Equity Caucus at Transportation for America is to advance economic and social equity in transportation policy and public transit in particular. Public transit is facing severe challenges in the current fiscal and political environment, and identifying new strategies for achieving these laudable goals will be critical to ensuring its sustainability and viability in US urban areas. Fortunately, improved service delivery, a more nuanced approach to thinking about transit in the overall transportation network, and dramatic improvements in technology have created a unique opportunity for transit agencies to pursue equity goals while also improving financial sustainability by adopting a market- or customer-based approach to system management and service delivery. This policy brief outlines one potential avenue for framing such a market-based approach through an examination of variable fare pricing with equity based adjustments.

1. Transit Reform in a Constrained Environment

Perhaps the most profound challenge facing the public transit community in the opening decades of the 21st century is its inherent financial unsustainability. On average, public transit agencies spend \$3.7 per trip according to the American Public Transportation Association while the average fare revenue per trip—the amount paid directly by customers—is just \$1.23. Moreover, the share of direct customer support is falling. Passenger fares made of 35.9% of all operating revenues, and 28.4% of total funds, in 1988. By 2010, the share provided directly by users had fallen to 32.1% and 22.1% respectively. State grants, local taxes, and federal funds made up the remainder.

Relying on ongoing federal funding is problematic for two reasons. First, transportation policy rarely ranks as a top federal priority (even for highways and roads). Most transportation policy is implemented through programs and initiatives (e.g., formulas) that don't require direct involvement or direction by policymakers. Transit is at a further political disadvantage because it serves a relatively small population (about 5% of commuters). Thus, competing for the attention of federal policymakers is problematic.¹ Thus, transit is vulnerable to shifts in political sentiment. Indeed, the federal share of capital funding for public agencies has declined precipitously over the last 15 years, falling from 54.5% in 1997 to just 41.2% in 2010, even as the share of overall federal funding has ranged from 18% to 19% over the same period.

Second, the general fiscal environment of the federal government has deteriorated precipitously, jeopardizing the future of lower priority programs. Federal government spending as a share of GDP spiked to 25.3% in 2011 after sustained federal anti-recessionary interventions beginning in 2008.² Meanwhile, annual deficits climbed to more than \$1 billion in 2009 and 2010, rising to \$1.6 billion in 2011 (accounting for 43% of federal spending). These policies led directly to the rise of a broad-based Tea Party movement and a conservative backlash that saw control of the U.S. House of Representatives move from the Democratic Party to the Republican Party during the 2010 mid-term elections.

These political constraints are unlikely to ease in the short or intermediate term, placing public transit agencies at severe operational risk. Transit reforms must consider this larger political context when considering long-term reforms.

2. Current Initiatives

Fortunately, some transit agencies have taken leadership roles in reforming their operations to ensure services are both extended as well as more effectively funded. The Utah Transit Authority is using intelligent transportation systems (ITS), smart card technology, and regional planning to transform its transit system, expecting to invest \$5.5 billion over the next 10 years.³ The UTA's former CEO, Jon English, argues for transforming transit organizations from social

¹ Notably, some policymakers and analysts, including former Pennsylvania Gov. Ed Rendell and Reason Foundation's Robert W. Poole, Jr., have argued that Congress should establish a separate transit fund from general revenues. See Edward Rendell, "Better Funding and Better Tolling," Room for Debate, *New York Times*, 8 October 2012, <http://www.nytimes.com/roomfordebate/2012/10/08/should-toll-road-revenue-be-used-for-other-projects/a-need-for-better-funding-for-transportation>; Robert W. Poole, Jr. and Adrian T. Moore, *Restoring Trust in the Highway Trust Fund*, Policy Study No. 386, Reason Foundation, August 2010, http://reason.org/files/restoring_highway_trust_fund.pdf

² Statistical Abstract of the United States 2012, Table 469, "Federal Budget: Receipts and Outlays: 1960 to 2011," <http://www.census.gov/compendia/statab/2012/tables/12s0469.pdf>

³ Jon English, "Reinventing Transit: From Social Service to Critical Public Utility," presentation given at the Critical Issues Symposium on Market-Oriented Transit Reform, DeVoe L. Moore Center, Florida State University, 15 May 2012, <http://www.coss.fsu.edu/dmc/sites/coss.fsu.edu.dmc/files/englishFSPP.pdf>

service agencies to public utilities that serve a broad range of markets through the transportation services they provide. Inglish, for example, has identified eight segments within broad, diversified base of travelers broken down by sensitivity to travel time and the need for travel flexibility.⁴

The largest current transit investment project in the US is currently under way in Denver where the Regional Transportation District (RTD) is investing almost \$2 billion into its T-Rex (Transportation Expansion) initiative to create a regional rail network combined with an innovative congestion pricing program for the local highway network. A key component of Denver's initiative is to use public-private partnerships to improve efficiency, manage risk, and leverage public funds to expand services.⁵ RTD's current program has significantly reduced costs by about one third over existing contracts, and management credits the program for keeping costs well below the average for peer cities.

Other public transit agencies have also adopted various technological enhancements to improve functional performance and better serve customers. APTA reports that 56 % of transit agencies report using magnetic fare cards, 22% use Smart Cards, 23.1% set fares based on distance, and 6% have levied some form of peak-period charge.

While these broader initiatives have improved operational efficiency, many have not been used explicitly to improve affordability or expand social equity. Yet, the broadening and diversifying ridership base for transit, combined with these technological innovations, provides an important avenue for advancing both these objectives.

3. Using Technology to Advance Equity and Affordability

A core principle of the Equity Caucus is to create affordable transportation options for all people. Advances in technology used for collecting fares provides new opportunities for creating a more stable own-source funding stream for transit agencies while also expanding access for low-income riders. The key is to segment the market so that higher income riders are charged at rates closer to their willingness to pay for the actual cost of the transit service provided at the time it is provided.⁶ This is the concept of variable pricing that is increasingly a

⁴ Inglish, "Reinventing Transit: From Social Service to Critical Public Utility."

⁵ Clarence Marsella, "Public Private Partnerships, Productivity and the Modernization of U.S. Transit Agencies," presentation given at the Critical Issues Symposium on Market-Oriented Transit Reform, DeVoe L. Moore Center, Florida State University, 15 May 2012, <http://www.coss.fsu.edu/dmc/sites/coss.fsu.edu.dmc/files/MarsellaPublicPrivatePartnershipProductivityandtheModernization.pdf>.

⁶ Samuel Staley, "How Metro Expansion Might Make Sense," *Washington Post* 24 June 2011, http://www.washingtonpost.com/opinions/how-metro-expansion-might-make-sense/2011/06/23/AGhRXdjH_story.html ; Jon Inglish, "Reinventing Transit: From Social Service to Critical Public Utility," presentation given at the Critical Issues Symposium on Market-Oriented Transit Reform, DeVoe L. Moore

fundamental component of other transportation innovations such as Managed Lanes, HOT Lanes, and congestion pricing.

The adoption of variable pricing has three fundamental advantages for transit agencies. First, transit agencies can more efficiently provide the right kind of services at the right time. Some transit systems already experience severe congestion during peak periods, most often along express bus and commuter rail corridors. Average cost pricing is incapable of managing these peaks in demand effectively, eroding service levels and preventing transit agencies from generating revenues from willing customers. By pricing to manage demand during peak periods (and encourage higher use during off-peak periods), the entire network becomes more efficient. Moreover, experience with HOT Lanes such as the 91 Express Lanes in Southern California finds that low income users also benefit from the higher service levels, not just the wealthy.

Second, variable pricing allows transit agencies to generate revenue based on willingness to pay. This issue becomes more important as transit serves an increasingly diverse ridership base. Large transit systems in San Francisco, New York, and Washington, DC, for example, already appeal to a broad range of riders and commuters. Washington, DC, due in part to general federal subsidies, is utilized by large proportions of federal workers. But even smaller cities such as Charlotte and Salt Lake City are experiencing an upsurge in ridership that includes large numbers of riders from higher income groups. Average cost pricing that set fares low may have been justified when the primary market was low income riders. In a more contemporary context, where transit services are used by a wide range of income levels with diverse travel needs, average fares are often set too low and money is “left on the table” from riders who would be willing to pay more.⁷ Variable fare pricing “captures” these revenues.

Third, and perhaps most importantly, variable rate pricing has the potential to significantly address equity and affordability. High income riders pay the same amount as low income riders under average fare pricing. Given the substantial subsidies from local, state, and federal sources, this pricing strategy provides an unnecessary subsidy to higher income riders.

For example, the current average cash fare is \$1.96, while the average operating expense per trip is \$3.70. If a higher income rider is willing to pay \$3.70 for the same trip but only pays the average fare, he is receiving an effective subsidy of \$1.74 per trip. This is money on the table. Variable rate pricing that considers both income and willingness to pay has the potential to improve equity in financing transit systems while increasing overall revenue.

Center, Florida State University, 15 May 2012,

<http://www.coss.fsu.edu/dmc/sites/coss.fsu.edu.dmc/files/EnglishFSPP.pdf>

⁷ Samuel Staley, “A \$40 Million Crisis Metro Can’t Afford to Waste,” *Washington Post* 1 August 2010, http://voices.washingtonpost.com/local-opinions/2010/01/a_40_million_crisis_metro_cant.html

Affordability—the issue of whether a rider *can* pay versus whether they *will* pay—can be addressed through policies explicitly designed to target low-income travelers and riders. Conceptually, this could be achieved using Smart Card technology that provides discounts on fares based on the income qualifications of the users. This can be accomplished either by providing a pre-loaded card with a certain cash threshold to the qualified buyer (e.g., \$50 per month), or by providing a scaled discount based on the variable rates charged (a 25% price discount at each price charged). The actual discount amount and schedule can be set by the individual transit agency based on their needs, revenue streams, and priorities.

4. Conclusion

In sum, technological innovations are opening a new window of opportunity for transit agencies to address equity and affordability while improving their long-term financial sustainability. The key will be to recognize their markets are broad and diverse, and transform their fare setting policies should reflect this diversity. Adopting a pricing strategy based on willingness to pay has the twin virtue of improving service quality and efficiency while generating a more sustainable revenue stream. Modern technology allows transit agencies to address affordability and access by more directly targeting low-income riders without giving up the revenues that would be earned from higher income travelers.

SOME THOUGHTS ON TRANSPORTATION EQUITY AND PUBLIC POLICY

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For better than a century a wide variety of public policies have collectively supported dispersed metropolitan growth and automobile use in the U.S. As American cities have suburbanized, private vehicles have come to dominate personal travel. Since 2006, more Americans now live in suburbs than in central cities and rural areas combined. And while vehicle miles of travel declined 4.5 percent between 2007 and 2010, U.S. residents in 2010 still made over 90 percent of all day trips in private vehicles and averaged over 9,600 miles of vehicle travel per person per year (U.S. Department of Transportation 2012b). By contrast, less than 2 percent of all person-trips nationwide in 2009 were on public transit; put another way, there were about 43 person-trips are made by private vehicle for each transit trip. Even in the very largest metropolitan areas with populations over 3,000,000, which are by far transit's richest markets, the ratio is still 19 to 1 (Santos, et al., 2011; American Public Transportation Association, 2012; U.S. Department of Transportation, 2012a).

Why all of this driving? Automobility confers substantial individual access benefits – relatively fast, flexible, safe, and comfortable travel in all directions and at all times of day – on many millions of drivers, but does so at significant environmental cost and in a manner that increasingly leaves behind those with little or no auto access.

Given the ubiquity of auto-oriented development and auto travel in the U.S., it should come as no surprise that residents of low-income households with access to autos enjoy considerable mobility benefits compared to those without cars. A large and growing corpus of research finds that private vehicle access, despite its high costs, is positively associated with a variety of positive social outcomes, including finding work and staying out of poverty (Ong, 1996; Shen, 1998; Danziger et al., 1999; County of Los Angeles, 2000; Raphael and Rice, 2000; Work, Welfare and Families and the Chicago Urban League, 2000; Cervero, Sandoval & Landis, 2002; Ong, 2002; Ong and Houston, 2002; Clifton, 2004; Gurley and Bruce, 2005; Port Jobs, 2006; Baum, 2009; Gautier and Zenou, 2010; Sandoval, Cervero, and Landis, 2011). Further, programs to help low-income people purchase and maintain reliable cars have proven effective in helping low-income people find and keep jobs (Port Jobs, 2001; Hayden and Mauldin, 2002; Lucas and Nicholson, 2002; Lucas and Nicholson, 2003; Port Jobs 2006; National Economic Development and Law Center, 2007).

While it shouldn't surprise us that auto access benefits low-income residents who, for the most part, reside in auto-oriented cities and towns across the U.S., this fact engenders considerable discomfort among progressives concerned with both alleviating poverty and safeguarding environmental quality. Environmental activists are understandably concerned with the unsustainability of widespread and growing motor vehicle use: both the enormous consumption of energy and land resources, and the high levels of hazardous emissions. To such activists, the idea of programs that aim to increase auto ownership and use among the poor is anathema.

Because of this, a transportation policy détente of sorts has evolved among poverty and environmental activists. Because public transit is disproportionately patronized by low-income people and because transit travel is less environmentally invasive than driving, policy progressives have for several decades collaboratively pushed for increased public investment in transit – and

with considerable success. Public transit subsidies—the tax dollars required to cover the gap between the costs of providing transit service and farebox revenues—increased a remarkable 66 percent between 1995 and 2009, after controlling for the effects of inflation (Iseki, et.al. 2012). In addition to increasing overall subsidies there has been a significant shift in modal priority from bus to rail transit: between 1999 and 2009, overall subsidy of rail transit increased 60 percent faster than for bus. Regardless of mode, however, transit service has grown much faster than transit use in recent years, suggesting that our waxing investments in transit are not yet paying off as much as we would hope. Between 2001 and 2009, vehicle-hours of transit service rose by 23 percent, but service productivity, in terms of transit passengers per vehicle-hour, actually declined by 11 percent (Iseki, et.al. 2012).

For those concerned with access and mobility among the poorest households, a policy focus primarily on public transit is at best an incomplete strategy on two counts. First, while transit riders are disproportionately low-income, the vast majority of poor people get around in cars. Poor people drive not because Madison Avenue has convinced them to, but because for most trips – in the suburbs, to swing or night work shifts, to drop-off or pick-up kids along the way, and so on – transit is simply not a viable alternative to driving. For example, poor metropolitan workers in 2000 were 11 times more likely to commute by private vehicle than by transit, and even those residing in households with no vehicles were still 38.1 percent more likely to commute to work by car than transit (U.S. Census Bureau, 2000). Second, poor transit riders depend far more heavily on buses than trains for their mobility, so the shift in public subsidies toward rail transit is a regressive one. In 2009, the household incomes of commuters on buses were but 40 percent of those in cars, while rail riders came from households with incomes about 15 percent (or \$10,000 per year) *greater* than auto travelers (Taylor and Morris, 2012).

As a result of these trends, federal transportation policy should evolve to (1) allow as many poor people as possible to enjoy the automobile-based transportation system that we have – for better and for worse – developed in the U.S. and (2) shift transit subsidy policy from funding new transit vehicles, facilities, and rail lines, to subsidizing transit riders, most of whom reside in low- and moderate-income households. To wit:

1. ***Equity Caucus Principle: Increase investment in bicycle-sharing, car-sharing, and auto-loan programs for low-income families in rural communities, small towns, and underserved urban neighborhoods.***

While transit can be very effective in urban areas, it is often not a viable option for many trips, and efforts to reduce the environmental footprint of the U.S. transportation system should not involve keeping poor people out of cars. A transit-first federal transportation program would leave behind many millions of poor people in small cities, towns, and rural areas, far flung suburbs, or who must travel at odd hours or in atypical directions. Car ownership programs have been shown to improve social and economic outcomes for low-income families and should be supported at much higher levels in the years ahead. These programs have been shown to be both cost-efficient and effective and the time for pilot

programs has passed. First, federal funding of programs to support low-income automobile ownership, improve maintenance (which can bring substantial environmental benefits), and fund insurance (which can lower overall transportation system costs) needs to increase substantially. Second, Individual Development Accounts (IDAs)¹ in some states explicitly exclude automobile purchases; this needs to be changed. Third, the vehicle asset limitation in many states for low-income families receiving public benefits is too low, which forces people to either try to circumvent the requirements, or to own older, less reliable, less safe, and more polluting vehicles than they would like. Finally, as car sharing programs expand and propagate in the coming years, programs to subsidize membership among the poor need to be developed.

2. ***Equity Caucus Principle: Give communities flexibility to use federal funds to help operate local public transportation systems.***

A primary, if not *the* primary, rationale for the public subsidy of transit service is to provide mobility for those without. But federal and most state transit subsidy programs explicitly emphasize new facilities and equipment over operations and maintenance, and suburb to central business district rail services over local bus service (Taylor and Samples, 2002) – federal subsidies are allocated to places and systems, and not to transit riders. To shift the focus of transit policy from systems and equipment to service and patronage, and to motivate increased state and local support of transit services in high-ridership areas, the federal transit subsidy program should be restructured to match passenger fare revenue collections. Matching programs have a long history in federal transportation finance, and currently federal transit subsidies amount to about 85 percent of all fare revenues collected. With such a matching program, each time a passenger puts \$1 into a farebox, the federal program would allocate \$0.85 to that transit agency. If the federal transit program were increased by about 15 percent, federal subsidies could match transit riders on a dollar-for-dollar basis. This new federal program would explicitly subsidize transit passengers, rewarding systems for attracting paying customers as opposed to rewarding places for building new maintenance facilities and rail lines, and would shift subsidies from lightly patronized suburban systems to more heavily patronized urban systems thereby increasing funding where patronage is highest. Further, because fares paid per mile of travel tend to be highest among low-income riders (Taylor, Garrett, and Iseki, 2000) this policy shift would simultaneously reward systems that carry the poorest riders and would likely encourage them to move away from regressive flat fare regimes as well. Finally, transit operators should be able to deploy these federal funds on facilities, equipment, maintenance, or operations as they see fit, which would eliminate the powerful, inefficient, and inequitable capital bias in federal transit policy.

¹ Individual Development Accounts (IDAs) are matched savings accounts designed to help low-income people save for major purchases, like a home.

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