



SPECIAL RESEARCH CONFERENCE COVERAGE

This issue of the *CTS Report* features extended coverage of the CTS Sixteenth Annual Transportation Research Conference, held April 26–27 in St. Paul. Coverage includes:

- A plenary presentation titled “Building Consensus for Transportation Funding” by **Bill Elfenbein**, chair of the Denver Regional Transit Board (below), and panel discussion with State Rep. **Mary Liz Holberg**, **Jay Cowles** of the

Itasca Project, and **Rick Krueger** of the Minnesota Transportation Alliance.

- A luncheon presentation titled “Mega-Projects: The Changing Politics of Urban Public Investment,” by Professor **David Luberoff** of Harvard University (page 5).
- A sampling of concurrent sessions on topics such as cell phone usage and safety, commuting changes, and more (pages 6–8). **CTS**

Building consensus: Lessons from Denver and the outlook for Minnesota

Last November, voters in the eight-county Denver Regional Transportation District approved an increase in their region’s sales tax to fund FasTracks, a \$4.7 billion comprehensive transit plan. At the conference opening session, businessman **Bill Elfenbein**, chair of the RTD board of directors, shared the lessons Denver learned in developing consensus for this initiative.

Following his presentation, three leaders in Minnesota’s current transportation funding debate—Rep. **Mary Liz Holberg**, chair of the House Transportation Finance Committee, **Jay Cowles**, founding member of the Itasca Project, and **Rick Krueger**, executive director of the Minnesota Transportation Alliance—offered their perspectives.

Elfenbein began by sharing the tale of FasTracks’s predecessor—the 1997 “Guide the



Bill Elfenbein, Mary Liz Holberg

Ride” referendum. Although similar in scope to FasTracks, Guide the Ride was unable to overcome a number of problems. The first was an RTD board of directors with several “tremendous troublemakers,” he said. (The board has 15 nonpartisan directors elected to a four-year term.) Played up by the press, the board’s acrimony caused voters to distrust the \$6 billion initiative. The plan also lacked a regional vision with specific lines, technology, and stations; the support of business and elected officials; and adequate

Consensus continued on page 4

Looking past the gas tax: 4th Oberstar Forum examines transportation finance alternatives

Regional and national transportation officials, policymakers, and professionals joined U.S. Rep. **James L. Oberstar** 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 CTS.

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. CTS director **Robert Johns** served as master of ceremonies.

“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 and equity.”

The portion of the event open to invited participants 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 **C. Kenneth Orski**.

Oberstar Forum continued on page 3



James Oberstar

Also inside: Access Study, events

In addition to coverage of the research conference and Oberstar Forum, this issue features highlights from the kick-off workshop of a new interdisciplinary effort—the Access to Destinations Study. Please turn to page 2 for more.

Also, we include announcements for two upcoming events: the regional Context-Sensitive Design & Solutions Workshop, August 24–26 in Minneapolis, and the 2005 Toward Zero Deaths (TZD) Conference, November 16–17 in St. Cloud. Please turn to page 8 for details. A TZD Conference postcard is also included. **CTS**

CTS and sponsors launch Access to Destinations Study



Robert Johns

The University of Minnesota must play a leading role in finding new ways to meet the transportation challenges of our region, said CTS director **Robert Johns**, announcing the start of a new interdisciplinary research program May 11.

Joining Johns at the kick-off workshop for the Access to Destinations Study were **Tim Henkel**, director of the Minnesota Department of Transportation's Office of Program Management, and **Gary Erickson**, assistant county administrator and director of public works for Hennepin County. Both organizations will play key roles in shaping the study, said Johns, and expect to benefit from the deeper understanding of regional transportation issues that the research aims to develop.



David Levinson

The Access to Destinations Study, to be led by CTS, will build on the successes of the Transportation and Regional Growth Study, Johns said. That effort, involving researchers from several academic departments, made important findings about travel behavior and land use in the Twin Cities—findings that have illuminated new research directions for the new study to explore, Johns continued.

The concept of "accessibility" is at the heart of the Access to Destinations Study. Accessibility emphasizes the ability of individuals and groups to satisfy their needs by accessing activities, services, and geographic destinations. Historically, much of the research on regional transportation patterns has focused on the concept of mobility—the ability of people to move around the transportation network. Many researchers today acknowledge that mobility is only part of a complete picture of transportation and development.

Accessibility is a key component of Mn/DOT's plans for the future, said Henkel. He pointed out that the agency recognizes the importance of both mobility and accessibility in its mission statement. Furthermore, he said, the goal of improving accessibility has already been incorporated into Mn/DOT performance measures used in the planning process for new transportation projects.

Erickson noted that the Access to Destinations Study represents an expanded partnership between Hennepin County and the University of Minnesota. By establishing a more formal working relationship, Erickson said, the county government expects to benefit from the University's research capabilities, while contributing a practical perspective on issues like development and public policy.

One part of the Access to Destinations Study that is of particular interest to Hennepin County is measuring the efficiency of county roads. These arterial roadways are an important component of the transpor-



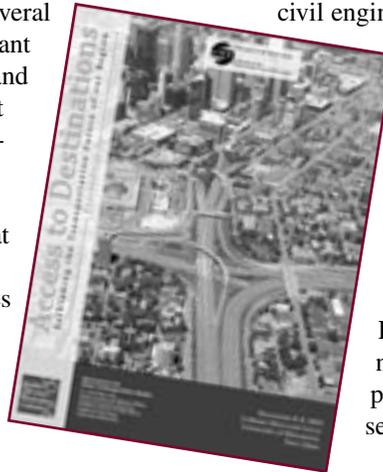
Tim Henkel, Gary Erickson

tation infrastructure, Erickson said, but there has not been sufficient research performed to fully understand their effect on traffic patterns.

Following the remarks by Henkel and Erickson, several researchers slated to participate in the new study stepped up to the podium to give brief descriptions of their projects and to answer questions from the audience. **David Levinson**, assistant professor of civil engineering, and **Kevin Krizek**, assistant

professor at the Humphrey Institute of Public Affairs, have worked with CTS to develop the scope of the study; Levinson's initial research will attempt to develop performance measures for accessibility, while Krizek will focus on non-automotive modes of transportation such as public transit, bicycling, and walking. **Gary Davis**, associate professor of civil engineering, and **Panos Michalopoulos**, professor of civil engineering, also presented their research proposals.

An academic conference, sponsored by CTS in November 2004, served as an informal starting point for the Access to Destinations Study. Conference attendees discussed recent research on issues such as traffic congestion, the complex relationship between land use and transportation network growth, the role of transit and non-automotive modes, and new ways of financing transportation projects. A proceedings of the conference is now available on the CTS Web site at www.cts.umn.edu/publications. **CTS**



Kevin Krizek



Gary Davis



Panos Michalopoulos

Publications catalog updated

A supplement to the CTS *Publications Catalog* is now available. The four-page supplement lists transportation-related research reports produced by University of Minnesota faculty and researchers and published by CTS or Mn/DOT during 2004. The update also features publications, videos, and other materials produced by CTS and its affiliated programs.

To download a PDF of the supplement or to order publications, please visit www.cts.umn.edu/publications. Publications may also be requested by contacting CTS. **CTS**

Oberstar Forum from page 1

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.

During the public portion of the form, a panel of transportation leaders discussed short-term directions in transportation finance from a variety of perspectives. 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," he continued, "in terms of how we finance and manage our transportation systems in the future."

Next, Canby weighed in on the specific 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."

But Kane believes the biggest challenge to the fuel tax is the lack of political will to raise it. "It has been 20 years since the gas tax was raised in Minnesota," he said. "I think the public is willing to pay a higher price for better service on their transportation systems."

Finally, Millar contemplated a shift

from an indirect source of funding, like general taxes or gas taxes. "We need to talk about the entire system, all its components, and all that can be contributed to the system to make sure there's a way to fund each and every one of those components," he said.

The next panel moved beyond short-term issues and addressed future visions for transportation finance. Whitty described Oregon's year-long, road user-fee pilot program scheduled to roll out in late 2005. 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. "The intent is to replace the gas tax," Whitty explained. "We don't think this is the only solution or best solution. It's simply an option we want to prove can work."

Max Donath, director of the University's Intelligent Transportation Systems Institute, explained that the Oregon program is a very simple system. "Simple is what we should all be working toward," he said. "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 GPS and digital maps, which conceivably could offer high enough accuracy to track vehicles as they move back and forth between a high-occupancy toll (HOT) lane and a normal lane—and apply road use pricing accordingly.

Lee Munnich, director of the Humphrey Institute's State and Local Policy Program, added that studies during the mid-1990s concluded that technology was available to enable road pricing but 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."

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. "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."

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."

More information about the James L. Oberstar Forum for Transportation Policy and Technology may be found online at www.cts.umn.edu/oberstarforum. A detailed report summarizing this year's forum will be available in July. **CTS**



Steve Lockwood



Tyler Duvall



Anne Canby



Barry Ryan



Max Donath



Bill Millar



James Whitty



Tony Kane



David Levinson



Lee Munnich



C. Kenneth Orski

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time to educate voters. Compounded by a poor campaign organization, the referendum lost 58 to 42 percent, “as it probably should have,” he said.

Still, proponents felt a second try could pass if the flaws were corrected. Their confidence was bolstered by the “tremendous success” of a light-rail transit (LRT) line that opened in July 2000, he said, as well as support from the technology sector for another 13 miles of LRT, set to open in December 2006.

What’s more, between 1997 and 2000 two elections brought better-qualified members to the RTD Board who were ready to chart a vision for the area, he said. FasTracks includes 119 miles of LRT and commuter rail lines, 18 miles of bus rapid transit, 31 new park-and-rides with 21,000 new spaces, an enhanced bus network and transit hubs, and a downtown multimodal center.

The RTD had a number of allies in the campaign for FasTracks, including the Transit Alliance, environmental groups, the Chamber of Commerce, a metro mayors’ caucus of 31 cities, and the state’s congressional delegation. Lined up against the plan were the governor, state treasurer, Republican state legislative leadership, local anti-tax and anti-transit groups, and one of the two major newspapers.

How they overcame these forces, Elfenbein said, was by learning from the failure of Guide to Ride and building consensus through the following actions:

- **Listen to and involve the public at all times, and use the planning process as an educational tool.** The campaign involved presentations to constituents “at any meeting possible,” he said.
- **Promote mass transit as a positive regional solution, and gain support from local elected officials.** Support from the metro mayors’ caucus and suburbs was very important. Also essential to the plan’s political acceptance were its widely dispersed benefits. For example, bus service will be enhanced in areas not receiving LRT.
- **Provide a realistic, specific timetable for each corridor.**
- **Gain business support.** RTD stressed the short-term economic benefits of 8,000 to 10,000 jobs over a 12-year construction buildout, as well as the long-term economic impacts. “The

Opening session panel

After **Bill Elfenbein’s** presentation, the session turned to comments from Rep. **Mary Liz Holberg.** Building consensus is a continual process, she began, and this legislative session has gone further than before. However, the result is still in question. The “real stage” will be the House floor, where many amendments are expected. “My crystal ball...is pretty muddy,” she said.

The majority of legislators support increasing transportation funding this biennium rather than waiting for a referendum on the 2006 ballot, she reported. Another major challenge is Metro Transit’s budget shortfall.

Regarding the regional outlook, Holberg said, “we have a little bit of education and work to do.” Many metro legislators are hesitant to put the burden on just the metropolitan area, “given the belief that we are a whole state, and that as different regions of our state have needed help—whether it be the farming community, the mining community, and so on—we’ve been there for state dollars.”

In the question-and-answer session that followed, one audience member asked if it is possible to form a nonpartisan transportation coalition. “There is no way to get partisanship out of the legislature,” Holberg answered; a more likely scenario would be some type of regional leadership, perhaps through the Metropolitan Council. Even with legislative gridlock, however, she sees “some light at the end of the horizon,” citing the passage of Northstar commuter rail funding. “The region will be forced to come to grips with [transit funding],” she predicted, “or we will not have the money to support the systems already committed to.”

Jay Cowles described the work of

Chamber of Commerce jumped on this,” he said.

- **Use conservative financial figures.** An outside financial review led by the metro planning agency verified all financial assumptions.
- **Be sure the transit agency has community respect before starting your campaign, and have a strong campaign organization.** The FasTracks campaign

the Itasca Project, a group formed about 18 months ago that brings together the leadership of the area’s large corporations to address civic issues in the Twin Cities metro area. The group includes 40 corporate CEOs, mayors, University of Minnesota president **Robert Bruininks,** and other leaders.

Cowles, co-chair of the Itasca transportation initiative and the managing director of a private investment company, said transportation arose naturally to become one of six issues studied by the group. Projecting five to ten years out, the CEOs saw a transportation funding scenario that was “entirely inadequate” for the future. Without investment in the transportation system, they foresaw expanding their facilities out of state or moving them entirely. “We have a big problem, and the business leadership recognized it,” he said.

Itasca made two observations: First, there is a broad consensus around the nature and scope of the system that needs to be built; second, what appears to be most notably missing is the political will to build it, in part due to the public’s lack of engagement.

Thus, Itasca decided to form a campaign—Go Minnesota—to educate citizens about the urgent need for investment. The campaign has grown to involve 326 organizations statewide, including cities, counties, the construction industry, and other businesses. Billboards, radio ads, and a Web site—gominnnesota.org—are all part of the campaign.

Itasca also proposed a comprehensive plan to the legislature that emphasizes a long-term perspective for a statewide system, as well as maximum innovation and efficiency in current operations.

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- started early—one and a half years out—and used volunteers to gather signatures, which garnered positive press and demonstrated public support. Extensive polling drove a \$3.5 million TV and radio campaign funded largely by the business community.
- **Respond to all criticism ASAP.** For more about FasTracks, visit www.rtd-denver.com/fastracks. **CTS**

Panel from page 4

Benchmarking and biannual reports are also included.

The second leg of their plan calls for new investment of \$750 million annually over 15 years, at least \$150 million of which would be dedicated to transit. It ties 80 percent of the new money to specific projects that are identified upfront and based on system performance and economic development. In addition, the plan favors variable pricing approaches such as MnPass to ensure existing capacity is used to the fullest.

At the legislature, he said, Itasca's message is this: "We're here to support whoever wants to get something done this session." Still, he concluded, "Itasca is not going to go away on this issue," and will take a long-term perspective.

In light of the legislative stalemate, **Rick Krueger** declared, "we're always teetering between catastrophe and disaster." Consensus is elusive in part because



Jay Cowles



Rick Krueger

the investment required for the next 20 years has grown so massive. "It's not a matter of redistribution," he said. "That's like telling starving victims they need to go on a diet."

He divided the "process blockers" into three categories: "purists" in both parties—such as transit advocates or anti-tax groups—who won't concede anything; "apologists" who say "I'd like to support this, but..." even though no Minnesota legislator has ever been defeated based on a vote for a gas-tax increase; and "pretenders" on both sides of the aisle who "toss out totally unworkable solu-

tions...and ignore problems."

Three things can change the dynamics, Krueger said, and move us from gridlock to consensus: public engagement, political self-interest, and "an epiphany that people will realize that the interests of the state are more important than anything else, that they reach across the aisle...and do what's right for the economic future of the state."

In the question-and-answer time that followed, Cowles said he sees cause for optimism. Transportation was the galvanizing force in the recent development of a regional council of mayors and a two-year coalition of the chambers of commerce in the Twin Cities region. On the downside, the area is still fragmented politically, and it's not clear if an unelected Met Council has the "leadership capital" to drive the issue. Still, he said, "the issue will only grow in momentum." **CTS**

Mega-projects: The changing politics of urban public investment

Are Boston's \$15 billion "Big Dig" and the new Los Angeles subway line harbingers of mega-projects to come, or cautionary tales for other cities? Professor **David Luberoff**, executive director of the Institute for Greater Boston at Harvard University's Kennedy School of Government, shared his predictions at the conference luncheon April 26.



David Luberoff

To shed light on the question, Luberoff divided the politics of urban investment into four eras. In the first era, before World War II, most public works projects were locally planned and funded and had a relatively modest scale. Following the war came the era of the great mega-projects—such as the interstate system—marked by "tremendous levels of disruption in service," he said. This disruption in part triggered the third era—the protest era of the late 1960s to early 1970s—defined by constraints against both airport and highway expansion plans.

Although most histories of public works stop at about 1975, Luberoff said, it's clear from aggregate spending data that investment in transportation infra-

structure—even for mega-projects—has continued. This fourth era, however, has a number of new characteristics:

"Do no harm" designs:

Although some commercial property was lost for Boston's Big Dig, no houses were taken for the project. "That's extraordinary," he said. This "do no harm" approach is in stark contrast to earlier mega-projects—and costs more.

Non-routine planning: Today's

mega-projects do not emerge from formal planning processes but instead are based more on political feasibility. Feasibility outweighs efficiency, and technical experts have reduced roles.

Policy entrepreneurs: Projects are strongly associated with one or two people—"policy entrepreneurs"—who can navigate the political realm to get things done. In the business world, Luberoff explained, entrepreneurs are those who see opportunities that others miss; policy entrepreneurs—almost always public officials—do exactly the same thing. In a long, iterative process, they assemble support and investment for their ideas (often from the business community), mollify critics, and give projects a face and a

name. "Over time, they are critical to managing the process," he said.

Business support: More so than major corporations, "place-based" interests whose fortunes are linked to a place—such as property owners, local newspapers, and construction—play a central role. Still, he said, "this is not the world of 1958," and businesses use a much more subtle approach than in the past.

Extensive mitigation: In a huge change, the negative effects of projects are alleviated by replacing wetlands, soundproofing buildings, and other means. In practice, however, it's not always clear what is being mitigated, how it is being mitigated, and why. "There's a tremendous incentive for project supporters to acquiesce to the demands of those who might make a credible lawsuit or at least create a political problem," Luberoff said.

High and rising costs: Cost estimates are often too low due to various factors: rising land prices; regulatory obstacles that are unknown at a project's onset; and new technology, materials, and methods. The result can be a loss of public-sector credibility, he said.

Mega-projects continued on page 6

Cell phones & driving: deadlier than alcohol?

Distracted driving—whether the result of cell phones, the car stereo, or any number of other factors—is assumed to be more dangerous driving. An ITS Institute study has found that using a



cell phone may impair drivers more than alcohol intoxication. The research, led by **Nic Ward**, director of the Institute's HumanFIRST Program, assessed the risk of cell phone use while driving compared to commonly accepted in-vehicle tasks, as well as driving while intoxicated.

The study included the work of HumanFIRST research scientist **Mick Rakauskas**, who presented the findings at the research conference, along with **Ed Bernat**, **Meredith Cadwallader**, and Professor **Chris Patrick** of the University of Minnesota's Psychology department.

"The drunk driver doing nothing was less impaired than the same person on a cell phone or playing with the radio," Ward said, describing details of the study. Researchers gathered data from test subjects outfitted with a device to measure brain activity and the driving simulator in the HumanFIRST lab. Half the test subjects drank alcohol to near intoxicating levels (just under .08 blood-alcohol content) as measured with a Breathalyzer.

Because evidence suggests that cell-phone use while driving may be a significant risk factor in traffic crashes,

some states have responded by imposing restrictions on the use of hand-held phones. But Ward's research team, citing research that shows hands-free use is no safer

than hand-held, has focused instead on the cognitive aspect of talking on a cell phone while driving. "It's actually the conversational component of operating a cell phone while driving that is the culprit," Ward said, "not just the physical manipulation of the phone."

Some industry efforts are aimed at locking out cell-phone functionality during busy periods, but until those technological developments are implemented, a driver's discretion is all that limits his or her cell-phone usage. Though he believes enforcement of legal sanctions is needed, Ward emphasized that driver education is necessary to understand the risks and to learn when it is safe to engage in secondary tasks.

"Banning cell phones isn't the solution," he concluded. "It's the appropriate use of cell phones."

The research was featured in articles in the St. Paul *Pioneer Press* and *USA Today*, and in segments airing on National Public Radio's *All Things Considered* and the local FOX television news affiliate. Rakauskas was interviewed at length for the segments. **CTS**

Commute times jump during '90s

According to the 2000 U.S. Census, Minnesotans saw their commute times increase by 3.5 minutes from 1990 to 2000, the same increase seen in the 50-year period from 1940 to 1990. Many explanations for this sudden jump have been offered: relatively cheap gas prices, population growth, congestion, and sprawl.



Gary Barnes

Transportation economist **Gary Barnes**, however, said that every theory in this case has a disproving counter-theory. For example, some counties experienced large increases, while neighboring counties with similar conditions often saw very minimal increases.

"The whole state shifted up by about three minutes during that decade," he said, noting that commute times increased in each of Minnesota's 87 counties. The largest increases weren't in urbanized counties or the "collar" counties that surround metro areas, but in non-urban counties.

Barnes, with the Humphrey Institute of Public Affairs, examined variables that may affect commute times, such as changes in local land use, the locations of jobs relative to workers, and population growth. He compared economic differences among the counties, but didn't find any recent shifts that would explain statewide increases. Barnes also compared the ten counties with the smallest increases to the ten counties with the largest increases, and

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Mega-projects from page 5

Locally painless **project funding**: Often paid for with federal dollars and tourist revenue, "a lot of projects... are funded by taxes on people who don't live in the jurisdiction where that project is being built," he cautioned. Local residents may never be offered a vote.

End-stage controversies: All the mega-projects in this era are contentious at the end. Los Angeles, for example, raised bus fares to build its rail lines. "This caused no end of problems," Luberoff said, "because it tended to be poorer and darker-skinned people, and women, riding buses, and the trains tended to be white,

male, and higher income." And unexpected problems occur: the Big Dig leaks, in part because of a management failure caused by overreliance on outside consultants, he said.

Given these factors, what is the future of mega-projects? On the one hand, regional competition, continued suburbanization, and increased congestion suggest further growth. On the other hand, mega-projects are hampered by a "pretty strict environmental regime," Luberoff said, along with post-9/11 security priorities, fiscal constraints, and loss of public-sector credibility. A good weathervane is

the planned \$10-20 billion expansion of O'Hare International Airport in Chicago.

In closing, Luberoff emphasized the relationship of three project variables: price, accessibility (or project benefit), and environmental degradation/disruption. Setting two of three variables determines the third. "In the end, I'm convinced that all policymaking revolves around that," he declared. Other critical elements in building coalitions are accurate cost estimates and well-planned operations, maintenance, and project management, he said. **CTS**

Are HOT lanes equitable?

With Minnesota's first high-occupancy toll (HOT) lane—MnPass—opening May 16, one of the more popular concurrent sessions featured presentations about the new facility and related University research. **Megan Mowday**, a master's candidate in regional planning at the Humphrey Institute of Public Affairs, presented her research into the equity concerns of HOT lanes.



One of her notable findings involved gender differences. In surveys of users of SR91 in southern California, women expressed the highest level of support for HOT lanes and used them at a higher proportion than men. Why? Women and men have different driving patterns, she explained, and women are responsible for a higher proportion of home-related activities. A Tucson study found women are more likely to drive to work alone, make trips that take longer (for daycare or home maintenance), make more daily trips than men, and work less-traditional hours. "Women earn less on average than men," she warned, "so they could end up spending a substantially higher proportion of their budget on HOT lanes."

The "Lexus lane" image of the facilities has been another area of concern. "If one group pays disproportionately, without benefit," Mowday explained, "then the system must be seen as inequitable." Her study, however, indicates that's not the case. Research on lanes across the nation shows drivers with different levels of income use HOT lanes. Those earning more than \$100,000 annually are more than twice as likely to use SR91 at any given time, for example, but the remainder are spread across income levels.

The negative impacts on low-income drivers can be mitigated by investing revenues in transit for the corridor—half of MnPass revenues will be—and by providing credits, she said. Lower-income drivers also may benefit the most from having more choices: for example, they may avoid daycare late fees or docked pay.

What's more, Mowday said, HOT lanes can improve the overall quality of life in a corridor by providing shorter, more reliable commutes; greater access to more housing choices; and decreased road rage. She also noted that commuters' decisions to use express lanes hinge on many factors, not just price.

In addition to her literature search, Mowday used results from local focus groups to discern public perceptions. The majority did not cite concerns with equity, she reported; they also predicted low-income drivers would form carpools or take transit, and that the improved flow on the free lanes would benefit those who didn't pay the fee. "A few individuals were concerned that the rich could escape congestion, but that was a very small portion," she noted. Overall, participants were not opposed to toll lanes.

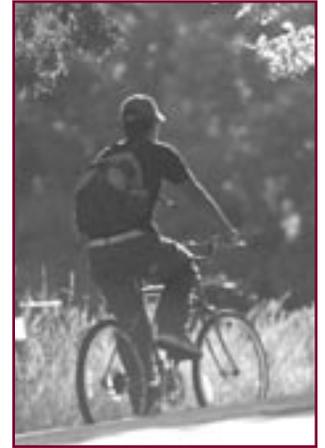
HOT lanes provide choice, Mowday concluded, and individuals of all income levels have been shown to use them. However, agencies should examine the mix of incomes on the roads and the impact of increasing tolls, she cautioned.

To read Mowday's paper, contact her at mmowday@hhh.umn.edu. **CTS**

Benefits and costs of bicycling and bicycle facilities

In a three-year project, researchers from the University of Minnesota developed reliable methodologies for researching bicycle and bicycle facility use in suburban and urban areas across the country.

To help answer critical policy questions regarding the development of bicycle facilities, **Gary Barnes, Kevin Krizek, and Paul Mogush** of the Humphrey Institute developed a system for estimating demand, costs, and benefits of bicycle facilities. These tools can be used to estimate the benefits for both the cyclists and society. Their work raises a number of important data, measurement, and methodological issues for future researchers endeavoring to predict levels of bicycle use for entire cities or metropolitan areas.



The first step in the research was to determine the demand for bicycle facilities and who would use them. In the Twin Cities, 1.4 percent of the adult population rides a bike daily compared to 0.9 percent nationally. Further, while the researchers found that bicycle facilities are used quite frequently, the correlation between this and daily ridership is weak. This is due to the fact that at least 50 percent of the population rides a bicycle only sometimes. The question, then, Barnes said, became how to estimate the demand for such facilities if you cannot determine the patterns of use by that 50 percent of the adult population that occasionally uses them.

In his research into the demand for bicycle facilities, Barnes divided the bicycle riding population into three categories of usage. He found that 80 percent of bicycle use is for recreation, 15 percent for shopping, and only 8 percent for commuting. Of those commuting on a bicycle, only 40 percent substitute it for a car while others would otherwise carpool, use mass transit, or walk.

Krizek presented the methodology for determining the benefits of bicycle facilities in terms of economic and societal benefits. The benefits to the individual in terms of health and quality of life are high, he said, but because 80 percent of riders do so recreationally, the actual benefit to society in reducing congestion and pollution levels is minimal.

Krizek then compared home sales to the availability of bicycling facilities. Surprisingly, he discovered the facilities often had a negative effect on home sale prices in the area. One possibility is that people have become increasingly concerned with vandalism, crime, and loitering that may accompany the facilities.

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**Mark your calendars:
CTS Seventeenth Annual**

Transportation Research Conference,
May 24–25, 2006, Saint Paul RiverCentre

Bicycling from page 7

Finally, Mogush reported how this research culminated in a Web tool that will allow bicycle planners and community leaders to determine the costs and benefits of proposed bicycle facilities. When the desired facility characteristics are entered, the tool will output capital costs, maintenance costs, and related benefits to the individual and community. The Web tool is currently in the beta testing phase and will be available at www.bicyclinginfo.org/bikecost. **CTS**

Register online for Context Sensitive Design Workshop

The agenda for the Midwest Region 2005 Context Sensitive Design & Solutions Workshop, August 24–26 in Minneapolis, is now online.

Titled “Overcoming Roadblocks to Project Excellence,” the workshop will address tough questions and challenges from around the country as well as lessons learned and innovations being pursued to further excellence in transportation project development using CSD&S philosophy and principles.

The program is structured around three major topics: Education and Outreach, Practice, and Acceptance. The Education and Outreach track focuses on lessons learned and future opportunities for training; the Practice track will use case study examples to address CSS principles; and the Acceptance track will address some of the issues that are seen as the most challenging to practitioners.

In addition to concurrent sessions, the conference will feature a panel discussion among current and former state DOT leaders on “Integrating CSS as an Underlying Principle of Excellence.” A series of roundtable sessions are designed to facilitate discussion and problem-solving around a series of CSS topics. The results of these discussions will be reported out to all participants at the end of the conference.

The fee for the three-day event is just \$150. Register on the Web at www.cts.umn.edu/csd.

The workshop, sponsored by Mn/DOT and the Federal Highway Administration, will be hosted by CTS. **CTS**

Commutes from page 6

found that housing prices and wages increased at the same rate, but that the counties with the fastest population and job growth saw smaller increases in commute time.

In counties with fewer people working from home, there were large increases in commute duration, but this one factor alone does not explain the statewide trend.

Barnes concluded that the reasons for a statewide increase in commute

times were still unknown, especially in the face of rising gas prices. “What happened during the 1990s that had not happened in any previous decade?” Barnes asked, unable to draw any solid conclusions from Census data. He speculated that improvements in car reliability and comfort, the ubiquity of cell phones (making commuters feel safer and more productive on long commutes), and the ability to search for distant jobs and housing via the Internet may explain the change. **CTS**

Mark your calendars: Toward Zero Deaths Conference is November 16–17

Mark your calendars for the 2005 Toward Zero Deaths Conference, to take place November 16–17 at the St. Cloud Civic Center. The conference includes the Child Passenger Safety and *Safe & Sober* Conferences.

The event is sponsored by the Minnesota Departments of Public Safety and Transportation and the Minnesota Toward Zero Deaths Program, and hosted by CTS.

Conference participants will:

- learn how to work with the media to get traffic safety messages to the public

- find out what’s new in law enforcement on traffic safety
- get the latest on traffic engineering techniques for improving safety
- explore best practices for establishing successful safety coalitions
- discover new ideas through traffic safety-related research
- and much more!

A conference brochure with a detailed program schedule and registration materials will be distributed in September. For further information, visit www.tzd.state.mn.us, or contact Shirley Mueffelman, 612-624-4754, conferences2@cce.umn.edu. **CTS**

Upcoming events

To publicize your event, call CTS at 612-626-1077, fax 612-625-6381, or e-mail snopl001@cts.umn.edu. Visit the CTS Web site—www.cts.umn.edu—for more comprehensive event information.

July 17–19	2005 Midwest Regional & Shortline Railroad Annual Conference, Grand Rapids, Minn. Contact Patrick Murray , 651-556-9204, pmurray@mandklaw.com .	Oct. 5–6	Minnesota Fall Maintenance Expo, St. Cloud. Call Kathy Warren , 651-351-7432.
July 27–30	TrailLink 2005: International Trails & Greenways Conference, Minneapolis. See www.railtrails.org/traillink2005 or call 202-331-9696.	Oct. 11–12	2005 Airport Technical Assistance Program (AirTAP) Fall Forum, Brainerd. See www.airtap.umn.edu .
Aug. 24–26	Midwest Region 2005 Context Sensitive Design & Solutions Workshop, Minneapolis. See www.cts.umn.edu/csd .	Oct. 24–26	Minnesota Public Transit Association Annual Conference, Bloomington. Visit www.dot.state.mn.us/transit/tconf .
Sept. 11–14	American Public Works Association National Conference, Minneapolis. See www.apwa.net/meetings/congress/2005 or call 800-848-2792.	Nov. 16–17	Toward Zero Deaths Conference, St. Cloud. Contact Shirley Mueffelman , 612-624-4754, conferences2@cce.umn.edu . CTS