

CHAPTER 7

# U.S. Transportation Challenge: Better Outcomes for Billions Spent

most ambitious  
network of  
roadways

the united states' interstate highway system, 46,733 miles of multilane highways stretched across a continent, qualifies as the most ambitious network of roadways ever built by humankind. More than 7 million tons of cargo pass through the nation's ports every day, arriving and departing by road and rail.

But there are serious—many would say dire—problems. Highways and bridges are deteriorating, with major concentrations of congested roadways. Airports are increasingly overtaxed, partly by short-distance flights that many other nations handle with rail. Ports are becoming clogged with an avalanche of expanded foreign trade.

reaching  
capacity

Much of the U.S. transportation system, built a half century or more ago, is reaching capacity. Particularly in America's metropolitan regions, linchpins of the national economy, traffic tie-ups and ever-lengthening commutes impair citizens' quality of life and business productivity. Globe-imperiling greenhouse-gas emissions from cars and trucks continue to rise. Every year, more than 42,000 Americans are killed and 2.6 million are seriously injured in traffic accidents. Auto emissions and diesel toxicity from truck traffic cause hundreds of thousands of cases of asthma and other life-imperiling conditions each year. Millions of Americans find auto costs, their largest expense outside of basic shelter, consuming ever-larger portions of their household budgets.

Is the state of affairs in U.S. transportation tolerable? Can significant change be accomplished without sweeping

reforms in how federal, state, and local governments fund and manage the nation's transportation system? No, and no, replied the experts in transportation policy, planning, and governance at the Rockefeller Foundation Global Urban Summit. Significant change, they concluded, cannot be accomplished without sweeping reforms in how the federal, state, and local governments fund and manage the nation's transportation system.

sweeping  
reforms

The group considered and amplified the proposal prepared by Brookings Institution scholars for major reform of national government transportation policy. Participants emphasized the critical role of U.S. metro regions as the organizing principle of the U.S. economy. And although their deliberations took place months before the dramatic world petroleum price increases of 2008, they were already focused on a range of policies designed to reduce fossil fuel consumption by developing rail, public transit, and other forms of transportation for the decades ahead.

critical role  
of U.S. metro  
regions

### anatomy of a crisis

If the United States expects to have a strong transportation system to compete internationally, meet its environmental goals, and support mobility, equity and high quality of life for its citizens, it needs to recognize the multiple alarms now sounding. Along with other participants, Robert Puentes, the Brookings Institution's top transportation expert, outlined the main trouble spots:

Roadway congestion. Road congestion is a significant problem in American cities of all sizes, creating a \$78 billion annual drain on the economy—indeed 4.2 billion lost hours and 2.9 billion gallons of wasted fuel, according to the authoritative Texas Transportation Institute. But congestion is worst of all in metro regions, where it has tripled over the past 20 years and had a major negative impact on economies and quality of life.

Sixty-four percent of the nation's roadway congestion is concentrated in the 14 largest urbanized areas (those with 3 million or more people). In those regions the average motorist loses 54 hours a year and wastes 38 gallons of fuel. The economic damage in the New York region alone is close to \$4 billion. With suburban expansion, total vehicle miles traveled in urban areas ballooned by 20 percent in the decade prior to the rapid gasoline price increases of 2008.

Virtually all of the nation's global gateways—ports of entry for goods pouring in immense quantities through seaports and airports—are located in metropolitan regions. Major ports such as New York, Miami, San Francisco, Tacoma, Washington, and Portland, Oregon, are already struggling with the massive influx of recent years—a 13 percent increase in trailer trucks alone just in this decade. And there is more to come: Trucks are projected to carry 88 percent of new freight shipments by 2020. Container volume is now predicted to increase 200 percent in the next 20 years, intensifying already-severe port problems. Port traffic intensifies overall local roadway congestion. And with the ports' heavy use of diesel

## The Metro Connection

metropolitan futures, quality transportation, the entire U.S. economy in this century — the three are intimately and irrevocably interconnected, Global Urban Summit participants agreed.

In the words of Emil Frankel of Parsons Brinkerhoff, former Connecticut transportation commissioner and assistant U.S. secretary of transportation from 2002 to 2005, “Assuring mobility within America’s great metropolitan regions will be key to a growing and competitive national economy. The nation’s service- and knowledge-based economy is centered on these major metropolitan regions. Overcoming congestion and constraints to mobility within them is critical to assuring the efficient operation of supply chains and flexibility of labor markets.”

Statistics underscore the case: In the past half century, the total population of the United States’ metropolitan regions has increased from 85 million to 225 million, a figure expected to rise to roughly 340 million in the next 50 years. More than 83 percent of Americans live in metro regions. The top urbanized 50 areas alone carry 87 percent of daily vehicle miles traveled. Propelled by sharply increased vehicle miles traveled, congestion has essentially doubled in the last 20 years. The Texas Transportation Institute reports that 64 percent of the nation’s traffic congestion occurs in the 13 largest urbanized areas alone. And only a third of urban roads are rated in “good” condition, as opposed to more than half in rural areas.

The critical question is how much of the enormous movement of people and goods through our metropolitan regions needs to rely on roads? More freight could clearly be transported by rail, either directly to other major metro areas or to inland intermodal facilities for redistribution to trucks headed for less-dense areas. On the road-passenger side, there are areas where densities are so light that rail transit, in particular, seems impractical. Many such areas could and should be targeted for more concentrated development.

But a clear priority, Brookings’ Robert Puentes noted, is to level the playing field between highway and transit projects so that local officials can make sounder investment decisions. Across the nation extraordinarily high numbers of metro areas are bidding for the limited pool of federal transit assistance. Even when they try, they are obliged to run the gauntlet of New Starts funding evaluation, while highway projects

are not. An even playing field would presumably make funds more fungible, allowing comparison of benefits, highway versus transit. And it would fix the disparity between the 80 percent federal–local match for roads and the 50 percent match for transit.

Puentes proposes a 25 percent solution in which the federal government would aim to help the top 50 metro areas achieve a balance in which at least 25 percent of workers either use mass transit, bike, or walk to work. Today, only nine of the top 50 metro areas meet that test.

fuel—including arriving ships, terminals, trucks, and trains—local dangers of diesel toxicity are also magnified.

New construction demand. Some degree of continued new highway construction in the United States is certainly necessary, whether to relieve port or airport congestion, ease the bottlenecks around frequently clogged interstate connections, or provide basic road networks for fast-growing areas where development has already occurred. Summaries of investments simply to maintain the current U.S. highway systems for the 2007 to 2017 period are stunning: \$2.4 trillion, according to studies for the National Cooperative Highway Research Program, administered by the Transportation Research Board.

A huge gulf exists, however, between a strategy aimed at maintenance and relieving bottlenecks on one hand, and an aggressive new national roadway-building program on the other. The latter could easily add \$1 trillion to the total, triggering fast-rising vehicle miles traveled and likely dooming U.S. efforts to reduce greenhouse gas emissions.

A substantial number of extraordinarily expansive projects have been proposed. The most ambitious (though politically contentious) is the Trans-Texas Corridor proposal for 4,000 miles of transportation infrastructure—six lanes for cars, four for trucks, dedicated tracks for high-speed rail, shared rail lines for commuter and freight service, plus a 200-foot-wide strip for utilities. Both tolls and government funds would cover the cost.

Increasingly, officials are looking to tolls (either to fund new roads, add lanes to existing roads, or even gain revenue

from existing roads) as a way to avoid taxpayer rage about increased gas taxes. Tolls are also a way of reinforcing a “user pays” philosophy and are convenient, thanks to automated toll collection systems (such as E-ZPass on the East Coast).

popular  
opposition

State officials have run into a buzz saw of popular opposition to selling off public assets to private (often foreign) investment groups, or explaining why they condemn peoples’ homes and farms to build for-profit roads. The 99-year lease of the Chicago Skyway to foreign investors and a parallel deal for the Indiana Toll Road raised public fears of a private concessionaire charging ever-higher tolls for publicly owned roads. Proposals for the sale or long-term lease of the Pennsylvania Turnpike and New Jersey Turnpike, pushed by governors and large investment houses, still have major political support—but opposition as well. There has been less resistance to concession agreements for brand-new toll roads in which the private concessionaire agrees to share toll revenue with the public.

Still unresolved: What justifies major new superroads? Have these plans been assessed versus alternatives including passenger trains, rail freight, and smarter land use? Have proponents considered the phenomenon of “induced travel”—thousands more drivers flooding onto highways initially perceived to be less crowded but that soon fill up with traffic? And does massive road building make sense at all in an era of fast-rising—and probably permanently high—global oil prices?

Arguably adequate roadways between metro areas have been provided for through the interstate system; the real

challenge is sufficient roadways within them to provide reasonable mobility. Yet whole new roadways in existing cities and suburbs would inevitably plow through (and disrupt) existing neighborhoods. Their right-of-way and construction costs would be massive. They would likely trigger new waves of energy-consumptive suburban sprawl and, by virtue of the added vehicle miles traveled that they would encourage, sharply reduce the likelihood of meaningful cutbacks in carbon-dioxide emissions.

a “Fix It First”  
position

A number of state officials, in recent years, have espoused a “Fix It First” position on road infrastructure. But the politics favoring ribbon-cutting on new roadways, even in rural or small town areas where the needs are marginal, remain strong. From 1997 to 2002, spending on new transportation projects rose 41 percent, but on maintenance and services only 27 percent, raising serious questions about future funding sources for basic upkeep of the roadway stock in place.

Rail freight. While no panacea, freight shipment by rail at least relieves the worst congestion pressures created by rising trade in metro centers. But the freight system has its own problems—a shrinkage of operating track from 207,000 miles in 1960 to less than 100,000 miles today. The system is reported to carry 28 percent of the country’s ton miles of freight, and 40 percent of intercity ton miles, but it is overstressed as shippers complain of seriously increased trip times.

The contrast to airline, truck, and barge infrastructure, all heavily subsidized by the federal and state governments in recent

decades, is striking. Big trucks, the most direct competitors, pay through fees and taxes only 50 to 80 percent of the roadway costs they generate. The railroads, by contrast, receive virtually no government subsidies, despite their own investment of \$350 billion in infrastructure and equipment since 1980.

Public transit. Local transit ridership in the United States has been growing in recent years. In 2006, for the first time in a half century (and again in 2007), rides nationwide exceeded 10 billion. During the 2008 energy price rise, rides accelerated again. Many cities, especially in Texas and the West, have added brand new rail transit systems in recent years. From a congestion standpoint, transit has major appeal: its riders are not part of the glut of single-passenger cars crowding roadways. And the carbon footprint of transit riders is far below that of car users.

brand new rail  
transit systems

Transit is far from ubiquitous, however. Just over half of all Americans, and a third of those living in new housing, report that it is available to them. In 54 of the top 100 metros, no rail service exists at all, and bus service is generally low per capita. Only nine of the largest metros have 25 percent or more of their workers commuting by public transit. Job sprawl intensifies the problem, especially among low-income workers. To reach their workplaces they are often forced to buy cars, which consume large portions of their modest incomes. Overall, the working poor spend twice as much of their income on commuting than other workers.

Logically, federal policy would place a priority on transit expansion. But far from it—where federal assistance is offered

to new transit projects, the split is only 60 percent federal and 40 percent local or an even 50–50 federal–local division, as opposed to the 80 percent federal, 20 percent local split that highways enjoy. In addition, new transit projects (burgeoning in number in recent years) are subject to intense federal oversight and project selection under the so-called “New Starts” program. Roads and highway projects receive no such rigorous review.

With few exceptions, state governments are missing in action on creation or improvement of public transit systems. One reason is that the constitutions of 30 states explicitly prohibit use of gas tax revenues for any purpose other than road building and maintenance.

Intercity rail. In contrast to virtually all other leading world nations, the United States lacks a world-class rail service connecting its major metropolitan regions. Outside the Northeast Corridor, most major metros lack efficient or reliable service.

The Amtrak system has never had full support of any presidential administration. It lacks a dedicated funding source like the Highway, Transit, or Aviation Trust Funds, and is especially susceptible to Washington’s political machinations. The system has had to virtually beg Congress for annual appropriations to avoid shutting down or slashing services. And outside of the Northeast Corridor, it has to negotiate with private rail corporations for use of their tracks.

Road safety. U.S. air and rail systems have safety records relatively comparable to those of other advanced nations. Auto

a serious  
public-health  
problem

and truck crashes in the United States, however, kill some 42,000 people and injure 2.6 million more each year, some inflicted with lifelong paralysis and permanent disability. The toll is not only a serious public health problem but a fiscal one as well: The annual cost, from medical to workplace to travel delay costs, totals some \$230 billion.

According to Mark Rosenberg, M.D., former U.S. assistant surgeon general, “If those 42,000 deaths came from air accidents, air traffic would come to a screaming halt. All airports would be closed until we fixed the problem. But because our staggering numbers of road deaths come in ones and twos, they don’t get attention. Fatalism is our biggest enemy.”

Could a more serious campaign for safer roadways make a difference in the United States? Sweden’s Vision Zero effort, for example, has reduced traffic deaths radically by steps such as tough seatbelt and helmet laws, replacing red lights with traffic circles, narrowing urban roadways, adding speed bumps, and limiting in-city speeds to 20 miles an hour. Certainly the United States could do a lot better. While the U.S. death and injury rate is well below that of the developing world, it is substantially higher than that of the European Union and other comparable countries. For example, while U.S. fatalities in 2000 were 15.2 per 100,000 people, they were 9.5 in Australia and Canada, 5.9 in Great Britain, 6.7 in Sweden, and 8.2 in Japan.

Equity factors. Transportation is second only to housing as an ever-increasing expense that American families must

face—and it was growing even before the rapid increases of the years since 2000. With rising housing prices near metro centers, young families (at least until the gasoline price surge of 2008) often felt forced into a “drive till you qualify” behavior pattern, intensifying urban sprawl. The bargain was not always as positive as it seemed: for every dollar that a working family saved by moving out of an urban center, it was spending 77 cents more on transportation before petroleum prices began their drastic rise. Even then, once a commute surpassed 12 to 15 miles, the increase in transportation costs usually exceeded the savings the commuter made on housing.

increase in  
transportation  
costs

Low-income families are hardest hit by transportation costs. Those who live in urban cores (center cities and older suburbs) often find that they have no acceptable public transit connections to reach entry level jobs in manufacturing, wholesale trade, and the growing malls and superstores now on the metro area periphery. If they are able to obtain autos, their commuting costs (including car insurance) are substantially higher than those of other workers. The net impact is a cut in realized income and severe difficulty in improving their families’ standard of living. In some U.S. regions, lower-income families actually spend more on transportation than they do on housing. Transportation, in sum, tends to be strongly regressive in cost.

Can equity be a factor in transportation planning? Yes, and it must be, many Summit participants insisted. “Transportation often leaves poverty concentrated,” said Bruce Katz, vice president and director of the Brookings Institution’s Metropolitan

promoting  
equity

Policy Program. “It’s a system that can clearly work against the interests of low-income families.” As Elliott Sclar, director of the Center for Sustainable Urban Development at Columbia University, noted, “promoting equity—greater real opportunity for low-income families—is not castor oil.” To the contrary, it increases poor peoples’ productivity and self-reliance and reduces long-term social costs for everyone.

demand for oil  
imports

Energy security. Oil fuels 96 percent of the U.S. transportation system. The nation has only 3 percent of the world’s known oil reserves. The result is massive dependence on oil imports, up from 17 percent of U.S. demand in 1970 to roughly 60 percent of vastly expanded demand today. With the sharp increases of petroleum prices in recent years, the nation spends and borrows at least \$1 billion a day to satisfy its demand for oil imports. The emergence of such nations as China and India as major petroleum importers assures continued rising demand and prices.

Foreign affairs experts see serious, growing national security concerns. Canada and Mexico are the two largest exporters of oil to the United States, but major oil imports also come in from countries either unfriendly to the United States, or potentially far less stable, including Saudi Arabia, Venezuela, Nigeria, Algeria, and Iraq.

Any serious cutoff of world energy supplies triggered by terrorist attack, market disruption, or both could pose dire threat to the economy of the nation and its metropolitan regions (whose spread-out, petroleum-dependent economies would be

rapid price  
increases

in danger of paralysis). There is already evidence that a portion of the immense U.S. petrodollar exports, especially to pay for the rapid price increases of this decade, make their way into the hands of bitterly anti-American terrorists and their allies.

A key U.S. security objective must be to shift its transportation system away from its almost-total petroleum dependence. But how can this be done? Major lifestyle shifts will be required: moving away from big, gas-guzzling SUVs to smaller, more fuel-efficient vehicles, and from overwhelming auto dependence to much greater use of public transit and public policy encouraging more compact, less auto-dependent communities.

The climate-change/land-use nexus. With 5 percent of world population, the United States is responsible for roughly 24 percent of the global greenhouse-gas emissions that threaten dire climate change in the 21st century. The transportation sector, in turn, generates 33 percent of U.S. CO<sub>2</sub> emissions. The CO<sub>2</sub> challenge has overshadowed such environmental challenges as vehicle-generated, ground-level and petrochemical smog because 1) it raises momentous issues of global environmental sustainability and 2) it cannot be controlled by more sophisticated vehicle emission-control systems (such as catalytic converters). With existing technology the only way to reduce CO<sub>2</sub> emissions from vehicles is to burn less gasoline and diesel fuel.

Reduction in fuel burning, in turn, is only possible through 1) increased mile-per-gallon (MPG) efficiency, and

2) fewer vehicle miles traveled (VMT). U.S. reduction of MPG efficiency has stalled, largely because of the expanded market share of SUVs and light trucks. Even with recently stiffened CAFE (corporate average fuel economy) standards, transportation-related CO<sub>2</sub> emissions in 2030 will be 12 percent above the 2005 level and 40 percent above the 1990 level, according to the Urban Land Institute/Center for Clean Air Policy's Growing Cooler report.

What then of VMT? Since 1980, the total number of miles driven by Americans has grown three times faster than the rise in U.S. population, and twice as fast as vehicle registrations. The vast majority of new development has been planned and built on the assumption that people will use cars for virtually all trips. Homes have been built ever further from workplaces; overwhelming majorities of shopping malls, big retail boxes, office parks, and new schools have been constructed at locations only accessible by car. The net result has been more and longer auto trips and a preponderance of people driving alone.

more and  
longer auto  
trips

develop more  
compactly







Could the United States develop more compactly? Americans' legendary preference is for communities of single-family homes on spacious lots, the post-World War II American Dream. But surveys show at least a third of consumers would now prefer more compact communities in which homes, town centers, shops, parks, and schools are within walking or biking distance. There is also real impetus, smart-growth advocates argue, to steer away from single-use subdivisions or office parks, focusing instead on attractive mixed-use, walkable

communities with their own town centers, building offices and stores “up” rather than “out.”

In more compact developments, people drive 20 to 40 percent less than those living on the suburban edge with isolated homes and workplaces. The Growing Cooler authors calculate that shifting 60 percent of new growth to compact patterns would save 85 million metric tons of CO<sub>2</sub> annually by 2030. If only 60 percent of projected new residential and commercial development is clustered in compact, mixed-use areas, they estimate VMT would be cut back enough to slash transportation-related greenhouse-gas emissions by 7 to 10 percent. And as a by-product of Americans walking and biking more, reductions in obesity and its associated heart disease and diabetes conditions would almost surely follow.

Some good news on VMT may be appearing: a declining growth rate since 2000, with absolute declines reported in 2008.

### cars and trucks cause 84 percent of u.s. greenhouse gas emissions from transportation

	passenger cars and light duty trucks	62.5%
	other trucks	21.5%
	<b>total cars and trucks</b>	<b>84.0%</b>
	buses	0.6%
	aircraft	8.4%
	ships and boats	2.4%
	locomotives	2.7%
	other	1.9%

2006 data, excluding bunker and military vehicles.

Credit: CO<sub>2</sub> Emissions from Fossil Fuel Combustion in Transportation by End Use Sector, Inventory of U.S. Greenhouse Gases and Sinks: 1990–2006 Public Review Draft, Feb. 22, 2008

The reasons, experts are suggesting, reach beyond fast-escalating gasoline prices to some major demographic shifts. Aging baby boomers, like all older people, tend to drive fewer miles. Families without children (a growing share of the population) drive less. The expansion of females entering the work force, and thus likely to add to commuting traffic, has reached its reasonable limits. Public transit appears to be ending decades of losing market share, and there seems to be fresh interest in biking and walking. Still, U.S. VMT patterns are far above averages in other advanced nations, resulting in high exports of dollars to purchase petroleum, and continued high CO<sub>2</sub> emissions.

### broken national policy

Existing federal transportation policy is “dumb, broken, and expensive,” Portland, Oregon, metro councilor Robert Liberty said during the Summit. He encountered no dissent. He and other panelists had an extensive list of failures:

Missing goals and accountability. The interstate era, stretching from the 1950s to 1990s, has been called the halcyon years of federal highway planning and construction, the clear goal of an interconnected, continent-wide super-highway system. In the early 1990s, with completion of most of the interstates, Congress began to break with its “highways only” orientation by passage of ISTEA (Intermodal Surface Transportation Efficiency Act), with a new set of goals: “to develop a national intermodal transportation system that moves people and goods in an energy efficient manner.”

## Marketing Ambitious Reform

the rockefeller foundation Global Urban Summit call was for a dramatic sea change in U.S. transportation policy. But how will it ever occur? Participants wanted to shift away from federal transportation decision-making dominated by big-time highway contracting interests, earmarking politicos, auto makers, and oil interests, and road oriented bureaucrats pushing for constant expansion of the asphalt world around us. They were eager to move toward a system focused on metropolitan areas and national economic strength, hard-headed cost analysis, emphasis on outcomes, and multimodal solutions.

Or, as a Brookings staff document written during the sessions asserted, the Summit “Transportation Vision is that transportation is a means not an end, must serve national priorities (e.g., economic competitiveness, sustainability, safety, mobility, and access),” and must become a key part of the national discussion.

The first step in helping to realize this new vision, transportation experts suggested, could be to form a constituency outside the familiar transportation community. Potential recruits would include 1) business leaders concerned with loss of transportation efficiency in the face of mounting foreign competition; 2) groups focused on national security issues, especially continued high demand for imported oil including shaky Middle East sources; 3) environmentalists anxious to cut back roadway-generated pollution, and to reduce CO<sub>2</sub> emissions; 4) advocates of conserving more land and more sensitively planned communities; and 5) medical and humanitarian groups alarmed about the human carnage on the roads and need for much stronger safety measures. Another suggestion was to reach outside the transportation sphere to target a dozen or so metro areas in which partnerships could be formed with civic and business leaders, with an eye to influence on the political system.

Major interest in new transportation solutions may also appear, panelists believed, in the not unlikely event of a collapse of funding if the Highway Trust Fund runs dry in the near future. Potential backers of major reform in that case, panelists believed, might include such lead public interest groups as the National Governors Association, U.S. Conference of Mayors, and National League of Cities. Major city mayors and county executives might start to ask pointedly, participants

suggested, “Why does this system serve us so poorly? And why do we get such a small proportion of transportation money, compared to our population and problems?”

Progressive state officials within the American Society of State Highway and Transportation Officials, Summit participants speculated, may also be interested in a new, more sensitive and objective transportation planning and funding system.

But no one underestimated the difficulty of delivering the message, which is many times more complex than the early 20th century road-building slogan (“Get America out of the mud”) or the early interstate pitch (“You’ll be able to drive coast to coast without a stoplight”).

A powerful new constituency, panelists said, is now critical, ready to stand up against the transportation funding status quo, unflinching in demanding an outcomes-based national transportation system. Without such a new coalition, one participant noted, chances for truly meaningful reform “are chopped liver.”

Specific reference was made to confronting “challenges of the global economy, declining productivity growth, energy vulnerability, air pollution, and the need to rebuild the nation’s infrastructure.” And at least a modest number of transportation funding decisions were to be made by urban regions on their own, through metropolitan planning organizations (MPOs).

But specific national goals have faded in subsequent reauthorizations of the federal transportation program, which now funnels about \$50 billion a year to states and localities, mostly for highways but a minority segment for transit. State transportation departments continue to have more expertise in engineering and concrete pouring than urban planning, economic development, or environmental management. States’ own project funding formulas, often developed in pre-metropolitan eras, often tilt heavily to rural over urban areas. For example, the booming Denver area boasts more growth, people, and gasoline consumption than any other area of the state, but it gets back only 69 cents in revenues for each \$1 of tax revenue. From 1998 to 2003, the share of state transportation dollars allocated to the region actually declined from 46 to 28 percent.

The MPOs have also disappointed even their most enthusiastic backers. In many regions they are actually splintered between sections of the metro area, making true regional decision-making virtually impossible. A scattering (Albany, Dallas, Hartford, Minneapolis, San Francisco, Portland, and Seattle, for instance) have improved staff expertise in writing the complex

grossly favors  
suburban

regional transportation plans mandated by federal law. But evaluations of most MPOs indicate serious professional shortcomings. Another problem: In a high percentage, allocation of decision-making MPO board slots, relative to actual population, grossly favors suburban over center city representatives. And in any event, a minuscule percentage of federal transportation dollars actually flow to the MPOs.

lack of  
accountability

Overall, Summit participants found, there is now a huge lack of accountability in the system. Federal support is based on a federal gas tax (18.4 cents a gallon since 1993) earmarked for the national Transportation Trust Fund (which includes separate accounts for roads and transit). But there is virtually no federal oversight or accountability for the road and bridge projects that states or localities actually choose to implement with the funds. The program, noted Thomas Downs, president of the Eno Transportation Foundation, has degenerated into a system in which the federal government collects revenue for the states and sends it back to them. But to the extent the federal government increases its transportation subsidies, the General Accounting Office has found the states frequently reduce transportation outlays from their own revenue base, cutting back sharply on the effective rate of return on the federal investments.

Congress' role. Failing to identify national transportation goals or priorities, Congress finds itself refereeing transportation money allocation fights between so-called donor and donee states. And the process of congressional earmarking of

transportation appropriations for specific projects in members' home states (excesses such as the \$398 million project in Alaska that critics labeled "a bridge to nowhere") has served to destroy credibility of the process in the public's mind. In 1987 President Reagan vetoed a transportation reauthorization bill because it included 152 earmarks; in 2005 President Bush signed one with 6,371, costing \$27.3 billion.

Federal formulas. Federal transportation allocations to states include no targeting of spending to vital areas. They make no reference to the critical role of metropolitan regions in the national economy. Based on the amount of transportation infrastructure that already exists, they reward additional building and thus set up an insatiable desire to build even more, say critics. They also tend to favor new construction over rehabilitation and maintenance, and make no effort to create economical projects.

One might expect, for example, for Congress to stipulate that funds allocated through the states be deployed for fewer vehicle miles traveled, less greenhouse gas emissions, coordination with land use plans, equitable treatment of various population groups, and a premium on short trip distances and trips made by means other than a single-occupant vehicle. Yet there is not even a hint of such guidelines.

Silos. In the real world of cities and regions, there are extensive, intimate relationships between transportation, housing, economic development, and environmental systems. The federal government, however, appears to operate in silo-like

fashion, rarely linking its field activities. In competition for federal transit grants, for instance, no bonus is given to projects that reorient land use and achieve greater densities in housing and commercial development around a project. Investment is often pushed out of high-tax, low-service urban areas and into low-tax, high-service, favored suburban locations. Although metropolitan areas account for most of the nation's economic output and a large majority of all transit use and port and surface freight tonnage, the federal commitment to these areas (either in financial assistance or basic data provision) is spotty and extraordinarily low.

### the european bombshell

Summit participants raised the idea of a new federal transportation-dollar allocation method, one that would put all investments "through a mode-neutral, multimodal performance screen (a silo buster)," as Shelley Poticha of Reconnecting America proposed. But the trigger for a radical reformulation came with the presentation of Great Britain's recent Eddington Transport Study, which explored the role of transportation in sustaining the United Kingdom's productivity and competitiveness. Faced with fast-rising transportation demand, the British government had asked Sir Rod Eddington, a recently knighted Australian who was once the head of British Airways, to assemble a broad group of experts to define elements of a new transportation approach rooted in principles of economic growth and sustainable development.

a radical  
reformulation

As Oliver Jones of Britain's Department of Transport explained, the goal was "an economic policy project, not a transport policy project." And its big breakthrough was a determination to gauge and compare actual outcomes of any project. In that sense the British formula is agnostic on transportation modes, not predisposed to favor highways, high-speed rail, or any other means of transportation, but rather designed to determine the cost-benefit ratio, the comparable returns on investment, of varied investments the government might make. Cities, key urban corridors, and international gateways were given major consideration because "they're the worst congestion problems, but where our economic future lies," Jones noted.

the cost-benefit ratio

To determine the best types of interventions, the Eddington project created a database of 200 major transportation recommendations made in Britain in the last decade and then calculated the cost-benefit ratio of each. Factors such as fiscal cost, environment, congestion, and foreign trade were included. A major effort was made to consider both the congestion and climate effects of projects. And issues such as safety lanes on motorways were factored in. A national traffic congestion charging scheme was also modeled, with the expectation that it could provide returns of £25 billion a year by 2025.

best types of interventions

The British formula revealed that many proposed transportation projects provided extremely high returns. But some, such as increasing long-distance high-speed rail service, did poorly. In general, a variety of smaller transportation initiatives provided better returns than larger projects.

extremely high returns

The evaluation system is not a one-time phenomenon on new projects. Rather, it involves continual collection of data on performance of the transportation network, needs of users, and the effectiveness of the policies being applied.

The British formula is not critique-proof, of course; the NGO community, for example, has suggested that it undercounts the impact of carbon, noise, and landscape factors. In the U.S. context, the tradeoffs between safer and more convenient urban roadways on one hand and roads facilitating added suburban sprawl on the other might be particularly difficult to quantify.

undercounts  
the impact of  
carbon

Still, the idea of a system that does not pick modal winners and losers in advance, that is based on objective data, and that seeks to judge where the greatest transportation need lies proved immensely appealing to Summit transportation experts.

A related set of fresh approaches, such as factoring in impacts on housing and economic development issues, and giving metropolitan regions special consideration, was introduced to the panel by officials of the German government.

Summit participants adopted the European approaches, in fact, as a cornerstone of their proposed new federal transportation policy, declaring “no more transportation for its own sake. Transportation dollars must lead to improved outcomes for the entire nation, including resilient metro regions.”

### framework for reform

How, then, can transportation dollars and planning be positioned to serve key national goals—a more competitive U.S.

## Germany's Federalist Solution

could it be? A federalist system of government that minimizes frictions, takes planning seriously, integrates transportation with critical housing and economic development agendas, and gives metropolitan areas special attention in the process?

Global Urban Summit participants were treated to a description of just such a system by Lutke Daldrup, the German federal government's state secretary of Transport, Building, and Urban Affairs. Daldrup, the former mayor of Leipzig, described Germany as a nation "highly urbanized but decentralized politically," a country that has begun in recent years to take metropolitan regions far more seriously. Why? His answer: "Metropolitan regions are laboratories for the global economy. They are powerhouses of economic change, centers of innovation, and centers of poverty, social exclusion, unemployment, even criminality. Metros combine great opportunities and problems of our society."

The German Federal Republic, said Daldrup, originally delegated most future planning roles to its *Länder*, or state governments, with little federal assistance except for major roads and waterways. For 40 years after World War II, federal attention actually focused on economically lagging areas, and after reunification on the revitalization of the former East German *Länder*. But in recent years the focus has shifted to economic growth and innovation, and the role of metropolitan regions in achieving both.

There is now agreed definition of 11 metropolitan regions within the country, including the "decision and control powerhouses" of Frankfurt, Dusseldorf, and Munich, the political power poles of Berlin-Brandenburg and Bonn, and major regional centers such as Stuttgart. The mayors and other political leaders of the Nuremberg area actually came together and asked for recognition as a metropolitan region. Asked why, Daldrup replied: The Nuremberg leaders realized that their entire region is competing with the rest of Europe, as well as the rest of the world; that both the historic city center and suburban areas recognized they had a contribution to make; and that they needed to stick together to advance the area's promising economic innovation clusters.

Germany's actual division of funding responsibilities between the federal, state, and local levels shifts from time to time. Historically, major decision-making power over large projects was vested in the *Länder*. But

increasingly the federal government formulates national plans for major roadways, waterways, and rail systems, placing a major emphasis on maintenance and use of existing infrastructure. Compact cities, less spatial separation, lower energy use, and cost and green agendas to reduce carbon footprints are factored in, along with ties to housing and overall economic-development planning. There appears to be direct, intensive work with officials and planners in key metro areas — as in the planning and construction of major new railway stations tied to ambitious urban renewal projects in Berlin and Stuttgart.

For regular transportation, housing and related economic development initiatives, Daldrup's ministry formulates five-year plans based on extensive research and analysis, working with members of the Bundestag (parliament) to ensure that decisions are responsive, to a practical degree, to local concerns. Partisanship was once more apparent, with Social Democrats regarded as the leading party of the cities and Christian Democrats the reverse. But the Social Democrats have recently lost power in several key areas to the Christian Democrats, who are seeking to improve their image as more liberal and urban.

A major problem now confronting the Germans, without clear resolution, is how to deal with the new roadway congestion triggered by the fast-increasing flow of freight-bearing truck traffic, projected to grow 40 percent in the next years.

On all transportation-related fronts, however, the government sees a need to keep improving Germany's already high-quality data collection system over the next five years. The principle of tying major transportation, land use, and environmental issues together for action in a coordinated place-sensitive manner, in vivid contrast to prevailing U.S. custom, seems solidly entrenched.

## Election Season Messages

could the idea of transportation reform reach the masses — especially in the context of a U.S. presidential campaign? Two political leaders, one a Republican, the other a Democrat, gave imagined campaign speeches with overlapping themes.

Pat McCrory, Republican Mayor, Charlotte, North Carolina

Five new urgent challenges demand a new transportation strategy for our nation. First, there's globalization. We Americans are used to getting ahead by working hard. But countries in Asia, Europe, and South America are doing everything they can to catch up with us. Second, energy independence: Our economy depends on oil supplies from unstable nations such as Iran and Venezuela. Third, we must keep our air clean, and the fact is auto emissions are dirtying our air. Fourth, transportation must strengthen our communities and help our families. Congestion robs us of time with our families. And fifth, we are a growing nation. By 2050 demographers say there will be an additional 120 million of us. We must think ahead.

The way Washington thinks about transportation is broken. From the Big Dig to the Bridge to Nowhere, Congress spends your tax dollars in haphazard ways. Our transportation trust funds are turning into slush funds.

We must maintain the phenomenal interstate system President Eisenhower left us. We need to invest in new infrastructure more intelligently. When I'm president, we're going to measure how well our transportation system is performing and target our resources to where the data shows we need to invest.

We're going to bust up bureaucracy in Washington. The Department of Transportation is organized around building projects, not moving people. The bureaucrats care about modes, not mobility. We will move much of the decision-making down to the local level, with the caveat that local decision-making must fit our national goals.

And we must have smarter growth. Our local governments are letting sprawl eat up our countryside, causing traffic jams that are difficult to build our way out of. We must break the cycle and grow in more intelligent ways.

Tom Ceis, Democratic Deputy Mayor, Seattle, Washington

America's families are worried that the gap between the wages they earn and the prices they pay for transportation is growing. It's not just rising gasoline prices. Families are forced to move further and further away from the job centers in search of housing they can afford. They're frustrated that they need to drive everywhere for everything, whether for jobs, school, shopping, or health care. They're spending more time on the road, and less time together with families and loved ones.

Business is just as concerned. The cost of transport has gone up considerably, squeezing the ability to invest in new products, new services, innovation, technology, and workers. Business leaders who return from traveling abroad ask me, "Why are our airports and seaports and transit systems and commuter rails and highways not up to the standards of a fiercely competitive world?"

It's time again, as Eisenhower did with the interstates, for a president to lead. We need to maintain and preserve what we have. But we also need new state-of-the-art infrastructure. And to get rid of bottlenecks, we should fix the interchange that backs up every day at 4 p.m.

I propose an "Invest in America" program, a partnership with states and metropolitan regions, giving them much more power over transportation decisions with the tradeoff that they'll be accountable for every dollar they spend, for the results they get. Results will be measured against national priorities: economic competitiveness, job growth, climate change, energy security, congestion relief, health, and safety.

And Invest in America will put transportation in service of livable communities where people can fulfill their dream — to walk and bike where the air is clean, where there is a neighborhood park, a library nearby, and a grocery down the street.

economy, improved access, health and safety, strengthened communities, more conserving land use, minimized energy use, reduced CO<sub>2</sub> emissions, and less dependence on foreign oil suppliers? A range of ideas, ways, and means resonated with participants:

- Make transportation policy bolster the economy and match key national goals on the basis of strict cost–benefit ratio analysis. Let the policy be officially neutral or “agnostic” as to modes.
- Focus the United States’ transportation policy on the viability of metropolitan areas and prime transportation corridors between them, recognizing metros’ key role in national economy security and progress.
- Promote new “user pays” forms of traffic regulation, including 1) tolled lanes on very busy freeways, 2) congestion pricing (tolls for private vehicular use of heavily traveled urban centers) based on the model of efforts in London, Stockholm, and Singapore, and 3) emissions-based tolls on heavy trucks on freeways (based on a German program).
- Make “fix it first” a national standard, and assume costs of repair and maintenance of the existing interstate system as a federal responsibility.
- Establish safety as a national priority to sharply curtail traffic injuries and deaths and reduce vehicle-triggered diseases such as asthma; add explicit wellness goals through walking and cycling to cut government costs and enhance national competitiveness.

- Create a federal sub-cabinet to deal with transportation that includes the secretaries of Transportation, Energy, Housing and Urban Development, and the administrator of the Environmental Protection Agency. Require that they provide Congress with an annual report on how they are integrating their efforts in a cross-cutting way.
- Fill a major information gap by creating a comprehensive new federal database covering all aspects of transportation and transportation-related business and personal usage, including travel patterns, infrastructure maintenance and backlogs, energy use, CO<sub>2</sub> emissions, freight, links to housing, city, and town planning, and other relevant issues.
- To promote a true program of national transportation priorities (as opposed to Congressional earmarking), consider an entity modeled after the federal government's BRAC procedures for closing of military bases. This way, the commission would consider the broad range of proposed major transportation infrastructure projects and then prepare a list of fundable projects that Congress must approve or reject on a single up or down vote.
- Rather than turn to the automatic choice of major new superhighways to relieve congestion, assess all available choices, starting with targeted construction at serious bottleneck locations, almost all of which are located within metropolitan regions. Aim transportation planning and budgeting at significant reduction in goods movement time by highway and/or rail, both for economic efficiency and to

reduce polluting emissions. A program of combined bottleneck relief (improved freeway-to-freeway interchanges and significant port and intermodal terminal access roads) might require a \$60 billion to \$80 billion program, some participants suggested.

- Commit to a national passenger rail plan to connect the nation's largest metros on trips of less than 500 miles. Encourage partnerships with states to leverage rail expansion efforts and coordinate on commuter rail. A credible U.S. intercity rail system would cost \$50 billion to \$60 billion, according to a 2002 report from the American Society of State Highway and Transportation Officials. Many of the corridors identified in the city coincide with megaregion corridors, including those where intercity travel is congested.
- Give state governments and the MPOs chief responsibility for allocating funding among highway, transit, and other transportation proposals. As federal transportation funds are released to states, stipulate that the state governments control the priorities and fund flows to smaller metro and rural areas. But the federal funding would go directly to, or be specifically designated for, all metros of 1 million residents or more. The metros of significant size would then have full power to determine (using new and improved outcomes-based criteria) the exact road, bridge, transit, or related projects that would work best for their areas. Companion proposals include the following: 1) Congress should set a limit of one MPO per metropolitan area, solving the problem

of two or more (generally politically motivated) MPOs in some regions, an arrangement that makes rational region-wide decision-making almost impossible; 2) MPO membership should be required to reflect the population weights of the localities represented; and 3) MPOs should be assisted in gaining the analytic capacity, based on cost–benefit analysis, to judge and compare varied road or transit proposals.

- Create incentives for metropolitan regions to overcome the parochialism of dozens or hundreds of local governments in a single region by offering greater or quicker federal or state support to metros that are able to reach internal agreement on voluntary comprehensive and integrated transportation, land-use and economic-development plans.
- Encourage metros to consider transit options as a way to
  - 1) provide a mode choice for commuters and travelers,
  - 2) relieve some roadway congestion, and
  - 3) encourage and accommodate higher densities in fast-developing areas (such as the Southwest United States), where transit-oriented locations have the potential to absorb a significant share of the country’s growing population. Common-sense rules of flexibility would also dictate that MPOs be allowed to set their own match ratios for the investments they make, both in highways and transit. (Significantly, when a broad-based bipartisan federal transportation commission mandated by Congress unveiled the nation’s first-ever long-range transportation plan in January 2008, calling for dramatic funding increases for multiple modes of transportation including

rails as well as roads, one glaring omission was any focus on metropolitan regions or improvements of the MPO system.)

- Publicize value-recapture strategies, special taxing districts, or similar devices to recoup a fraction of the public's major investment in new light-rail lines (the announced plans for new rail line rights-of-way in the Denver, Dallas, and Charlotte regions have stimulated literally billions of dollars in private investment, for example).
- Reduce the growing transportation burden on Americans' family budgets by synchronizing transportation and housing policy, with a premium on locating affordable housing close to employment areas, schools, community colleges, shops and services, and in walking range of public transportation.
- Establish an explicit transportation goal of serving communities' land use objectives and honoring citizens' sense of place in their cities and towns.
- Support modern, inclusive planning tools such as alternative growth scenarios to give officials and citizens a clear vision of choices.
- Encourage local transportation planning to value and provide safe routes that accommodate foot travel and bicycling to and from transit, work, schools, and town centers, both to reduce traffic burdens and improve Americans' health.