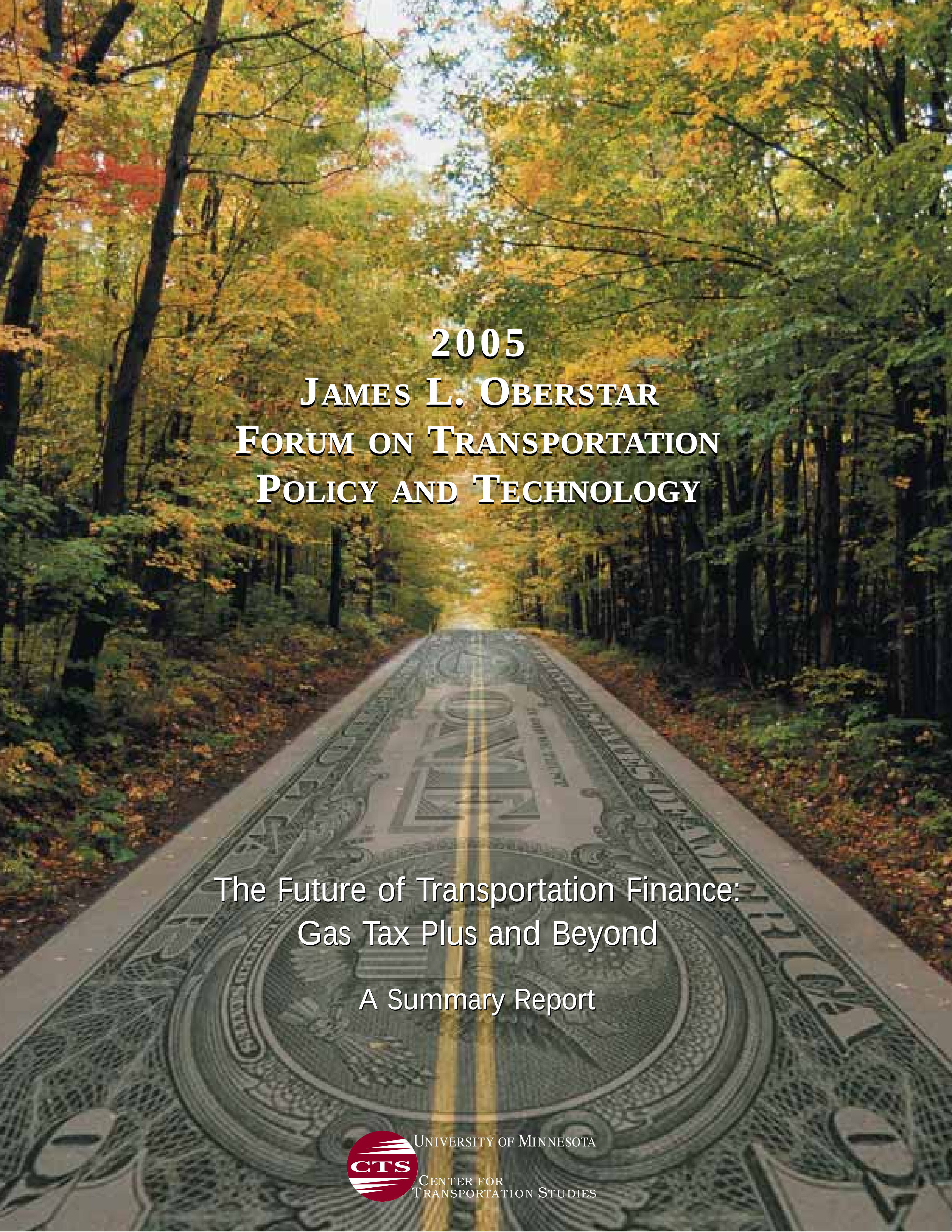


2005 James L. Oberstar Forum on Transportation Policy and Technology

The Future of Transportation Finance: Gas Tax Plus and Beyond

A Summary Report

University of Minnesota
CTS
Center for Transportation Studies

This report summarizes the fourth James L. Oberstar Forum on Transportation Policy and Technology. Over two days, we examined many options to fund our nation's transportation system, especially as our state and national leaders search out alternatives to the gas tax.

As in previous years, we owe much of this forum's continued success to the dozens of new and returning state and national transportation policymakers and professionals, who, following the lead of Congressman Oberstar, participated with energy and commitment to the public good. As a result, their wisdom and experience have precipitated improvements in our transportation system, in particular by generating fresh ways to finance transportation and by probing the merits of funding ideas already under consideration.

We hope the ideas assembled in this report contribute to the development of meaningful and lasting advancements in transportation.

Robert Johns, Director
Center for Transportation Studies

Robert Johns

About the Forum

The James L. Oberstar Forum, hosted by the University of Minnesota's Center for Transportation Studies, was created to examine and improve national transportation policy by facilitating an open exchange of ideas and experiences among state, national, and international leaders in transportation and academia. The forum is named in honor of Minnesota Congressman James L. Oberstar, a long-time leader in creating national transportation policy and establishing research and education programs in transportation technology.

Oberstar, now serving in his 16th term as the representative from Minnesota's 8th Congressional District, is the senior Democrat on the House Transportation and Infrastructure Committee.

Contents

James L. Oberstar Forum on Transportation Policy and Technology
April 17–18, 2005

Transportation Finance Alternatives

Introduction

Regional and national transportation officials, policymakers, and professionals joined U.S. Rep. James L. Oberstar on April 17–18, 2005, to discuss the future of transportation financing, including the gas tax and possible alternatives. This was the fourth meeting of the transportation policy and technology forum named in honor of Oberstar and hosted by the Center for Transportation Studies at the University of Minnesota.

Oberstar headlined the two-day event, which featured USDOT acting assistant secretary for transportation policy Tyler Duvall, Surface Transportation Policy Project president Anne Canby, American Association of State Highway and Transportation Officials engineering and technical services director Tony Kane, American Public Transportation Association president Bill Millar, and Oregon DOT innovative partnerships and alternative funding manager James Whitty. Many other state and national leaders also attended.

James L. Oberstar

"We have different pricing mechanisms for different sources of energy for transportation," Oberstar said, unveiling his vision for a national commission to examine all Highway Trust Fund financing options by 2009. "We've got to bring those all together in some unified system that brings us sustainability, certainty of revenue, and fairness."

The portion of the event for invited leaders included a series of presentations and panel discussions following an introductory briefing on transportation financing from Parsons Brinckerhoff vice president Steve Lockwood as well as comments from *Innovation Briefs* editor/publisher Ken Orski. In addition, University of Minnesota researchers presented findings from their transportation financing-related studies. Barry Ryan from the applied economics department discussed current transportation finance mechanisms and challenges for Minnesota. Civil engineering assistant professor David Levinson described his research about the future of transportation networks and their financing.

Mindful of the pending major highway and transit funding legislation in Congress, forum invitees also dissected transportation finance policy during facilitated conversations. Participants began by discussing the impacts of more funding sources used to finance transportation, how to address the issues those additional sources raise, and their short- and long-term implications for public policy and programs. CTS director Robert Johns moderated the discussion.

During the public portion of the form, a panel of transportation leaders discussed short-term directions in transportation finance from a variety of perspectives. Tyler Duvall highlighted the Bush administration's proposal for financing surface transportation programs at an increased level of $284 billion through 2009. More specifically, Anne Canby addressed the importance of the public planning process. Tony Kane cited the lack of political will to raise the fuel tax. Finally, Bill Millar discussed concerns over a shift from an indirect source of funding, like general taxes or gas taxes.

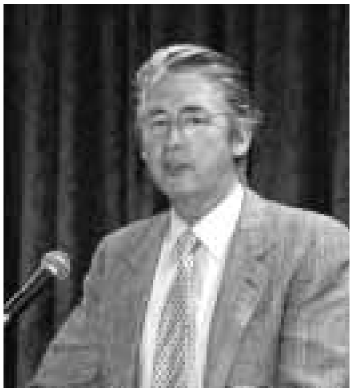
The next panel moved beyond short-term issues and addressed future visions for transportation finance. James Whitty described the technology involved in Oregon's road user-fee pilot program. Max Donath, director of the University's Intelligent Transportation Systems Institute, discussed other technologies that could track vehicles and apply road-use pricing accordingly. Lee Munnich, director of the Humphrey Institute's State and Local Policy Program, added that technology to enable road pricing has lacked political and institutional support.

Following the panel discussions, Oberstar addressed the pros and cons of various alternative financing mechanisms, emphasizing his belief that the gas tax still is a fair method of financing highway development. To close the event, Oberstar reiterated his hope that the forum continues to be "a place where ideas can clash" in a thoughtful and constructive way. "We're looking for short-term answers to our transportation problems," he concluded, "and long-term solutions to maintaining our sustainability, our competitiveness in the domestic and international marketplace, and our quality of life in today's society and for those who follow us."

This report summarizes the main events of the two-day forum on transportation policy and technology. More information about this and previous Oberstar forums is online at www.cts.umn.edu/oberstarforum.

The Dynamic State of Transportation Finance

Driving forces such as population, licensed drivers, vehicle registrations, and fuel consumption are rapidly increasing highway use. Together, these factors have created a need for additional revenues and reliable sources for funding. But industry estimates of what is "needed" for highway investment far exceed available revenues.



Steve Lockwood

Taking highlights from a detailed white paper he authored, Parsons Brinckerhoff vice president Steve Lockwood briefly discussed several concerns related to future trends in transportation finance. "Transportation finance is under increasing scrutiny," he asserted. "This reflects, in part, the growing concern over the adequacy of resources."

Efforts to address these concerns in the short term, according to Lockwood, include supplementing the existing mix of revenue sources. Fuel taxes play a critical role in U.S. transportation financing, but he reminded the audience that the diversity and importance of other revenue sources is more crucial than is often recognized. Eventually, he said, replacing fuel taxes with other revenue sources must be given serious consideration.

"There are already a range of factors tending to undercut the historical central role of gas taxes at the federal and state levels," he explained. "Alternative fuels are only one such factor, and although not consequential right now, this likely will become a major concern in the next 20-plus years. In the immediate future, fixes to the gas tax need to be pursued, and options among the non-fuel tax dependent revenue sources should be considered as supplements to fuel and vehicle taxes."

"In the immediate future, fixes to the gas tax need to be pursued, and options among the non-fuel tax dependent revenue sources should be considered as supplements."

—Steve Lockwood

For the longer term, Lockwood predicts that an entirely new framework for transportation finance likely will be necessary. This new framework may evolve from the range of revenue sources already used, he said. However, the vital function of fuel taxes to the current system and the important political and management dimensions of basing transportation finance on user fees suggest a new system of direct user charges may be feasible and even more desirable.

Lockwood acknowledged the inability to invent an entirely new transportation funding system and implement this new system in the short term—say the next 20 years. Instead, he suggested focusing on "fixes" to the existing system. "If we want to find a substitute for current revenue sources," he explained, "it's certainly not too soon to think seriously about this and to begin researching and piloting what various aspects of such a system would look like. We need to recognize the very long-term time frame necessary to develop, implement, and transition to something as pervasive and as different from the way we do things now."

At the same time, Lockwood pointed out the need to pay attention to parallel technological developments in other areas. "Maybe some new revenue-raising scheme can piggyback on technologies and services being implemented in vehicles and on roadsides for reasons that have nothing to do with raising revenue," he suggested.

Across the highway and public transit sector, each major transportation financing revenue source has important characteristics to consider. "If you understand the nature of these sources and their characteristics, you can think intelligently about the implications of changing the system," he concluded. "We need to get some sort of serious national dialogue going about these important issues, but we should be careful not to oversell the vices of the current system or the supposed virtues of some new system."

Steve Lockwood's white paper,* The Dynamic State of Transportation Finance, *is online at www.cts.umn.edu/oberstarforum.

Researchers Explore Transportation Funding Options

Two University researchers presented their unique insights into transportation finance during presentations moderated by CTS associate director Laurie McGinnis. Barry Ryan, of the applied economics department, described his research on current transportation finance mechanisms and the challenges these mechanisms pose for Minnesota. As "some grist for the mill," Ryan's three-part presentation described taxpayer impacts, the motor-fuel excise tax and tax effort, and predictions on how well road taxes will maintain their purchasing power. The policy challenge, he explained, is to fashion a road-tax system appropriate for the level of user benefits.

Statewide, Minnesota road taxes are the largest source of transportation funding, bringing in $1.32 billion annually. The pressing question, Ryan observed, is whether these road taxes will keep pace with inflation over the next 25 years. To try to predict an answer, he used a 25-year U.S. economic forecast from consulting firm Global Marketing Insights, which offered three alternative future growth scenarios—the trend, the optimistic, and the pessimistic—in which the fundamental difference is the rate of inflation. These scenarios also factored in variables such as fuel consumption, vehicle prices, and vehicle fleet size.

Barry Ryan

In the trend—or middle path—scenario, state road taxes would remain what they are today. "By 2030," Ryan explained, "we'll be able to afford today's level of road service and a bit more system improvement than we know we'll need." Under the pessimistic scenario, the balance between state road taxes and cost inflation falls into deficit earlier. In this deficit scenario, current road taxes lose a billion dollars a year in purchasing power and the cumulative deficit grows to $6 billion by 2030. "Not only is there no new money [in the pessimistic view]," Ryan added, "we can't afford the service we have today." But he closed on a more positive note by describing the optimistic scenario, where tax revenues collectively grow more quickly than road-cost inflation. "By 2030, the three taxes are adding $700 million a year in new purchasing power. Cumulatively, over the 2003 to 2030 period, there is nearly $11 billion in new system funding," he said. "This is a much more inviting future to contemplate."

Next, civil engineering assistant professor David Levinson described the future of transportation networks as well as their financing. "One of the biggest problems right now is that we think of our roads as a pay-as-you-go system," Levinson explained. "We charge only enough to pay for construction and maintenance of major roads through gas taxes and of lower level roads through a mixture of gas taxes and other types of taxes." He argues, however, that we could charge more. "People in other countries are willing to tolerate much higher charges for transportation either through gas taxes or tolls. The U.S. has some of the cheapest road charges; we need to rethink how we charge for transportation and what we intend to use it for and move beyond the notion of pay-as-you-go.

David Levinson

"We're also in a mature stage with surfaced roads and need different strategies to deal with this mature mode," he continued. What Levinson calls "senility" is one strategy. "This is where we continue to have [so called] 'free' pavement, but the reality is, people don't realize how much they are paying for it. We continue to have congestion and pollution, we continue to consume excess amounts of energy, we continue to have, essentially, more of the same."

As an alternative, Levinson eyed a "rebirth" of the transportation system into one with efficiency, reliability, flexibility, adaptability, and affordability. To accomplish this, Levinson suggested the possibility of differentiating levels of service on the road network and building high-occupancy toll (HOT) lanes and HOT networks that ensure people willing to pay for those options that they can get from point to point within a given period time. "Today, roads are basically one-size-fits-all," he said. "To better manage supply and demand, we can develop specialized products in our highway system and look beyond the existing mature system."

Conversations Take Aim at Transportation Funding Policy and Process

Mindful of the pending major highway and transit funding legislation in Congress, forum invitees dissected transportation finance policy during a morning of facilitated conversations. CTS assistant director Cheri Marti initiated discussion with a three-point topic guide focusing on the impacts of using more funding sources to finance transportation, how to address the issues those additional sources raise, and their short- and long-term implications for public policy and programs. CTS director Robert Johns moderated the session.

(From left) Tom Sorel, Steve Elkins, Jake Crandall, Colleen Landkamer, Jerry Fruin, and Marcia Marcoux

A central theme that emerged during the discussion was the public's willingness to pay for transportation as long as they clearly understand the need and understand what they are paying for. To that point, Marcia Marcoux, member of the Rochester, Minnesota, city council and the National League of Cities Transportation Policy Committee, noted that taxpayers often have a difficult time understanding how their taxes are used. "People sometimes feel they shouldn't have to pay a street assessment because they already pay taxes and they think the money is there," she said. "Somehow we have to change that attitude and better explain how things are funded."

According to Tony Kane, director of engineering services for the American Association for State Highway and Transportation Officials, one of the biggest problems with today's fuel tax is that it does not send a strong enough signal to motorists of the true cost of roads—or of the entire transportation system. "State and federal gas taxes amount to about two cents per vehicle-mile of travel," Kane explained. "We need stronger signals, whether they're in the form of new user fees, tolls, or HOT (high-occupancy toll) lane pricing, so that motorists understand that transportation is not free."

Jay Cowles, member of the Itasca Project, a group of business executives involved in shaping public policy in key areas such as transportation, agreed that better communication with the public is needed. "This is one of the great black boxes of public policy. It's worse than health care and education," he said. "We need to find ways to speak more meaningfully to the public about what they already know, but put it in a context where they trust the public policy process."

That thought was seconded by Minnesota Department of Transportation division director Randy Halvorson. "When we talk about how money [for transportation financing] is used," he said, "we better be able to communicate to the public in fairly specific terms about the projects it will be used for."

Likewise, John Hausladen, president of the Minnesota Trucking Association, reminded participants that a similar challenge plagues the freight industry. "There's a belief that increased costs in moving freight can be easily passed down to users, but that's not the case," he cautioned. "There is a disconnect between what end-users pay for something that's moved and what it actually costs to move it."

Some participants suggested a similar issue exists in the business community. "Our goal is to move transportation from a tier-two issue [lower priority] to a tier-one issue [higher priority] and give everyone—the public, the legislature, and business leaders—something they feel confident in voting for," explained Carolyn Jones, director of transportation policy for the Minnesota Chamber of Commerce. "It's not easy to get business to support tax increases, but when we can tell them, 'this is what you'll get for it,' it becomes a little easier."

This discussion led to another theme sounded by several participants: a genuine lack of "political will" to make the necessary changes to the transportation financing system.

Pete Ruane

Pete Ruane, president and CEO of the American Road & Transportation Builders Association, reminded the group of the 2004 elections, where 80 percent of local referenda—for bonding bills, user fees, or sales taxes—passed. In 2002, only 50 percent passed. "We need to take advantage of that," he said. "Clearly, the public is way ahead of most politicians. People are willing to pay.... but the missing ingredient is political will."

Rick Krueger, executive director of the Minnesota Transportation Alliance, believes that transportation hasn't had enough state leadership. "We are jeopardizing our long-term economic development because of a lack of investment in the transportation infrastructure," he said. "If we can't get leaders to lead on this issue, we need to engage the public and get them to say it's a priority issue they are willing to vote on."

To Blue Earth County, Minnesota, commissioner Colleen Landkamer, political rhetoric is another hurdle in the way of effectively addressing transportation issues. "I think the public is ahead of us," she said. "They do see the need for transportation, but there are so many mixed messages and no real answers that the public doesn't trust anyone. We elect people to make decisions, and we need to ensure that those decisions are made."

Discussion also touched on a variety of current funding mechanisms, potential alternatives, and the impacts and implications of each. Bill Millar, president of the American Public Transportation Association, focused on the way transportation is financed today. "We get more of one kind of transportation and not enough of the other," he observed. "The future has to be about how best to manage the whole system and give appropriate choices so that people can think about how they want to travel on any given trip."

Steve Elkins, member of the Bloomington, Minnesota, city council and the Association of Metropolitan Municipalities, explained the concept of the street-utility tax. Instead of collecting for local pavement-management programs via property taxes, cities assess a utility fee based on land use—that is, trip generation. "This is a step in the right direction to making taxes more use-related even though it's not a direct user fee," he said.

"We need stronger signals, whether they're in the form of new user fees, tolls, or HOT (high-occupancy toll) lane pricing, so that motorists understand that transportation is not free."
—Tony Kane

But Midwest High Speed Rail Coalition executive director Richard Harnish added that if the problem is lack of political will to raise the gas tax, it might be because the public is unwilling to accept "the product" as packaged. "Perhaps there is an opportunity to bring together diverging groups—including people who want to build more highways, people who want to change the way oil is used, people who want to build more transit, and people who want to see better interconnections between cities—to create a campaign that explains why we have a gas tax," he said. "Here's what we want our future to look like, and, in order to build that future, we have to raise revenue."

(From left) Lee Munnich, Richard Stewart, Dan Murray, Robert Johns, Natalio Diaz, and Cheri Marti

Former Minnesota state Sen. Carol Flynn said the one thing people want is choice—choice in how they travel and how they pay for travel. Though indexing the gas tax to the rate of inflation has been one option advocated as a solution to funding transportation, Flynn said that politically, "it won't happen in Minnesota" because indexing eliminates voter/taxpayer choice over how their money is spent. But Flynn also took issue with the lack of public debate on the subject of using the sales tax as a revenue source. "It is simply happening by default," she said.

On the other hand, Lee Munnich, a research fellow with the University of Minnesota's Humphrey Institute and director of its State and Local Policy Program, cited an example of how political leaders and the public have been engaged in transportation issues. Specifically, he touted the new I-394 MnPASS Express Lane system in Minneapolis. Munnich credited community discussion by way of a task force for engaging political leaders and making the difference in finally moving the project forward.

Similarly, Surface Transportation Policy Project president Anne Canby pointed to the value of building consensus for more public resources. In Salt Lake City, for example, a public-private partnership called Envision Utah successfully guided development of a publicly supported growth strategy. "With better planning, people can see what the trade-offs are," she said. "They've built such a successful light-rail program that the push is now on to get it done in 10 years, not 30."

Funding Transportation Challenges Policymakers and Public

Just what is the appropriate level of federal financial participation in surface transportation has been a subject of lively debate in Washington, D.C., according to *Innovations Briefs* editor/publisher Ken Orski.

As he summarized the invited-leader portion of the forum, Orski reported that the federal transportation financing debate is being driven primarily by concerns regarding the continued adequacy of the Highway Trust Fund. "Now, a variety of factors such as inflation, increasing vehicle efficiency, and growing penetration of hybrid vehicles threaten to reduce the flow of tax revenues into the Highway Trust Fund," he said. Compounding this problem, he continued, is the growing diversion of trust fund revenues to non-highway purposes and the tendency for Congress to earmark funds for local projects.

Ken Orski

"The House and Senate authorizing committee has endorsed the White House's proposed level of $284 billion over six years, but some senators find this level inadequate and may seek to increase this level when the bill comes up for vote on the Senate floor," Orski explained. "What remains to be determined is the future of state and local funding, which takes on many forms that vary widely from state to state."

Some states undoubtedly will choose to raise the gas tax, Orski added, but state legislatures on the whole are reluctant to do so. Other states may prefer to dip into more general funds, and local governments, at times, have tried to increase sales taxes, especially to fund transit. Some states are even looking into long-term leasing of state-owned toll facilities. Illinois, for example, recently realized a $1 billion windfall in leasing its Chicago-area Skyway toll road to the private sector.

Much discussion about the role of road pricing may reflect a growing national debate on the potential of pricing and tolling in future transportation financing. "We should remember, however, that tolling is not a federal initiative. It's a state and local option," Orski pointed out."The most the federal government can do is get out of the way and let states use tolling as and if they see fit."

> *"The most the federal government can do is get out of the way and let states use tolling as and if they see fit."*
>
> *—Ken Orski*

Toll roads may become more widely used, but these 21st century toll roads will bear little resemblance to the turnpikes of the last half-century, Orski said. Instead, more and more of these roads will be built and financed in partnership with the private sector. And, toll lanes will take many innovative forms such as HOT [high-occupancy toll] lanes and HOT networks and toll truckways, relying on cashless and electronic systems for collection and enforcement. "I think what may eventually emerge from these efforts is a two-tiered system of roads," Orski predicted. "Supplementing the existing system of toll-free interstates and primary roads will be networks of toll-financed, priced lanes offering premium service levels to travelers in heavily traveled urban corridors."

Orski outlined a possible long-term scenario in which the public policy challenge will be to facilitate transition to a market-based or priced system while maintaining a basic level of service on the existing federal-aid highway network. This, he said, requires a new kind of a state/federal relationship. States will need to create utility-type entities responsible for constructing new highway capacity. The federal government, on the other hand, needs to ensure that existing interstates and national highways remain in serviceable condition.

In this modified federal/state relationship, the Highway Trust Fund and state-level fuel taxes would need to be devoted entirely to the essential task of preserving and reconstructing the existing network of toll-free roads. User fees—in the form of tolls—could support construction and operation of new state-sponsored networks or price facilities. Express toll lanes and truckways could offer premium level service to individual drivers, freight movers, and bus riders who want faster, more reliable travel than the aging system of toll-free interstates and national highways.

"We can see dimly the model of this scenario in Texas where they decided to change from supporting new infrastructure with gas taxes to using tolls and bonding almost exclusively. Whether this Texas scenario will be adopted more widely in other states remains to be seen," Orski concluded. "But the fact that at least one state is ready to go ahead with this approach means it is no longer fiction—it is a reality."

Transportation Leaders Offer Short-Term Funding Options

A panel of transportation leaders discussed short-term directions in transportation finance from a variety of perspectives during the first half of the public portion of the forum. CTS director Robert Johns moderated the session, which followed introductory remarks by Congressman Oberstar, Steve Lockwood, and Ken Orski.

(From left) Tyler Duvall, Anne Canby, Tony Kane, and Bill Millar

To start, U.S. Department of Transportation acting assistant secretary for transportation policy Tyler Duvall highlighted the Bush administration's proposal for financing surface transportation programs at an increased level of $284 billion through 2009. "We've also laid the groundwork in the policy arena for some fairly significant changes in terms of how we finance and manage our transportation systems in the future," he continued. "We propose to mainstream the value-pricing pilot program, of which Minnesota is one of most active states, and think it's time the entire country experimented with these new developments taking place in terms of road pricing."

According to Duvall, the administration believes tolling has a substantial role in financing new highway capacity in this country and getting users to pay for the cost of infrastructure development. He also described a "nexus between public-road pricing and the role of the private sector" and cited recent private-public partnership projects developed in the Chicago area and in Texas that ushered a new level of private-sector participation. "The public sector has the ability to control the contractual mechanisms by which the private sector runs and maintains facilities," he said. "We think there is a lot of investment capital on the sidelines, and we need to welcome in the private sector's capital, expertise, and the competition to provide infrastructure."

Anne Canby, president of the Surface Transportation Policy Project, also weighed in on the issue of tolls. "We must be mindful that we're talking about how we use a public right-of-way," she said. "At the moment, the public might not accept tolling options because the price of gas already is increasing the cost of driving. The double whammy of a toll might be a hard concept to sell."

Canby said she finds the use of private capital acceptable to fund transportation projects, but not to the exclusion of the public's role and public agencies' responsibility in ensuring that conflicting public interest issues are balanced. "I have concerns about selling or leasing our public assets," she cautioned. "It sounds like a good idea on the surface, but what happens to the public planning process with this kind of a transaction? What happens to the public's role in participating in the decision-making process and how's it going to get paid for? It looks like free money, but there is no free lunch. If the public is cut out of the process, they won't be happy when they are asked later to pay for some of the costs."

"Whatever we do," Canby added, "performance and accountability must be built in and measured regularly. I think this will give us more support and create a better product mix, which ultimately leads to more revenue."

Tony Kane, director of engineering and technical services with the American Association of State Highway and Transportation Officials, echoed the need for a system of accountability and performance. "You need to show the public that you're a good entity, you have a good plan for what the money is used for, and you deliver services and programs as efficiently as possible," he said.

But Kane added that a fuel tax still offers a viable funding solution, though the biggest challenge with

Options *continued on page 9*

Visions for Transportation Funding Focus on Technology and Innovation

Oregon served as a backdrop for the second and final panel of the public portion of the forum as attention turned toward future visions for transportation finance. James Whitty, manager of the Oregon Department of Transportation's Office of Innovative Partnerships and Alternative Funding, described Oregon's yearlong road user-fee pilot program scheduled to roll out in late 2005. This legislatively mandated program is tasked to develop a revenue collection design for Oregon roads and highways that would replace the current system. The objective is to make the mileage—or vehicle-miles traveled (VMT)—fee technologically, administratively, and financially practical.

(From left) James Whitty, Max Donath, and Lee Munnich

Using in-vehicle Global Positioning System (GPS) receivers linked to computers at select fueling stations, drivers will be assessed a per-mile charge based on the number of miles driven within the state—or zone. This system also provides the ability to have rush-hour pricing with virtually no added cost. "The intent is to replace the gas tax," Whitty explained, describing how a mileage fee is added and the gas tax is deducted when drivers purchase gas.

Of course, privacy is a major concern with this system. But according to Whitty, the system only receives GPS information and has no transmitter, no data is transferred to the station computer except mileage totals, and no precise mileage data is stored in the computers.

"We're beginning to see that we can't make the necessary changes without political leaders and champions"

—Lee Munnich

Politically, the mileage-fee rate itself is an even bigger issue, Whitty added, because a flat rate produces winners (less-fuel-efficient vehicles) and losers (more-fuel-efficient vehicles). One way around the mileage-fee rate is to use a graduated rate based on fuel efficiency, where drivers with less-fuel-efficient vehicles are penalized for fuel consumption and given an incentive to trade up to more-fuel-efficient vehicles. "We don't think this program is the only solution or best solution," Whitty concluded. "It's simply an option we want to prove can work."

Next, Max Donath, director of the University's Intelligent Transportation Systems Institute, offered insight into more technology-based alternatives. "I speak to you as a toolmaker—the person who tries to come up with new tools that might help the policymakers come up with new solutions," he said.

Donath characterized the Oregon pilot program as a very simple system. "Simple is what we should all be working toward," he continued. "However, there are technologies available that facilitate even more differentiation than Oregon's zone system, such that we can distinguish individual roads and allow each jurisdiction to recoup the cost of travel on its roads."

These technologies include differential global positioning systems (DGPS) and digital maps, which conceivably could offer enough accuracy to track vehicles as they move between a HOT lane and a normal lane to correctly apply road-use pricing. In addition, technology based on radio-frequency identification (RFID)—a method of remotely storing and retrieving data using devices called transponders—easily can be deployed on all vehicles to enable automatic enforcement of road-pricing systems.

Donath also addressed data privacy concerns, correcting a misperception that GPS means that satellites or ground stations track drivers. In fact, an on-board GPS receiver simply calculates where the vehicle is. "Conceivably, some other technology on board the vehicle could transmit that calculation elsewhere, and that may infringe on privacy," he said. "But we can design privacy into the system so that that information is not transmitted anywhere else but is used only to aggregate the road miles and charge drivers for the miles used."

To wrap up the panel discussion, director of the Humphrey Institute's State and Local Policy Program Lee Munnich added that studies during the mid-1990s concluded that technology was available to enable road pricing but using it lacked political and institutional support. "We're beginning to see that we can't make the necessary changes without political leaders and champions," he said. "Not just because they do the legislation, but if they can't understand and explain something to their constituents, then there's no way change will happen." Munnich cited the Oregon mileage-pricing effort as significant because it has a legislative mandate and has legislators grappling with issues. "We must have the kinds of innovative programs like the Oregon pilot," Munnich suggested. "People have to see these things working. It doesn't matter how much we talk about how we think systems like this can work. We have to get demonstrations out there."

According to Munnich, one of the best federal programs to effectively encourage innovation is the Federal Highway Administration's value-pricing pilot program, which funds the development, operation, and evaluation of pilot tests for innovative road- and parking-pricing projects that achieve significant and lasting reductions in highway congestion. The congressionally mandated grant program supports efforts by state and local governments, or other public authorities, to establish, monitor, and evaluate value-pricing projects. "The I-394 MnPASS project was partially funded by this program," Munnich explained. "While the program doesn't completely finance the system, it does encourage innovation, and these kinds of innovation dollars are hard to come by at the state and local levels."

More Information:

Oregon DOT's Road User-Fee Pilot
www.oregon.gov/ODOT/HWY/OIPP/ruftf.shtml

University of Minnesota's Intelligent Transportation Systems (ITS) Institute
www.its.umn.edu

Mn/DOT's I-394 MnPASS Project
www.mnpass.net

Options *continued from page 7*

that option is the lack of political will to increase it. "It has been 20 years since the gas tax was raised in Minnesota," he said. "The real loss has been in purchasing power, but I think the public is willing to pay a higher price for better service on their transportation systems. We can't continue growth without enhancing the user fees we have. Debt financing may be one way, in the short run, to find additional funding as long as you don't have too much debt financed and you plan for future revenue enhancements that can pay off those debts."

Finally, Bill Millar, president of the American Public Transportation Association, observed that the gas tax will remain the most important source of revenue at the federal level for the foreseeable future. However, he also noted growing interest in direct roadway charges. "Perhaps someday it will become as common to pay a toll as it is to pay a transit fare," he said. "There is much for the highway folks to learn from public transit about how to collect fares and about the equities involved in doing that."

But if transportation financing moves away from indirect funding sources like general taxes or gas taxes, Millar is concerned about how those revenues will be spread across the system. "We need to talk about the entire system, all its components, and all that can be contributed to the system," he concluded, "to make sure there's a way to fund each and every one of those components."

Oberstar Seeks Sustainability, Certainty, and Fairness in Funding

James L. Oberstar

In his speech during the public portion of the forum, Congressman Oberstar provided a brief history of the evolution of the Highway Trust Fund and our pay-as-you-go system of financing interstate highway construction. The important lesson, he noted, is that an ambitious highway construction program cannot be successful without the support of a steady stream of dedicated revenue.

According to Oberstar, a key challenge ahead is fashioning an adequate response to the dramatic increase in the use of our highways and the resulting traffic congestion. To narrow the widening gap between growing demand and the existing capacity of our transportation infrastructure, he emphasized the continued need for a robust federal program to finance highway and transit infrastructure in a "post-interstate" era.

"People have to understand that there is a cost," he said, seizing a major theme that emerged during the facilitated conversations preceding the public portion of the forum. "If the public sees the benefit of the use, they will support the revenue source for it. If our economy continues to grow, as it must, then we can stay a step ahead of congestion and not let it swallow us up through policy gridlock. That is the worst state of affairs. Traffic gridlock is one thing, but it can be unlocked if we unlock the policy gridlock. That's what this forum is designed to do."

"Traffic gridlock is one thing, but it can be unlocked if we unlock the policy gridlock. That's what this forum is designed to do."

—James L. Oberstar

Next, Oberstar unveiled his vision for a national commission to examine all Highway Trust Fund financing options by 2009. In short, he expects the National Commission on Future Revenue Sources to Support the Highway Trust Fund, established in the pending transportation funding reauthorization bill, to better systematize several different pricing mechanisms for different sources of energy for transportation. "We've got to bring those all together in some unified system," he said, "that brings us sustainability, certainty of revenue, and fairness."

Oberstar reviewed several possible options for increasing investment in highway and transit infrastructure, including restoration of the purchasing power of the gas tax, expansion of the use of toll roads and existing innovative finance programs such as the Transportation Infrastructure Finance and Innovation Act (TIFIA) and the State Infrastructure Banks (SIBs) program, and establishment of a tax-credit bond program, a weight- or vehicle-distance tax, an ad valorem fuel tax, and a broad-based energy tax.

As he addressed the pros and cons of the various financing alternatives, Oberstar stressed that the gas tax—at the thresholds established in 1956—is still a fair method of financing highway development. "All the users pay," he explained. "Although the system is not perfect, the amount of tax each user pays is generally equivalent to miles driven and use made of the system."

"I am reluctant to see heavy reliance on new tolls," Oberstar continued. "For one thing, tolls have an element of inequity. Drivers paying tolls are also paying a gas tax for each mile driven on a toll road, so these drivers are, in a sense, paying twice. As part of the bipartisan compromise on the [pending reauthorization] bill, H.R.3 contains provisions authorizing a limited number of new tolling projects so that we can further evaluate the desirability of tolling. I caution, however, that if we are to expand the use of tolling, even through pilot programs, we must take steps to ensure that equity is adequately addressed."

Oberstar also discussed his interest in a user-fee system, like the pilot project underway in Oregon, based on distance traveled. Such systems, he said, offer a more equitable way of charging for road use because they more closely approximate passenger vehicle use regardless of the price of gas or the fuel economy of the vehicles.

At the conclusion of the event, Oberstar briefly summarized the forum's main themes and reiterated his hope that the forum be known as a place where ideas can clash in a thoughtful and constructive way. "We're looking for short-term answers to our transportation problems," he concluded, "and long-term solutions to maintaining our sustainability, our competitiveness in the domestic and international marketplace, and our quality of life in today's society and for those who follow us."

The Future of Transportation Finance

Excerpted Remarks by James L. Oberstar

Origins of Financing the Federal-Aid Highway System

In 1956, Congress, working together with President Eisenhower, imposed a 3-cents-per-gallon federal excise tax on motor fuels (commonly known as the gas tax) and deposited the revenues into a Highway Trust Fund. This would be the pay-as-you-go system to finance the construction of the interstate highway system.

The lesson we learned from this experience was that an ambitious highway construction program could not be successfully launched without a steady stream of dedicated revenue to support the program. The dedicated revenue stream needed to provide stability, continuity, sustainability, and, most important, certainty to the process of building our highways. The gas tax did that, and continues to do so to this day.

Moreover, the gas tax was a fair and equitable method of financing development of our highways. The tax is paid by all users of the system, and, although the system is not perfect, the amount of tax each user pays is generally equivalent to miles driven and use made of the system.

With passage of the Transportation Equity Act for the 21st Century (TEA 21) in 1998, we have significantly increased infrastructure investment in our highway and transit programs. However, our infrastructure needs greatly outstrip the revenues generated by the current gas tax.

The Post-Interstate Era: Increasing Demand

For almost 50 years, the gas tax has served as a basis for construction of the 42,800-mile interstate system. Our $114 billion federal investment in the interstate has paid phenomenal returns in mobility, productivity, and economic growth: 1 percent of highway miles (the interstate) carry 24 percent of traffic.

As we firmly step in to the post-interstate era and examine the continued federal financing of our highway and transit infrastructure, we must begin with a clear recognition of the continued need for a robust federal program.

The results of the last decade simply compound the historical trend of travel demand outstripping almost all other indicators (growth in population, capacity of the system, etc.). Over the past 30 years (1970-2002), total vehicle-miles traveled by trucks leaped by 245 percent, outpacing even the enormous growth for passenger cars and light trucks (173 percent). Heavy trucks, with all the attendant increased stress on our highway infrastructure, make up a larger share of the overall traffic on our highways than ever before.

The gap between the growing demand and the existing transportation infrastructure capacity has widened even further. The Texas Transportation Institute's 2004 report found that congestion in the largest 85 urban areas cost an estimated $63.2 billion annually in 2002. This cost represents 3.5 billion hours of wasted time and 5.7 billion gallons of wasted fuel due to traffic delays. The cost of congestion has quadrupled in the last 20 years ($14.2 billion in 1982) and there is no reason to expect the trend not to continue.

Highway/Transit Infrastructure Financing Options

It is in this context that this forum discusses innovative ways to finance our highway and transit infrastructure. This forum begins to examine the options that the National Commission on Future Revenue Sources to Support the Highway Trust Fund, established in the TEA 21 reauthorization bill (H.R.3), will consider in the coming year. The nine-member commission will consider alternative long-term sources for revenue to support the Highway Trust Fund at levels sufficient to fund our increasing transportation needs.

As the forum, and soon the commission, begins to examine this critical issue, I would like to briefly discuss several possible financing options for increasing investment in our highway and transit infrastructure:

- Restoring the purchasing power of the gas tax
- Expanding existing innovative finance programs (TIFIA and SIBs)
- Expanding the use of tolls
- Establishing a tax-credit bond program
- Establishing a weight- or vehicle-distance tax
- Establishing an ad valorem fuels tax
- Establishing a broad-based energy tax

Although there are many options, it is critical that the financing system continue to meet the thresholds established in 1956 with the federal gas tax: stability, continuity, sustainability, and, most important, certainty to the process of building our highways and fairness for the users of the system.

Condensed from remarks by Rep. James L. Oberstar on April 18, 2005. The complete text of Rep. Oberstar's speech is online at www.cts.umn.edu/oberstarforum.

James L. Oberstar Forum on Transportation Policy and Technology

April 17-18, 2005 • Attendees of Invitation-Only Discussions

National and Minnesota Leaders

Richard Braun

Anne Canby
Surface Transportation Policy Project

Fred Corrigan
Minnesota Aggregate & Ready Mix Association

Jay Cowles
Lawrence Creek LLC

Jake Crandall

Natalio Diaz
Metropolitan Council

Tyler D. Duvall
U.S. Department of Transportation

Steve Elkins
Association of Metropolitan Municipalities

Jim Erkel
Minnesota Center for Environmental Advocacy

Carol Flynn

David Fricke
Minnesota Association of Townships

Randy Halvorson
Minnesota Department of Transportation

Richard Harnish
Midwest High Speed Rail Coalition

John Hausladen
Minnesota Trucking Association

Curtis Johnson
Citistates Group

Carolyn Jones
Minnesota Chamber of Commerce

Anthony Kane
American Association of State Highway and Transportation Officials

Rick Krueger
Minnesota Transportation Alliance

Brian Lamb
Metro Transit

Colleen Landkamer
Blue Earth County

Steve Lockwood
Parsons Brinckerhoff

Marcia Marcoux
National League of Cities Transportation

Bob McFarlin
Minnesota Department of Transportation

William Millar
American Public Transportation Association

Dan Murray
American Transportation Research Institute

James Oberstar
U.S. House of Representatives

Adolph Ojard
Duluth Seaway Port Authority

C. Kenneth Orski
Innovation Briefs

David Plavin
Airports Council International

T. Peter Ruane
American Road & Transportation Builders Association

Tom Sorel
Federal Highway Administration

Richard Stehr
Minnesota Department of Transportation

Richard Stewart
University of Wisconsin—Superior

Elwyn Tinklenberg
The Tinklenberg Group

James Whitty
Oregon Department of Transportation

Robert Winter
Minnesota Department of Transportation

University of Minnesota Attendees

Max Donath
ITS Institute

Jerry Fruin
Applied Economics

Robert Johns
Center for Transportation Studies

Kevin Krizek
Humphrey Institute of Public Affairs

David Levinson
Civil Engineering

Cheri Marti
Center for Transportation Studies

Laurie McGinnis
Center for Transportation Studies

Lee Munnich
Humphrey Institute of Public Affairs

James Riehl
College of Science and Engineering, UMD

Barbara Rohde
Humphrey Institute of Public Affairs

Barry Ryan
Applied Economics

Wyman Spano
Center for Advocacy and Politics, UMD

Tom Stinson
Applied Economics

Carol Wolosz
Northland Advanced Transportation Systems Research Laboratories, UMD

Forum Staff and Observers

Gina Baas
Center for Transportation Studies

Stephanie Jackson
Center for Transportation Studies

Alana Petersen
Office of Congressman James Oberstar

Teresa Washington
Continuing Professional Education

Center for Transportation Studies
University of Minnesota
200 Transportation and Safety Building
511 Washington Avenue S.E.
Minneapolis, MN 55455
612-626-1077
E-mail: cts@umn.edu
Web: www.cts.umn.edu

Editor: Michael McCarthy
Writer: Nancy Strege
Photographer: Nancy Johnson
Designers: Kathy Kruger/Whistling Mouse

University of Minnesota

Center for
Transportation Studies