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The Next Fifty Years: Addressing California´s Mobility in a Time of Financial Challenges, MTI Report S-09-05

Mineta Transportation Institute

M I N E T A   T R A N S P O R T A T I O N   I N S T I T U T E

The Next Fifty Years: Addressing California's Mobility in a Time of Financial Challenges

MTI Report S-09-05

MINETA
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MINETA TRANSPORTATION INSTITUTE

The Norman Y. Mineta International Institute for Surface Transportation Policy Studies (MTI) was established by Congress as part of the Intermodal Surface Transportation Efficiency Act of 1991. Reauthorized in 1998, MTI was selected by the U.S. Department of Transportation through a competitive process in 2002 as a national "Center of Excellence." The Institute is funded by Congress through the United States Department of Transportation's Research and Innovative Technology Administration, the California Legislature through the Department of Transportation (Caltrans), and by private grants and donations.

The Institute receives oversight from an internationally respected Board of Trustees whose members represent all major surface transportation modes. MTI's focus on policy and management resulted from a Board assessment of the industry's unmet needs and led directly to the choice of the San José State University College of Business as the Institute's home. The Board provides policy direction, assists with needs assessment, and connects the Institute and its programs with the international transportation community.

MTI's transportation policy work is centered on three primary responsibilities:

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MTI works to provide policy-oriented research for all levels of government and the private sector to foster the development of optimum surface transportation systems. Research areas include: transportation security; planning and policy development; interrelationships among transportation, land use, and the environment; transportation finance; and collaborative labor-management relations. Certified Research Associates conduct the research. Certification requires an advanced degree, generally a Ph.D., a record of academic publications, and professional references. Research projects culminate in a peer-reviewed publication, available both in hardcopy and on TransWeb, the MTI website (http://transweb.sjsu.edu).

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The educational goal of the Institute is to provide graduate-level education to students seeking a career in the development and operation of surface transportation programs. MTI, through San José State University, offers an AACSB-accredited Master of Science in Transportation Management and a graduate Certificate in Transportation Management that serve to prepare the nation's transportation managers for the 21st century. The master's degree is the highest conferred by the California State University system. With the active assistance of the California Department of Transportation, MTI delivers its classes over a state-of-the-art videoconference network throughout the state of California and via webcasting beyond, allowing working transportation professionals to pursue an advanced degree regardless of their location. To meet the needs of employers seeking a diverse workforce, MTI's education program promotes enrollment to under-represented groups.

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MTI REPORT S-09-05

THE NEXT FIFTY YEARS: ADDRESSING CALIFORNIA'S MOBILITY IN A TIME OF FINANCIAL CHALLENGES NORMAN Y. MINETA NATIONAL TRANSPORTATION POLICY SUMMIT OCTOBER 29, 2009

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16. Abstract

In a short 40 years from today, the population of California is projected to swell to 60 million people, nearly double of that in 2000. We already know how overwhelmed our transportation system is in 2010—so what will we do in the meantime not only to increase accessibility to roads and public transportation, but also to maintain the infrastructure already in place?

Who should pay—states, the federal government, or users? Who will decide what is needed and where it will go? Why are we already having so much difficulty locating transportation funding?

The Mineta Transportation Institute, along with the Commonwealth Club and other sponsors and co-sponsors, hosted the first of a two-part series on transportation financing on October 29, 2009. This e-book is an edited version of the program.

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The Mineta Transportation Institute (MTI) thanks the following organizations for sponsoring, co-sponsoring and participating in “The Next Fifty Years: Addressing California’s Mobility in a Time of Financial Challenges.”

Sponsors include the Commonwealth Club of California, the United States Department of Transportation, Caltrans and the Bay Area Metropolitan Transportation Commission (MTC). Event co-sponsors include the Northern California chapter of the American Planning Association; the Institute of Transportation Engineers; the San Francisco Municipal Transportation Agency, Valley Transportation Authority (VTA), and the Women’s Transportation Seminar.

This program, part one of a two-part series addressing the need for transportation financing and finance during difficult economic times, was moderated by Dr. Asha Weinstein Agrawal, director, MTI’s National Transportation Finance Center, and it was broadcast on National Public Radio (NPR). Panelists included Norma Ortega, Caltrans interim chief financial officer; Therese McMillan, deputy administrator, Federal Transit Authority (FTA); and Steve Heminger, executive director, Bay Area Metropolitan Transportation Commission and member, National Surface Transportation Policy and Revenue Study Commission.

MTI staff instrumental in making this e-book available include MTI’s Director of Communications and Special Projects Donna Maurillo, Student Graphic Artist Vincent Alindogan, Student Publications Assistant Sahil Rahimi and Student Webmaster and Technical Assistant Ruchi Arya.

Transcription services were provided by the Commonwealth Club of California, with editing and publication productions services by Catherine Frazier.

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FOREWORD

In a short 40 years from today, the population of California is projected to swell to 60 million people, nearly double the population in 2000. We already know how overwhelmed our transportation system is in 2010—so what will we do in the meantime not only to increase accessibility to roads and public transportation, but also maintain the infrastructure already in place?

Who should pay—local governments, the states, the federal government, or users? Who will decide what is needed and where it will go? Why are we already having so much difficulty locating transportation funding?

There are no easy or obvious answers, but certainly this is an issue worthy of serious discussion. To add to this dialogue, the Mineta Transportation Institute (MTI), along with sponsors the Commonwealth Club of California, the United States Department of Transportation, Caltrans, and the Bay Area Metropolitan Transportation Commission (MTC) hosted a public forum in San Francisco on October 29, 2009. Moderated by MTI's Director of National Transportation Finance Center Asha Weinstein Agrawal, Ph.D. The panel included experts Steve Heminger, executive director, MTC; Norma Ortega, interim CFO, Caltrans; and Therese McMillan, deputy administrator, Federal Transit Authority. Their discussion identified the source of today's transportation budget woes, and offered suggestions on ways to increase transportation funding, and to save precious limited resources by embracing the use of more economical and sustainable transportation.

This forum, the first of two parts, was taped for broadcast on National Public Radio (NPR), and this e-book is an edited version of the proceedings. A second program will be produced in the spring of 2010 that will examine possible new sources of funding and offer creative solutions to this important problem facing local, state and federal governments.

Rod Diridon, Sr.
Executive Director, MTI

EXECUTIVE SUMMARY

A key challenge facing transportation policymakers today is the fact that the current system of raising revenues for transportation—a system that is already severely stretched—is likely to bring in far less revenue in the next decades. The need for transportation infrastructure maintenance, expansion and less reliance on fossil fuels means that new and perhaps creative methods must be developed to pay for future transportation needs.

Today's transportation policymakers first need to understand how much money the current system will generate. There is the very real probability that that system, funded primarily by fuel taxes, will deliver a declining amount of funds while the demand for public transportation and improving and maintaining present infrastructure will rise. For example, California's population in 2040 is expected to be nearly double of that in 2000. How will California meet those needs? Should California build more highways? Or is expanding public transportation systems the answer?

The panelists for the Norman Y. Mineta National Transportation Policy Summit "The Next Fifty Years: Addressing California's Mobility in a Time of Financial Challenges" posed those questions and offered some possible answers to those important problems. Moderated by Mineta Transportation Institute's Director of National Transportation Finance Center Asha Weinstein Agrawal, Ph.D., the October 29 program was taped for future broadcast on National Public Radio.

Caltrans' Interim CFO Norma Ortega revealed that the state of California will require approximately $250 billion over the next ten years to maintain, operate and rehabilitate the current highway system—and Caltrans estimates it will be able to finance only 25 percent of that cost.

Metropolitan Transportation Commission Executive Director Steve Heminger suggested that transportation policymakers decide what the specific transportation needs will be for California. How can we know how much it will cost if it's not yet known what we need? Should we expand access to public transportation? Should we expand the number of roads in California? And has our reluctance to take care of the highway system that was built in the 1950s, concentrating instead on expansion versus maintenance, actually going to cost us more in the end?

Federal Transit Authority Deputy Administrator Therese McMillan discussed the federal role in state and local transportation issues and the potential benefits to transportation that will be provided by the 2009 economic recovery act.

After the three panelists' presentations, audience questions were offered by Dr. Weinstein Agrawal and commented upon by speakers Heminger, Ortega, and McMillan, and by Dr. Weinstein Agrawal.

This forum is part one of a two-part series on transportation finance challenges; the second of this series is scheduled for Spring 2010.

THE NEXT FIFTY YEARS: ADDRESSING CALIFORNIA'S MOBILITY IN A TIME OF FINANCIAL CHALLENGES

ASHA WEINSTEIN AGRAWAL

Good afternoon and welcome to today's meeting of the Commonwealth Club of California. I'm Dr. Asha Weinstein Agrawal, director of the Mineta Transportation Institute National Transportation Finance Center and your moderator for today's program. You can find the Commonwealth Club on the Internet at commonwealthclub.org. Today's program is being underwritten by the Mineta Transportation Institute.

Now, on to the substance of today's panel. A key challenge facing transportation policymakers today is the fact that our current system of raising revenues for transportation is likely to bring in far less revenue in the next decades than we think we will need if we want to achieve a top quality transportation system. In other words, experts are predicting a big gap between the revenues available in the coming decades and the likely cost of building and maintaining a transportation system that can support both a healthy economy and also a high quality of life for residents.

Today's panelists will be explaining the reasons that we anticipate this serious gap between the revenues we think we may need and the revenues that our current systems are likely to produce. To frame today's discussion about this funding gap, let me highlight just two issues that the panelists will be discussing in more detail.

The first issue we need to understand is how much money our current revenue systems will be likely to generate. As the panelists will be discussing, the reasons to think that our current system for raising transportation revenues may actually be providing us with a shrinking source of revenues going into the next decade. So, that's one side of why we might have a gap. The second part of that issue to consider is what are we predicting that we might need to spend into the future in order to have a good transportation system. Predicting these kinds of expenditure needs is a really tricky issue, and it's not just a technical matter, because it's also partly a matter of coming to some kind of consensus about what kind of transportation system we really want. If our goal is just to keep the current system maintained and functioning, well, that generates one set of predictions of our likely future costs. On the other hand, if we want to change our system in ways—maybe improve it—then that's going to generate a very different set of cost estimates.

Without further ado, let me introduce today's three very distinguished speakers. Our first speaker will be Norma Ortega, the interim chief financial officer for Caltrans, the California Department of Transportation. Ms. Ortega is responsible for financial management and policy at Caltrans, as well as federal and state programming of transportation projects.

Next, we will hear from Steve Heminger, the executive director of the Bay Area Metropolitan Transportation Commission. Mr. Heminger is also a member of the National Surface Transportation Policy and Revenues Study Commission, a panel of experts convened to assess transportation-funding issues at the federal level.

Our third speaker will be Therese McMillan, deputy administrator of the Federal Transit Administration (FTA). Ms. McMillan works along with Federal Transit Administrator Peter Rogoff, leading a staff of more than 500 and a budget of approximately $10 billion a year.

You are listening to the Commonwealth Club of California radio program. Today, we're talking transportation in the next 50 years, addressing California's mobility in a time of financial challenge. With that, I'm very pleased to introduce Ms. Ortega.

NORMA ORTEGA

Thank you for the introduction, Asha. First, I'd like to thank the Commonwealth Club and MTI for hosting this forum and giving me an opportunity to share with the public, the radio audience, my thoughts on transportation. I would also like to acknowledge our other two distinguished panelists, Therese McMillan and Steve Heminger.

More than 50 years ago, President Eisenhower signed legislation creating the interstate highway system, often described as the greatest public works project in history. I am very hopeful that despite the current economic conditions in this state and in the nation, state transportation departments will continue to provide excellent service for the next 50 years. However, we do have some significant challenges. Our traditional funding sources of the fuel taxes, weight fees and sales tax on gasoline have continued to decline. The state budget crisis has had a significant impact on transportation funding as well. We've had several new funding sources—Proposition 1B, transportation bonds of approximately $20 billion, and more recently, the recovery act, which also generated some significant dollars for transportation. However, both of those funding sources have become our one-time funding sources; they do not address the loss that we are feeling in transportation funding.

In California, we have a very unique situation where a number of our transportation partners, such as MTC (Metropolitan Transportation Commission) and others throughout the state, have really stepped forward to help us with transportation projects by passing additional sales tax to fund transportation. That amount of money generates over $4 or $5 billion annually, and a lot of those revenues are put back on to the state highway system. But that does mean that decisions are made on different levels; it's not the state making all of the transportation funding decisions, so we have to work very closely. The priorities at the local level may be different than meeting the statewide needs. So all these different funding sources have been coming forward, but we have seen a significant increase in our transportation needs. People are driving less, using less gas, and that's cutting into our fuel sales.

We are also dealing with having greener vehicles, which get up to 50 miles per gallon, and that is impacting our revenues. Now, we're not advocating going back to gas-guzzlers, but it is an issue we are having to deal with moving forward. And, as I mentioned, our state transportation needs continue to grow. It is expected that California's population will double by 2050. That's potentially more than 30 million on the road causing increased demands on our highway. Our state highway system currently has 13,000 distressed lane miles—almost 26 percent of the system. That number is projected to increase significantly at the current funding levels. We calculate that it will take $5 to $6 billion annually to properly rehabilitate the existing system. Currently, we're only able to fund approximately $1.5 billion, so there's a significant gap.

Caltrans maintains its highways for the safety and comfort of the motorist; however, reduced funding does mean fewer dollars also for maintenance, and if we do not do the preventive maintenance, the cost to rehabilitate the road is much greater, about six times as much. We know what happens when we don't maintain our cars: it can lead to costlier repairs down the road. Similarly, by deferring maintenance, roads eventually need major rehabilitation, which cost about six times the original cost.

The previously mentioned federal stimulus dollars helped move some of these projects forward, but again, those were one-time funding. The outlook for transportation funding is strained and inadequate to meet the current needs, and it's not expected to improve in the near term.

So, where does that leave us? The estimated need to maintain, rehabilitate and operate this system is approximately $250 billion over the next ten years, of which we're only funding about 25 percent. This does include local road needs as well as transit. During tough economic times, we can and should come up with innovative ways to finance our mobility needs and infrastructure, and we're working with our regional partners to fund projects. We're also looking at different ways of constructing a project; we're using design build. More recently, the governor and the Legislature enacted legislation to approve public/private partnerships for California. While that is not a permanent funding solution to meet all of our needs, it might enable us to move some critical projects forward that are desperately needed. We will continue to work with our partners and be innovative and hope that the future for transportation funding in this state improves. We will need to deal with the decreasing revenues and those increasing needs. Thank you.

ASHA WEINSTEIN AGRAWAL

Thank you very much for your remarks, Ms. Ortega. You are listening to the Commonwealth Club of California's radio program.

We're talking today about transportation in the next 50 years, addressing California's mobility in a time of financial challenge. Our panelists are Norma Ortega, interim chief financial officer for Caltrans; Steve Heminger, executive director of the Bay Area Metropolitan Transportation Commission; and Therese McMillan, deputy administrator of the Federal Transportation Administration. Mr. Heminger, we'd like to hear from you next, please.

STEVE HEMINGER

Good afternoon. They say that lawyers in a courtroom should never ask a question they already don't know the answer to, so I'm going to ask myself three questions. As luck would have it, I've prepared some answers to them.

Question one: If we don't know what to buy, how can we haggle over the price? The transportation funding debate usually plays out in public with some public official saying we need a billion dollars or we need $10 billion or we need $500 billion. That, in fact, is the figure being discussed in Washington today. Where are these numbers coming from? Usually, they come from a wish list of projects that gets dusted off every time there's a chance for new money. In other words, instead of an outcome-based planning process, we ask ourselves how much congestion do we want to reduce? How many fatalities do we want to avoid? The funding debate usually plays out on inputs: how much money do we need? Or, at best, outputs: how many projects do we want to build? I think this lack of goals and outcomes is one reason the public tends to be so skeptical about calls for new funding, whether it's for bridges or schools our water treatment plants. They want to know what they're going to get.

Now, in my opinion, the county sales tax movement here in California has been a step in the right direction. At least the voters know what projects they're paying for, because they're listed right in the ballot pamphlet. But those voters still don't know what level of performance those projects will produce. Will my commute be shorter by one minute, or half an hour, if I pass measure X? So, my first suggestion is that transportation advocates should stop wondering why the public doesn't want to give us more money until we are willing to promise them—and deliver *for* them—better results.

The second question comes from one of my favorite movies: If we build it, will they come? One reason that transportation advocates are hesitant about promising results is that we tend to fight the battle with traffic congestion—which is often cited as the number one problem here in the Bay Area—with one hand tied behind our back. We build new highways and watch them quickly fill up with cars because the cost of driving is so cheap. Now, I say cheap—it's not cheap to drive right now, according to most people you would talk to—but if you adjust those costs for inflation, it's relatively inexpensive compared to what it used to be. Just to use a metaphor that's on all of our minds today, when it opened in the '30s, the Bay Bridge's toll, in today's dollars, was $20. We build new transit extensions and wonder where all the passengers are on opening day, even though surrounding land uses are low-density. Driving is relatively cheap. In other words, we need to focus not just on expanding the supply of travel options, but also managing the demand for those options as well. If we want more travelers to use public transit for both mobility and environmental reasons—and I think we do—then driving will need to become more expensive. In the last few years, the best thing that ever happened to public transit ridership was $4 per gallon gasoline. And we can boot public subsidies for public transit until we're blue in the face. But if the price of gas stays below $4, we will be facing an uphill climb for more bus and train riders.

In my view, supportive land use policies are equally critical. Repeated research has shown that people who live near transit stations are much more likely to use that transit system to go to work or shopping or recreation. Sure, many folks do drive or take the bus to our BART (Bay Area Rapid Transit) system, but the best bet for more BART riders is more residential and mixed-use development near stations.

The final question: Is the free lunch finally over? I think we all know a little bit about the free lunch in this room, and I want to address these remarks especially to people in this room who are of my generation: the great, vaunted baby boomers. Even if we can somehow re-focus our transportation planning process on outcomes, as I said at the outset, and even if we can turn the corner on a more rational system of road pricing and transit-oriented development, as I said in the second case, we still will only get the transportation system we're willing to pay for. The simple fact is that my generation of baby boomers has been perfectly content to live off the investments that our grandparents and parents made in building the interstate network and the trans-bay bridges and the BART system. By and large, we have not been willing to make the investments necessary to build a 21st century transportation system for our kids and grandkids. When we do, for example, like the proposed high-speed rail system for California, we decide to pay for it by borrowing the money from them in the first place.

Since the 1920s in California, and in the 1950s in the United States, we have relied on user fee financing, primarily through the state and federal gas taxes, to build and maintain our transportation systems. Neither of those levees has been raised since the early 1990s, and the new revenue that we have obtained has come primarily from sales taxes and general fund borrowing. The operative funding paradigm now seems to be "buy a refrigerator, build a road." It's not too late for us baby boomers to do better. Quoting President Obama, who was I believe quoting the good book in his inaugural address, said "It's not too late for us to set aside childish things." After all, there is no such thing as a free lunch, nor is there such a thing as a better transportation network at no charge. It will cost money. And the private sector won't pay all the freight, especially for the huge repair bill—we have just to fix the system we've already built. A better transportation system will cost *public money*, meaning new taxes and new fees. That investment should be based on performance outcomes, it should be accompanied by pricing and land-use policies that encourage those outcomes, but we will continue to postpone and evade that responsibility at our peril.

ASHA WEINSTEIN ARGAWAL

Thank you very much, Mr. Heminger. You are listening to the Commonwealth Club of California radio program. Today we're talking transportation in the next 50 years, addressing California's mobility in a time of financial challenge. Our panelists our Norma Ortega, interim chief financial officer for Caltrans; Steve Heminger, executive director of the Bay Area Metropolitan Transportation Commission; and Therese McMillan, deputy administrator of the Federal Transit Administration. Ms. McMillan, we'd like to hear from you, please.

THERESE MCMILLAN

Thank you very much, Asha, and thanks again to the Mineta Transportation Institute for inviting me to participate. I anticipated that, following Norma and Steve, the broad landscape of policy would be very well taken care of, so part of my challenge was to try and figure out what different spin I could bring to this very narrow question of what the transportation financial picture is going to look like at the federal, state and local level from this perspective of Californians who want to move.

I asked a question of myself, which was "What is the federal interest in transportation?" One of the key questions here that I would like to focus my remarks on is the recognition that, in dealing with transportation, certainly at the governmental level, it has never been a task that has been assumed by one entity. In California in particular, we have a very long history of federal participation matched and partnered by what's happening at the state and local level. I think what's instructive for us looking ahead is to also spend a little bit of time figuring out where we are right now. Obviously, where we are right now has been dramatically colored by the current recession, and perhaps there are a bit of lessons learned there to see whether or not current partnerships are working, what they might tell us and how, potentially, they change moving forward.

Federal funding has always required a level of participation. For those of you who are not swimming in the details of federal law and regulation, it has commonly been the case—although, of course, there are many, many exceptions—that federal dollars have to be matched. There has to be *some* contribution from state or local partners to deliver the project. That's been an expectation at the federal level. Now, what's actually quite remarkable is that the Recovery Act, which brought $48 billion for transportation as part of the economic stimulus package, and $8 billion specifically for transit, administered by the Federal Transit Administration, was essentially 100 percent federally funded and therefore match-free, I think recognizing the unique circumstances of dealing with what would be a financial crisis. That said, the long history has been that folks need to put skin in the game in order to have the feds be a partner with you. Now with large discretionary projects—we use the term *discretionary* for when the federal government is involved in any kind of competitive consideration about whether a project should have federal dollars or not—the stakes have always been a bit higher. Some of you may be familiar because there's been a lot of debate and questions and input from the public on major transit projects that are being developed here in the region. You may know the term the "New Starts program," which has always had a lot of attention nationwide because it is the arena where, certainly from a transit point of view, this administration and past administrations are trying to stretch the reach of transit into the mobility picture of America. In this case, though, what we've seen is that when projects get into the multimillions and multibillion-dollar range, the expectations are more dollar for dollar, and the policy guidance for these megaprojects has been if you're not bringing in at least 50 percent of non-federal dollars to the picture, one begins to look at the viability of being able not only to build it but maintain it and sustain it over the long term.

What's interesting about these questions of the current rules and what they may and may not say about policy is that these rules apply, really, to single projects or single grants, but when you step back and look back at programmatic or functional participation of the federal government in particular, the picture's a little less clear. Let me choose one that has emerged as a major focus of the Obama administration and Transportation Secretary LaHood, which is "state of good repair." Many of you may recall back in the summer there was the tragic WMATA (Washington Metropolitan Area Transit Authority) accident. While the investigations are still ongoing on the various specific contributing factors to that, it certainly was not lost on the press and the public that much of the WMATA transit assets were far beyond their useful life. The question was raised, "Is the fact that many of our aging systems are falling behind the curve in terms of investment keeping up with what it takes to keep them in a state of good repair? Is that in any way contributing to potential safety issues down the road?" I think it's a very valid question for us to explore, not one to speculate on capriciously at cocktail parties, but certainly the relationship of a safe transit environment and how well we are keeping our current infrastructure up to par is a critical question.

In that respect, I did a little bit of review on what has been the pattern of federal participation in the rehabilitation of existing systems. The latest numbers that we had in terms of looking at comparable data over time, roughly the last eight years, showed, remarkably, that the pattern of federal, state and local participation in terms of contributing to transit capital—the infrastructure on the ground—was fairly, on national average, stable. The feds had been in for roughly 40 percent or so, states clocked in at about 12 percent, and local governments, in aggregate across the country, had about 48 percent. And those averages had actually been fairly stable over time. What was interesting, though, was that it masked significant variations, particularly on the state level. As many of you are probably aware, California's own recent experiences with loans and rates on funds that otherwise would have been dedicated to transit was the subject of recent court litigation and the like. Quite frankly, California, along with New York, was one of the states most consistent in contributing to transit capital over time, whereas in some instances, states had contributed nothing to transit capital for several years. Again, looking at national averages, it's a little bit difficult then to say what is the *right* amount for states to contribute, because it tends to be all over the map. On the local side, one of the great challenges there that we've seen underscored more dramatically with the recent economic downturn has been the fact that the types of revenue sources that are brought to the table to match federal participation tend to be all over the map as well. California, as Steve and Norma alluded to, tends to be very sales tax-driven. In an economic downturn of the scope and breadth that we've seen right here, they plummet, with very significant effects on the transit industry. However, this economic downturn has been so severe that some of the other types of local services around the country are also being hammered. For those entities that have property tax-based revenue, obviously, the rash of foreclosures had enormous impacts on what otherwise might have been a relatively stable source of funds. There are employment-based revenue sources—several transit operators have payroll taxes that are used as a source of contributions. Unemployment has had an obviously depressing effect. The one thing that we've seen is that the local participation as a partnership, no matter what color it has been, has been greatly affected. The question of what is the right combination, what is the right type of funding sources that we should be asking our partners to bring to the table, is not at all clear. I was noting one quote that sort of summed it up for me from newspaper reports in the Cleveland area was, "No one is buying shoes, let alone houses." The fact that they were facing some significant economic challenges there was aptly captured by that quote.

All of that, though, is to say that the challenge then of pursuing new federal policy against that backdrop is extremely tough. However, the administration, as many of you probably are aware, is pursuing some new policy arenas, some of which are geared toward the question of better performance and better use of what we already have, which goes some measure toward dealing with the challenge of finding significant new revenues. It's always the case if you can better use what you have, then perhaps you don't need to necessarily invest in as much additional infrastructure in the future. And the notion of the Livability Agenda that the Obama administration has put forward, that's I think extremely well grounded here in the San Francisco Bay Area, talks largely to the ability to put housing and therefore transit users around infrastructure that's already in place, so that not only do you perhaps need to make less trips by your car, but you're certainly then using the transit assets in a much more efficient and performance-driven way. Similarly, when planning any new transit extensions—and again, it's something we would very much like to see in the profile of American mobility going forward—is a greater role for transit. It's extremely important, as Steve pointed out in his remarks, that there be a parallel investment in the types of land uses that would support that type of investment. So, perhaps one of the bright lights coming out of this clearly somewhat grim economic situation has been increased attention toward performance-based investments, whether it's a federal dollar, whether it's a state dollar, whether it's a local dollar. And, with that as background, maybe we learn from today's lessons that will help us in the next 50 years.

Figure 1 Moderator Asha Weinstein Agrawal and panelists on the dais at the Commonwealth Club of California. Left to right, Dr. Asha Weinstein Agrawal, Caltrans' Norma Ortega, MTC's Steve Heminger, and FTA's Therese McMillan.

ASHA WEINSTEIN AGRAWAL

Thank you very much to Therese McMillan. You're listening to the Commonwealth Club of California radio program. Today we're talking transportation in the next 50 years, addressing California's mobility in a time of financial challenge. Our panelists are Norma Ortega, the interim chief financial officer for Caltrans; Steve Heminger, the executive director of the Bay Area Metropolitan Commission, and Therese McMillan, deputy administrator for the Federal Transit Authority. I'm Dr. Asha Weinstein Agrawal.

So, now that our panelists have laid out for us some of the background to this challenge between the likely gap between the revenues we'll be expecting and the types of expenditures we think we want to make, it's time to turn to questions, and especially questions that have been prepared by some of our members of today's audience. I think I'll start: I know we're here to think about the long term, maybe even the next 50 years if we can stretch our minds that far, but one question relates to something that is very pressing in today's news, the fact that the Bay Bridge is closed because there are some needed repairs and they didn't seem to work. And so our audience member asks, "Is inadequate funding at all to blame for delays or other problems with the Bay Bridge, such as today's unfortunate closure?" We'll invite all three panelists, if you have any thoughts on this matter, to please chime in.

NORMA ORTEGA

I'll make just a very quick comment. From Caltrans' perspective, we have sufficient funds to repair the Bay Bridge and we have started the replacement of that bridge and we're moving forward—it is a timing situation; the funds have been made available to replace the bridge and we don't think funding was a particular issue.

STEVE HEMINGER

I would agree with that. The fact is, the existing east span is 70 years old and it's showing its age, and it's very vulnerable to earthquakes. That's why we're trying to replace it. I will say that absent political interference in the design of that new span, and in its construction, it would be open today, and we wouldn't be worrying about the existing east span.

ASHA WEINSTEIN AGRAWAL

Let me follow up and just ask a question of my own that I think relates to issues about our aging infrastructure, and Steve Heminger had posed the question. How do we know what we need to spend unless we know what we want to buy? And obviously there are lots of different transportation systems. We could dream up in the future some very different from our current ones, and others might be essentially what we just have today, but well-maintained. So, one question I have is if we didn't try to make improvements, changes, add service, add capacity, and we just focused all the revenue we have now and that we're likely to have over the next, say, 10, 20 years on really good quality maintenance and operations, could we afford that? Or how far would we be still in the hole even just to keep the current system running?

STEVE HEMINGER

Wouldn't that be nice? You know, here in the Bay Area, we have a long-range plan that goes out 25 years, spends $200 billion—that's a lot of money. Eighty percent of it we're spending on maintenance of just the system we've already built, and we still come up short about $40-plus billion. We could spend all the money we have on maintenance and still not take care of the investment that's been given to us. And the fact is, we can't do that. We've got both aging pains and growing pains that we're dealing with here, and we can't afford just to address the one. Now, we've clearly made the choice that we want to try to fix it first, but we can't completely wipe out our expansion budget. The simple fact is—the budget's too small.

THERESE MCMILLAN

Maybe just to add to that, again one of the interesting things, being able to look at these issues at a national level, is really the depth that they extend. Congress had commissioned a specific study that was presented spring of this year, looking at the seven largest urban rail systems in the country: as you imagine, I can reel them off of my head, but it was New York, Chicago, Philadelphia, Boston, BART here in the Bay Area and WMATA.

But the interesting thing there was looking at again this notion of “state of good repair.” And I have to say, state of good repair does not mean everything that’s spanking new; it basically means that some significant portion of your overall infrastructure is within the band of its life cycle, which, for certain transit assets, can be roughly 12 years for buses and much longer for rail cars and the like. The point, though, is that after looking in that study, and with this, I would say, relatively conservative objective of getting just those seven systems in a state of good repair, it was $50 billion—just for the seven largest rail systems in the country.

And so that is a fairly sobering point. At the same time I agree very much with Steve’s notion that this country continues to grow, and there continues to be demand on what we need to provide. So I think the question again comes back to those notions of performance that were raised. What combination of investments really gets you to the point of being able to achieve greater mobility and access or reduce congestion levels? Whatever metric you select, at some point you have to look at just the different packaging of what’s going to reach those performance objectives, and you’re certainly not always going to hit the top.

NORMA ORTEGA

One final comment: The funding needs are so great, whether it’s highways, local roads, transit, putting all of our funds into just maintaining what we have right now would not be sufficient.

ASHA WEINSTEIN AGRAWAL

Thank you. Now, to get back to something else that was raised earlier, there was a question of a free lunch. Can we somehow keep getting more without putting more public dollars into it? And we have a couple of questions that come from our listeners asking about public-private partnerships. And I know that over the last decade or so, there’s been more and more talk among transportation policymakers about public-private partnerships (PPPs, P3s) as perhaps not a way to maintain our system or to rehabilitate the existing infrastructure, but is this a viable way to create new infrastructure on any scale without having to put much or any public dollars into the projects? Or is that kind of more wishful thinking that the free lunch could just keep going on forever and ever?

NORMA ORTEGA

Well, certainly, the Legislature and the governor passed legislation just this past spring that allows us to move forward with public-private partnerships here in California. And as I stated earlier, we believe that P3s can help in providing some very needed transportation improvements. The California Transportation Commission recently adopted guidelines; the department is working closely with our regional partners to identify the right projects; there are some projects that could potentially be good P3 projects that are so large that that might be the only way to fund them. So I do think that P3s have a place in providing our transportation needs.

STEVE HEMINGER

Again, I agree with Norma. I also believe, though, that they will play a fairly modest role for a couple of reasons. One of them is, when you cut past all the jargon, public-private partnerships are a fancy way of borrowing money from somebody, and usually people expect to be paid back. And so the private sector will invest capital in a new facility if they find a way to make a return, and that generally means tolls or fees paid by the users of those facilities, and tolls aren't necessarily all that popular elsewhere in California. Here in the Bay Area we've been paying them for a long time and don't seem to mind them as much.

The second reason is—you mentioned in the introduction the national congressional commission I served on—we estimated that the investment shortfall facing the nation composed about half of it by just the maintenance backlogs that we have. And there's nobody from Goldman Sachs who wants to help you pay for that. That's going to have to be addressed with good, old-fashioned public money. So the remaining balance, about half the shortfall that we have for an expansion, quite a few of those facilities aren't going to generate a positive cash flow return. Most of our transit systems, when we build them, God love them, they don't make money. They lose money on a daily basis in operation. And so who's going to invest in that? I think there are going to be places, especially in our freight sector, where fees and tolls will generate a return and where private capital will be attracted, and I say more power to them. But what I fear is that many of the advocates for public-private partnerships tend to use it as an alternative to public investment, and it is not a replacement. It is one additional tool in the toolbox and it's a pretty small little wrench compared to all the big hammers we need to beat this problem.

ASHA WEINSTEIN AGRAWAL

Therese, anything you'd like to add?

THERESE MCMILLAN

No, I think that pretty much covers it.

ASHA WEINSTEIN AGRAWAL

My understanding is that a lot of the estimates that we have at the state level and at the federal level of what we might need to spend just for maintenance and rehabilitation or for desired expansion focuses primarily on highways and to some extent also on transit systems, but it gets less at local streets and roads. I'm wondering if you have thoughts in response to one of the questions we received from an audience member about bicycle and pedestrian facilities. There's now a lot of interest in trying to retrofit many of our suburban areas and cities to make walking and biking a realistic option. What if we tried to do that in a serious way throughout much of the country? What are the cost implications of that, and how does it change the whole funding picture, if at all?

STEVE HEMINGER

Well, you know, I'd venture to say—and at the risk of offending the deputy Federal Transit Administrator—we talk about transit-oriented development a lot, and in a way it's a misnomer, because what we're really talking about are walkable and bikeable developments. We sure want to have a transit station there, but the transit trip is largely one you're going to make outside of that community and I think what most of us would really like is to live somewhere, like I am fortunate enough to do here in San Francisco, where you don't have to get in your car to make every trip you take. I think the other bit of good news is that kind of expenditure is probably not as large as it is for building new highways, building new high-speed rail systems, building new freight facilities. It's fairly modest. But I think we've been ignoring it for too long, and in our region we're starting to turn more investment in those directions. The good news is that you can get quite a bit of bang for pretty little buck there.

THERESE MCMILLAN

Well, no offense taken on the relationship to transit because, in fact, we've been looking at this very question. The livability initiative that's been outlined clearly has seen transit as a focal point. However, one of the major issues that we need to tackle and be mindful of is the "last mile." It's the getting to the transit station, and once you're on the other end, it's moving from there. In some instances, that last mile connection, particularly if it's for rail, may be local bus. But very clearly, particularly in that magic half-mile radius, walking and biking is an option that needs to be fully integrated in whatever designs we're thinking about. FTA is currently looking at and re-evaluating guidance related to what bicycle-related investments can in fact be funded with transit funds, if they're specifically related to transit-oriented development there.

I think one of the important aspects of the federal program that was launched many years back—ISTEA [Intermodal Surface Transportation Efficiency Act] was how long ago?

STEVE HEMINGER

'91.

THERESE MCMILLAN

'91. The flexible funding notion in federal policy which allows federal dollars not to be siloed into very specific modes of transport, like highways or it's only for bikes or it's only for transit, is obviously a paradigm that presents the type of integrated planning that we were just talking about here. And, you know, whether or not the experience to date has fully taken advantage of that flexible option is obviously one for debate. It's clearly been at very different levels throughout the country. But, you know, this whole notion of amounts of need and what to be directed there, I think we need to be very careful that that doesn't then lead again to "here's my need and here's my particular funding source that's matched to it, and here's the whole." It should be, hopefully, a holistic evaluation that allows some flexibility for dealing with particular circumstances as they might evidence themselves, in Fargo, North Dakota, or San Francisco, California.

NORMA ORTEGA

One just quick comment on this. We do have funding, whether federal highway funds and state funds as well, that is available for bike and pedestrian projects. And I believe the need is quite great; however, one of the challenges that we have from a financial perspective working with the Legislature and the Department of Finance is the funds don't get spent very quickly, and they get tied up for years and years and it does make it challenging when people recognize that there are needs out there but they do need to deliver on those transportation improvements, whether it's a bikeway or pedestrian.

ASHA WEINSTEIN AGRAWAL

Thank you. Here's a kind of a radical question, I think, and so I want to pose it. One of our audience members has asked, "Should we just decommission some systems—I guess that could be basically roads or transit systems—as a way to save money? Are we over-investing in the sense that we've got infrastructure and systems that aren't at this point really worth maintaining and improving? Is that a way to save money?"

STEVEN HEMINGER

You know, I bet there aren't many members of Congress who'll volunteer theirs. And I'm sure that's true of most mayors and governors and county supervisors.

I think one way to address that question is to get back to this issue of performance, because I do think we still, in this region, in this state, in this country, tend to rely a little bit too much on our instincts and our gut emotions when we decide to invest public funds. I'm sure, at the risk of offending somebody in the audience or on the air, ferry boats in our region have a lot of glamour and a lot of appeal. You've got the wind in your hair out there, and you've got a martini in your hand, and it's a really nice experience. But the fact is, we've got bridges now, and we've got the BART system that goes across the bay, and we've got buses and we've got a commute pattern that is largely north-south, and that's not going east-west. Ferry transit has a role to play in our region, an important role, especially the last few days, thank goodness for them without the bridge. But, on an ongoing basis—a few years ago someone put out a plan that had a ferry coming up from Half Moon Bay on the ocean to San Francisco—I think we get a little carried away with ourselves about the romance of certain modes.

The same can be true for rail transit, to some extent. There's something about a train whistle in the night that really gets people going, and sometimes a bus rapid transit alternative will be just as effective at quite a bit lower cost.

THERESE MCMILLAN

Again, I think I would only say that the notion of completely de-commissioning investment is probably not, as Steve mentioned, on the top of most elected officials' agendas, no matter where you're elected. But that said, I think one of the challenges of any type of infrastructure investment is the challenge that elected officials are often in for decades. When you have a changing society whose mobility needs are also changing, very often you may see that the infrastructure that you already perhaps have isn't in a position to respond as nimbly to the changes in demand that you see. And so, perhaps one of the things looking forward is this notion of can you build a level of flexibility into the system that might make the obsolescence of the system less of an issue. I do not claim at all to be an expert in the new technology arena. I have colleagues who are much better at that than I. But I think that's an interesting question to think about.

ASHA WEINSTEIN AGRAWAL

Let me turn a little bit to thinking about if we have limited funds, what do we do? How do we best respond to the situation? We have quite a few questions I'll get to. Obviously, maybe we should be raising more and how can we do that. But if we could do a better job than we already are, prioritizing where we're spending money, getting more bang for each dollar spent both in terms of "are there processes that our existing agencies could and perhaps should be using to better prioritize where money is spent?" or "are there even new institutions that we really need to develop that would be able to do a better job than our current system at prioritizing spending?"

NORMA ORTEGA

Well, let me just make a few comments on this. Yes, I think that prioritizing the limited dollars is something that we definitely have to be doing. We are doing it on the maintaining and operating of the existing system. There are so many needs out there, we are primarily funding emergency repairs, safety projects, pavement when we have the funds for it, mobility and other items we cannot fund, so there is some of that going on. On a broader level, the funding picture for California is such that a lot of the funding decisions are really made at a regional level, and it does make it more challenging from a statewide perspective because regions have a much stronger voice in determining the priorities for those particular regions. They may not be the highest priority for the entire state, but that is the process that we have in place now.

STEVE HEMINGER

If I could maybe give you a topical example… you know, we're all concerned about the economy. A lot of people are struggling. Congress passed a very large stimulus bill and here in the Bay Area we anticipated that and, in fact, acted to allocate the funds from that bill that were in our control two weeks after the president signed the law. So we were ready. What the Congress didn't do is they didn't change any of the rules or environmental processes or permitting processes that governed the expenditure of those funds. So, we're sitting here today in the Bay Area and, what is it now? Six months, seven months after February, and we've got 40 percent of that money out to contract, actually creating jobs, which was its original purpose. And to me, that's a crying shame. In fact, most of the stuff we picked, because we knew this was going to be a problem, we picked the meat-and-potatoes rehab jobs: just let's pave the streets, let's go buy buses, let's do something simple—and that is taking forever. I firmly believe that the environmental and permitting process we have for infrastructure in our country is like public enemy number one in the expenditure of tax dollars. I am not advocating that we relax a single environmental standard—in fact, probably in some cases they ought to be strengthened in terms of how our infrastructure affects our environment and our communities—but we are so wrapped up in red tape now, and projects have to go through repetitive environmental reviews. Rail projects, transit projects, I mean, can't we just grant transit"s good for the environment and sort of give them a pass? What we're doing is, we're not stopping any projects from happening, and if the environmental process were doing that, I could sort of see the point; the purpose is to weed out the bad projects so let's stop them in their tracks. We're not stopping anything, we're just making it cost a lot more and take a lot longer, and I just don't understand how that's in anybody's interest.

THERESE MCMILLAN

I'm going to take Steve's first question that he posed as an example of why an answer to this question is extremely difficult. To put a little twist on it, if we don't know what we want to buy, how can we set a priority?

Your priorities are going to be set based on specific goals of something that you want to achieve. And if you're not clear on that, then what are you setting priorities against? So, you know, it's an interesting question; I think you pose it on an assumption that there perhaps is a clear idea of what should be done as a first, second or third priority and then how well are you matching up to that standard? Certainly, you know, in the federal funding realm, there's always been a choice in terms of policies; there are certain funds that are pretty much handed back to locals to do with what they want—in other words, the local community can set its own priorities and we afford some level of flexibility for that purpose. There's other fund sources that have many rules that are a competition where, sometimes, every new administration sets a slightly different part of the rulebook to try and get a different set of objectives out of whatever investment is there.

So, I'm not sure there's actually a very easy answer to your question, because I'm not sure that anyone really in this room would naturally gravitate to the same level of expectations and how to set priorities against them.

ASHA WEINSTEIN AGRAWAL

It seems like there's some agreement among the panel members that finding additional sources of revenue as we go forward would be desirable for various reasons. How do we do it? What are the most efficient or equitable or politically acceptable ways to increase revenues? We've had some questions about different options. One, of course, would be increasing the federal and state gas taxes.

By the way, to go back to Steve Heminger's point about the Bay Bridge toll and how it was a lot more expensive back in the '30s than it is today. The gas tax is also much cheaper today in what we pay per mile we drive than it would've been in 1950, and I think to raise the California state gas tax back to what we paid per mile in the '50s would be roughly the order of a 50-cent increase per gallon. I could be off a few cents, but it's in that ballpark. What do you think? Is raising the gas tax a good alternative, either in the short, medium or long term, to help address our problems?

STEVE HEMINGER

Well, since I got somebody working for a president and somebody working for a governor on either side of me, I bet I'm the only one who's willing to say something about this.

And I'll tell you, it's easily one of the most frustrating things I deal with. The national commission I served on recommended an increase in the fuel tax. We spent two years looking for something else, and there isn't anything else. The only thing else there really is—and this is a frightening thought—the only other funding source that's big enough and robust enough is the general fund of the United States. And I'm afraid that is the direction we're headed. The Federal Highway Trust Fund has been bailed out twice now with general fund revenue. And remember, that revenue is not there. We're borrowing that from our kids. And if that's the path we're headed, I really think it's the path to ruination, because the user fee system works so well. It connects the users directly with the benefit they receive, and it also sends the users back a price signal about how much to consume what they've purchased, and the general fund doesn't do that at all. Especially now that it's intergenerational, and there's no price signal we're sending to ourselves—we're sending the price signal and the check to future generations.

And when you think about it, gas prices change all the time. Gas prices vary sometimes by five or ten cents per weekend, yet if an elected official talks about a nickel or a dime, he's ridden out of town on a rail. And to me that's just nuts. Who gets the benefit of that price increase? Right now that money goes somewhere else. A lot of that money goes abroad, a lot of it goes to regimes that aren't too friendly with our country. I don't know why some smart political consultant can't figure out the fact that investing that money in infrastructure in the United States is a better idea than sending it abroad to do God knows what.

I don't know why we can't figure that out in our politics, because it sure makes sense to me.

ASHA WEINSTEIN AGRAWAL

I'm trying to take into account the fact that we do have some appointed officials here. Ten years from now, when we'll have a change in political office, do you think what we need to be doing is thinking about raising the gas tax, as Mr. Heminger has just pointed out quite eloquently? Or do we need to think about shifting to some other major source of revenue, such as a mileage fee that maybe is paid for every mile you drive; or putting tolls on a large percentage of the facilities that people drive on; or some other system that you think is where we should be going?

NORMA ORTETGA

I think the needs are so great that we have to put all options on the table and see which ones we would be able to move forward with.

THERESE MCMILLAN

You know, one of the few things, I think, that has been an axiom just in funding, no matter whether it's transportation or your own personal budgets, is a diverse portfolio is a hedge against a lot of uncertainty, and without obviously ascribing what fund source to what governmental entity, there will always be a partnership involved in dealing with the mobility challenges and needs of America. Providing the infrastructure, maintaining the infrastructure, operating that infrastructure in some way is going to involve different combinations and perhaps one of the key questions will be, do we need to somehow, within the structure of that partnership, achieve a more diverse portfolio that allows us to weather the storms that we see? I think it matches along with Norma's thing that there's no single silver bullet in any of this. And I think we need to obviously keep our options open.

ASHA WEINSTEIN AGRAWAL

We're nearing the end of the hour, so I want to ask one last question and, if you have short responses, that would be great. Obviously, any time we charge people taxes and fees, whether it's an income tax or a gas tax or anything else, it sends some behavioral signals. Are there ways that we could adjust our transportation finance system and the taxes and fees we pose that would help us to achieve some of the environmental objectives that are becoming more pressing in our state and national agenda; climate change, obviously, being perhaps the most prominent, but also air quality and other environmental issues? Should we be trying to link transportation, taxes and fees and the environment, and how can we do that effectively?

STEVE HEMINGER

You know, two of the ideas that I've always thought were the most attractive—which of course means they've gained virtually no traction politically—one of them is this idea of pay-at-the-pump insurance, because we do have a problem here in California of people driving around uninsured. And one way you'd make sure they were insured is if they had to pay their insurance at the gas pump, because if they didn't, they couldn't drive; you need the gasoline to do it. That has the advantage of bringing that price signal to the attention of the motorist. Generally speaking, the more visible the price is, the more someone's going to pay attention to it, and when you go through the Bay Bridge toll plaza, you pay attention to the toll, because you're paying it there and you're paying it every day.

Now, frankly, people actually pay less attention to the toll now that they have FasTrak, and a lot of folks do. The folks paying cash, I bet, probably pay more attention to what that toll is, because it's coming right out of their pocket every day. The gas tax actually is not as good, in that sense, because you pay it once a week and it's buried in the price and you're not quite sure what it is. So the closer to the point of use the fee can be, generally speaking, I think the more folks will pay attention to it and it will influence their behavior.

On the other hand, the gas tax is actually quite a good surrogate for carbon. It's a carbon tax by another name, and if we were to transition to something like a mileage-based fee, then, conceivably, the person in the Prius would be paying the same as the person in the SUV, and that's not quite fair from either an equity or an environmental perspective. So, you know, it doesn't matter sort of which poison you pick, each funding measure has some good things about it, some bad things. And I agree with the question, though, that environmental consequence ought to be something that the funding measures addresses.

ASHA WEINSTEIN AGRAWAL

We've come to the end of a very interesting hour, so I'd like to give a thank you to all of our panelists today: Norma Ortega, the interim chief financial officer for Caltrans; Steve Heminger, the executive director of the Bay Area Metropolitan Transportation Commission; and Therese McMillan, deputy administrator of the Federal Transit Administration. We also thank our audiences here and on the radio, television, and the Internet. I'm Dr. Asha Weinstein Agrawal, and now, this meeting of The Commonwealth Club of California, celebrating more than a century of enlightened discussion, is adjourned.

ABBREVIATIONS AND ACRONYMS

BART	Bay Area Rapid Transit
FTA	Federal Transit Administration
ISTEA	Intermodal Surface Transportation Efficiency Act
MTC	Metropolitan Transportation Commission
MTI	Mineta Transportation Institute
NPR	National Public Radio
P3s, PPP	Public-private partnerships
VTA	Valley Transit Authority
WMATA	Washington Metropolitan Area Transit Authority

SPEAKER BIOGRAPHIES

DR. ASHA WEINSTEIN AGRAWAL

Asha Weinstein Agrawal, Ph.D. is director of the MTI National Transportation Finance Center at San José State University (SJSU), and an associate professor at SJSU's Urban and Regional Planning Department.

Dr. Weinstein Agrawal's research and teaching interests include transportation policy and planning focus on transportation finance, pedestrian planning and transportation history. Recent articles include "How to Pay for Transportation? A Survey of Public Preferences in California" with Jennifer Dill, published in *Transport Policy*; "Unraveling Equity in HOT Lane Planning: A View from Practice" with co-author Gian-Claudia Sciara, published in the *Journal of Planning Education and Research*; and "Congestion as a Cultural Construct: The 'Congestion Evil' in Boston in the 1890s and 1920s," in the *Journal of Transport History*.

Recent publications for MTI include *Green Transportation Taxes and Fees: A Survey of Californians* with Jennifer Dill and Hilary Dixon, and *Transportation Financing Opportunities for the State of California*, with Dill, Dixon, et al.

Dr. Weinstein Agrawal earned a B.A. from Harvard University, an M.Sc. from the London School of Economics and Political Science, and a Ph.D. from the University of California, Berkeley.

STEVE HEMINGER

Steve Heminger is executive director of the Metropolitan Transportation Commission (MTC), the regional transportation planning and finance agency for the nine-county San Francisco Bay Area. MTC allocates more than $1 billion per year in funding for the operation, maintenance and expansion of the Bay Area's surface transportation network.

Heminger was appointed by House Speaker Nancy Pelosi to serve on the National Surface Transportation Policy and Revenue Study Commission, which will help chart the future course for the federal transportation program. In addition, he is a member of the Board of Trustees for MTI and the Board of Directors for the Association of Metropolitan Planning Organizations and International Bridge, Tunnel and Turnpike Association. Prior to joining MTC in 1993, Heminger was vice president of transportation for the Bay Area Council, a business-sponsored public policy group.

THERESE MCMILLAN

Therese W. McMillan was appointed the Federal Transit Adminstration's Deputy Administrator on July 2, 2009. In her new position, she will assist the administrator in overseeing a staff of more than 500 in Washington DC and ten regional offices throughout the United States, and manage an annual budget of approximately $10 billion.

Prior to her FTA appointment, McMillan was the deputy executive director-policy at the San

Francisco Bay Area Region's Metropolitan Transportation Commission for nine years, and prior to that, manager of funding and external affairs for seven years.

She is currently a member of the Transportation Research Board's Committee on Taxation and Finance and has served on numerous federal and statewide task forces and working groups addressing various transportation planning and funding issues, including an appointment to the National Research Council Committee for the Study of Funding Options for Freight Transportation Projects. For the last six years, McMillan also taught a course in transportation funding and finance for MTI's graduate transportation studies program at SJSU.

NORMA ORTEGA

Ms. Norma Ortega is the interim chief financial officer (CFO) for the California Department of Transportation. The CFO is responsible for the Department's financial management and policy as well as federal and state programming of transportation projects, and oversees a budget exceeding $12 billion and staffing of more than 22,000 employees.

Ms. Ortega has been with the Caltrans for more than 25 years and has served on a number of fiscal management positions including direct management of Caltrans' budget. She represents the Caltrans regarding federal, state and local funding and financing issues before the California's transportation fund allocation organization, the California Transportation Commission, and the California state Legislature. Other assignments include serving as a fiscal advisor during the development of Governor Schwarzenegger's Strategic Growth Plan, which led to a $19.94 billion transportation bond proposal. She also served on the California Performance Review Performance Budgeting and Review Enhancement team.

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