

Why and How to Fund Public Transportation

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Table of Contents

I. Overview and Background

II. Why Fund Public Transit?

1. Transit Creates Public Goods by Displacing Driving
 - A. Congestion Reduction
 - B. Reduced Pollution
 - C. Allows More Efficient Land Development
 - D. Fewer Auto Injuries and Deaths
2. Other Transit Benefits
 - A. Enhanced Mobility
 - B. Economic Development
 - C. Public Spaces
3. Transit Needs Will Outpace Existing Funding

III. General Principles for Funding Transit

1. Enhanced Market Efficiency
2. Low Collection Costs
3. Reliability
4. Capacity for Growth
5. Fairness

IV. Potential Revenue Sources

1. Fare Hikes are Self-Defeating
 - Side Bar: Should Transit be Free?
2. Discretionary Spending Sources
 - A. General Revenues
 - B. “Flexing” Federal Transportation Funds
3. Sales Taxes
4. Dedicated Transportation Revenues
 - A. Gas Taxes
 - B. Rental Car Tax
 - C. License, Registration or Title Fees
 - D. Tire Tax
 - E. Weight-Based Vehicle Sales Taxes
 - F. Vehicle Battery Tax
 - G. Weight Mile Truck Fee
 - H. Toll Roads
5. Development and Real Estate Charges
 - A. Development Impact Fees
 - B. Storm Water Fees
 - C. Real Estate Transfer Tax
 - D. Parking Tax

V. Efficiency in Transportation Spending

1. Comparisons Bias Roads Over Transit
2. Comparing Rail and Bus Systems

I. Overview and background

Definition: Transit, mass transit, mass transportation, public transportation and public transit are treated synonymously in this paper to comprise transportation systems in which passengers ride together on vehicles they do not own and share with others. It includes buses, light rail, traditional trolleys, subways and other forms of heavy passenger rail, monorail or ferries. It does not include airlines, shared-ride taxis or inter-city bus service. The benefits of inter-city rail are similar to those discussed in these pages, but generally have different funding mechanisms.

This document provides an overview of why transit should receive government funds and how those revenues should be raised. It also briefly discusses some ways to ensure that transit spending can best fulfill its policy goals.

Most transit systems face recurring shortfalls in their operating budgets. Part of the problem is changing political demographics. America's population increasingly lives and works in the suburbs where transit appears less relevant and its benefits less direct. Decades of transportation, housing and land-use policies have encouraged transit-unfriendly patterns of spread out development. Policies also do not require cars and trucks to bear the enormous social costs that they create from pollution, congestion and accidents. Transit may appear less relevant to most Arizonans, but it is more necessary than ever.

When transit gets people out of their cars, the result is less congestion, less pollution and fewer accidental injuries and deaths.

Transit does have other benefits. Rail, bus, and trolleys provide travel options. These can be crucial for low-income or middle-income residents who live far from job centers and desire more affordable transportation options. Transit can also make a big difference for people with limited mobility. Even for people who do have a car and ordinarily drive, transit provides a valuable option when big events make parking difficult or the car is in the shop. Transit can also provide local economic stimulus by attracting more people to a community, making it a destination for shoppers and employers.

New funding for public transportation can come to states from a variety of different sources. These include: sales taxes, general revenues, development fees and additional funds from the federal government. Alternative levies can be designed to simultaneously raise revenue while also ensuring that commuters pay their fair share of the social costs caused by driving. Increased passenger fares, on the other hand, are typically a poor source of additional revenues because they deter riders.

II. Why Fund Public Transit?

Sidewalks do not pay for themselves. Neither do street lights or roads. Transit is highly visible, but – like sewer systems and water mains – many public benefits remain unseen and unappreciated.

Transportation policy has long recognized transit as a public benefit. Nowhere are passenger fares expected to fully cover operating costs, much less capital costs. Public transportation provides a variety of public goods, most of which come from displacing the social costs of car and truck travel. Trains, buses and trolleys replace the greater congestion and pollution generated by cars and trucks. Transit encourages more compact development patterns, making possible more walkable communities and saving tax dollars that would otherwise be spent on more far-flung public infrastructure. Transit also increases property values near transit stops, conserves fuel, extends the available labor pool for businesses, and reduces auto fatalities. More visibly, transit provides an alternative transportation option that can be crucial to people without cars or to car owners when their regular routes or vehicles are unavailable. Transit, including dedicated local shuttle buses, can also allow seniors and those with reduced mobility to lead a more independent life.

1. Transit Creates Public Goods by Displacing Driving

Public transportation's main benefits come from replacing car trips. According to the U.S. Department of Transportation, motorists cover only three-quarters of the costs they generate from congestion, pollution, accidents and noise — even after accounting for the gas taxes, registration taxes, sales taxes and other fees that drivers pay on their vehicles. According to the analysis, federal highway monies subsidize driving to the tune of 8 cents per mile for automobiles and over 20 cents per mile for the heaviest trucks.¹ In urban areas autos impose almost three cents per mile, while heavy trucks create social costs of almost 70 cents per mile in social costs. Some estimates put the average external cost of driving on society at over 40 cents per mile, not including land-use effects.² The Federal Highway Administration (FHWA) calculates that motor vehicles imposed \$90 billion in accident, congestion, noise and pollution costs on non-motorists in 2000. Additionally, all levels of government spent approximately \$125 billion on highways.³

According to the FHWA, “With the exception of their own travel time, vehicle operating costs, and perhaps risks of having a crash, highway users normally do not consider many of these marginal costs when deciding whether to make a trip. In general, economic

1. FHWA, 2000, table 4

2. <http://www.vtpi.org/tdm/tdm82.htm>

3. FHWA, 2000, figure 7. Ian W. H. Parry, Margaret Walls and Winston Harrington, in a study by Resources for the Future, calculate \$1.57 per gallon in costs to others – *not including* costs associated with global warming, oil dependency, noise, sprawl, highway maintenance, parking subsidies, or automobile disposal costs. See “Automobile Externalities and Policies,” Resources for the Future discussion papers, DP-06-26, June 2006. See also <http://www.vtpi.org/documents/transportation.php>.

efficiency would be enhanced if users had to pay those marginal costs they do not consider in trip-making decisions” Even after gas taxes and other fees, about a third of net driving costs are externalized onto society according to analysis by Todd Litman at the Victoria Transportation Policy Institute.

A. Congestion Reduction

Traffic congestion is a growing problem on Arizona’s roads that wastes both time and fuel. For the average commuter in the United States, annual additional time wasted to traffic delays increased from 14 hours in 1982 to 38 hours in 2005.⁴ In the Tucson metropolitan area, commuters wasted 42 hours on average, and around Phoenix, commuters wasted a whopping 48 hours annually.⁵

Transit reduces congestion. According to estimates by the Texas Transportation Institute, which produces the gold standard in congestion data, if transit passengers were part of the general traffic flow, then total congestion would increase 29 percent, creating about 1 billion hours in additional lost time across the nation.⁶

Congestion wasted an estimated 2.3 billion gallons of gasoline in 2003.⁷ By reducing driving, transit has a double benefit for energy-savings. To start with, rail and bus travel is more fuel-efficient than driving. Reduced congestion also makes automobile travel more fuel-efficient. Congested driving, particularly stop-and-go-style drive during peak periods, greatly erodes vehicle fuel economy.

B. Reduced Pollution

By removing cars from the road, transit reduces pollution by preventing auto emissions and polluted road run-off. These mechanisms parallel the ways that transit reduces congestion. Most directly, trains and buses create less pollution-causing emissions than would be created if the same transit riders traveled in individual cars or even carpooled. Transit also reduces air pollution by reducing congestion for the remaining cars on the road, thus polluting less to make the same trips.

The Federal Highway Administration estimates that motor vehicles create, on average, 1.5 cents per mile in social costs from air-pollution-caused health problems. Pickups and vans create 2.6 cents in social costs per mile of travel, and large diesel trucks create almost 4 cents per mile in costs. These estimates do not include health problems caused by fuel-based toxics, road dust or other additional costs created by pollution.

4. David Schrank and Tim Lomax, *The 2007 Urban Mobility Study* College Station, TX: Texas Transportation Institute, 2007.

5. David Schrank and Tim Lomax, *The 2007 Urban Mobility Study* College Station, TX: Texas Transportation Institute, 2007.

6. David Schrank and Tim Lomax, *The 2005 Urban Mobility Study* College Station, TX: Texas Transportation Institute, 2005.

7. David Schrank and Tim Lomax, *The 2004 Urban Mobility Study* College Station, TX: Texas Transportation Institute, 2005.

C. Allows More Efficient Land Development

Transportation and land-use problems are tightly connected. On the one side, light rail, commuter rail and rapid bus systems allow development of more walkable communities where using a car is an option rather than a requirement. For example, communities that are more compact save money because smaller networks can be constructed for driving, sewage, electricity and parking. Many central cities thrive as physical “hubs” for business activity, many doubling their population during the work day. Such massive influxes of people would be impossible if everyone drove long distances and required parking.

Seen from the other direction, compact residential development also facilitates transit by boosting the potential ridership along a transit route. Thus, more efficient land-use patterns encourage more efficient transportation. These twin relationships reinforce one another, but can leave policy makers facing a chicken-and-egg problem: Compact development is more difficult without transit; yet, transit is less effective without compact development.

Sprawl creates additional driving and additional expenses for residents and communities. Research has also shown that individuals who live in densely populated neighborhoods are more likely to walk or use a bicycle to engage in shopping, recreation or other opportunities — as opposed to needing to drive to complete routine errands.⁸ Compact living is also far more energy efficient. By some accounts, New York City has the smallest ecological footprint per-capita of anywhere in America. Manhattan is the densest community in America, made possible by the highest rate of transit use. The average Manhattanite reportedly consumes gasoline at the rate average Americans did back in the 1920s.⁹

Encouraging more compact land use also saves money for private and public budgets. Denser mixed-use living patterns require fewer resources and less driving than do single-family homes spaced out on large lots segregated from commercial districts. Localities with more compact land-use spend less per home on sewers, gas and electric infrastructure, or on additional roads and parking. Police, fire departments and school buses also save money by traveling shorter distances. Families often move to distant suburbs as a way to find lower home prices. But families in metropolitan areas that work further from central business districts typically lose more money on higher driving costs than they save in lower mortgage payments.¹⁰

8. U.S. PIRG, Making Sense of America’s Oil Needs, August 2005.

9. David Owen, “Green Manhattan: Why New York is the greenest city in the U.S.,” The New Yorker, October 18, 2004. Available at <http://www.walkablestreets.com/manhattan.htm>.

10. “A Heavy Load: The Combined Housing and Transportation Burdens of Working Families,” Center for Housing Policy, Washington, D.C., 2006. Available at http://www.nhc.org/pdf/pub_heavy_load_10_06.pdf. See also http://www.environmentcolorado.org/reports/fiscalcostofsprawl12_03.pdf.

D. Fewer Auto Injuries and Deaths

The Bureau of Transportation Statistics estimates that motor vehicles cause over 40,000 accidental deaths and almost 3 million injuries each year.¹¹ By contrast, less than 300 deaths annually take place on public transit.¹² Using conservative estimates to quantify these costs in financial terms, the National Highway Traffic Safety Administration in 2002 estimated an average social cost from accidents totally 15.8 cents per vehicle mile or 4.3 percent of GDP.¹³

Substituting driving with public transit tends to reduce death and injuries because transit is safer.¹⁴ Rail and buses have lower crash risk per-passenger-trip because professional drivers tend to have lower crash rates and total vehicle traffic is reduced. Bus passengers have about one-tenth the per-mile crash fatality rate as automobile passengers. Rail passengers have a rate of risk about one-quarter that of drivers — higher than bus because of generally higher speeds. More compact communities have far lower crash and fatality rates than less compact communities.

2. Other Benefits from Transit

A. Enhanced Mobility

Transit provides public benefits as a *transportation option*, especially when car travel is too expensive or impractical. From this perspective, transit funds are akin to the large subsidies the government pays for air travel. At the federal level, the Bureau of Transportation Statistics calculates those yearly net subsidies at \$4 billion as of 2002.¹⁵ In addition, the federal Airport Improvement Program also typically picks up 90 percent of any state and local capital funding for airports. The Government Accountability Office estimates that from 1999 through 2001, airports received an average of about \$12 billion a year for planned capital development.¹⁶

11. Bureau of Transportation Statistics, National Transportation Statistics, tables 2.1 and 2.2., U.S. Department of Transportation, Washington, D.C., 2004.

12. Bureau of Transportation Statistics,
http://www.bts.gov/publications/national_transportation_statistics/2002/html/table_02_01.html.

13. This comes to \$433.5 billion. U.S. National Highway Traffic Safety Administration (NHTSA), 2002. The Economic Impact of Motor Vehicle Crashes, 2000. NHSTA, U.S. Department of Transportation, Washington, D.C.

14. http://www.vtpi.org/tdm/tdm58.htm#_Toc65190634 See also FTA safety statistics at <http://transit-safety.volpe.dot.gov/Data/samis/default.asp?ReportID=2>

15. http://www.bts.gov/programs/federal_subsidies_to_passenger_transportation/pdf/entire.pdf These figures do not include the ways that air travel cross-subsidizes its own infrastructure needs. Similar to the prime role the national gas tax plays in financing America's National Highway System, the National Airspace System (NAS) is funded through a tax on airplane fuel. The Airport and Airway Trust Fund also receives money through taxes on tickets and freight shipping.

16. The primary source of this funding was bonds, which accounted for almost \$7 billion, followed by federal grants and passenger facility charges, which accounted for \$2.4 billion and \$1.6 billion, respectively. Testimony Before the Subcommittee on Aviation, Senate Committee on Commerce, Science, and Transportation, Airport Finance Past Funding Levels May Not Be Sufficient to Cover Airports'

For transit, the most obvious benefits are creating mobility for people who do not have access to automobiles. These groups are often some of society's most vulnerable people.

- According to the Federal Transit Agency (FTA), in 1998, 24 million disabled Americans were dependent on transit.¹⁷
- An analysis by the FTA on 1995 data estimated that transit provided 2.6 billion trips that year for people who were either too impoverished to own a car, too young to drive, or over 74 years of age. These trips comprised 40 percent of the total for transit.¹⁸

People with access to cars also benefit greatly from transit. The same FTA analysis shows that the largest share of transit subsidies go to such individuals. Trips by passengers with access to an automobile comprise a little more than a third of total transit trips but receive 56 percent of net transit subsidies. One reason for the disproportionate spending on more affluent riders is because transit riders who own cars live overwhelmingly in the suburbs. Suburban areas often hold disproportionate political clout. Suburban drivers also commute longer distances than city dwellers, which make for greater benefits to non-riders from replacing these vehicle trips.¹⁹

Many individuals with access to automobiles choose to take rail, bus, or ferry as a way to avoid congestion and parking hassles. Some use transit sporadically on weekends or when their regular automobile is unavailable. Merely having transit as a viable backup option delivers great value. For instance, public transit provides an important alternative during the rare occasions when a car is being repaired, when a commuter will fly out of town after work, or when a large event closes roads or makes parking scarce.

B. Economic Development

Metropolitan areas are economic engines of the economy because they draw investment and skilled workers and function as a hub for the interaction of people, information and ideas. Economists talk about the productivity-enhancing effects of agglomeration in

Planned Capital Development, Statement of Gerald L. Dillingham Director, Civil Aviation Issues, Tuesday, February 25, 2003.

17. William W. Millar, Testimony of the American Public Transit Association Before the Labor Health and Human Services, Education and Related Agencies Subcommittee of the House Appropriations Committee, Feb. 5, 1998, 1998 WL 8991781.

18. "A Public Choice Policy Analysis," Transit Benefits 2000 Working papers, FTA Policy Paper (Office of Policy Development, FTA, 2000), chapter 1. Their share of net transit subsidies after subtracting for fares, however, was only 29 percent of the total. By contrast, among working-age transit users with above poverty incomes, those who did not own an automobile comprised 25 percent of all trips with 15 percent of public subsidies, and transit passengers who did own one or more automobiles comprised 35 percent of the total trips while incurring 56 percent of net subsidies. These numbers should not be treated as precise since 21 percent of costs could not be allocated between passenger groups.

19. When measured by the *mileage* of transit trips, travel by working-age auto owners comprise the large majority of transit travel. These trips averaged over twice the mileage of trips by non-working age and impoverished transit users and three times the mileage of working-age passengers without access to cars. See "A Public Choice Policy Analysis," Transit Benefits 2000 Working papers, FTA Policy Paper (Office of Policy Development, FTA, 2000), chapter 1.

cities. Arizona's metropolitan areas — Flagstaff, Phoenix-Mesa-Scottsdale, Prescott, Tucson and Yuma — contain 89 percent of the state's population, 93 percent of the state's jobs, and 94 percent of the state's GDP.²⁰

Transit makes this productivity-enhancing agglomeration possible by reducing congestion. As one analysis by the Federal Transit Agency (FTA) concludes, "Other things equal, transit enables a higher degree of agglomeration which in turn results in higher productivity and stimulates economic growth."²¹ They find moreover, "that cities with more transit tend to be more efficient than cities with less transit."

Evidence shows that public transportation boosts property values. Based on controlled comparisons of a sample of 2,842 commercial property sales in Washington, D.C., an FTA study found that proximity to a Metro station corresponds to higher property values. For every thousand feet closer to a Metro station, properties gained \$70,000 in value. Measured differently, for every 3 blocks closer to a Metro station, properties gained \$2.30 per square foot.²² Similarly, a U.S. Department of Transportation study of Massachusetts commuter rail found that single-family homes located within a half mile of rail stations were worth 10 percent more than similar homes in similar communities further from a station.²³

States and localities can harness these kinds of economic potential by adjusting land-use restrictions and creating incentives for Transit-Oriented Development, focused especially on compact projects combining residential and commercial uses and clustered around transit stops.

C. Public Spaces

One virtue sometimes extolled by transit advocates is the benefits of public transit in providing public spaces for citizens to interact with one another instead of being isolated in their cars or homes. Trains, buses and their stations can ideally create spaces where people become familiar with citizens of other races, income groups, and backgrounds than themselves.²⁴

20. See <http://www.brookings.edu/projects/blueprint/states/arizona.aspx>.

21. "A Public Choice Policy Analysis," Transit Benefits 2000 Working papers, FTA Policy Paper (Office of Policy Development, FTA, 2000)

22. "A Public Choice Policy Analysis," Transit Benefits 2000 Working papers, FTA Policy Paper (Office of Policy Development, FTA, 2000), chapter 5.

23. By Robert J. Armstrong (U.S. Department of Transportation) and Daniel Rodríguez (Department of City and Regional Planning, University of North Carolina, Chapel Hill) *Transportation*, 33:1, January 2006.

24. See <http://www.vtpi.org/cohesion.pdf>.

3. Transit Needs Will Outpace Existing Funding

There are a number of reasons that public transportation will require growing levels of support in the future.²⁵

One reason transit needs will grow is the many ongoing trends compounding traffic congestion problems. Arizona's population is expected to reach over 10 million people in 25 years. As Arizona's population increases, the number of cars on the road will increase and people will drive more miles in their vehicles. Growing areas that face increasing traffic and parking problems will find transit attractive if financing and rights of way can be obtained.

Rising gas prices also make transit more attractive because of greater fuel efficiency compared to cars and trucks. Although economic conditions can cause a temporary drop in the price of oil, the long term trend of price increases is expected to continue. Indeed, it appears that the era of "cheap oil" may well be over. Oil prices have increased during the last decade because of increased global demand from countries such as China, Brazil and India. Transportation is the biggest consumer of oil in the U.S., accounting for about two-thirds of our petroleum demand and almost 80 percent of growth in recent decades. The world is meanwhile having an increasingly difficult time producing enough oil to satisfy rising demand. Regardless of whether world-wide production of oil "peaks" in the near future, the cost of producing and refining oil will increase as proven reserves are depleted and extraction companies unconventional supplies such as lower-quality crude and tar sands.

III. General Principles for Funding Transit

Typically, the biggest obstacle to improved public transportation is how to pay for it. Not all revenue sources are created equal. Ideally, mechanisms for funding transit would have all the qualities listed below. In practice, some taxes or fees may be strong in some ways but weak in others.

1. Enhanced Market Efficiency

Markets work best when the costs that individuals face accurately reflect societal costs. As previously discussed, drivers bear some of the costs they generate, but do not fully cover the larger set of costs they generate for others. Taxes and fees that increase the individual cost of driving are therefore *market correcting*. In economists' jargon, total

25. The Federal Highway Administration's Condition and Performance Cost to Maintain Report to Congress estimates the minimum amount of capital investment needed to maintain the nation's transit systems at \$35 billion annually, increasing to \$45 billion in 2025, driven by population and economic growth. These totals do not include operating costs. Similarly, the American Association of State Highway and Transportation Officials in their 2002 Bottom Line Report, using slightly different analytical assumptions, estimates that the minimum amount of capital investment to maintain the transit system will be \$39 billion annually, increasing to \$49 billion in 2025. These are just estimates for maintaining existing transit services. Both analyses report significantly higher and less precise estimates of the costs for needed improvements in transit systems.

social welfare is improved when external costs get internalized for decision makers. This occurs when taxes and fees discourage vehicle trips by requiring drivers to consider those external costs. Similarly, social welfare is improved when developers must pay the otherwise-invisible social costs of development which make land-use patterns less compact.

2. Low Collection Costs

The costs incurred by collecting, monitoring and enforcing taxes are a drain that should be minimized. Taxes and fees that are easier and cheaper to collect are preferable to those that require elaborate and costly mechanisms to implement.

3. Reliability

Transportation planners need to be sure they can cover costs in the future. Projects should have adequate operating expenses to keep systems running well. Transit riders who make long-term decisions about purchasing vehicles or where to live based on transit options will be particularly harmed by unexpected reductions in service or fare increases.

4. Capacity for Growth

Securing future funding is particularly important in the case of expanding transit systems because they often take on debt for capital investments in new or improved transit infrastructure. Banks and bond traders who extend credit to transit agencies will be willing to do so at lower interest rates if the agency has a more certain revenue stream. Over time, these lower interest rates can mean large cost savings. Due to federal rules, individual agencies without reliable revenue sources may also have to forego federal monies for transit capital projects.

5. Fairness

New fees or levies should not place disproportionate burdens on those that use transit. Those who drive regularly do not fully pay the social costs of driving, so to increase the funding burden on transit users is counterproductive because these riders create fewer social costs than if they drove. In addition, drivers benefit from the social goods produced by transit users.

IV. Potential Revenue Sources

Funding for transit can come from a variety of sources. The Arizona legislature can choose to appropriate operating and capital funds in each yearly budget, they can commit to use federal transportation funds for transit, and they can dedicate revenue streams from particular funding sources. The best dedicated funding sources are those that correct market failures by discouraging pollution and encouraging compact development or by targeting revenues from those who will most benefit from the reduced congestion brought about by transit.

Among the 25 largest transit agencies in the nation, the GAO reports that a total of 23 received funds from dedicated funding sources. These funds, moreover, averaged 70 percent of the total state and local share of revenues.²⁶ Two or more sources of dedicated funding were reported in 18 of these transit systems. As the GAO reports, using a diverse basket of revenue sources protects transit systems from fluctuations in the economy that might hit one particular revenue source harder than others. Currently, most transit in Arizona is funded largely by sales tax revenues, which can dramatically fall during an economic downturn. This can result in cuts in service that further exacerbate economic problems.

Cities, counties and transportation districts increasingly fund new transportation projects through taxes or fees that apply only in their own local jurisdiction.²⁷ Fifteen states authorize local-option fuel taxes, though these tend to be used for road maintenance. Communities in many states levy local impact fees on developers or real-estate transfer fees. Thirty-three states authorize some sort of local license or registration tax, which are assessed based on weight in Hawaii and parts of Virginia. Local or county sales taxes exist in 33 states. And unlike most other local-option taxes, sales taxes have often been designated for new transit projects.²⁸

Local-option taxes have benefits and drawbacks. Residents tend to be more supportive of paying for services in their own area. The disadvantage of localized taxation is the narrow base for these taxes makes it more difficult to raise significant revenue without high rates; but high rates prompt people to cross local jurisdictions when making purchases to avoid the tax. The revenues discussed below could be applied either statewide or only in the jurisdictions near transit.

1. Fare Increases are Self-Defeating

Passenger fares do not advance transit goals. They are not akin to user fees for socially costly activities such as tolls or polluter fines to fund environmental cleanup. Transit ridership is a public good, and increasing the price of fares will discourage riders. It makes poor economic sense to operate costly transit systems but then discourage ridership through high fares. The net social benefits of additional transit riders tend to outweigh whatever additional fares might be paid.

Likewise, transit systems therefore should not designate minimum rates for fares to cover total costs (fare box recovery ratios). Transportation officials should not pose fare-policy questions as, “What can we recoup at the fare box?” Instead, they should ask “What can we charge before we lose significant numbers of riders to cars?” Even if transit ridership produces a net social benefit to society, fares that do not significantly discourage

26. Government Accountability Office, *Mass Transit: Issues Related to Providing Dedicated Funding for the Washington Area Metropolitan Transit Authority*, May 2006, GAO-06-516.

27. Todd Goldman and Martin Wachs, “A Quiet Revolution in Transportation: The Rise in Local Option Transportation Taxes,” *Transportation Quarterly*, 57, 1, Winter 2003, pp. 19-32.

28. Fifteen states authorize local payroll or income taxes. One city in Ohio voluntarily earmarks a portion of its local-option income taxes for transit and localities in four states designate local-option payroll taxes for transit.

ridership are nonetheless justifiable because riders enjoy disproportionate benefits from the service.

Larger transit systems with high ridership can generate enough fares to cover a significant portion of operating expenses. On average, fares cover a third of operating expenses for transit systems. Passenger fares cover about two-thirds of operating costs of New York City subways in 2002, the highest fare-box recovery ratio among the nation's 14 heavy rail transit systems, according to a Brookings Institution study. By comparison, fares covered 44 percent of operating expenses for such systems in Boston, 41 percent for New Jersey, 21 percent of Greater Cleveland, and 16 percent in Miami-Dade.²⁹ More extensive systems tend to cover more of their costs through fares because they benefit from economies of scale and tend to be located in denser communities where commuters tend to prefer transit over the congestion and parking hassles of driving.

Side Bar: Should Transit Be Free?

Free transit might seem like the most efficient and equitable pricing strategy. With free fares no money would be taken from low-income riders and no riders would be discouraged by fare boxes. Moreover current spending on selling tokens or enforcing fare collection could also be eliminated. Likewise, transit vehicles could board more swiftly by using all doors for entry and by letting riders board without fumbling for payment.³⁰

Free service exists in a number of smaller-city bus systems or for certain limited groups, routes or times in larger systems.³¹ Among larger transit systems, two notable fare-free experiments were conducted during off-peak hours in Denver, Colorado and Trenton, New Jersey, during the late 1970s. Both were discontinued after approximately one year in spite of increased ridership. The only other system-wide experiment with free fares in a large transit system was conducted in Austin, Texas from October 1989 until December 1990. In June and July of 2006, on a more limited basis, California's Metropolitan Transportation Commission eliminated bus, train and ferry fares when officials announced "Spare the Air" alerts on hot, smoggy days.³² The program cost \$13.3 million, including advertisement for the program and prevented 8 tons of smog. Critics noted that this cost was far higher than alternative programs to reduce smog, such as replacing the aging diesel engines of old school buses. The Bay Area's BART system has requested to curtail the program due to increased vandals, garbage, and homeless riders.

29. More specifically, MTA, 67.3%; WMATA, 61.6%; PATCO, 61.4%; SEPTA, 58.6%; and BART, 58.4%. CTA came in at 44.3%; MBTA, 43.7%; PATH, 41.0%; MARTA, 39.2%; Maryland Mass Transit, 26.3%; Greater Cleveland RTA, 21.5%; LACMTA, 19.6%; Miami-Dade Metrorail, 16.1%; and the Staten Island RTOA, 15.2%.

30. Jennifer S. Perone, "Advantages and Disadvantages of Fare-Free Transit Policy," National Center for Transit Research, Report Number: NCTR-473-133, BC137-38 (October 2002). See also, Hodge, D.C., Orrell III, J.D., & Strauss, T.R., 1994. Fare-free Policy: Costs, Impacts on Transit Service and Attainment of Transit System Goals. Report Number WA-RD 277.1.

31. For instance, in Seattle, WA, Ann Arbor, MI, and Cache Valley, UT.

32. See <http://www.mercurynews.com/mld/mercurynews/news/15155463.htm?source=rss>.

The experiments with free-fare service have shown that free fares do not entice more drivers to leave their cars. Instead, free-fare entry to the transit system attracted groups of joy riders and homeless occupants. Increased numbers of riders who previously walked, biked or carpooled also led to overcrowding. The incidence of vandalism and graffiti increased substantially, escalating maintenance costs and arguably discouraging commuters from leaving their cars. Increased numbers of homeless people rode around on buses, perhaps discouraging some commuters.

Instead of free fares, increased ridership might be created with passes for the elderly or students, or pre-paid passes from employers and social service agencies. In this vein, the U.K. Department for Transportation (DfT) has announced that beginning in April 2008, a new program will allow people more than 60 years of age and people with disabilities to travel for free during off-peak hours on any local bus across England.

2. Discretionary Spending Sources

A. General Revenues

Most transit systems receive at least some funding from the legislature's general budget. In 2004, the General Fund was the chief source of funding for transit in 19 states.³³ The shifting winds of budgetary politics can make transit funding unstable. Passengers need service to be dependable and investors issuing bonds to transit agencies need to know that payments will be made. States' general budgetary funds are also increasingly squeezed by growing costs from Medicaid, federal No Child Left Behind requirements, new homeland security mandates and other factors.

Significant dedicated revenues can insulate transit budgets from short-term shocks. It may also be more politically popular to dedicate funds: Taxpayers often feel better about paying an extra fee for a distinct public service such as transit rather than to the general fund where benefits are harder to perceive.

B. "Flexing" Federal Transportation Funds

Federal transportation programs allow states to use federal highway trust fund money for transit.³⁴ Since 1997, federal rules have encouraged "flex funding" for metropolitan planning areas with populations over 200,000. These areas can thereby make more integrated decisions about how to manage their air quality, land use and congestion problems.

33. American Association of State Highway Transportation Officials, Innovative Finance Web Site – Other Revenue Sources, at http://www.innovativefinance.org/topics/revenue_sources.

34. Most flex funding involves a transfer of funds to the Federal Transit Authority (FTA) from the federal Surface Transportation Program (STP) or Congestion Mitigation & Air Quality (CMAQ) Improvement Program.

A study by the Brookings Institute finds that from FY1992–FY1999, 12.5 percent of available federal highway funds were transferred for transit use.³⁵ A separate study by the American Public Transit Association of the three main sources of federal funding eligible to be flexed, found an average of only 4.6 percent of these funds were actually transferred between 1992 and 2004.³⁶ The Brookings study, which disaggregated transfers by state, found that almost half of these transfers took place in California or New York. The states that flex the most are those with big transit systems. Only Massachusetts, New York, Oregon, Pennsylvania, California and the District of Columbia have transferred a quarter or more of their available highway funds for transit programs.

C. Sales Taxes

Sales taxes are the most common form of dedicated transit revenues for transit agencies. A GAO study of the nation's 25 largest transit systems found 15 systems received dedicated sales tax funds, totaling \$4.5 billion in 2003, or 43 percent of dedicated funds for these systems. Among a broader sample, sales taxes have a similar though slightly smaller role. The National Transit Database of approximately 600 transit agencies reporting to the Federal Transit Administration shows that, after federal funds, sales taxes comprised the largest source of revenues for capital spending (38 percent) and the second largest source of operating expenses (27 percent) after fares (32 percent).³⁷

Sales taxes are regressive and therefore are not an ideal source of revenue for transit. Sales taxes may nonetheless be more politically popular than other broad taxes such as income or business taxes. Their simplicity gives citizens confidence that sales taxes will be collected fairly, at least on their own terms. Sales taxes can be made somewhat less regressive by exempting items where lower-income people spend larger parts of their income, such as groceries, or extending sales taxes to services used by higher-income consumers.

Moreover, the net effect of using new sales taxes to increase transit is progressive because the benefits of transit tend to be more concentrated in lower-income groups than the incidence of sales taxes. Even using sales taxes to fund transit for relatively affluent suburban commuters is not necessarily regressive because extending the transit networks into more affluent suburbs widens the political base of support and connects people to jobs.

Sales tax revenues are a relatively stable but declining source of revenue. People decrease their purchase of consumer goods relatively little during a recession compared to other taxes capital gains, real estate, income or payroll. On the other hand, sales taxes are unlikely to keep pace with the economy over the long term because sales taxes only apply to goods – not services – which comprise a shrinking portion of the economy.

35. See <http://www.brookings.edu/es/urban/flexfunding.pdf>.

36. APTA Primer on Transit Funding, February 2006, p. 35.

37. All data are from 2002. See the Central Broward East-West Transit Analysis, Financial Feasibility Study, appendix.

4. Dedicated Transportation Revenues

Taxes or fees on driving to finance public transportation make double sense. These levies directly discourage driving and help fund alternatives to driving. The auto-based taxes listed below are less regressive than most consumption taxes. Targeting these fees to gas guzzlers could also be mildly progressive because more affluent households tend to drive less fuel-efficient vehicles and drive significantly longer distances. In Arizona, the state constitution prohibits the use of auto-based taxes for any purpose other than roads. In order to use any of the following revenue sources, voters would have to affirm changes in the state constitution.

A. Gas Taxes

Gas taxes are the staple of transportation spending in most states but are restricted to highway and road purposes in 30 states, 22 of which by constitutional restriction. Gas tax funds contribute to transit funding in 15 states.³⁸ According to GAO analysis of the 25 largest transit systems in 2003, dedicated gas taxes contribute to transit in seven of these systems, providing about 3 percent of dedicated funds in those systems. Gas taxes completely fund transit systems in Rhode Island, South Carolina and Tennessee. Although gas taxes have declined in purchasing power over time, higher pre-tax gas prices have made the prospect of additional gas taxes unpopular. Some states have even cut or suspended their gas taxes.

The advantage of gas taxes are that they are a relatively fair “user fee” that makes apparent some of the social costs of driving. One problem with funding transit with gas taxes is that while rising gas prices are likely to increase future demand for transit, they simultaneously reduce this source of revenue. More fuel-efficient cars will also decrease the revenue available for transit.

“The gas tax” or state motor vehicle fuel taxes can actually include several types of taxes on different types of fuel. States all assess an excise tax at a flat rate per gallon of gasoline. States vary in the way they tax diesel and gasohol, and they vary about which point in the process they impose the tax (importation into state, fuel distribution, into storage tanks, etc. Only nine states levy sales taxes on gasoline – California, Delaware, Georgia, Hawaii, Illinois, Indiana, Michigan, New York and West Virginia. Gas taxes are far higher in other countries than in the United States. The average state and local tax in the United States is about 40 cents, compared to over \$3 per gallon in the United Kingdom, Germany or the Netherlands.

In America, the value of gas taxes erodes over time because they are not indexed to inflation. The current federal gas tax has remained unchanged at 18.4 cents per gallon. States’ own gas taxes also have not kept up with inflation, losing 43 percent of their value during the 1970s, 80s, and 90s.³⁹ State gasoline taxes averaged 20.3 cents per gallon

38. U.S. DOT, Survey of State Funding for Public Transportation, 2004. See also http://www.fhwa.dot.gov/ohim/hwytaxes/2001/tab6_toc.htm.

39. Robert Puentes and Ryan Prince, Fueling Transportation Finance: A Primer on the Gas Tax, Brookings Institute, March 2003.

among the 50 states, ranging from a low of 7.5 cents per gallon in Georgia to a high of 30 cents per gallon in Rhode Island.⁴⁰ Taking state and federal gas taxes together on a per-mile basis, their inflation-adjusted value has declined by about 40 percent since 1960. The failure of nominal gas tax rates to keep pace with inflation is responsible for half this decline, with fuel-economy improvements during the 1970s and 1980s responsible for the other half.⁴¹

Some have called for an indexing gas taxes to inflation or pegging gas taxes to a constant portion of gas prices. Seven states have some variability in their rate linked to inflation.⁴² These tax increases are politically unpopular and their effect on transit is indirect since most additional funds go to highways.

B. Rental Car Tax

Thirty-eight states levy taxes on rentals of motor vehicles. Rental car taxes are largely paid by out-of-state visitors. This makes economic sense because visitors in rental cars would not otherwise pay the many fees that in-state drivers pay to defray the costs of driving. Politically, taxing nonresidents may also have appeal, although it will be likely be opposed by the tourism industry.

In June 2006, former Gov. Jeb Bush vetoed a doubling of Florida's \$2/day rental car tax that would have supported transit. Proponents framed the issue in terms of requiring tourists who clog the roads to contribute to transportation infrastructure in ways that would also relieve congestion. Places like Orlando where much of the daily road population are tourists are, moreover, disadvantaged by current funding formulas that are allocated on the basis of residential population. Gov. Bush objected to the measure as "taxation without representation for the tourists." The tax was opposed by rental car companies, travel groups including the regional AAA and county tourism agencies.

C. License, Registration or Title Fees

Local governments in at least 34 states assess vehicle license and registration taxes; 20 have state-level version of these taxes dedicated for transit.⁴³ All states require vehicle owners to pay for the privilege of driving within a state. Collectively, states license over 200 million drivers. Fees commonly differ according to the type or class of license issued, and sometimes the age of driver or other factors. Increasing these fees can provide a dependable source of revenue. Most states also charge fees to register a vehicle's

40. From Martin Wachs, "A Dozen Reasons for Raising the Gasoline Tax," Institute of Transportation Studies, University of California at Berkeley, Research Report UCB-ITS-RR-2003-1 (2003).

41 Ian W. H. Parry, Margaret Walls and Winston Harrington, "Automobile Externalities and Policies," Resources for the Future discussion papers DP-06-26, June 2006.

42 FL, IA, KY, ME, NE, NY, NC.

43 Todd Goldman, Sam Corbett, and Martin Wachs, Local Option Transportation Taxes in the United States, Berkeley, CA: Institute of Transportation Studies, UCal Berkeley, March 2001.

certificate of title. These fees provide highly reliable revenue sources because they are relatively unaffected by economic downturns.⁴⁴

Title fees are transaction fees imposed on the cost of processing changes in vehicle title. They are a user fee on the state system of record keeping and administration. Most states impose these fees as a flat charge from as little as \$2 to as much as \$33 per transaction.

Additional registration or title fees could be targeted according to how much vehicles are driven and how much each model type pollutes. In Chicago, the city began charging elevated registration fees for 33 models of heavy SUVs. These pollution fees would create an incentive to reduce pollution by internalizing some of the costs imposed on society by gas guzzlers and those who drive a lot. A fee could be placed, for instance, on vehicles with fuel efficiency below state fleet average, perhaps with still higher rates on the least fuel-efficient.

C. Tire Tax

Some states place a tax on the sale of new tires. It can be administered either as a percentage or flat fee on sales. This tax makes sense because tires clog public landfills and the bottom of our waterways. Proper disposal of tires in government waste sites is also expensive. The fee also makes sense as a kind of user charge because people who drive more must change their tires more frequently. Although no state does so presently, the fee could be waived for high-efficiency tires that improve fuel efficiency.

D. Weight-Based Vehicle Sales Taxes

Most states impose a sales tax on new vehicles purchased in the state or on vehicles imported into the state for sale. Indexing these sales taxes upward by weight would make pure economic sense because heavier vehicles put more stress on roads and bridges. Heavier cars are also typically less fuel efficient. To better target an environmental incentive, the tax increase could be indexed by fuel efficiency. The message from such a policy would be: If you bring a heavier, more polluting car into the state, then you will have to pay more to offset those costs.

E. Vehicle Battery Tax

As with tires, this tax is a kind of disposal fee. The acid-lead batteries used in cars, trucks, boats and aircraft are toxic and expensive to dispose of. Florida levies \$1.50 per new or remanufactured vehicle battery.

F. Weight Mile Truck Fee

Germany uses Global Positioning Systems (GPS) to levy fees on trucks for using the national motorway system. In America, there is currently a system that charges trucks exceeding 26,000 pounds a fee according to their weight and distance traveled in the

44. Fees should not be so high, however, as to encourage low-income drivers from avoiding the licensing process.

state. These factors are typically already recorded at weigh stations for trucks beyond this weight threshold. The economic logic behind this tax is that it precisely targets heavy vehicles that put the most wear on roads.

The trucking industry will surely oppose such a system and will argue that it will increase costs for the consumer goods transported by trucks. On the other hand, if the charge ends up discouraging long-distance trucking, then it will have air-quality benefits, reduce congestion and encourage locally produced goods.

G. Toll Roads

Tolls have advantages and disadvantages over gas taxes, and some of the disadvantages can perhaps be eliminated with the proper technology and incentives. Tolls are a reliable revenue source for charging drivers for road use. For new capacity at least, they are less unpopular than gas taxes. When combined with congestion-pricing, they encourage drivers to see the costs of driving and congestion. Additionally, they provide a framework in which excess congestion can be managed rather than simply relieved through new highway capacity.

Unfortunately tolls have a number of disadvantages. Traditionally, tolls require drivers to slow down and the costs of collection are high. Even new electronic tolling technologies such as E-Z Pass and FastTrack have significant costs to maintain and operate and require cars to slow down at toll booths.⁴⁵ Another problem with toll charges is that because they are only levied on some roads, drivers may be prompted to take less efficient routes as a way to avoid paying tolls.

Another problem with tolls is that, unlike gas taxes, fuel-efficient cars pay no less than gas guzzlers. Per-gallon gas taxes help make it cheaper to drive more fuel-efficient vehicles. Road pricing technologies do not necessarily include any of these beneficial forms of variable pricing. New road-pricing technologies such as GPS-based road fees could perversely eliminate some existing incentives for fuel efficiency.

New tolling technologies could be adjusted to include environmental incentives. The federal Intermodal Surface Transportation Efficiency Act law created pilot programs to explore congestion-pricing options that would charge drivers different amounts for using roads at different times. The concept is similar to airlines charging higher fares during peak-travel times, a practice which encourages travelers to fly at off-peak times and reduces airport congestion. Econometric studies suggest that drivers notice electronic tolling less than traditional toll payments. As a result, governments seem to find it politically easier to raise electronic toll rates, but drivers also find electronic tolls less of a disincentive for driving.⁴⁶

45. "Innovative Toll Collection System Pays Off for Motorists and Agencies," prepared by the National Associations Working Group for the U.S.DOT, Report No. FHWA-SA-97-088. Washington, D.C.

46. Amy Finkelstein, "EZ-Tax: Tax Salience and Tax Rates," National Bureau of Economic Research, NBER Working Papers No. 12924, February 2007, available at <http://papers.nber.org/papers/W12924>.

Some projects, such as the State Road-91 project in Southern California, have introduced new tolling by creating new premium-price lanes that would require a larger toll, but would allow drivers paying more to face less congestion. These arrangements might simply make congestion problems less pressing for higher-income drivers who drive in “Lexus lanes.” A more favorable variant of this approach, as in SR-91, makes the new lanes free to high-occupancy vehicles (HOVs). Travel in these lanes is permitted for single drivers who pay a premium that is adjusted with demand to ensure that HOV drivers still enjoy less congestion.⁴⁷ Money from tolls could, as in San Diego, be used to fund transit in the travel corridor.⁴⁸ Transit can also benefit if public buses utilize the HOV lanes that single-occupancy drivers can only use at a premium price.

5. Development and Real-Estate Charges

A. Development Impact Fees

Development impact fees are charges paid by developers for the “impact” their new development places on a community.⁴⁹ These charges can be assessed locally or on a statewide basis. Properly targeted, impact fees can internalize the burdens that developers place on the road system to accommodate increased traffic flow or to offset the infrastructure requirements of increased sprawl. Fee exemptions can also be used to encourage smarter growth near public transit. Impact fees are quite common. A Government Accountability Office study found that 59 percent of communities over 25,000 used these fees.⁵⁰

The San Joaquin Valley Air Pollution Control District in California introduced environmental construction fees in March 2005. The San District requires developers to use energy-efficiency and traffic reduction techniques and to pay into a pool for pollution control as a way to offset the effect of their construction on emissions and congestion.⁵¹ The fees are reduced if builders make design changes to reduce the project's effect on air quality. For residential development, reductions are granted for features such as bike paths, sidewalks on both sides of each street, higher density, greater energy efficiency, and location near jobs and retail. The building industry has sued against the measure.

Another approach would be to require large-scale developers and employers to either provide private shuttle service, contribute to a larger pool for private shuttle service, or to

47. For extended discussion of road pricing, FHWA conference proceedings [http://knowledge.fhwa.dot.gov/cops/hcx.nsf/All+Documents/9C1501C3320F3FE485257067004941E3/\\$FILE/TRB%20CP34%20Road%20Pricing.pdf](http://knowledge.fhwa.dot.gov/cops/hcx.nsf/All+Documents/9C1501C3320F3FE485257067004941E3/$FILE/TRB%20CP34%20Road%20Pricing.pdf) and Environmental Defense, *No More Just Throwing Money Out the Window: Using Road Tolls to Cut Congestion, Protect the Environment, and Boost Access for All*, 2006.

48. New toll lanes in Minnesota will also dedicate half of net revenue to transit.

49. For a review of their effects, see

<http://www.brookings.edu/es/urban/publications/nelsonimpactfees.htm>.

50. General Accounting Office. 2000. *Local Growth Issues—Federal Opportunities and Challenges*. Washington, DC: U.S. Government Printing Office. For a primer on impact fees, see <http://www.huduser.org/periodicals/cityscape/vol8num1/ch4.pdf>.

51. Exempted from the fee are residential developments of fewer than 50 units, commercial buildings under 2,000 square feet and office space of less than 50,000 square feet.

offset their burden on the state transportation system by contributing to a state fund for public transportation.⁵²

B. Storm-Water Fees

These are special charges applied to impervious surfaces (pavement and buildings) to fund stormwater management systems. Unlike gardens, yards, and undeveloped land, impervious surfaces prevent rain water from returning to the water table and therefore public costs by creating the need for infrastructure to provide drainage systems, treatment facilities, etc. This is a major environmental cost of sprawl that is normally pushed onto the general taxpaying public. Such fees exist in many cities and range from about \$5 to \$20 per 1,000 square feet, or about \$1 to \$7 annually per off-street parking space.⁵³

C. Real-Estate Transfer Tax

Real estate transfer taxes require the purchase of stamps based on the value of the property to be attached to the transfer document for almost any real estate transfer except wills or trusts. These taxes exist in many states at different rates.⁵⁴

A number of arguments or policy handles may help blunt real estate industry opposition. One policy approach could also be to follow New York's lead by imposing an additional 1 percent on personal residences valued at more than \$1 million. Opponents will claim that the tax would discourage people from settling in-state; but some states with high realty transfer fees have grown very fast, especially Florida and Nevada.

In Arizona, this option is not available to policymakers as a result of proposition 100, which passed in 2008. This proposition constitutionally prohibits any new tax or fee on the transfer of real estate.

D. Parking Tax

Local fees on paid parking or on physical parking spaces have limited revenue-raising potential, but would also encourage use of public transit. Urban residents would end up paying the tax more, as well as suburban visitors — which may have some fairness appeal since transit is more concentrated in urban areas. The parking tax could be levied as a percent surcharge on parking transactions or as a flat fee for hourly, daily, and monthly rates.

One strategy would be to combine a fee on parking spaces with programs for employers to purchase reduced-rate transit passes for their employees. Employers that currently provide parking will want to reduce the number of parking spots they pay for and will therefore be more eager to participate in the program. For large employers, their participation in the program will reduce administrative costs.

52. See Mafruz Khan, *Missing the Bus: How States Fail to Connect Economic Development with Public Transit* (Good Jobs First, Sept. 2003), available at <http://www.goodjobsfirst.org/pdf/bus.pdf>.

53. For a list, see http://www.vtpi.org/parking_tax.pdf page 8.

54. See <http://www.taxadmin.org/fta/rate/Realtytransfer.html#Table>.

Parking taxes tend to be levied by large cities rather than entire states. The city of Pittsburgh imposes a 50 percent tax on parking; the city of San Francisco has a 25 percent tax on commercial residential off-street parking. New York, Miami, Los Angeles, and Chicago have their own versions, the last of which is a flat tax.⁵⁵ A more efficient version would be a levy on non-residential parking spaces themselves. It could be imposed on each parking space or per volume of parking area. Such schemes exist in three Australian cities and Vancouver, British Columbia.⁵⁶

IV. Efficiency in Transportation Spending

Just because public transportation is a public good, does not mean that all transit spending proposals deserve support. Sometimes the potential new ridership does not justify the additional costs or a different transit project should receive higher priority.

1. Comparisons Bias Roads Over Transit

Cost comparisons are often biased against public transit for a number of reasons:

Counting only some benefits — The multifaceted benefits of transit mean a project can appear extraordinarily expensive as a means to achieve any single measure of success.⁵⁷ Transit advocates have sometimes have used the Clean Air Act as a way to secure government commitments for transit, although transit is rarely the least costly way to achieve air-quality goals. One study found, for instance, that rail transit costs an average of \$200,000 per ton of hydrocarbons removed from the air, more than 10 times the cost-per-ton of other measures such as better timing of traffic lights or improved vehicle emission testing.⁵⁸ Relatively small air-quality benefits do not necessarily mean that an expensive rail project should not be built or its operation supported. It does, however, suggest that in order to justify the spending the other benefits must be large.

Unfair comparisons — Transit costs appear especially high when they are compared to the average costs of building new highway capacity, but that comparison is misleading. Most transit is provided under peak-travel-time in urban conditions when the cost of building new road capacity is also very expensive. When evaluating the cost of adding transit capacity in Boston, for instance, it makes more sense to compare per-trip construction cost to that of the Big Dig, rather than to new rural roads in Massachusetts.

Many costs of auto travel are also hidden because they take the form of foregone opportunities, land-use regulations and indirect tax preferences. Estimations of the cost of highways typically ignore the forgone opportunities of alternative uses for road space and

55. See http://www.vtpi.org/parking_tax.pdf.

56. See http://www.vtpi.org/parking_tax.pdf.

57. The costs of transit agencies are artificially inflated by a number of federal mandates that produce their own public benefits. The Americans with Disabilities Act requires that newly acquired or leased buses or trains be “readily accessible to” disabled persons and that transit agencies provide “paratransit” such as customized shuttles for disabled persons who are unable to use traditional buses and trains. Other rules forbid the use of foreign-manufactured parts.

58. Arnold Howitt and José A. Gómez-Ibáñez, 1999.

exit ramps. Government also indirectly subsidizes autos through local planning rules that require employers and retailers to provide parking. These costs get passed onto consumers, including consumers and employees who do not drive. Regulations, in other words, force transit users and pedestrians to indirectly subsidize motorists. Federal and state tax policies also encourage this cross-subsidization. Employers have an incentive to provide in-kind benefits for their motorist employees through free parking because they are most often exempted from payroll, sales or income taxes on this compensation.⁵⁹

Unequal standards — Public transit is often subjected to a higher standard of cost-benefit analysis than new highways are ordinarily held to. In its analysis of the federal New Starts program for transit, the GAO notes that, “there are no similar federal requirements for economic analysis of highway projects, because highway projects are funded under a formula program, and there is no federal approval of project economic worthiness.”⁶⁰

2. Comparing Rail and Bus Systems

The numerous and varied benefits from public transportation means that prioritizing the *best* transit projects depends on how different values get weighed. Debate about transit spending often centers on whether government should invest in rail lines or bus service. These are really debates about what level of transit commitment should be made and which kinds of transit benefits are most important. Heavy rail, such as New York subways, is the most expensive option and is not justified without high numbers of potential riders. Light rail is somewhat less expensive and has less capacity. Bus routes are cheaper and more flexible, but attract somewhat lower ridership and less economic development. Smaller shuttle buses can also be hired on-call to pick up elderly or disabled passengers in “paratransit” systems that are expensive on a per-ride basis.

Public transportation may bring to mind images of subways, Amtrak or trolley lines, but buses are the true workhorses. The Federal Transit Agency notes that, “Buses form the backbone of the nation's mass transit systems. About 58 percent of all mass transit users take the bus, and even in many cities with extensive rail systems, more people ride the bus than take the train.” Buses can provide more dispersed service in suburban areas, can be more easily rerouted, and require few special facilities. Buses require much lower capital costs and are cheaper to operate unless transit demand is high.

The major problem with buses is that if the roads are clogged, bus passengers are stuck in the same traffic as drivers. Rail lines tend to sit separately from traffic, where they can proceed unimpeded even during peak hours of traffic congestion. Rail, moreover, tends to be faster, more comfortable and prestigious. Bus stops also do not increase nearby property values the way rail stops do.⁶¹ In what is sometimes called “rapid bus transit”

59. It is more efficient for governments to encourage motorists to pay for parking and to eliminate minimum-parking-space requirements for businesses. Employers should be encouraged to provide paid parking and should be taxed on in-kind parking benefits they provide to employees.

60. See <http://www.gao.gov/new.items/d05172.pdf>.

61. For a recent review of the topic, see Lyndon Henry and Todd A. Litman, “Evaluating New Start Transit Program Performance: Comparing Rail and Bus, Victoria Transportation Policy Institute, September 2006.

additional investments can give buses some of the benefits associated with rail. Buses can use dedicated lanes or restricted high-occupancy vehicle lanes; traffic light timing can be adjusted to speed buses along; and real-time information systems can tell riders when buses will actually arrive.⁶²

Proponents for buses sometimes argue that buses are an especially cost-effective way to provide mobility for transit dependent low-income riders. Bus travel comprised 83 percent of transit trips for non-working-age or impoverished transit passengers, compared to only 57 percent of transit trips taken by working-age car owners and 60 percent of trips by working-age transit users who do not own a car.⁶³ Rail advocates retort that this data shows that people only take the bus when they have no other options, and that providing low-income neighborhoods with less preferable public services is discriminatory. Moreover, they argue that rail is more effective at enticing passengers who would otherwise drive.

Political calculations often add to competing claims about the effectiveness of alternative public transportation systems. Voters typically are more willing to support funding for rail systems than buses. Moreover, while the flexibility of buses is a practical implementation benefit, it can become a political liability. Bus service is cheap and fast to get started; but it is also easy to eliminate. Rail systems can therefore look better to transit advocates because they represent more of a commitment that locks in future public support.⁶⁴

62. Federal Transit Administration: Bus Rapid Transit Offers Communities a Flexible Mass Transit Option, June 24, 2003, GAO-03-729T.

63. "A Public Choice Policy Analysis," Transit Benefits 2000 Working papers, FTA Policy Paper, Office of Policy Development, FTA, 2000.

64. For more on these tendencies, see Taylor, B. and K. Samples, "Jobs, Jobs, Jobs: Political Perceptions, Economic Reality, and Capital Bias in U.S. Transit Subsidy Policy," Public Works and Management, Vol. 6, April 2002, pp. 250-263.