

Breaking Down Silos: Transportation, Economic Development, and Health

ch. 6

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ABSTRACT >> *Transportation policy in the United States has historically emphasized automobile use and steered land use, development, and investments in infrastructure toward low-density suburbs. This approach has left low-income communities in aging city centers poorer, sicker, and increasingly immobile, unable—more and more—to get to work, their doctor, parks, gyms, or even grocery stores that sell fresh, healthy food. This paper explores an alternative transportation policy designed to create healthy, productive metro regions by closing the gap between affluent, mobile communities and their less mobile, disadvantaged neighbors.*

By reconfiguring how we use available land, we can create densely populated, mixed-use communities that expand access to transportation and improve health outcomes. With a focus on equity, these policies can also support economic development that reduces poverty and economic and racial segregation.

This paper considers two approaches: creating mixed-income, transit oriented villages and using transportation funds to promote local workforce development. While the goals of equity and environmental sustainability are not mutually exclusive, the paper concludes by cautioning activists against ignoring the short-term needs of low-income families who live in built environments dominated by the automobile.

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Introduction

The United States is in the midst of a shift in transportation policy—from *mobility* to individual and community *accessibility*. Traditionally, transportation choices in this country have been made inside policy “silos” that isolate decisions on how we commute and travel from decisions on how we live. By making these decisions in a vacuum, transportation policies have promoted sprawl, or low-density patterns of housing that favor automobile use over public transportation and that exact a huge toll on the health of our metro regions, particularly low-income communities.

The goal of making transportation more efficient is not to move people faster and farther but to give them wider access to all the things that are necessary for a good life: jobs, education, family, friends, recreation, culture, etc. Under this approach, for example, it might make sense to spend transportation funds on housing construction near major employment centers. This kind of planning can be especially beneficial for low-income families who don’t own a car. But for it to happen requires a more democratic decision-making process in which all community stakeholders have input. This broad-based effort can produce more environmentally sustainable regions.

The focus of this paper is on vertical equity, or policies that provide the most benefits to the most people, including those at the bottom of the socioeconomic ladder. Equity should not be understood simply in terms of income or wealth, but in terms of what Amartya Sen calls “functionings and capabilities.” According to Sen, “relevant functionings can vary from such elementary things as being adequately nourished, being in good health, avoiding escapable morbidity and premature mortality, etc., to more complex achievements such as being happy, having self-respect, taking part in the life of the community, and so forth.”¹ Capabilities refer to the ability to have choices. Other things being equal, people are better off

if they have choices in how they want to live their lives.² To achieve transportation equity, not all low-income people should be treated alike because, depending on where they live, some people have greater transportation needs than others.³ For example, using transportation funds to develop pedestrian-friendly, transit-rich villages will enable people to have acceptable “capabilities and functionings” without building expensive highways.

This essay will not examine the direct effects of transportation services on health. Providing more bus routes for low-income communities, for example, would help people to access medical care or healthy foods. Instead, the focus here is on how transportation influences economic development that in turn affects health. By facilitating market exchanges, transportation influences *what kind* of economic development occurs (single use or mixed use), *where* it occurs (on the suburban fringe or near the center), and *who benefits* (rich or poor, white or black). The type of economic development that occurs has direct effects on health. Compact, mixed-use developments that rely more on public transportation, walking, and biking support better health outcomes, other things being equal, than auto-dependent, low-density economic development that separates residential, retail, and office functions.⁴

Besides these *direct* effects, there are also many *indirect* effects of transportation systems on health. Transportation policies encourage economic development that either worsens or lessens poverty, inequality, and economic and racial segregation. All of these factors—poverty, inequity, and segregation—are associated with poor health outcomes (see endnotes five and six). The link between poverty and poor health outcomes is well documented, but less well known is that income inequalities across class and space are also associated with poor health.⁵ Moreover, residents of areas with concentrated poverty not only have little access to health services, but also experience other factors that undermine health,⁶ including:

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- 1. Less Exercise:** Because people are afraid to go outside in high-crime areas and because high-poverty areas often lack good walking infrastructure, such as parks and sidewalks, living in poverty-impacted neighborhoods discourages physical activity and therefore increases obesity and other negative health outcomes.
- 2. Poor Air Quality:** High-poverty neighborhoods are more likely to be the locations for toxic waste dumps, garbage transfer stations, bus depots, highways and ports, and truck facilities, and therefore suffer from inferior air quality due to toxic fumes as well as gasoline and diesel exhaust.
- 3. Inadequate Diet:** Residents of high-poverty neighborhoods often lack access to low-cost, high-volume grocery stores with fresh fruits and vegetables.
- 4. High Stress:** Finally, residents of poor neighborhoods suffer from the withering effects of stress. High crime, overcrowding, noise, unemployment, lack of retail outlets, and poor public services are all stressful. Chronic stress damages our organs and immune systems and is associated with cardiovascular disease, asthma attacks, and premature death.

The paper concludes with recommendations for transportation policies that can reduce economic inequalities and improve the access of disadvantaged populations to all those things that are necessary for a good life and good health. It cautions that we need both long-term policies—to reduce automobile dependency by changing land use patterns over time—and short-term policies—to meet the needs of low-income families who live in automobile-dependent environments.

Unhealthy Effects of the Highway Policy Silo

Until the 1990s transportation policy in the United States was dominated by what political scientists call a policy monopoly, or silo—an arena of government decision making controlled by industry insiders and insulated from demands by other stakeholders.⁷ A steady stream of funding for transportation was guaranteed by federal- and state-earmarked gasoline taxes, and decisions about spending that money were made largely by highway engineers within state departments of transportation (DOTs).

The transportation policy silo was influenced by market principles intended to maximize mobility. Building more and more roads was the market's response to meet demand of customers who had the most money to spend. Highway engineers in state DOTs based their decisions to extend roadways on mathematical projections for increasing automobile travel, and the central tenet was increased mobility—moving more people over greater distances at higher speeds. Highway engineers were not trained to think about how land use patterns influenced travel demand but to focus on how to move people in the most efficient manner given the infrastructure that was in place.

Rather than simply respond to demand, however, highway building created demand for more roads and cars. This is called traffic generation or induced demand: expanding road capacity on the urban fringe promoted low-density suburban sprawl that in turn generated demand for more highways.⁸ Reinforced by suburban zoning codes, auto-centered transportation policy promoted economic development that separated residential, retail, office, and wholesale functions into distinct geographic zones. Instead of a market equilibrium or balance between different transportation modes and land use patterns, silo-driven transportation policy generated a positive feedback mechanism that encouraged



one mode (automobiles) and one land use pattern (suburban sprawl) to expand unchecked.

The white middle-class families that moved out to the suburbs to live in single-family homes on large lots generally inhabited environments with plenty of green space, sunshine, low crime, and low stress.⁹ Most of the negative effects of highway-oriented economic development fell on those left behind by suburban sprawl. Highway construction encouraged the movement of jobs away from the urban core.¹⁰ Largely because of suburban zoning codes, lack of access to federally guaranteed mortgages, and racism in housing markets, inner-city working class and minority households were unable to follow jobs out to the suburbs. Unusually long distances between home and jobs for low-income and minority workers are well documented by researchers and are a cause of poverty.¹¹

Auto-driven urban sprawl has also been a mighty engine of economic segregation. Since the 1950s, new home construction on the suburban fringe has shifted from the middle to the top of the income distribution.¹² The correlation between new housing and economic segregation is strong: the newer the housing in a neighborhood, the higher the average income in that neighborhood.¹³ By subsidizing the flight of the middle class out of central cities

and inner-ring suburbs, the auto-dominated transportation system left behind pockets of concentrated poverty, with the negative effects on health cited earlier.

Using the power of eminent domain, state DOTs displaced millions of households to build new highways.¹⁴ Highway engineers typically located highways connecting suburbs with central business districts through low-income, usually minority, neighborhoods to save money on land acquisition. Involuntary displacement from highway building severed social connections, which have been shown to be crucial for good health.¹⁵ Forced moves can be life threatening for older adults. At the same time that urban neighborhoods were disrupted by highway building, the highway construction jobs went overwhelmingly to white, often suburban, construction workers.¹⁶

The highway-dominated transportation system also puts pressure on family budgets, especially among low-income families. The general standard is that no family should spend more than 20 percent of income on transportation; after that, transportation expenditures will begin to eat into other necessities, such as housing and healthcare.¹⁷ The average American household devotes about 18 percent of its after-tax income to transportation, but this varies by income and by place of residence. Overall, transportation expenditures are regressive with regard to income.¹⁸ Low-income households, and especially those who live in areas without good public transportation, spend a much higher percentage of their incomes on transportation. For example, households earning between \$20,000 and \$35,000 and living far from employment centers spend 37 percent of their income on transportation.¹⁹ To have access to jobs, they must own a car. The necessity of car ownership exacerbates poverty. In 2007 the annual cost of owning an automobile averaged \$9,498 (for insurance, gas, maintenance, and the average annual cost of purchasing or leasing an automobile).²⁰

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New Transportation Policies for Healthier Economic Development

The 1991 *Intermodal Surface Transportation Efficiency Act (ISTEA)* was designed to break open the policy silo that had dominated transportation policy for so long.²¹ As the name suggests, *ISTEA* aimed to create intermodal systems that balance highways with transit, walking, and bicycling. *ISTEA* made it easier to “flex” funds from highways to transit. By encouraging the coordination of land use and transportation, *ISTEA* began the shift from a mobility policy paradigm to an accessibility policy paradigm. It changed the way decisions were made, removing some decision-making power from highway-dominated state DOTs and giving metropolitan planning organizations (MPOs) veto power over projects in their area. *ISTEA* began to open the transportation policy silo. For example, decisions for spending Congestion Mitigation and Air Quality (CMAQ) funds had to be approved by the air quality district, thus ensuring that environmental interests would be at the table when some transportation decisions were made. *ISTEA* also required MPOs to publish an overall plan for citizen participation. The intent was to have a broad array of stakeholders at the table when transportation decisions were made.

Although *ISTEA* and its successor acts (the *Transportation Equity Act for the 21st Century*, or *TEA-21* (1998), and the *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users*, or *SAFETEA-LU* (2005) have activated new networks around transportation policy, the results on the ground have been disappointing. With the exception of California, relatively few dollars have been flexed from highways to other transportation modes.²² Even though transit ridership is up, the proportion of all trips made by public transportation declined steadily from 1990 to 2001.²³ In 2007 10.3 billion trips were taken on public transportation, the highest level in 50 years; the third quarter

of 2008 reported the largest annual increase in transit ridership in 25 years.²⁴ In 2009, just as public transportation is serving record numbers of people, many transit agencies are facing deep cuts. Efforts to coordinate transportation investments and land use continue to be halting and fragmented, and in most metropolitan areas, federal dollars are still going to highways, subsidizing energy-intensive, low-density sprawling patterns of land use that shift jobs away from needy urban communities.²⁵ State DOTs still dominate decision making; only about six percent of federal funds are actually controlled by MPOs.²⁶ Even within MPOs, citizen participation is often ritualistic.²⁷ Citizen groups are put in the position of responding to decisions rather than being at the table when the agenda is set.

The upcoming authorization of federal transportation policy needs to take bold steps to correct these problems, completing the transition from a mobility policy paradigm to a focus on accessibility. All major stakeholders—drivers, transit users, local residents, environmental groups, civil rights organizations, pedestrians, and bicyclists—should have a say in how federal transportation dollars are spent in their areas. Above all, federal transportation policy needs to be more equitable. The next two sections examine areas where transportation policy can improve the health and well-being of disadvantaged groups at the same time that it builds a more efficient and environmentally sustainable transportation system. This requires transportation policymakers to step out of their policy silos and talk to those who formulate housing policy and workforce development policy.

Mixed-Income Transit Oriented Development

Transportation policy and housing policy tend to be developed in separate policy silos; DOTs don't talk to HUDs. This is a mistake. Transportation investments shape housing demand and housing shapes transportation demand. Low-density suburban development would have



been impossible without massive investments in suburban road capacity. Similarly, investments in new light-rail systems open up possibilities for higher-density development around transit stations. Well-planned development around such stations can produce broad benefits for society as well as targeted benefits for low-income persons, but only if equity is made a priority in the transportation-housing nexus. The result will be healthier communities, especially for low-income persons.

Starting with San Diego in the early 1980s, a new generation of fixed-rail transit systems has emerged in the United States. The new light-rail systems are faster than trolleys but stop more frequently than the heavy-rail suburban commuter trains. Bus rapid transit (BRT) lines, in which buses are given dedicated lanes and priority at traffic lights, are being developed in many cities and, if properly constructed, can provide many of the same benefits as light rail. Substantial new investments are being made in new light-rail systems. The federal New Starts program, which provides capital funds for light-rail systems, is funded at only about two billion dollars out of the approximately

\$50 billion spent by the federal government on transportation each year. Only a handful of metropolitan areas get assistance in any year.

Many metropolitan areas have taken matters into their own hands, passing local taxes to pay for expansion. In 2004 Denver voters passed a half-cent sales tax to fund a \$4.7 billion expansion of their light-rail system; Charlotte voters also approved a half-cent sales tax to finance a nine billion dollar light-rail system planned to be completed by 2030. Light-rail systems are sold to the voters for a wide range of benefits, including cutting traffic congestion, reducing gasoline consumption, improving air quality, and attracting new investment to the region.

All of these benefits are enhanced by transit oriented development (TOD), defined as development within a half-mile of a transit station (about a ten-minute walk) that is high density, pedestrian friendly, has mixed use, and includes station-focused public spaces. The development of new light-rail systems opens up possibilities for more efficient, more environmentally sustainable, and more equitable development. The land around light-rail stations increases in value because it is more accessible to housing, jobs, and shopping.²⁸ Higher land values justify denser development. Drawing on these increased land values, public policies can leverage funding for affordable workforce housing with little or no cost to taxpayers. Developers can be offered density bonuses in exchange for building affordable housing. The profits they make by building more units on each plot of land will be used to fund the affordable housing, typically with money left over as additional profits. In weaker markets, mixed-income TOD may need to be subsidized by housing policies.

The demand for housing near light-rail station lines soared until the recent housing crisis, and it will rise again when the economy recovers and gas prices escalate. Today, about six million households live within a half-mile of a transit station. The demand for housing adjacent to

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transit is projected to reach 16 million by 2030.²⁹ To meet this demand, 10 million housing units will need to be built within a 10-minute walk of transit stations. This movement toward denser, mixed-use forms of development presents a golden opportunity to create mixed-income transit villages, providing healthier environments, especially for low-income families. Enabling low-income households to live in TODs will give them access to pedestrian-/bicycle-friendly environments that encourage an active, healthy lifestyle and that are closer to amenities, such as full-service grocery stores offering fresh fruits and vegetables.

TOD is built primarily by private developers, but it has extensive public benefits that justify government support: TOD increases property values around stations and therefore enhances tax revenues; well-designed TOD reduces crime by creating “eyes on the street” and 24-hour activity; TOD increases transit ridership and reduces traffic congestion by giving residents access to more destinations by transit and on foot; TOD reduces air pollution by cutting down on the need for automobile use; TOD saves infrastructure costs by reducing the need for parking; and TOD promotes active lifestyles that reduce obesity and improve health.

By including affordable housing, TOD can also improve equity and health. As we noted earlier, transportation costs are an onerous burden to low-income families, especially those that must own a car to get to work. TOD can reduce that burden. Higher levels of accessibility enable families to substitute more affordable and healthier forms of transportation—public transit, walking, and bicycling—for more expensive automobiles. A new tool, the Affordability Index, shows how much a household can save by living in a transit-rich environment. In Minneapolis-St. Paul, monthly costs of transportation varied from \$446 to \$941. Moving from a transit-poor to a transit-rich neighborhood would save the average household \$5,940 a year.³⁰ For a low-income

family, this savings would be huge. Locating jobs within TODs can help overcome the job-housing mismatch discussed earlier.

Planners may be tempted to include only higher-income housing in TODs on the ground that it will maximize property values. But this is not necessarily true. Smaller, more affordable rental housing and condos can be quite profitable. Moreover, low-income households are good to have in TODs because they tend to use transportation more than high-income households. In 2001 those earning less than \$20,000 a year accounted for 38 percent of all transit riders, far more than their 14 percent share of the urban population.³¹ Low-income households are less likely to own a car; therefore, the zoning code can reduce the parking requirement by up to 75 percent (from one parking space per middle-income unit to one-quarter of a space per low-income unit).³² At \$10,000–\$30,000 per parking space, this can be a powerful incentive for developers to include affordable housing.

One of the barriers to realizing the savings of living in transit-rich environments is that it is very rarely possible for households to entirely give up access to a car. Automobile use has high fixed costs, and those costs are more burdensome to low-income households that drive fewer annual miles. Low-income drivers often pay high insurance rates, even though they drive less.³³ Even if low-income households can use public transportation to get to work, in most American metropolitan areas, they will still need a car to transport major purchases or to visit friends or relatives in other parts of the region.

The root of the problem is that there is no easy way to own “part” of a car. The invention of car-sharing solves this problem by enabling access to an automobile on a pay-as-you-drive basis. A nonprofit in the Bay Area, City CarShare, opened for business in 2001, and subsequently private companies—such as ZipCar—have entered the business. Flex cars are parked on

city streets and, after undergoing a background check, people can join the system and use the cars on a per-hour basis, usually for less than \$10 an hour. A study of CarShare members found that nearly 30 percent of them had gotten rid of one or more cars and nearly two-thirds said they had decided not to purchase another car.³⁴ This system could be adapted for low-income persons; used cars could be employed instead of new cars. Imagine what it would mean to a family of three earning the federal poverty cutoff (\$17,600 in 2008) if they could dispense with the cost of owning a car (average cost \$9,498) and instead use public transportation and car-sharing at one-half that amount or less.

To realize the full benefits of mixed-income TOD, new policies are needed to break down the silos that have encased transportation and housing policies and prevented the synergies that would result from coordinating them.³⁵ The upcoming authorization of federal transportation policy presents an opportunity to connect transportation to economic development and health. When energy prices rise, as they will when the economy recovers, the motivation to coordinate housing and transportation policies to reduce energy consumption will also rise. The Obama administration and the new congressional leadership have expressed a desire to overcome policy silos and to begin planning transportation and housing policies together.³⁶

Policy Recommendations

Transportation

- Authorization of the upcoming federal transportation bill should enable MPOs to flex funds from transportation funding to subsidizing mixed-income TODs.³⁷
- Funding for the New Starts program should be increased and the Federal Transportation Administration (FTA) should give priority to applications that incorporate plans for mixed-income TODs.
- Funds should be set aside in the next bill to provide technical assistance to local governments and community-based organizations (CBOs) to plan mixed-income TODs.
- U.S. DOT should develop a model overlay zoning code that encourages mixed-use, denser, more pedestrian-friendly development around transportation stations and disseminate best practices for TOD from around the country.
- DOT should require that MPOs' Transportation Improvement Plans (TIPs) report on how transportation investments will address the need for affordable workforce housing near transit.
- DOT should develop a competitive grant program to subsidize car-sharing for low-income households living within half-a-mile of transit stations.
- DOT (or HUD) should develop an affordability index for housing that includes transportation costs to monitor the progress of metropolitan areas, especially for low-income households.

Housing

- The Low-Income Housing Tax Credit (LIHTC) and New Markets Tax Credit programs should be amended to incentivize projects that are located within half-a-mile of a transit stop; the U.S. Treasury should increase the LIHTC bonding cap for states to undertake mixed-income TOD projects.
- HUD should write regulations for the Community Development Block Grant (CDBG), and other grant programs, to give high priority to mixed-income TODs.
- The federal government should enact a homeownership tax credit targeted to low- and moderate-income homes located within half-a-mile of a transit station.

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- HUD should create a program to preserve affordable housing within half-a-mile of a transit station and that is threatened by expiring use restrictions.
- State and local governments should allocate a portion of tax-increment financing (TIF) and other local incentives to mixed-income TODs; economic development incentives should be targeted on jobs that are accessible by transit (“location efficient job incentives”).³⁸
- In strong market regions, local governments should enact TOD overlay zoning districts that reward developers with density bonuses if they include workforce housing.³⁹

Transportation and Local Workforce Development

Just as transportation policy needs to be coordinated with housing policy, it also needs to be coordinated with workforce development policy. Transportation expenditures generate hundreds of thousands of jobs each year in the construction industry. When these jobs are targeted to the neediest communities, transportation policy helps to lift up poor communities and, in the process, improve health outcomes. In effect, connecting transportation to workforce development enables the taxpayers to get “more bang for their bucks.”

The loss of well-paying manufacturing jobs has been devastating to many inner urban, heavily minority communities, creating pockets of concentrated poverty with all of the negative effects on health discussed earlier.⁴⁰ One of the causes of entrenched poverty is the lack of decent-paying jobs for workers without a college education. The jobs they can get usually pay low wages, have few benefits (including no health insurance), and lack job ladders for advancement. Dead-end jobs offer little hope.

Construction is one industry where a worker

without a college education can get a job with good pay, decent benefits, and the prospects of advancing up a clear job ladder. Even though fewer than 10 percent of construction workers have college degrees, the average wage in construction in 2006 was \$18.29 an hour, well above the minimum wage.⁴¹ Wages and benefits vary significantly in the industry.⁴² Unionized construction workers who have access to joint union-contractor apprenticeship systems can advance from apprentice to journey-level status, earning at least \$30–\$40 an hour. The apprenticeship system is paid for by a modest surcharge on all wages that are part of the collective bargaining agreement. Workers do not need thousands of dollars to access excellent job training services; in construction apprentice programs they can “earn while they learn” on the job.

Unfortunately, blacks and women have historically been blocked from skilled, unionized jobs in the construction trades. According to a recent study of the core counties in the 25 largest metropolitan areas, if blacks were employed in construction in 2006 at the same rate they were employed in the general workforce, an additional 137,044 blacks would be working in construction. In 2005 women represented only 2.6 percent of production workers in construction.⁴³

Successful programs have been set up around the country involving collaboration among unions, community groups, and end users of construction to bring minorities, women, and low-income persons into skilled construction trades. With the exception of the recent downturn in the homebuilding industry, construction jobs are growing, offering the opportunity to bring new workers into skilled construction trades without displacing present workers. Based on retirements, transfers, and job growth, the federal government estimates that the industry will need to recruit 245,900 skilled construction workers each year between 2004 and 2014.⁴⁴ With guaranteed funding

of \$244 billion over five years, *SAFETEA-LU* should have created more than 1.9 million person years of on-site construction jobs by its 2009 expiration.⁴⁵

The 1931 *Davis-Bacon Act*, as amended, requires that all workers on federally funded construction projects be paid the “prevailing wage” in each region, which is usually close to the union wage in construction.⁴⁶ The potential of targeting jobs from transportation projects to disadvantaged communities is illustrated by the Alameda Corridor project. In 1998, a coalition of community groups won a local hiring agreement on a \$2.4 billion transportation project serving the ports of Los Angeles and Long Beach, called the Alameda Corridor.⁴⁷ The project used a combination of federal and state monies. A coalition of 40 community-based organizations negotiated a community benefits agreement (CBA), requiring that at least 30 percent of all the hours on the project be performed by disadvantaged persons from the surrounding low-income zip codes. During the CBA negotiations, the federal government maintained that targeted hiring was prohibited on both statutory and constitutional grounds. The project was able to get around this prohibition by using only state funds for the targeted hiring program. CBOs were funded to run pre-apprenticeship programs to prepare applicants for the rigors of construction. Of the 880 graduates of the pre-apprenticeship programs, 373 were ex-offenders. Eventually, 710 local residents were placed in construction jobs.

The Transportation Equity Network (TEN)—a coalition of 300 grass-roots community groups working to make transportation policies more responsive to low-income persons, minorities, and disadvantaged communities—wanted to spread the Alameda model around the nation. In 2005 it was able to get a “Sense of Congress” inserted into *SAFETEA-LU*, which specifically upholds the Alameda Corridor project as a model and states that “federal transportation projects should facilitate and encourage” collaboration between state

departments of transportation and other interested parties “to help leverage scarce training and community resources to help ensure local participation in the building of transportation projects” (Public Law 109-59, Stat. 114. Section 1920: Transportation and Local Workforce Investment).

Using this provision, TEN and its allies have negotiated local workforce agreements in states and metropolitan areas around the nation.⁴⁸ In one successful example community groups in St. Louis used a little-known provision in federal transportation law (23 USC 140) that allows state DOTs to use up to one-half of one percent of surface transportation funds for workforce development. The groups negotiated an agreement with the Missouri Department of Transportation that devoted \$2.5 million from the \$535 million I-64 project to local workforce development and reserved 30 percent of the work hours on the project for women, minorities, and low-income persons. A similar agreement was negotiated in 2008 for the Kansas City Paseo Bridge Project. In May 2008 Governor Tim Pawlenty of Minnesota signed a law that directs Minnesota’s DOT to spend the maximum amount feasible on job training and supports. Also in 2008 Michigan passed a law that directed \$15 million of highway funds into job training over four years.

Successful state and local experiments show that transportation projects can successfully target jobs to needy communities. Federal prohibitions against race- or place-based targeting have been overcome by recruiting participants through “first-source” job training centers. Under first-source hiring provisions, apprenticeships are required to be filled by job training centers that are located within, and have close ties to, low-income and minority neighborhoods. These job training centers provide pre-apprenticeship training that prepares workers for the rigors of the construction trades. Many applicants lack the basic math skills, work habits, and knowledge of the construction industry to succeed

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in an apprentice program. Successful pre-apprenticeship programs impart these skills and weed out those who are unprepared, including those with drug or alcohol problems. The best pre-apprenticeship programs have high success rates placing their graduates in the construction trades, but they cost between \$6,000 and 8,000 per participant.⁴⁹

Successful experiments in local workforce development in the construction trades are encouraging, but they do not come close to meeting the need. This is where transportation policy can make a difference. Current federal transportation law permits states to use federal highway funds for local workforce development; it does not *require* them to do it. Local workforce development should be mandatory on all large federal transportation projects. The federal departments of transportation and labor should collaborate to develop joint programs on workforce development. Transportation expenditures will generate a steady demand for skilled construction labor, which could be met by targeted job training programs.

Policy Recommendations

Transportation

- Section 1920 should be changed from a “Sense of Congress” to a mandate requiring that 30 percent of all hours on all large federal transportation projects (over \$10 million) be performed by women, minorities, ex-offenders, and low-income persons from the local communities where the project is located.⁵⁰
- One percent of all funding on large federal transportation projects, transit as well as highways, should be set aside to fund pre-apprenticeship programs and to subsidize the wages of apprentices.⁵¹



- State DOTs should be directed to facilitate negotiations among unions, contractors, community groups, local job training agencies, and other interested parties to negotiate agreements to implement mandated local hiring.

Labor

- The U.S. Department of Labor (DOL) should establish a program under the *Workforce Investment Act* to provide grants in metropolitan areas with demonstrated shortages of skilled construction workers for pre-apprenticeship programs run by unions, community-based organizations, high schools, or community colleges.
- DOL should fund a program to evaluate pre-apprenticeship programs around the country and spread best practices, including offering technical assistance to providers of such programs.
- DOL should gather data on the supply and demand for skilled construction labor

in each metropolitan area for each major construction trade to guide local workforce development planning.

In short, health, environmental, and equity concerns can and must be addressed at the same time. Win-win policies can help to cement the so-called blue-green alliance between workers and environmentalists. For example, a recent Public Interest Research Group (PIRG) report showed that investment in public transportation produces 19 percent more jobs than equivalent investments in roads and bridges.⁵² We have shown that mixed-income development around transit stations can address poverty and improve health outcomes at the same time. Equity and health advocates have a natural convergence of interests here.

To realize these policy objectives, we do not need government agencies to just break out of their policy silos; we need citizens to break out of their advocacy silos. Transportation equity advocates need to understand the health implications of the policies they recommend, and health advocates need to be mindful of the impacts of their policies on equity—on the ability of people everywhere to access opportunities. Health advocates need to understand the key role played by land use reform in creating healthier environments and giving low-income persons access to jobs. There is a convergence of interests here that could build powerful coalitions for reform—only if advocates in each area set aside narrow definitions of self-interest and open themselves to new perspectives.

Conclusion

It is exciting to develop policies that can shape a new built environment that is healthier and more equitable than today's norm. This will require working across the silos that have too often constrained effective public policies. For example, Secretary of HUD, Shaun Donovan, and Secretary of Transportation, Ray LaHood, have begun to collaborate on how to coordinate housing and transportation policies (see endnote 36). Using transportation policies to promote affordable housing and housing subsidies to support public transportation will reduce our over-reliance on automobiles and create healthier environments.

Unfortunately, most people today live in a built environment that requires extensive use of cars or buses. To devote the vast bulk of our resources to public transportation in order to shape the built environment in a more progressive direction would be shortsighted.⁵³ We must continue to invest resources in maintaining and improving bus service for low-income persons and people with disabilities (including making buses less polluting), even though buses, unlike light-rail systems, do not create powerful incentives for higher-density TOD. Indeed, we may need to subsidize vans and even car ownership for some people who live in areas not serviced by mass transit.⁵⁴

Ultimately, we need short-term policies to accommodate the transportation needs of people where they presently live at the same time that we advocate for long-term policies that will shape living patterns to reduce automobile dependence and create healthier environments for everyone.

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- ¹ Amartya Sen, *Inequality Reexamined* (Cambridge, MA: Harvard University Press, 1992), 39.
- ² Research has shown, for example, that lacking control over one's work is associated, after controlling for a range of variables, with cardiovascular symptoms and other health problems. This research is summarized in Richard G. Wilkinson, *Unhealthy Societies: The Afflictions of Inequality* (New York: Routledge, 1996), 181. In general, living in concentrated-poverty neighborhoods is associated with a sense of fatalism, the belief that nothing can be done to improve the situation, which leads to the internalization of stress that has shown to be highly correlated with poor health outcomes. For the connection between concentrated poverty and fatalism, see James E. Rosenbaum, Lisa Reynolds, and Stefanie DeLuca, "How Do Places Matter? The Geography of Opportunity, Self-Efficacy, and a Look inside the Black Box of Residential Mobility," *Housing Studies* 17, no. 1 (2002): 71–82. For a nontechnical synthesis of the research on the connection between stress and disease, see Grace Budrys, *Unequal Health: How Inequality Contributes to Health of Illness* (Lanham, MD: Rowman & Littlefield, 2003), ch. 9.
- ³ Transportation needs also vary with age, gender, and disabilities. A full treatment of transportation equity, which is beyond the scope of this essay, would need to take into account these conditions as well. See "Equity Evaluation: Perspectives and Methods for Evaluating the Equity Impacts of Transportation," *TDM Encyclopedia* (updated July 23, 2008), <http://www.vtppi.org/tdm/tdm13.htm>.
- ⁴ The literature on the health effects of urban sprawl is voluminous. For a short overview, see Robert Burchell et al, *Sprawl Costs: Economic Impacts of Unchecked Development* (Washington, DC: Island Press, 2005). See also Howard Frumkin, Lawrence Frank, and Richard Jackson, *Urban Sprawl and Public Health: Designing, Planning, and Building for Healthier Communities* (Washington, DC: Island Press, 2004).
- ⁵ For evidence of the negative impact of inequality in general and geographical inequalities in particular on health, see Ichiro Kawachi, Bruce P. Kennedy, and Richard G. Wilkinson, eds., *The Society and Population Health Reader: Income Inequality and Health* (New York: New Press, 1999).
- ⁶ The following account of the health effects of concentrated poverty is based on Peter Dreier, John Mollenkopf, and Todd Swanstrom, *Place Matters: Metropolitcs for the Twenty-First Century*, rev. ed. (Lawrence, KS: University Press of Kansas, 2004), 76–82.
- ⁷ For an insightful discussion of policy monopolies (also called subgovernments, iron triangles, or policy silos), see Frank R. Baumgartner and Bryan D. Jones, *Agendas and Instability in American Politics* (Chicago: University of Chicago Press, 1993), 6–9. For analysis of the highway policy silo in its heyday, see Alan Altschuler, *The City Planning Process: A Political Analysis* (Ithaca, NY: Cornell University Press, 1965) and John Mollenkopf, *The Contested City* (Princeton, NJ: Princeton University Press, 1983).
- ⁸ According to a survey of urban scholars, the 41,000-mile federal interstate highway program was the most important influence

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shaping America's metropolitan areas in the past half-century. Reported in Robert Fishman, "The American Metropolis at Century's End: Past and Future Influences," *Housing Policy Debate* 11, no. 1 (2000): 199–213.

- ⁹ Over time, however, the urbanization of the suburbs and the almost complete reliance on the automobile has generated serious health costs, including higher levels of air pollution and low activity levels related to obesity. The increased stress from long commutes and traffic congestion negatively affect health. According to a study of eight metropolitan areas, even though rates of homicide by strangers are higher in inner urban areas than in outlying suburbs, the higher traffic fatality rates in outlying areas swamp this effect, making outlying areas less safe than central cities and inner suburbs. See William H. Lucy, "Mortality Risk Associated with Leaving Home: Recognize the Significance of the Built Environment," *American Journal of Public Health* 93, no. 9 (September 2003): 1564–69.
- ¹⁰ Elizabeth Kneebone, "Job Sprawl Revisited: The Changing Geography of Metropolitan Employment," The Brookings Institution, Center on Urban and Metropolitan Policy, May 2009.
- ¹¹ According to Ingrid Gould Ellen and Margery Austin Turner, of six literature reviews on the spatial mismatch, three find substantial support for it, two find moderate support, and one finds the evidence too mixed to reach a conclusion. See "Do Neighborhoods Matter and Why?," in *Choosing a Better Life: Evaluating the Moving to Opportunity Social Experiment*, eds. John Goering and Judith D. Feins (Washington, DC: Urban Institute Press, 2003), 328.
- ¹² Between 1950 and 2000 the average size of a new home increased by more than 50 percent (from 1,470 square feet to 2,265 square feet). In 2000 the average new house
- was almost two-thirds more expensive than in 1960 (in constant dollars), and the share of new housing purchased by the top 20 percent of the income range increased dramatically. Rachel Dwyer, "Expanding Homes and Increasing Inequalities: U.S. Housing Development and the Residential Segregation of the Affluent," *Social Problems* 54, no. 1 (2007): 23–46.
- ¹³ Paul Jargowsky, "Sprawl, Concentration of Poverty, and Urban Inequality," in *Urban Sprawl: Causes, Consequences, and Policy Responses*, ed. Gregory D. Squires (Washington, DC: Urban Institute Press, 2002), 57.
- ¹⁴ Between 1956 and 1972, highway building and urban renewal displaced an estimated 3.8 million persons, overwhelmingly poor and minorities, from their homes. Susan Fainstein and Norman Fainstein, eds., *Restructuring the City: The Political Economy of Urban Development* (New York: Longman, 1986), 49.
- ¹⁵ In *Bowling Alone* Robert Putnam reports that joining your first group will "cut your risk of dying over the first year in half." *Bowling Alone: The Collapse and Revival of American Community* (New York: Simon and Schuster, 2000), 331. For a comprehensive analysis of the costs of displacement on African American communities by urban renewal (and highway building), see Mindy Thompson Fullilove, *Root Shock: How Tearing Up City Neighborhoods Hurts America* (New York: Ballantine, One World, 2004).
- ¹⁶ To this day, African Americans are underrepresented in the construction workforce relative to their participation in the overall workforce. See Todd Swanstrom, *The Road to Good Jobs: Patterns of Employment in the Construction Industry in the Top Twenty-five Metropolitan Areas* (St. Louis, MO: Transportation Equity Network, Public Policy Research Center, University of Missouri – St. Louis, 2008).

- ¹⁷ “Transportation Affordability: Strategies to Increase Transportation Affordability,” *TDM Encyclopedia*, updated July 2008, Victoria Transport Policy Institute, <http://www.vtppi.org/tdm/tdm106/htm>.
- ¹⁸ Transportation expenditures are not regressive with respect to family expenditures because many low-income households, such as older adults, live on savings and therefore spend more than they earn. However, for all vehicle-owning households, transportation expenditures are regressive as a proportion of household expenditures. See Todd Litman, “Transportation Affordability: Evaluation and Improvement Strategies,” Victoria Transport Policy Institute, November 10, 2008, <http://www.vtppi.org/affordability.pdf>.
- ¹⁹ Barbara Lipman, *A Heavy Load: The Combined Housing and Transportation Burdens of Working Families* (Washington, DC: Center for Housing Policy, October 2006), http://www.nhc.org/pdf/pub_heavy_load_10_06.pdf.
- ²⁰ American Automobile Association, *Your Driving Costs* (Heathrow, FL: AAA, 2007). The estimate is based on gasoline costing \$2.256 a gallon. Low-income persons can own a car for less by purchasing a cheap used car, but then they are subject to repairs, and unreliable transportation can cost them their job. Also, insurance costs tend to be higher in poor communities.
- ²¹ Reauthorizations of *ISTEA* in 1998 and 2005 strengthened the law, for example, creating incentives to link transportation and land use (Transportation and Community and System Preservation [TCSP] Pilot Program) and funding reverse commuting programs to transport inner-city workers to suburban jobs (Job Access and Reverse Commute Program [JARC]).
- ²² For a comprehensive and largely critical review of federal transportation policy, see Bruce Katz, Robert Puentes, and Scott Bernstein, “Getting Transportation Right for Metropolitan America,” in *Taking the High Road: A Metropolitan Agenda for Transportation Reform*, eds. Bruce Katz and Robert Puentes (Washington, DC: Brookings Institution Press, 2005), 15–42.
- ²³ John Pucher, “Public Transportation,” in *The Geography of Urban Transportation*, 3rd ed., eds. Susan Hanson and Genevieve Giuliano (New York: Guilford Press, 2004), 207.
- ²⁴ http://www.apta.com/media/releases/081208_ridership_surges.cfm.
- ²⁵ Margaret Weir, Jane Rongerude, and Christopher K. Ansell, “Collaboration is Not Enough: Virtuous Cycles of Reform in Transportation Policy,” *Urban Affairs Review* 44, no. 4 (March 2009): 455–89.
- ²⁶ Katz, Puentes, and Bernstein (see endnote 22).
- ²⁷ For example, to demonstrate that the public had been consulted, the Chicago MPO (CATS) produced a 15-pound compilation of public comments that had never been analyzed. Weir, Rongerude, and Ansell, “Collaboration is Not Enough,” 476 (see endnote 25).
- ²⁸ See Robert Cervero, “Effects of Light Rail and Commuter Rail Transit on Land Prices: Experiences in San Diego County,” *Journal of the Transportation Research Forum* 43, no. 1 (2004): 121–38.
- ²⁹ Shelley Poticha, “Building Housing Near Transit: A Long-Lasting Affordability Strategy,” Congressional Testimony before the Appropriations Subcommittee on Transportation, Housing and Urban Development, and Related Agencies, U.S. House of Representatives, March 8, 2007. Poticha is President and CEO of Reconnecting America, Oakland, CA.
- ³⁰ Center for Transit-Oriented Development and Center for Neighborhood Technology, *The Affordability Index: A New Tool for Measuring the True Affordability of Housing*

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Choice, Brookings Institution Urban Markets Initiative, Innovation Brief (January 2006), 10. Recognizing this saving, Fannie Mae created a Location Efficient Mortgage that enables borrowers to qualify for a larger loan if they are buying in areas that have lower average transportation costs.

- ³¹ John Pucher, "Public Transportation," 212 (see endnote 23).
- ³² Dena Belzer et al., *The Case for Mixed-Income, Transit-Oriented Development in the Denver Region* (Oakland, CA: Center for Transit-Oriented Development, February 2007), 42.
- ³³ One way to address this problem would be Pay-As-You-Drive car insurance. See "Transportation Affordability" (endnote 17).
- ³⁴ Robert Cervero and Yu-Hsin Tsai, "San Francisco City CarShare: Travel-Demand Trends and Second-Year Impacts," Institute of Urban & Regional Development, *IURD Working Paper Series*, Paper WP-2003-05 (August 1, 2003), <http://repositories.cdlib.org/iurd/wps/WP-2003-05>.
- ³⁵ Directed by Congress, U.S. DOT and HUD have begun to collaborate on policies to promote affordable housing near transit. See *Better Coordination of Transportation and Housing Programs to Promote Affordable Housing Near Transit*, a Report to Congress from the U.S. Department of Transportation, Federal Transit Administration, and the U.S. Department of Housing and Urban Development, 2008. The HUD-FTA Interagency Working Group should continue to operate to identify legislation and administrative actions to better coordinate housing and transportation policies.
- ³⁶ For example, the House Appropriations Subcommittee on Housing, Transportation and Urban Development, chaired by Rep. John Olver (D-MA), held a hearing with a joint appearance by DOT Secretary Ray LaHood and HUD Secretary Shaun Donovan. In a joint press release, LaHood and Donovan announced a new partnership to coordinate housing and transportation to cut costs for working families, <http://www.hud.gov/news/release.cfm?content=pr09-023.cfm>.
- ³⁷ Present federal regulations do permit limited funds to be used for this purpose. The Metro system in Portland, OR, has used Congestion Mitigation and Air Quality (CMAQ) funds to acquire and sell land around transit stations for TOD, usually with an affordable housing component. PolicyLink, *Equitable Development Toolkit: Transit Oriented Development*, available at <http://www.policylink.org>.
- ³⁸ Sarah Grady with Greg Leroy, *Making the Connection: Transit-Oriented Development and Jobs* (Washington, DC: Good Jobs First, March 2006).
- ³⁹ Workforce housing is usually defined as housing that costs no more than 35 percent of the median wage in the area.
- ⁴⁰ For a penetrating account of what happens "when work disappears" from communities, see William Julius Wilson, *When Work Disappears: The World of the New Urban Poor* (New York: Alfred A. Knopf, 1996).
- ⁴¹ Center to Protect Workers' Rights, *The Construction Chart Book: The U.S. Construction Industry and Its Workers*, 4th ed. (Silver Spring, MD: Center to Protect Workers' Rights, Center for Construction Research and Training, December 2007).
- ⁴² A recent study of 25 metropolitan areas found that hourly wages in construction (2004–2007) varied from \$15.65 in the Dallas metropolitan area to \$27.70 in the Chicago region. Todd Swanstrom, *The Road to Good Jobs: Patterns of Employment in the Construction Industry* (St. Louis, MO:

Transportation Equity Network and Public Policy Research Center, U. of Missouri – St. Louis, 2008).

- ⁴³ Center to Protect Workers' Rights, *The Construction Chart Book* (see endnote 41).
- ⁴⁴ Daniel Hecker, "Occupational Employment Projections to 2014," *Monthly Labor Review* (November 2005): 70–101.
- ⁴⁵ Calculation of the number of jobs produced is based on Thomas P. Keane, "The Economic Importance of the National Highway System," *Public Roads* 59, no. 4 (1996): 16–21.
- ⁴⁶ The act is named after its Republican sponsors, James J. Davis, a Senator from Pennsylvania who was Secretary of Labor under three presidents, and Representative Robert L. Bacon of Long Island, NY. For Davis-Bacon wage rates state by state: see <http://www.gpo.gov/davisbacon/allstates.html>.
- ⁴⁷ Lisa Raghelli, *Replicating Success: The Alameda Corridor Job Training & Employment Program* (Washington, DC: Center for Community Change, 2002).
- ⁴⁸ For more examples of TEN's successes: see <http://www.transportationequity.org>.
- ⁴⁹ For best practices in pre-apprenticeship programs, see Kathleen Mulligan-Hansel, *Making Development Work for Local Residents: Local Hire Programs and Implementation Strategies That Serve Low-Income Communities* (Milwaukee, WI: Partnership for Working Families, 2008), <http://www.communitybenefits.org/downloads/Making%20Development%20Work%20for%20Local%20Residents.pdf>.
- ⁵⁰ The 30 percent standard has been shown to be achievable in a number of projects around the country, such as in the St. Louis I-64 partnering agreement. A copy of that agreement is available on the Transportation Equity Network website, <http://www.transportationequity.org>.
- ⁵¹ Presently, the federal law permits one-half of one percent of surface transportation funds to be used for local workforce development. One percent would do a better job of meeting the need while still representing a small cost to the overall project.
- ⁵² See <http://www.uspirg.org/home/reports/report-archives/transportation/transportation2/a-better-way-to-go>. Similarly, research has shown smart growth transportation policies, such as "fix-it-first" highway projects or public transportation, create more jobs than new highways that fuel more sprawl. Phillip Mattera with Greg Leroy, *The Jobs are Back in Town: Urban Smart Growth and Construction Employment* (Washington, DC: Good Jobs First, 2003).
- ⁵³ An example of the political problems this can cause is the lawsuit filed by the Los Angeles Bus Riders' Union against massive expenditures on a light-rail system at the same time that bus service was being cut. In March 1999, the Bus Riders' Union won a court ruling for 532 new buses and 1,500 new union jobs for drivers and mechanics. For a discussion of the tensions between environmentalists and advocates of the poor in the transportation arena, see Joel Rast, "Environmental Justice and the New Regionalism," *Journal of Planning Education and Research* 25 (2006): 249–63.
- ⁵⁴ Research has demonstrated that car ownership increases employment and wages for low-income persons. See Steven Raphael and Michael Stoll, "Can Boosting Minority Car-Ownership Rates Narrow Inter-Racial Employment Gaps?," Working Paper W00-002, Program on Housing and Urban Policy, University of California – Berkeley, <http://urbanpolicy.berkeley.edu>, and Paul Ong, "Car Ownership and Welfare-to-Work," School of Public Policy and Social Research, University of California – Los Angeles, February 26, 2001, <http://www.uctc.net/papers/540.pdf>.