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How should we devise and pay for a competitive transportation system?

A Civic Caucus Focus on Competitiveness Interview

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Present

John Adams, Pat Davies, Sallie Kemper, David Levinson, Dan Loritz (chair), Dana Schroeder, Clarence Shallbetter. By phone: Dave Broden (vice chair), Audrey Clay, Janis Clay, Paul Gilje (coordinator).

Summary

Minnesota does not need new transportation projects in order to be competitive, according to David Levinson of the University of Minnesota. There are some bottlenecks that could be addressed, he says, but the primary problem is that we've been spending too much on new capital projects and not enough on operating and maintaining the existing system of federal, state and local highways and roads.

User-fee revenues for highways, mainly gas-tax revenues, have been declining in recent years because of fewer trips, more fuel-efficient cars and political resistance at both the federal and state levels to raising the gas tax, he says. Also, a large share of federal Highway Trust Fund revenues have been diverted to pay for transit capital projects, although transit serves only about two percent of all trips nationally.

The solutions Levinson suggests include the following:

- Use a dual approach to solving problems like traffic congestion: getting people to behave differently, while also finding technological solutions.

- Use more bonding, rather than pay-as-you-go, for highway projects.
- Spin off the Minnesota Department of Transportation (MnDOT) into a publicly owned public utility that would rely solely on user fees to fund roads and transit.
- Move highways to full-cost pricing, using gas taxes, electronic toll collection and mileage-based user fees.
- Charge transit riders the full fares and subsidize people who can't afford them out of general revenues.
- Implement a weight-distance tax on heavy vehicles.
- Raise the diesel tax by one cent per gallon to help strengthen rural roads.
- Reduce the number of paved rural roads in Minnesota by half.

Biography

David Levinson is professor of Civil Engineering (since 1999)and holds the Richard P. Braun/Center for Transportation Studies (CTS) Chair in Transportation Engineering at the University of Minnesota. His current research focuses on understanding the process of network growth, evaluating transportation technology and policy, and modeling travel behavior. He teaches courses in Transportation Policy, Planning and Deployment; Transportation Systems Analysis; Transportation and Land Use; Transportation Economics; and Transportation Engineering.

He is the director of the Nexus research group, exploring issues related to networks, economics, and urban systems and Principal Investigator of the Accessibility Observatory.

Before joining the University of Minnesota, he worked as a transportation planner, developing integrated transportation/land-use models used in Montgomery County, Maryland. He was awarded the 1995 Tiebout Prize in Regional Science.

Levinson has a B.S. from the Georgia Institute of Technology, an M.S. from the

University of Maryland, and a Ph.D. in Engineering from the University of California, Berkeley. His dissertation, "On Whom the Toll Falls," focuses on local decision-making for the financing and management of roads.

Discussion

The federal government has been spending more money contributing to highway funding than it's been taking in for a few years. Levinson noted that Congress just passed a patch to highway funding to extend its solvency until May 2015. The question is, he said, what happens after that. The federal question has been in the news for the last few weeks.

The state highway funding issue has been discussed over the last year, including during the 2014 legislative session. A proposal called Move MN , which the transportation lobbies have been supporting, would raise and spend additional money for transportation.

There are local-level transportation funding issues, as well. Local funding, Levinson said, tends to come from general-revenue, mainly from property taxes. Unlike federal money and most state money, it's not user-fee based. He said there would be a tax competition battle if cities were allowed to raise money by imposing gas taxes at the local level. That competition is not as bad at the state level, he said, because states are bigger and don't have as many border issues as at the local level.

There is a tension between funding vs. financing. Levinson said the funding question is how we're going to pay for transportation and the financing question is whether we pay now or later. He said traditionally in the U.S., we've been pay-as-you-go at the federal level, while the states have combined pay-as-you-go with some bonding.

Gas tax money comes into the highway trust fund, he said, and is spent immediately to build things that will last 30, 40, or 60 years. "If something's going to last 60 years, shouldn't future generations pay something towards its construction?" he asked. "We don't pay for houses or cars out-of-pocket, so why are we paying for other capital expenses out-of-pocket?"

Levinson noted that there are deficits at the federal level, which is somewhat like bonding. At the state level, there is some bonding, but there's no systematic approach to choose which projects are financed through bonding.

There is tension among modes: transit, highway, and, to a lesser extent, walking and biking. Levinson noted that more people walk than take transit and walking and biking infrastructure is much less expensive than that for highways and transit.

Transit has consumed 20 to 25 percent of federal capital spending over the last four decades, although transit serves only about two percent of all trips nationally. Levinson said there is tension over the question of whether the Highway Trust Fund, which is paid for by highway users, is benefitting highway users when it's allocated for transit. Part of the reason the Highway Trust fund doesn't have enough money, he said, is because some highway user fees have been dedicated to pay for transit.

Transit usage is higher in certain areas, Levinson said, noting that 40 percent of work trips to downtown Minneapolis are on transit. But regionally, transit in the Twin Cities accounts for only five percent of all work trips.

A very small share of people uses transit on a daily basis. That leads to the question of whether highway user fees should be used for transit, Levinson said. He noted that transit ridership has only increased a little bit over the last few years.

There is tension between moving freight and moving passengers. Passengers have more clout than freight, because passengers can vote, which is why the discussion is more focused on moving people, Levinson said. Recently, he said, there's been a significant increase in Minnesota in rail shipments of oil and natural gas from North Dakota. "The capacity utilization has gotten very high," he said, "which means there's not much slack in the system."

He noted the delays caused by these shipments have caused almost daily on the North Star commuter train, which runs between Big Lake and downtown Minneapolis. The already low North Star ridership faces higher travel times due to the increasing conflict with freight use of the same rail track, he said. The technical solution is to build more track, but cost is an issue.

We should attempt to solve problems by using the dual approach of getting people to behave differently, while also finding technological solutions. Levinson gave the example of reducing air pollution. One approach would be to reduce the number of miles driven, while another would be to reduce the emissions per mile from each car. And, in another example, he said a technological approach to reducing congestion would be the use of automatic cars, because they could drive closer together than is possible today. A behavioral approach would be to use road pricing to reduce demand. "There's no reason we couldn't do both of those things," he said.

Minnesota does not need new transportation projects in order to be competitive. Levinson said there are some bottlenecks that could be addressed, but the primary problem is that we've been spending too much on new capital projects and not enough on operating and maintaining the existing system. "What we need," he said, "are better road conditions and, to a lesser extent, better bridge conditions, since bridges have recently gotten a large infusion of money."

We don't repair the roads frequently enough, so the road conditions are poor. Levinson said the problem is, in large part, the federal vs. state vs. local tension. "The federal government likes funding capital and doesn't fund operating expenses," he said. "The state has a ribbon-cutting problem. Politicians like to cut ribbons and you cut ribbons on new projects. You can maybe cut ribbons on replacement projects, but it's not sexy to cut ribbons on repair projects." As a result, he said, there is a tendency to do more capital-intensive things and not to spend as much on operations and maintenance as we should. "Keeping things in good condition now saves us money downstream," he said. "This is a long-term vs. short-term problem."

Lack of spending on repair is especially a problem on local streets, he said. There are at least four levels of government involved in transportation: federal, state, county and local. "That's several layers too many," he said. Some states don't have municipal road systems and maintenance departments. "We have 192 cities in the metro area and they can't all be experts at this," he said. "Why do we have so many levels of government involved in roads?"

Air transportation connectivity is very good in the Twin Cities and the state, because we have a hub airport. "The downside of having a hub airport is that Delta has a bit of monopoly power, so the prices are higher than in other places," Levinson said. It'd be good to bring in more airlines, he said.

He believes the current MSP airport is appropriately sized for the level of demand and that we don't need a second airport. We don't need to replace the current airport anytime in the next 40 or 50 years, he said.

People are driving fewer miles than in the early 2000s, mostly because of fewer trips, not shorter trips. Levinson said the decline in vehicle-miles can be partly explained because there is a lower labor-force participation rate than in the 1990s and because people are ordering more things online today.The trend toward fewer miles driven and better fuel economy has caused a consistent decline in gas tax revenues.

There is discussion of moving away from the gas tax to charging fees on a per-mile basis. This may happen as more and more cars become electric, Levinson said. If the per-mile fees become acceptable, he surmised, it might also be possible to differentiate fees depending on the time of day, which could affect travel patterns.

The solution to the problem of getting agricultural products from field to market and to processing facilities is to add one cent to the diesel tax to help strengthen rural roads. Levinson said that during spring thaw, the soil around roads is muddy and weaker. Load restrictions require trucks to haul at half weight, or five tons per axle on local rural roads. That creates a cost for the trucking industry during about eight weeks of the year, he said. The solution is not spring load restrictions, but raising money through the diesel tax for strengthening local roads. Load restrictions also affect some suburban roads, which impacts the waste-hauling industry.

An interviewer pointed out that moving agricultural products on low-quality roads during harvest season, from August through November, is also an issue. Levinson said there have been proposals to upgrade rural roads, but that's difficult, because there are so many of them. "If we had half as many rural roads, we could spend our money better on reinforcing the ones that are used more," he said. He noted that Minnesota has paved a lot of its rural roads and should probably look at selective depaving and gravelization, so there would be half as many paved roads in the rural system. "Obviously, it's going to be controversial, but the alternative is to pay higher taxes," he said.

One interviewer commented that building roads to handle harvest time is like building a church for Easter Sunday.

Spin off the Minnesota Department of Transportation (MnDOT) into a publicly owned public utility that would rely solely on user fees to fund roads and transit. Levinson noted that for all of our public utilities, we have user fees that are proportional to how much we use: electricity, water and sewer, natural gas, cable, and other forms of telecommunication. "If people thought of MnDOT as a separate organization from government, they would say we should pay for transportation in proportion to how much we use it," he said. "We could do that with gas taxes and, moving forward, with electronic toll collection and mileage-based user fees."

Because MnDOT is organized as a branch of government, "it falls into the lump of government," Levinson said. "When there was a statewide government shutdown, MnDOT shut down with it, which did not need to happen. This is part of the dysfunction we have, not just in Minnesota, but everywhere. MnDOT should be a separate organization that is not in the state's unified budget."

As a public utility, if MnDOT needed a rate increase for gas taxes, it would go before the Public Utilities Commission (PUC) and argue for the increase. "You would get more revenue for transportation and there would be less controversy over rate increases," he said. "You would take it out of the hands of the Legislature."

Levinson said the organization could be owned by shareholders, who would be the people of Minnesota. It would pay a dividend every year. He noted that the Airports Commission funds itself from user fees on airlines and passengers.

Transit is subsidized by the public sector from various general revenues, by highway users and by employers and is paid for in part by users. If the riders were charged the full-cost fare, the fares would triple. "If we were to triple the fares, without changing the cost of other modes, we'd have almost no users, so the system would cease to exist," Levinson said. "People have concluded that would be a poor policy outcome."

We should charge transit riders the full fares and subsidize people who can't afford those fares out of general revenues. We should be giving money or transit-pass credit to the users, Levinson said. "If you want to subsidize poor people, subsidize them directly," he said. "Don't subsidize the provision of the service for them."

We can't move transit to full pricing unless we move highways to full pricing. Levinson said most European countries charge more for transportation than the full cost. They use the funds to supplement general revenues, instead of having general revenues supplement transportation, he said.

He said the gas tax in the U.S., which is typically less than 50 cents a gallon (state plus federal), is very low, compared to around $5.00 a gallon in many European countries.

Some European countries have separated out the track from the trains and have trains roll over tracks as trucks run over highways. The problem, Levinson said, is that in the rail system, the intelligence is in the tracks, but in the trucking system, the intelligence is in the truck cab. In England, passenger trains are operated over the national rail system, which is a nonprofit, quasi-governmental organization. The trains are owned by franchisees, who run trains over the public tracks.

The U.S. uses many more trains for freight than in Europe, where they use a lot more trucks than we do, he said. "In Europe, they put their passengers on the trains and the freight on trucks and here we do the opposite."

A weight-distance tax would be a good thing. An interviewer pointed out that highways and bridges are built to standards that will accommodate heavy vehicles. Oregon uses a weight-distance tax, Levinson said, and the trucking industry opposes it. He agreed with the interviewer that such a tax makes sense, because it begins to allocate the costs to the beneficiaries.

We have spillover benefits in land values from transportation investments, because we're not charging the users the full cost. If we charged the users the full cost of transportation, Levinson said, there would be a lot less spillover in terms of increased land values associated with transportation. The best way to deal with the spillover that does occur would be a land-value tax, he said, which is politically difficult to implement. There are a variety of other ways to capture the revenue: transportation utility fees, impact fees on new development, joint development, air rights, special assessments and tax-increment financing. All of those are used somewhere, but not all are considered legal in Minnesota. It would be better to do user fees first, he said.

Capturing some of the excess increment in land value would be a smart way of creating revenue for transportation, in the absence of increasing user fees.

The light rail lines in the Twin Cities are a development game. But it's a two-way development game, Levinson said, because not only are landowners getting the public to pay for transportation, but also, almost all of the developments are subsidized. Almost all development on the Hiawatha Line has been subsidized and almost all development on the Green Line, to a lesser extent, has been subsidized. "Somebody is chomping on a cigar from this game," he said.

There's been a long-term consolidation in the rail sector, dating back to their founding. The number of railroads has steadily decreased over time. If the Class I railroads had their way, there would be a single railroad monopoly in the U.S., Levinson said. "All capitalists want to be monopolists." The railroads have spatial monopoly powers to some extent already. They're going to exploit this advantage to make as much money as they're legally allowed to make, he said.