UCLA Extension Public Policy Program
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THE TRANSPORTATION, LAND USE, ENVIRONMENT CONNECTION

Economic Crisis as Opportunity for Reform

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Foreword

This report is a summary of proceedings from a leading policy and research symposium on the **Economic Crisis as Opportunity for Reform** held October 2009 at the UCLA Conference Center in Lake Arrowhead, California.

UCLA Extension Public Policy Program convened the symposium, which was the nineteenth in an annual series created to address the importance of ***The Transportation, Land Use, and Environment Connection***. This year's topic explored the roots of the current economic crisis, its global scale and its local implications for both transportation systems and local government finance. Opportunities for reforming how we pay for transportation were explored. Challenges to building consensus for action amidst competing economic and environmental imperatives were considered. Efforts to alter systems of governance and public policymaking in California to increase stability, accountability and improve performance at all levels were debated. The program led to the sharing of ideas for positive change in response to economic crises.

The following topics were components of the symposium:

- Relationship between transportation, public finance, and global economies
- Evolution of transportation finance over the past century
- Challenges and opportunities for expanding green jobs in the near future
- Integrating economic and environmental mandates
- Defining, measuring, and evaluating performance
- Pitfalls and prospects of infrastructure finance reform
- Voter attitudes toward alternative methods of transportation finance
- Efforts to reform governance and public finance in California
- Turning crisis and mandates into opportunities for action

Special recognition goes to the numerous governmental, business, environmental, and public interest groups (Appendix D) who offered considerable help and underwriting as sponsoring and cooperating agencies, and served as part of the Steering Committee.

I gratefully acknowledge the collaborative partnership between UCLA Extension and the UCLA Institute of Transportation Studies (ITS) in convening this annual symposium series. The contributions of co-chair Brian Taylor, Professor and Chair of Urban Planning, UCLA School of Public Affairs, and Director of the Institute; as well as Allison Yoh, ITS Associate Director, are invaluable.

Thanks are also due to two individuals who prepared this comprehensive proceedings report: Colleen Callahan and Eric Yurkovich, both affiliated as graduate students with the UCLA Institute of Transportation Studies.

The hope of the symposium organizers is that this forum will foster ongoing policy dialogue and impel application through research and practice.

Catherine Showalter
Director, UCLA Extension Public Policy Program

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I. Introduction

The theme of the 19th annual UCLA Lake Arrowhead ***Transportation, Land Use, and Environment Connection*** symposium was **Economic Crisis as Opportunity for Reform**. The forum focused on the opportunities that the current economic crisis presents to make fundamental changes to public policy and planning practice. A diverse array of scholars, researchers, planning practitioners, nonprofit advocates and policy makers from around the United States participated in presentations and facilitated discussions surrounding the unprecedented economic crisis and considered the implications for transportation systems, environmental regulations and local government finance. The "Great Recession" stretched the budgets of public and private sector organizations and forced draconian cuts to programs and staff. The year 2008 also ushered in a new president and democratic legislature with a sweeping domestic agenda and a federal stimulus package. The stimulus invested billions in transportation infrastructure with the expectation that it would revive local economies.

In the absence of federal legislation, state and local government continued to exhibit leadership on climate change. They pursued environmental policies that limit greenhouse gas emissions, promote green industries, encourage alternative transportation modes and increase the resilience of residents. These policies are shifting the debate surrounding land use and transportation practices.

These economic, political and environmental drivers provide an opportunity to make fundamental changes to the government institutions and policies. While most public policy changes occur incrementally, crisis often allows policy makers to engage in transformative change. The focus of the symposium on the **Economic Crisis as Opportunity for Reform** enabled participants to explore structural and policy solutions. Participants discussed topics such as the waxing needs and waning revenues of transportation, green jobs, environmental mandates, performance-based transportation finance, and governance in California.

The following proceedings summarize the panel discussions that occurred during the symposium. Panelists and participants discussed the economic crisis and debated regulatory and market-based solutions to transportation, land use and environmental challenges. Each session begins with a synopsis of the panelist's presentation and concludes with a summary of the discussion period.

II. Symposium Proceedings

Welcome

Catherine Showalter, Director, UCLA Extension Public Policy Program; Director, Osher Lifelong Learning Institute at UCLA

Showalter introduced **LeRoy Graymer**, Founding Director of the UCLA Extension Public Policy Program, and **Martin Wachs**, Director of Transportation at the RAND Corporation, noting they collaborated on the first Lake Arrowhead Symposium 19 years ago. **Showalter** recognized the elected officials in the audience. She also acknowledged the steering committee, sponsors, co-sponsors, and cooperating agencies. **Showalter** concluded by welcoming first-time participants.

Karim Cherif, Associate Dean of Academic Affairs, UCLA Extension**,** gave a warm welcome to participants. **Cherif** stated that this symposium is a collaborative effort with UCLA Extension, the UCLA School of Public Affairs, and the UCLA Institute of Transportation Studies. **Cherif** noted that the Arrowhead Committee takes a cross disciplinary approach to come up with timely and provocative topics.

Symposium Overview

Brian D. Taylor, Professor and Chair of Urban Planning; Director, Institute of Transportation Studies, UCLA

Taylor thanked everyone for coming. **Taylor** recognized **Allison Yoh**, the Associate Director of the Ralph & Goldy Lewis Center for Regional Policy Studies and the Institute of Transportation Studies at UCLA, who contributed to the organization of this year's program.

Taylor provided an overview of this year's symposium. The theme primarily focuses on the opportunities that the current economic crisis presents. He highlighted two primary drivers of public policy in 2009: the economic decline and the Presidential election. By October 2009, the initial panic caused by the economic decline had subsided, leaving a sobering and protracted economic reality. He observed that we heard a lot about change during the last year, but it is difficult to make dramatic public policy changes. Public policy decisions are incremental and evolutionary. Radical changes often occur not out of careful deliberations during good times but during times of crisis. **Taylor** suggested that the most sweeping transportation policy changes and environmental regulations happened during times of crisis.

This presents us with a dilemma. People are open to change, but those changes entail significant risk and the windows of opportunity are very narrow. Once a policy is in place, it is difficult to change. Therefore, **Taylor** noted that the crisis presents us with opportunities to make policy changes but also an enormous responsibility to get the policies right. The challenges are both cyclical and systemic. For example, the economic decline caused panic in the market, but it also underscored the structural challenges associated with regulating the markets. Policy changes must address both issues.

The symposium focuses on the nexus between transportation, land use, and the environment. The current economic recession unveiled opportunities to address the ongoing crisis in financing transportation, the foreclosure crisis, the emergence of green jobs, and environmental regulatory regimes for climate action.

Describing the book Nudge by Richard Thaler and Cass Sunstein, **Taylor** talked about the use of incentives to change behavior and the author's characterization of people as economists or humans. The authors suggest that humans do not always behave in a utility maximizing way. **Taylor** suggested that if we understand this concept we can better target our incentives to change behavior. Describing the previous federal transportation bills, **Taylor** suggested elected officials do not view the transportation bills as economists would. They highlight the economic benefits and jobs derived from the bill, the expenditure effects. Economists focus on the transportation effects of an investment that allows businesses and individuals to conduct their activities more cheaply, safely, and reliably.

Taylor proposed that it matters who you ask about transportation investments. Economists say that public officials get it all wrong and transportation investment is a wealth transfer. Public officials say that the transportation effects are arcane. Public officials argue that people in my district get paid to improve transportation and that is what counts. **Taylor** suggested that these two groups are essentially making different arguments, so it is difficult to resolve the disagreement.

Session 1: The Economic Crisis: Public Finance and Links to Transportation

Catherine Showalter (Moderator) Global economy, local effects: The economic downturn and its effects on investment, employment, and revenues in California

Jon Haveman, Principal, Beacon Economics

Haveman provided an overview of the economic status of the nation. He stated that overall we are on the tail end of the worst four quarters since the Great Depression in terms of economic growth. It started with the housing bubble bursting, then consumers started saving money, and economic activity decreased. Currently, big imbalances are settling out and growth is going to return. The bad news is that we have not fixed the fundamental problems. The financial sector remains unregulated and consumers need to save more. Recently consumers have been able to save because of tax breaks, but those will end in 2010.

What went wrong? **Haveman** highlighted the following imbalances: housing, finance, and consumer spending. He then described the nature and outcome of the housing bubble. The U.S. lost $11 trillion in asset value. The rise in housing prices around 2005/2006 was unprecedented and it was followed by a unique decline. These declines returned us to normal trends. **Haveman** predicted that we are probably pretty close to the bottom and that homes prices will not increase much for the next two years.

Haveman described the nature and outcome of the consumer imbalance, which began around 1995. Access to credit allowed consumers to spend more than they had, up to 71 percent of GDP. The current correction will have to bring us back to a 66 percent range. The five percent loss will make recovery sluggish. The trade deficit is also connected to the consumer imbalance. As consumers spent more, our trade deficit rose. Now as consumers spend less, the trade deficit will narrow. The consumer saving rate was at about one percent, is now at four percent, but we need to be between five to seven percent.

Haveman highlighted several additional economic indicators. Loan delinquencies are steeply up, back to where they were in the late 1980s' recession. Banks are in a motion of extend (the loan) and pretend (it will be okay by delaying defaults and foreclosures). **Haveman** also predicted that things will get worse before they get better. He expects continued job losses nationally and higher unemployment rates in

California compared to the rest of the nation. Both exports and imports took a big hit. Tourism, software licenses, and other forms of business spending declined.

What kind of recovery do we anticipate? **Haveman** stated that we will not see a "V" shape recovery (steep decline and steep recovery) or a "U" shape. Some pessimists predict a "W" recovery and Haveman stated that he cannot rule this out. True bears predict an "L" shape. **Haveman**, on the other hand, predicted that we will get an "S" shape recession where "S" stands for slow. It will take time for consumers to adjust their expectations and then their behavior. We lost a lot of wealth and will likely lose more.

California has experienced record declines in employment. **Haveman** forecasted that we are right around the peak of unemployment. People are leaving the employment market, which is driving down the unemployment numbers. State revenues are going down and will continue to decline for some time. He predicts that they will stay low until 2012 or 2013. Taxable sales are an important revenue source for the state and have fallen. He forecasted that taxable sales probably won't go back to 2007 levels until 2013.

Investment has both a supply and demand side. The supply side is troubling because of budget problems. The more bonds we issue for infrastructure purposes, the less money we will have to address our other challenges. On the demand side, goods movement declined. Consequently, the demand for infrastructure improvements also declined, but trade will come back and therefore the need still exists.

Haveman remained optimistic about California. On the back end of the downturn, things will be good for California. A weaker dollar will result in increased exports. Cheaper homes will be good for the California economy because it will help attract workers. **Haveman** summarized by stating that the recession is coming to a close, but recovery will take time. California will be stronger at the end of it.

Just how do transportation systems affect the economy: Stimulus, or something more?

Marlon Boarnet, Professor, Planning, Policy, Design & Economics, UC Irvine

To begin, **Boarnet** posed the question: should we value transportation for the jobs that it creates, for the infrastructure itself, or for both? He argued that we should value transportation projects for the infrastructure and the transportation benefits that it creates. He suggested this viewpoint clashes with a lot of intuition within the transportation field, including a long history of transportation investments such as the Erie Canal that transformed regions and cemented their economic ascendency.

What is the American Recovery and Reinvestment Act (ARRA) doing? According to Washington state statistics, **Boarnet** found that the ARRA created 3,700 construction jobs from $752 million and 584 "single season" jobs from $55 million in funds. This equated to $203,243 per construction job and $98,128 per single season job. **Boarnet** stated that in terms of job creation, this was not a good buy. Transferring money directly to people would produce greater benefits and a larger multiplier effect.

Boarnet reminded participants that construction jobs are not the only benefit of the stimulus. The stimulus intended to create transportation infrastructure. These projects would not look like a good deal if only construction jobs are considered, **Boarnet** argued.

So what are the economic impacts of transportation infrastructure? **Boarnet** highlighted the relationship between multifactor productivity and road construction over twenty years, noting the similar trends. Many people thought there might be a causal relationship between the decline in infrastructure spending and productivity. After 1968, productivity declined, slowing from a 2.5 percent growth rate to 1.1 percent.

Why do the multifactor productivity and highway investment track one another? **Boarnet** stressed that the two may cause each other. For example, it could be reverse causation. During strong economic years, did we invest more on infrastructure? Or perhaps, it is a spurious correlation. Did something occur in 1968 that can explain the trend? **Boarnet** observed that spurious correlation might be the prime suspect.

What is it about transportation that affects the economy? **Boarnet** stated two primary characteristics of road infrastructure affecting the economy: spatial shifts and differing growth impacts. A spatial shift implies infrastructure generates economic growth, but it is at the expense of growth elsewhere. Therefore, transportation infrastructure is not growing the whole economy but distributing it across space. The second point is that the growth impacts vary by time and place.

What would these spatial shifts look like? **Boarnet** showed the results of a simulation model that increased highway infrastructure spending in Los Angeles County by one percent. The increase reduced the economic output of surrounding counties such as Orange, San Bernardino, and Riverside a small amount, but resulted in large output changes in the San Francisco Bay Area.

Boarnet also described the results of research evaluating the impact of new highway construction in Orange, Santa Clara, and Merced counties during the 1990s. The research showed that new highway construction did not affect employment in Santa Clara County but resulted in tremendous employment gains in Orange and small employment losses in Merced. **Boarnet** noted economic conditions are changing, but they are not changing the same way in every place.

Boarnet maintained that transportation infrastructure confers economic benefits that differ across geographies. As illustration, he quoted the Executive Secretary of the Southgate Chamber of Commerce in the 1940s. The Chamber advocated for highway projects that benefited the City of South Gate not streetcar projects that promoted other cities in the region. At the time, revitalizing the streetcar system in Los Angeles would have helped merchants in Downtown Los Angeles because of the radial nature of the streetcar system.

Boarnet argued that by building transportation infrastructure, we are not building the macro economy, but we are advantaging one place over another. This leads to intense political pressures that increase when the federal government provides matching funds. He suggested that this would not be a problem if we subjected the projects to a rigorous cost-benefit analysis and excluded spatial shifts from the economic evaluation. The problem is that we rarely conduct cost-benefit analysis.

Alluding to the Erie Canal and the Ports of Los Angeles and Long Beach, **Boarnet** pointed out that these projects told the story of local economic benefits and spatial shifts. New York cemented its dominance as an economic center over Philadelphia by opening the Erie Canal. He advocated for an analytic framework that incorporates the politics of place, moving away from the construction jobs a project generates.

Boarnet concluded that the U.S. needs an economic stimulus to create jobs, and transportation infrastructure was a reasonable way to create jobs. However, jobs and economic output are not a good way to evaluate transportation projects. **Boarnet** advocated for the evaluation of projects based on the infrastructure itself. This will become more complicated as livability and co-benefits are integrated into the analysis. Therefore, transportation planners need an analytical framework and a financing system to handle those factors. Although transportation agencies are increasing their technical skills, transportation planners do not have all the analytical tools that we need to help policy makers with decisions.

The Federal Stimulus: What have been the effects on transportation, the economy?

Earl Seaberg, Caltrans Recovery Program Deputy Manager for the American Recovery and Reinvestment Act of 2009 (ARRA)

Seaberg opened with an overview of ARRA and described the status of the transportation funds. The federal government appropriated $2.57 billion to California for highways and $1.07 billion to California for transit. The federal high-speed rail program has $8 billion available and California submitted a request totaling $5.8 billion. ARRA funding was awarded to 169 projects in California. In total, California received $3.2 billion in transportation funding, more than other populous states. However, compared to state, local, and normal federal funds, the stimulus is a very large drop in a very large bucket.

Seaberg suggested that the stimulus monies have resulted in a lot of work, but the challenge is with speed. Shovel ready means that a project is through the design and environmental review phase, but still needs to be programmed with ARRA funds. There are many required steps in this programming process, which takes time. As a result, the stimulus funding that came in February was really too late to fully capture the summer construction season. Although there have been a few capacity expansion projects (such as the HOV lands on the I-405 in Los Angeles), maintenance projects are in general preferable because they provide cost avoidance benefits and the physical labor can begin more quickly.

ARRA provides that…"priority shall be given to projects located in economically distressed areas" defined by the Public Works and Economic Development Act of 1965. Given the new "Special Needs Circumstances" criteria, the definition now captures all counties in California.

Seaberg stated that every $1 billion spent on transportation results in about 18,000 jobs in the short-term. Caltrans predicted that the stimulus package will result in about 46,000 construction jobs for highway projects and approximately 18,000 jobs for transit projects. **Seaberg** cited three components of transit jobs: 1) the main component is tied to infrastructure projects; 2) some transit funding will generate transit equipment manufacturing jobs, even though a lot of the manufacturing will occur outside of California; and 3) a small piece will go toward operation.

Seaberg summarized that the stimulus is providing a boost to CA transportation funding, but it is a large drop in a very large bucket. There are considerable transparency and accountability elements to ARRA, but what is not counted in the auditing process is the number of jobs created as a result of the stimulus funding. Finally, we are dealing with challenging deadlines.

Discussion

Debbie Cook of the Post Carbon Institute described research on economic productivity conducted by

Hans Kunz. Kunz found that the decline in productivity was due to the declining return on energy investment, and this trend will continue into the future.

Harrison Rue of ICF International put forward that both jobs and infrastructure are important when analyzing transportation investment. **Rue**, however, suggested that this failed to incorporate whether the investment helped a community realize its vision for the future. He noted that the interstate highway system and the transcontinental railroad were vision-based. Both created jobs and generated other community benefits. He asked **Boarnet** whether he is evaluating what benefits the community received.

Boarnet replied that the question of what a community gets is fundamental. Jobs are important, but what happens after the jobs? These investments will shape our communities for decades. They will impact the quality of life and carbon footprint of our communities and the discussion of jobs diverts us from discussing the lasting effects of the investments.

Haveman mentioned the importance of keeping people attached to the labor force, stating that while the U.S. may be spending too much on transportation, a link to the labor market should not be underestimated. **Boarnet** agreed with this point. Transportation needs the funding, but he reiterated that the funding creates a large responsibility to the community. Projects need to be effective now and in the future.

Michal Moore of the University of Calgary asked **Haveman**: is there an argument for structural changes that would disperse a portion of the funds for reconstruction efforts or on-going maintenance? This would stable the flow of dollars into the economy and save some of the money for future improvements. **Haveman** responded that changing the structure might be good, but it is probably not politically feasible. If the money could be used now, individuals might question putting money aside for future use; however, future maintenance costs could factor in decisions about the stimulus projects to pursue.

Following up, **Moore** asked about pre-paying a bond for infrastructure maintenance. **Haveman** replied that you may be able to do this, but individuals want the money spent today to receive the largest, short-term stimulus effect.

Seaberg offered two Congressional perspectives. First, Congressional representatives are looking for the quick-hitting projects that put people back to work. Congressional representatives envisioned that the federal reauthorization of the transportation bill would take care of the long-term projects. Second, this is a reimbursement program. Local governments can submit project reimbursements at the end of a project, saving resources for these communities.

Jody Litvak of the Los Angeles County Metropolitan Transportation Authority challenged the symposium panelists to consider highway maintenance and transit operations not just new investments. On the transit side, when we purchase new buses or trains, we need people to fuel and drive them. It will provide little benefit to build the infrastructure, but not allocate the resources for people to operate them.

Wachs noted that **Boarnet** demonstrated that the economic benefits associated with highway investment are primarily local, and as a result, federal monies largely redistribute funds from one jurisdiction to another. Investments such as the interstate highway system or a national rail system, however, play a critical role in integrating the national economy. Improving bottlenecks locally provides some national benefits since the entire system performs better. How do you identify the national benefits? **Wachs** also pointed out that if all benefits are local, it is difficult to make a case for federal investment in transportation projects.

Taylor observed that while transportation investments created local benefits, they also influenced larger international outcomes. For instance, one could argue that some infrastructure helps reduce poverty in China by facilitating international trade. Each investment produces different economic outcomes, but politicians often want to know how many benefits one dollar of investment will produce locally.

Boarnet suggested that transportation projects must have substantial threshold effects. Agreeing with **Wachs** and **Taylor**, he stated that some investments matter for national economies. For instance, in the context of international countries, paving a road network produces individual and national benefits. Many projects in the U.S. confer some sort of political advantage. Most highway improvements provide marginal gains. For transit, **Boarnet** noted that many cities are building new systems and the benefits may increase.

Boarnet also argued that the way we think about transportation governance and finance arose during the 1950s, and it needed to adapt to the current realities of our system. The U.S. was creating a national system, and it developed a financing system to pay for the interstates. He suggested that we need to determine which projects provide national benefits and should receive federal money. For instance, he noted goods movement may require more federal involvement. In Los Angeles, we bear the environmental burden for the rest of the country. He argued we need to change our thinking about the transportation system, because it does not match up with the current spatial nature of these impacts.

Matt Hall from the City of Carlsbad noted that the Los-San project neared completion, but people pulled money from the project to fund future transit improvements such as high speed rail. **Seaberg** stated that the discussions surrounding the high speed rail and intercity rail applications were very difficult. From the political perceptive, the emphasis is on high speed rail and the corridors that can be completed quickly.

Session 2: Waxing Needs, Waning Revenues: Ongoing Efforts to Develop a Sustainable System of Transportation Finance

Brian D. Taylor (Moderator)
Taylor provided an overview of the topics in the next session that will focus on transportation finance. The session begins with a historical perspective, then looks at the circumstances in the present day, and then ends by looking forward.

Crisis and response: Lessons for today from a century-long struggle to develop a stable system of transportation finance

Martin Wachs, Director of the Transportation, Space and Technology Program, RAND Corporation

Wachs characterized the national transportation program as being in a state of deep financial crisis. We are unable to fund standard maintenance in many states, much less expand the system. For the first time since about the 1930s, less than half of state transportation funding is coming from user fees in the form of the gasoline tax and tolls. States are borrowing to pay not just for system expansion, but for maintenance and operation of the existing system. Most of us would agree that this is not sustainable.

Wachs shared lessons to be learned from history. Financing transportation in the U.S. differs from financing in most other infrastructure systems and from most other counties. The user fee is unique to America. We created "trust funds" so that legislators could not divert gasoline user taxes to other non-transportation purposes. This "hypothecation/earmarking" is not common worldwide. How and why we chose user-based financing is important for understanding the present and for shaping the future.

State highways were bankrupting states in the years 1915-1925. This period of fast growth in automobile use led to the innovation of "user fees." Tolls were the most obvious user fees, but the cost of collecting tolls and the logistics of doing so made collecting tolls challenging. Motor fuel taxes and various "car taxes" were adopted as "second best" but a practical and expedient way to fund the highway system. The intention was to abandon the fuel tax and directly charge for use of the road, if a way to automatically collect tolls was invented. Motor fuel taxes worked well for almost a century and were supported by a diverse constituency. Today, no politician wants to advocate for raising the fuel tax. Both California and the federal government have not increased the gas tax since the early 1990s.

What are the benefits and shortcomings of gasoline taxes? Wachs noted that benefits include low collection costs; little fraud and evasion; the growth in revenues as car ownership and driving expanded; and the ability for gasoline taxes to place the burden on system users. The shortcomings of gasoline taxes include that they are vulnerable to fuel economy increases; do not automatically rise with inflation; and create a contradiction between environmental and revenue goals. The government needs to sell gas to build roads, but the government also wants to reduce our use of gas to increase energy independence.

Wachs stated that the time has come to look for an alternative, such as electronic tolling. There was a consensus at the beginning that the gas tax was an interim device. Elected officials have forgotten that history but it is important to remember.

There is a crisis in commitment to upholding this system. Congress and state legislators are reluctant to raise user fees or taxes, and this absence of action resulted in a ballot box revolt. We are shifting to borrowing rather than pay as we go and devolving responsibility to local governments and local sales taxes. This is happening while tax revenues are falling behind.

What are the lessons from history? As the motor fuel tax crisis in the 1920s indicated, a crisis can be an opportunity. However, adoption took decades even with a high level of public support. Adoption of a major change was based on a consensus among many interests that accepted some pain with their gain.

There is not a broad consensus now. Rather, there is a high level of media and political distrust. The public does not want to see higher taxes. All recent changes have been incremental; Congress and states have avoided transformation. The policy community has higher priorities in other areas like healthcare.

What is possible? We are not ready for deep, lasting change. **Wachs** argued we must steer a careful course, adopting incremental steps that move in the right direction and gradually build consensus that fosters public and media support for direct user fees.

What to do? Raising fuel taxes is not politically feasible. General fund financing and sales tax measures are not equitable. It is also not good to borrow in the long-term or lessen the federal role and devolve all responsibility for transportation finance to the local level. Taking history as an indicator, **Wachs** predicted that we are moving toward the direction of electronic tolls, vehicle miles traveled (VMT) fees, and other more direct charges. This finance system comes closer to the goals for road user fees that existed in the 1920s. Major tests have already been done in the U.S. For example, VMT fees can be paid at the pump in Oregon using an on-board diagnostic system with cell phone technology to the fuel pump.

We have to deal with privacy. The "big brother watching" issue is exaggerated by the press. Privacy can be protected, and the transition is critical. Direct charging needs to be phased in over time. We need time to build political and public acceptance. The gas tax is still somewhat effective and is okay in the short run if Congress agrees to raise it− even if transition from fuel to VMT fees is planned.

Wachs stated that based upon history, the best approach is incremental. Adopting large-scale testing and research is important and we should aim for full implementation in 2015. We should not adopt a national system hastily. It is risky to adopt unperfected technology. On top of this, public trust and confidence is lacking. Failure could spell doom for the entire system.

Waxing needs, waning revenues: Trends and prospects in federal, state, regional, and local surface transportation finance

Therese Watkins McMillan, Deputy Administrator, Federal Transit Administration; Former Deputy Executive Director of Policy, Metropolitan Transportation Commission

McMillan described the growth of U.S. transit assets since 2002, rising 47 percent to $607 billion in 2006. She observed that 82 percent of these assets are located in the 72 rail systems. Many people criticize this as rail's disproportionate influence, but **McMillan** disagreed with this characterization. She stated that buses need roads and these are not accounted for in the cost estimates of bus transportation.

What role should the federal government play in transit? The U.S. DOT believes that the preservation of the system is essential for safety and reliability. As a result of the 2009 Washington, D.C. Metro train crash, transit safety vaulted to the forefront of the national transportation agenda. While the results of the National Transportation Safety Board study are not complete, **McMillan** suggested that it was likely that aging infrastructure components led to the accident.

McMillan believed the metrics to define State of Good Repair (SGR) is daunting, and there is no national definition. The Federal Transit Administration published a study in 2008 that considered a number of measures, and the FTA is currently using this rating system. The rating system averages all the assets for a transit agency, and it calls for rehabilitations on infrastructure systems with a rating of 2.5 or less on a scale from zero to five. Using the sample average of 2.5, the transit assets for agencies around the country appear to be in good repair. We see some degradation over time, but overall, the numbers look good.

The FTA also maintains a database of vehicles for U.S. transit agencies. On average, these data show that the percentage of vehicles that need to be replaced is declining. This is particularly true for buses. **McMillan** noted the data highlights the effect of New York. When New York purchased new trains in 1997, the percentage of rail cars in need of replacement fell from approximately 30 percent to under ten percent. She noted that these averages mask the older systems. The number of vehicles that need to be replaced is growing, but vehicle purchasing by new systems obfuscates the problem.

McMillan noted transit agencies do not keep the detailed data necessary to pursue capital replacement policies. The FTA asked local transit agencies to better track the rehabilitation and repair needed. The initial estimates by the FTA suggest a backlog in rehabilitation and replacement exists, and it is increasing over time. In particular, the number and value of rail car assets is increasing.

To maintain the current SGR, **McMillan** suggested that transit agencies will need to spend $2.1 billion more in 2026 than they do today. If not, the average system rating will deteriorate over time. **McMillan** reiterated that these averages mask the conditions in aging systems.

What does the financing look like? The federal, state and local government share funding responsibility for transit vehicles. From 2002 to 2008, the amount of money spent on transit rehabilitation and repair increased, but the relative contributions from local, state, and federal sources remained the same. Local governments chipped in 48 percent, states 12 percent, and federal government 40 percent. **McMillan** raised the questions: what is the federal interest in SGR and should the number be more or less?

McMillan noted that the state and local funding for transit rehabilitation and repair was highly volatile. State contributions varied significantly, and seven states provided 81 percent of the funding. Local governments that rely on sales tax revenue will see a drop in transit rehabilitation money. **McMillan** suggested that this raises questions about the consistency in funding for the transit system. Stability is crucial.

McMillan argued that irrespective of who funds rehabilitation and repair, we need to understand the depth of the problem. To do this, we need good asset practices that include asset inventory development for capital planning; asset condition monitoring; decision-support tools for forecasting investment needs; and investment prioritization. **McMillan** reiterated that transit needs steady and consistent investment from local, state, and federal sources to maintain a high quality and safe transit system.

Two major commissions, no major policy changes (yet): The prospects for fundamental changes to transportation finance in the Obama Administration

Steve Heminger, Executive Director, Metropolitan Transportation Commission

Heminger explained the two national transportation commissions. **Heminger** served on the National Surface Transportation Policy and Revenue Commission (Policy Commission). The Policy Commission's major recommendations can be remembered according to the three R's:

1) Reform the federal surface transportation program. The federal program should be performance-driven, outcome based, generally mode-neutral, and refocused to pursue objectives of genuine national interest. The current program should not be reauthorized in its current form.
2) Restructure the federal transportation program. The 108 separate funding categories should be consolidated. We are making headway on streamlining and consolidating these programs, but freight and goods movement is not included. We have not made the sale on mode neutrality. DOT should be reorganized into functional units versus modal categories.

3) Reinvest in the system. Maintaining our transportation system by 2055 will cost double the current cost. To address the investment short fall by providing the traditional federal share- 40 percent- the default fuel tax would need to rise by 25-40 cents per gallon. The most promising future alternative revenue measure appears to be a vehicle miles traveled fee.

Heminger highlighted the Financing Commission's key findings/recommendations:

1) Increase the federal gas tax by 10 cents per gallon and index the gas tax to inflation thereafter;
2) Transition to a mileage-based usage fee by 2020;
3) Authorize state and local governments to use tolling and congestion pricing; and
4) Encourage a greater use of private investment.

There is much agreement between the two commissions, but progress in Congress has not occurred. What went wrong or what is going wrong? Congress has not reauthorized the transportation bill, and elected officials are afraid to raise taxes. George H.W. Bush promised no new taxes, broke his word, and did not get reelected. President Obama promised that no family making less than $250,000 a year will see any form of a tax increase. Blue states already pay more for gasoline. Part of the reason is that blue states tend to be wealthier and blue states have higher rates of taxation.

Heminger stated that the private sector should play a greater role in transportation finance, especially in financing capacity expansion in high growth areas where users will be willing to pay tolls and fees. Except for a small fraction of highway and freight expansion projects, no one from the private sector wants to pay for other areas of need like maintenance and transit.

What about the VMT fee? The idea is a lightening rod. U.S. DOT Secretary Ray LaHood said that we should look at the program, where people are actually clocked on the number of miles that they traveled. But on the same day, Robert Gibbs, White House Press Secretary, said that the policy of taxing motorists based on how many miles they have traveled is not and will not be Obama administration policy.

Would a gas tax by any other name… smell as sweet? While the gas tax was invented as a user fee, it was called a tax. We took our single best advantage and gave it away by calling it a tax. This is our last chance to try to reposition it. **Heminger** stated that he sees four main options for repositioning the gas tax:

1) We could rebrand the gas tax as a tax on oil companies. This would be called a windfall corporate profit tax rather than a user tax.
2) We could convert the gallon based tax to a sales tax. The big advantage would be that it would rise in the long term.
3) We could have a carbon tax. Although the U.S. will probably start with a cap and trade system, eventually that system could raise money for transit, especially if we transition to a carbon tax.
4) Finally, **Heminger** worries that we will use the General Fund. Transit funding has grown recently, funded by the Highway Trust Fund and the General Fund, with a particularly large increase in 2009 because of the stimulus.

There is an inverse relationship between the desirability of revenue measures and political viability. A VMT fee is the hardest to sell to politicians, followed by the gas tax, and then a local sales tax.

Heminger concluded with a quote from President Eisenhower: "Our unity of a nation is sustained by free communication of thought and by easy transit of people and goods." Transportation is engaging in one of the oldest debates about federalism. Are we one or are we an alliance of separate parts? What is the federal program supposed to do in the future? We need to answer those critical questions.

Discussion

Richard Napier of the San Mateo County Congestion Management Agency suggested that raising the gasoline tax is politically difficult. **Napier** wondered whether this would be different for a VMT tax. **Napier** noted that **Heminger** mentioned some ways to avoid political fights such as indexing the rate to inflation. Given the technical, administrative, and political costs, **Napier** asked **Wachs:** do we really come out ahead by switching from a gasoline to a VMT tax?

Wachs agreed with the points made by **Napier**. If we charged a per mile fee for each mile driven, we would face the same problem as the gas tax. The technical advances made by implementing a per mile fee allow us to charge variable fees for peak versus non-peak travel, efficient versus inefficient vehicles, and more costly roads versus less costly roads. Once the technology is in place, we can use it to align the costs and benefits of travel with the fees individuals are changed. It is a first step in a subtle transition.

Heminger reiterated that the revenue needs and environmental concerns can be at odds with a gas tax, whereas the VMT tax can be sold as an environmental tax. This view often fails to consider the design of the VMT tax itself. For instance, the gas tax penalizes less efficient vehicles by requiring them to pay a larger share of the tax. He continued by suggesting that the real problem is that people do not want to raise taxes. People do not want to pay a higher rate, and people do not know where the money is going.

Taylor asked **Heminger** if people know where the money is coming from to fund infrastructure projects. He noted the popularity of local option sales tax and the difficulty individuals have estimating the amount of money spent on sales taxes, underestimating how much they pay. **Heminger** suggested individuals know where their money will be spent as part of sales tax projects. **Wachs** added that sales tax measures often include a sunset provision, so local communities can choose not to reauthorize the measure.

Hasan Ikhrata of the Southern California Association of Governments stated that local governments provide 75 percent of the funding for transportation in Southern California. **Ikhrata** remarked it would be good for the federal government to establish clear funding policies, but the trend is towards local finance.

McMillan replied that defining the federal interest is the key challenge. She stressed the federal interest cannot be a one size fits all approach. The California economy is more elastic than other state economies. Therefore, it makes more sense for California to bare more of the cost of transportation. **McMillan** reiterated that the federal government must define its interest in transportation issues and what aspects of those programs to fund, leveraging the work of local governments in those areas where local interest is strongest. Ultimately, there should be a discussion of the distribution of resources between states. **Heminger** suggested that we are back to the question of federalism. He emphasized the importance of understanding that transportation links places across state and local boundaries. Unfortunately, local government officials are judged on the projects that they bring home to their districts.

Wachs also cautioned that we should not define the priorities of local expenditures as those that bring back the most federal matching funds. Therefore, the shared responsibility of transportation has pitfalls for local governments even if state and federal funding are increased.

James Goldstene of the California Air Resources Board (ARB) suggested that the panelists needed to reframe the approach, moving away from incremental steps towards a paradigm shift described by scientist Thomas Kuhn. He noted that politicians often focus on incremental changes, but he asked the panel to speak about a paradigm shift.

In response, **Heminger** described Bay Area and national polling data on the gas tax, stating that when you add climate change and energy security to the question, people respond more favorably to a tax increase. He also argued that the transportation trust fund has turned from a fortress to a prison. The fund keeps other sectors from taking transportation revenues, but it locks transportation to an eighteen cents gas tax. Transportation must form a broader coalition with environmentalists to break out of this paradigm. **McMillan** suggested a real paradigm shift could be the livability initiative championed by the U.S. DOT, EPA, and HUD. The initiative signals that transportation is more than a mobility issue. While many local and regional governments already pursue these integrated policies, this is a significant acknowledgement at the national level that requires that federal agencies meet and assimilate policies. **Wachs** joked that scientists are persuaded by evidence, but not all politicians are persuaded by facts.

Stephen Finnegan of the Automobile Club of Southern California noted that people seem to have less faith in how government spends money. He asked **Heminger** how this fact meshed with the movement to collapse federal transportation spending into a single program. Integrating the two transportation programs may reduce the transparency. He also commented on the windfall tax described by **Heminger**, stating that most voters would see this as a tax since oil companies would pass it along to consumers.

Heminger replied that there is some risk of reducing transparency. The more important recommendation is that the funding be performance-based. If federal government set objectives, state, regional, and local governments could work towards them, increasing program transparency and restoring trust in government spending. The result of a performance process is a project that the average voter can hold you accountable for completing, and **Heminger** reiterated that this is what makes the local measures work.

Dan Beal asked how to ensure local transportation decisions are efficient, fair, and transparent when the decisions can be continuously altered. Does the very flexibility of these programs place them at risk?

Heminger responded that you cannot talk about policies without discussing the implementing agency and the authority of the agency. For instance, tolling could be carried out through a public-private partnership. He also wondered whether states would permit a federal VMT program, remarking that states would likely resist this on federalism grounds. A VMT tax would be devolution by another means. The gas tax already rests on strong federal grounds, but instituting a VMT tax would require fights over state's rights.

Aaron Hake of the Riverside County Transportation Commission mentioned the San Fernando Valley Metrolink crash in 2008. The accident resulted in a federal mandate to implement positive train control technology. In Southern California, the technology costs $200M, and it affects passenger rail, goods movement, and other modal safety. How do we create a financing mechanism to meet this mandate?

McMillan acknowledged that there is not an easy solution to this. While they share the same infrastructure, different agencies regulate freight and passenger rail. She reiterated: what is the federal interest and do the resources exist to make these mandates work? If you set up a regulatory approach, you must devise a means to pay for the program. **McMillan** also noted that you need to have the data to make good, consistent decisions. Without the data, it is difficult to set objective criteria and make decisions.

Wachs concurred with **McMillan** and noted that this is not easy. He stated that we need to move past applying uniform formulas to infrastructure to a more subtle approach to applying these standards. **Wachs** argued that it does not matter if 80 percent of the roads do not meet a minimum safety threshold if they carry low volumes of traffic. It is the key segments that are important. He acknowledged, however, that there would be political problems with this approach.

Eric Shen of the Port of Long Beach asked who is going to pay for national freight policies. Federal policies focus on collecting national fees, but these fees will unfairly punish our customers. Many of these fees will fund projects in other places and do not guarantee that the Port of Long Beach gets what it needs.

Heminger noted that freight policy is more difficult because of the large number of private interests involved. Also, west coast ports face real competitiveness concerns related to container fees. Our federal commission recommended a national container fee for all ports, which addresses competitiveness concerns. Further, **Heminger** mentioned that the user pays principle makes sense in goods movement. However, many companies are fearful of this policy because the do not know where the money will go.

Taylor concluded that there is an extraordinary lack of consensus within transportation finance, and this raises some fundamental questions about transportation. **Taylor** reiterated **Heminger's** point related to politicians bringing projects back to their districts. If that is the case, **Taylor** wondered: what role does the federal government play in transportation? This, **Taylor** argued, raised another series of questions. Is travel like education or heroin? Is it good for us or is it a bad habit? Some transportation officials believe there are challenges related to environmental concerns and resource consumption, but ultimately, transportation is good. Others believe that it is a severe problem. They may believe that our society is structured incorrectly and that we need to travel less. These are fundamental issues. If decision-makers cannot decide whether travel is a good or a bad thing, it should not be surprising that we cannot determine the best way to structure our transportation program.

Session 3: Jobs versus the Environment, or Jobs and the Environment? A Roundtable on Planning for Green Jobs in the New Millennium

J.R. DeShazo (Moderator), Associate Professor and Director of the Ralph & Goldy Lewis Center for Regional Policy Studies, UCLA|

DeShazo stated that even as our recession bottoms out, we are turning to green jobs because our focus on climate change is transforming many policies. Can we grow our economy out of the recession with green jobs, do we have the workers to meet demand, and are green jobs feasible as a business strategy?

David Raney, Senior Manager, Environmental and Energy Affairs, American Honda Motor Company

Raney stated that the auto industry is going through an unprecedented crisis. Unemployment in the auto industry is massive, the largest company is in bankruptcy, sales rates are down industry-wide, and the future is uncertain. In addition, a brain drain is occurring in the auto industry because of voluntary retirement programs and job cuts. This is all happening while the auto industry is facing regulation threats, including new tail pipe emission standards. There are significant challenges and goals that the auto industry needs to consider, and a lot of them will require forcing technology.

Winners and losers will emerge from this downturn. The auto industry of the future will not look the same. The new generation of consumers does not have a love affair with the car like in the past. The auto industry is also dealing with new state and federal regulations like SB 375 that seek to reduce vehicle miles traveled through land use planning. These new circumstances present some opportunities for very creative thinkers in the transportation business.

Raney predicted that the internal combustion engine will not be a major portion of the vehicle fleet if we achieve our low carbon goals by 2050. What is the vehicle of choice? The auto industry has failed to relate well with various stakeholders outside their core industry, such as energy providers, refinery companies, and planners at the local municipality level. We need to break down communication barriers. For example, we all need to understand what goes into building a new car. Raney mentioned that the auto industry struggles with the challenge of needing to build things that are new, attractive, and fuel efficient. In addition, the industry has a business model that is based on five year runs of selling at least 30,000 units nation-wide, in which the release of new models is staggered to diffuse risk. Therefore, a challenge for the industry is to break away from that business model and find better ways to address niche markets.

Still, **Raney** noted that electric vehicles are not ready for the market on a large level. Now is the time to grow partnerships and learn from mistakes in the past, like the electric vehicle mandate in California during the 1990s. **Raney** called for dialogue between the auto industry and government regulators.

Dr. Mike Walter, Commissioner, Port of Long Beach

What does the port do? **Walter** argued that the Ports make the world a better place by facilitating international commerce. It transforms nations by lifting people out of poverty, raising the standard of living, advancing education, and changing consumption patterns. The average family saves $2,000 a year because of international trade. International trade ensures better products and more choice for consumers.

The Ports of Long Beach and Los Angeles facilitate international trade. The Ports are the leading gateway for trade with Asia, capturing 42 percent of all waterborne traffic in the United States. The Ports import approximately $140 billion worth of goods. This is down 20% from last year. The Port of Long Beach provides 316,000 jobs in Southern California and enables 1.4 million jobs nationally.

Walter argued that politicians do not invest money unless it will help them politically. Many politicians aim to clean up the Ports, but they fail to bring resources to help. They declare that the Port should reduce pollution, and their statements provide good press and votes. Does the pollution cause harm to people? **Walter** acknowledged that he does not know but cleaning up the pollution was the right thing to do. The technology exists to do it, but it requires resources. It requires little political courage to say the Ports need to reduce pollution, but it requires great political courage to bring the resources necessary to do the job.

The Port has a clean trucks program that is attempting to replace 16,000 trucks. The Port will replace dirty diesel trucks with cleaner burning fuels, and **Walter** stated that they had made major strides towards achieving this goal. By the end of 2009, all but 500 of the trucks will have been replaced. The program will cost approximately $100M, far less than the original $2B estimate. Do the benefits exceed the costs? If it reduces the harmful effects of pollution on the communities, it is the right thing to do.

During the economic downtown, the Ports are becoming more efficient and less polluting. For instance, the Ports are investing in on-dock rail. On-dock rail will reduce the number of trucks on the highway, lowering emissions and improving the environment. The Ports are also investing in shoreside electricity to reduce emissions from the cargo ships. How will the Ports pay for it? **Walter** stated the federal customs fees on the $140 billion worth of goods that pass through Long Beach and Los Angeles exceed $5 billion annually. The Ports asked for a portion of the funds, the increase in these fees over time to pay for our infrastructure improvements. To date, however, the Ports have not received this funding. **Walter** concluded by saying all these projects will help the regional and national economy and reduce pollution.

Daniel M. Cashdan, Senior Managing Director, HFF Securities, L.P.

Cashdan asked: are green jobs feasible as a business strategy during this time of economic distress? Yes, but we need the government to lead us and set rules, translating the talk of green jobs into actual jobs.

How are firms responding to the increasing market demand for green practices and industries? Green washing is a serious issue. **Cashdan** provided the example of Duke Energy CEO talking about green jobs but at the same time investing in coal. Firms respond a bit to the stick, not so much to the carrot.

Are green jobs feasible as a business strategy during this time of economic distress? **Cashdan** emphasized that green job potential is everywhere. The private sector is conflicted, wanting to be good corporate citizens but needing to maximize stakeholder wealth. Three years ago, the real estate sector was abuzz about green buildings, and people were talking about raising capital for green buildings. That conversation has unfortunately been postponed. At the same time, however, we are seeing a huge number of young people who are getting LEED certified and so virtually all of the major real estate investment firms and development firms have a LEED certified professional on board.

Where do we go from here? The problem of regulatory uncertainty is a constraint on private sector action. We need some certainty from the government. We need strong federal/state leadership and regulation. We hear the drum beat of green jobs, but practice is waiting a bit. The private sector is becoming bifurcated. Young business leaders believe and want to act. Older business leaders are generally stuck in old models and/or do not believe. **Cashdan** hopes that the mosaic of actions adds up and moves the system.

Cashdan concluded that electric cars, green building, and green Internet are examples that firms are responding to the increasing market demand for green practices and industries. We need clear direction from Washington. We need to define a green job. The green job topic is important and sweeping the young generation, but the adults in the room need to ask if on a policy basis we are really doing the things we need to do to make changes in how we produce our energy for electricity and transportation.

Felix Oduyemi, Senior Project Manager, Southern California Edison

Oduyemi focused his comments on the environmental mandates in California and the skills that these new jobs will require. The California Air Resources Board mandated zero emission vehicles during the 1990s, and now there is another push for alternative transportation technologies. The ARB reviewed many different types of vehicles, finding that battery electric, plug-in hybrid electric, and hydrogen vehicles will dominate the market.

Do we have the appropriate curriculum at our universities to train students for these occupations? **Oduyemi** mentioned that his field dealt with automotive load control systems. These systems enable utilities to generate energy from a variety of sources, allowing utilities to switch from one generation type to another. **Oduyemi** sympathized with college professors. By the time students arrive in their classroom, students know the technology better than the professors.

Oduyemi outlined many of the challenges that professors and practitioners must understand. He showed a number of alternative fuel vehicles that are coming to the marketplace. **Oduyemi** recognized the leadership of state regulators who exhibited vision when they pushed for these vehicles. Not only will these vehicles help regions meet goals for criteria pollutants, but they will enable California to increase its energy security and meet its climate change goals.

Why show all these vehicles? They all are electric propulsion, but do our mechanics know how to fix them? The internal combustion engine uses a completely different mechanism to produce energy. These vehicles have more computers and use more information technology. Most mechanics will have to learn how to fix these vehicles, and our curriculum needs to change to train them. By 2011, Southern California Edison expects plug-in electric vehicles to impact the market, growing to 10 percent of the new vehicle market in the future.

Oduyemi noted how Edison manages electricity load is also changing. The same battery used in electric vehicles can be used to store energy. The technology allows an individual, utility, or community to generate electricity and store that energy on site. Edison is working to store one megawatt of energy. If Edison can store one megawatt, the technology can be scaled up to hold 50 megawatts. Over the long term, this will save Californians money. Edison has launched pilot projects in Irvine and Catalina.

Electric vehicles can borrow this energy. However, the communication technologies that can help move energy from one home to a car or vice versa need to be developed. Do our students have the right education to do these jobs?

Discussion

Jerome Stocks of the San Diego Association of Governments stated that the challenge is developing the battery technology to reduce energy peaking, but we have been told that it is not time for prime time. **Stocks** asked the panel if they have any thoughts on the development of battery technologies.

Oduyemi responded that today we have five different battery technologies. Lithium is the main technology now, but eventually we will see other technologies become the main technologies. For example, fly wood is being developed by CalTech and MIT and it may be a future option.

Raney agreed with **Oduyemi's** assessment. The first electric vehicle had limited range. Now we need to understand who is going to purchase the electric vehicles and what type of battery they will need. Then auto companies can put that information into their risk management models, which influences whether or not a vehicle can go to market.

Matt Hall of the San Diego Association of Government asked about the number of vehicles in California and the percent that the panel is predicting will be battery electric. **Oduyemi** answered that there are approximately 23-24 million vehicles in California. Southern California Edison is anticipating that 10 to 11 percent of new vehicles will use electricity by 2020. **Hall** noted the magnitude of what it would take to change the fleet and asked **Raney** how long it takes Honda to change its fleet. **Raney** said that there is a longevity issue. The life of a vehicle is 12 plus years. **Hall** stated that when trying to put things in perspective to deal with SB 375, what we want to do now is often different than what we can do in reality.

Raney asked about the end use of the battery. **Oduyemi** said that it would take approximately 15 years to convert the California fleet to alternative fuel vehicles, which will be necessary to meet California's greenhouse gas reduction goal for 2050. The lithium ion battery or whatever technology that replaces it is going to have residual value. You would want to put it in your house so that it can store energy or turn it back to the dealer to get residual value.

Julia Lesker of ENVIRON International Corporation was intrigued by **Cashdan's** comment about regulatory uncertainly as a constraint on the private sector. She noted that buildings and real estate have not historically been under command and control regulation. She gave an example of Great Britain's regulations, which require that every building has a certification using metrics for energy efficiency and greenhouse gases. What is the possibility of those types of things for the real estate or other sectors?

Cashdan gave the example of the LEED system that we have in the U.S. The system has a good set of goals and objectives, but it requires a lot of work to get your building certified. Moreover, once you get certification there is an issue of how to manage and monitor the buildings. **Cashdan** went back to the issue of electric cars. The most important issues are: 1) that the energy infrastructure does not yet exist to provide electricity to a large fleet and 2) that the way we generate electricity is not green.

Hasan Ikhrata asked if fuel would still be a relatively low priority for auto customers if fuel costs were $10 a gallon.

Raney said that it depends on the support for $10 a gallon gas and relates to the issue of a price floor. There is no certainty of gas prices in the future and this makes it difficult to plan for future demand of fuel efficient vehicles. Civic hybrid sales went through the roof when gas prices were high and plummeted when prices fell. Price consistency is critical. ARB is considering feebates to stabilize the market. You can approach the customer with unsustainable programs like Cash for Clunkers but you really need some sort of hammer to get the customer's attention at point of sale. Alternatively, the government could provide more incentives for auto companies to take risks because the risk of new technology development is huge in the auto industry. More incentives could serve the same purpose as a fuel pricing mechanism.

Oduyemi mentioned that electricity is cheaper than gasoline. But as a nation we have major problems. A huge amount of energy is wasted every day. Policy makers should think about how to utilize that excess power. Fifty percent of our energy in the U.S. comes from dirty coal. When we send the right price signals, other states will move away from coal as well. This is why **Oduyemi** is encouraged by the proposed federal cap and trade legislation. We need to send the right price signal and provide incentives for those who are doing the right thing.

Wally Siembab of South Bay Council of Governments (SBCOG) shared the SBCOG's SB 375 strategy concerning transportation. The SBCOG did a series of surveys to collect data on travel behavior. They found that a great number of trips are short trips, which would work well for electric vehicles. The key is to match the type of trip with the appropriate type of vehicle. The South Coast Air Quality Management District funded SBCOG's neighborhood electric vehicle demonstration project.

Norm King told **Walter** that he appreciates what the ports are doing to mitigate externalities but does not understand why the ports would not support a container fee to deal with the kind of costs that Southern Californians suffer from, such as congestion and air pollution. The ports have argued that a high container fee could lead to diversion to other ports. **King** argued that this is a little like saying that the ports will suffer if Southern Californians are not willing to suffer from congestion, air pollution, and other impacts.

Walter said that the Port of Long Beach has supported container fees, but does not have jurisdiction outside of the harbor area. We are working with others to put container fees in place. Custom fees also generate money, but the federal government does not want to release it.

Stanley Hoffman of Stanley Hoffman Associates stated that the local jurisdictions he works with on economic development projects often ask about getting green jobs to replace lost jobs. **Hoffman** did not hear the panel yet say that we are creating new jobs for ones that have been lost.

Cashdan said that the stimulus package has whole subsets of money that have been set aside for weatherizing homes, greening federal buildings, and green job training programs. The money is there, but it has trickled out instead of flooded out. The hope is that the money will come to the market in the next 12 months and show up in cities in ways that help reemploy people.

Oduyemi stated that the challenge lies in training people. He gave the example of the California residential solar program, in which much of the allocated money remains unspent because of a lack of personnel qualified to implement the program in full.

Michael Fitts of the Endangered Habitats League mentioned that he is having a hard time wrapping his head around the concept of green jobs. To what extent are green jobs another way of selling the legitimacy of a regulatory response? Or is it independent of regulation?

Raney said that old adage holds sway: necessity is the mother of invention. He gave the example of the auto industry surviving tailpipe regulations in the past, which created an enormous amount of employment. Today, however, we are talking about a different approach that will change the fundamental design and shape of the car. We talked about phasing out the older fleet. The U.S. is one of few countries that have not recognized the benefit of increasing registration fees for older vehicles. There are some opportunities for green jobs that will require some thinking outside of the box and training is a way to engage the public in more of the process. **Raney** agreed with **Oduyemi** that we need green job training curriculum. Our industry leadership sometimes loses sight of longer term issues.

Walter provided some examples of green jobs at the Port of Long Beach. He mentioned that the Port of Long Beach is helping Long Beach City College provide classes to teach students how to maintain and service LNG trucks. People also need training with shoreside power and with green locomotives.

To an extent, **Cashdan** stated that green jobs are just a term, but it has real value for young people. Words do matter. We as a nation need to determine, are going to continue to use fossil fuels or be done in the next 20 to 30 years? If we want to change course, what path do we take?

Oduyemi stated that green jobs is about making the best use of natural resources, factoring in life cycle costs, and sending the right price signals so that if you use resources, you will pay for it. Business has five factors to consider: function, economics, social, aesthetics, and environment, but environment has been discounted for years. A green job takes the environmental effects into account. Until we consider life cycle costs and send the right price signals, we will continue to misuse our resources.

Session 4: Collision or Cohesion? The Challenge of Integrating Economic and Environmental Mandates

Catherine Showalter (Moderator)

Karim Cherif of UCLA Extension welcomed participants. Cherif commented on the previous evening's panel, noting there is no consensus on green jobs: what they are and what it means to be a green job.

Showalter asked: what do the environmental mandates mean to our economy? Last night, **DeShazo** observed that when economists think of green jobs, they look at jobs, but when business considers green jobs, they evaluate the impact of different regulations on their operations. This observation highlighted the differing perspectives of our panelists.

California's climate action mandates: Opportunities and challenges to fundamentally integrate land use and transportation planning

James Goldstene, Executive Officer, California Air Resources Board

Goldstene provided an overview of Assembly Bill 32, identifying and describing several major components of AB 32. First, the Pavley Bill outlined the greenhouse gas reduction mandates for automobiles. The Obama Administration and the U.S. Environmental Protection Agency approved our state waiver request, and California is now in the process of implementing the rule.

Second, California adopted a low carbon fuel standard in April 2009. The standard will reduce the carbon intensity of transportation fuels by 10 percent in 2020, helping to transform fuels. Third, Governor Schwarzenegger issued an executive order to impose a 33 percent renewable portfolio standard. The Governor tasked the ARB to help the Public Utility Commission, the California Energy Commission, and the Independent System Operator implement the standard.

In addition to these measures, California passed Senate Bill 375 to reduce vehicle travel using land use policies. Academic studies showed land use configurations could reduce greenhouse gas emissions between 3 and 15 million metric tons by 2020, less emission reduction than a low carbon standard or the Pavley Bill but still significant. In the scoping plan, ARB chose a goal of 5 million metric tons by 2020.

Goldstene acknowledged that many local governments and the private sector were concerned that the bill would impose state authority over private development. Instead, SB 375 incentivizes local governments and the private sector to achieve these reductions by providing infrastructure funding and streamlining the environmental process. This approach enabled a broad base of support for the bill, including the building industry, and represented a paradigm shift in the way we manage growth.

An important challenge of land use planning is that it will not result in significant emission reductions by 2020. The transformation of our communities is slow, and the policy is aimed at helping meet California's 2050 emission reduction policy. **Goldstene** argued that individuals need to change their travel behavior to help California towards the 2020 goal. The Pavley Bill and the low carbon standard will enable California to meet the 2020 goal, but significant travel choice and community preference changes will be necessary to achieve our 2050 goals.

What does SB 375 do? The bill utilizes an incentive-based approach to achieve both environmental and economic goals, coordinating the transportation, land use, and housing sectors. ARB will set regional greenhouse gas emission reduction targets, and regional governments will create plans to meet those targets. Local governments must determine how to implement the policies and reduce emissions. **Goldstene** noted that the key incentive is a California Environmental Quality Act streamlining provision.

The ARB established the Regional Targets Advisory Committee to begin the process, and it recently released its recommendations. **Goldstene** acknowledged the challenge is to set a target that is both ambitious and achievable. The ARB will consider a per capita target rather than a total number, and the final targets will be established by early fall 2010.

SB 375 operates in the context of federal transportation planning rules. ARB does not want the federal guidelines to become a barrier to implementation. It is monitoring and working with the federal government to ensure the federal legislation is consistent with our state program, including the integration of transportation and housing policy.

An article in the Sacramento Bee described the economic analysis of AB 32. AB 32 opponents claim AB 32 will cost California residents $5,000 annually, while ARB studies show that it will save residents $500. He argued that Californians should not let uncertainties or politics stop us from acting. He believed that incremental policy changes are not enough.

Barry Wallerstein, Executive Officer, South Coast Air Quality Management District

Wallerstein discussed the regional perceptive on local air pollution and climate change and how legislation like SB 375 is causing us to rethink our air quality programs. Traditionally we have had a strong linkage between our localtransportation planning and our air quality management plan. Measures from transportation and land use plans are put into the Air Quality Management Plan (AQMP). On the other end, emissions assumptions in the AQMP have become a conformity test for transportation projects. Now climate change has become the new piece.

Air quality challenges historically have been ozone, fine particulate (PM 2.5), and air toxins. Emerging issues are climate change and ultrafine particulates. We are looking for synergies in mitigation measures to derive dual benefits from our investments.

Particulate matter and ozone pollution causes an estimated 6,200 premature deaths, 2.4 million school absence days, and nearly one million work loss days in the South Coast region every year. This has prompted the Southern California Association of Governments to declare the situation a crisis. A recent Cal-State Fullerton study found that particulate and ozone pollution costs the state $28 billion a year, roughly $21 billion in the South Coast region.

Medical studies support these estimates, suggesting that we have been underestimating the health impacts of air pollution. Air pollution is linked to cardiac and pulmonary health risks, atherosclerosis, premature death, and stunted lung development in children. A USC Children’s Health Study found that kids living in high pollution communities had a 9 to 11 percent reduction in lung function, and those children did not regain their lung function even if they moved to a less polluted community. There is evidence emerging that links proximity to pollution sources and significantly greater incidence of asthma for children.

Wallerstein remarked that the costs of climate change will dwarf the costs associated with local air pollution. Therefore, we must have multiple objectives. How do we navigate climate mandates like AB 32 and SB 375, which creates new linkages with transportation, land use, and housing planning? This is a great opportunity but will it be a lost opportunity or a great success?

The transportation sector is the largest contributor of greenhouse gases (GHGs) in California and the sector where local government can play a primary role in reducing GHGs. Local government can use the planning process to maximize efficient land use and transportation.

Wallerstein stated that SB 375 implementation provides numerous opportunities in terms of air quality, water demand, energy, and mobility. These co-benefits should be included in the economic calculation of climate action. The key strategies to combat climate change and implement SB 375 include livable, transit-friendly communities; eco-designed buildings; and advanced technologies such as plug-in hybrid vehicles. **Wallerstein** emphasized the importance of coordination between different levels of government as well as strengthening the ties between the air districts and the county transportation agencies.

The Regional Targets Advisory Committee discussed two main topics: funding and technical tools. The funding issue raises a contradiction. California needs to enhance transportation services under SB 375, but it is cutting funding for transit services. **Wallerstein** also mentioned the importance of technical tools to better define best management practices and create a menu of options for developers. Finally, **Wallerstein** noted that the state needs to modernize land use and transportation models to quantify the sort of things that will be accomplished under SB 375.

The South Coast Air Quality Management District (SCAQMD) is considering Proposed Rule 2301, an indirect source regulation that would reduce criteria pollutant emissions from construction projects. This measure is required under state law and it was included in the District's Air Quality Management Plan. Seven other districts in the state have indirect source rule measures. SCAQMD has tried to tie the proposed regulation to CEQA, provide developers with certainty while maximizing flexibility, and promote synergies and maximize co-benefits with AB 32 and SB 375's GHG reductions.

Wallerstein concluded that we must rethink our land use/transportation/air quality policy framework. This is an unprecedented moment. The stars are aligned and we have an opportunity that we cannot waste. If done properly we will facilitate more land use approvals and through program synergies, we will build objectives that should secure additional funding.

Gail Goldberg, Director of Planning, City of Los Angeles

Goldberg opened by summarizing the discussion from the previous evening on funding mechanisms for transportation infrastructure. Transportation finance, and in particular economic stimulus, focused on shovel ready projects to create jobs. Layered on top of these funding mechanisms are AB 32 and SB 375, which emphasize outcomes. **Goldberg** remarked that the financing mechanisms and environmental policies may not link together. She hoped that investments being made in transportation will help California achieve the greenhouse gas emission reduction targets, but she was not sure that they would.

Goldberg stated that she did not believe the objectives are the same. Building new transportation infrastructure will mitigate congestion, but SB 375 aims to reduce vehicle miles traveled. A policy that promotes new transportation capacity may not help us meet the environment goals set in SB 375 or AB 32. **Goldberg** stressed that we must reduce our auto dependency. **Goldberg** acknowledged her primary objective at the Los Angeles Planning Department was to reduce vehicle miles traveled through policies that reduce the number of trips, shorten the length of trips, or encourage alternative transportation modes.

What is so bad about a little congestion, asked **Goldberg**. Congestion signifies a vibrant, growing economy. It highlights places that people want to be. She used Paris as an example. What am I doing about traffic? **Goldberg** made lifestyle choices to avoid congestion such as living closer to work and near shops and restaurants. She suggested that we can make choices that reduce our exposure to traffic.

What challenges do local governments face? The first challenge is resources. Despite the poor economic conditions, people assert that the Los Angeles Planning Department must continue to plan. However, we placed 80 percent of our staff on furlough, and approximately one-third are eligible for early retirement. How do we continue to plan with limited staff and less money?

According to **Goldberg**, the second challenge is public response. General polling shows that Los Angeles residents support policies to reduce greenhouse gas emission. Residents also approved Measure R to pay for transit expansion. She said this is all from a macro-level. When the Planning Department starts discussing a new transit station, residents often oppose the station and higher densities. We must engage these residents in a discussion about our citywide growth strategy and their neighborhood. How can we use new infrastructure and funding to leverage resources for a better community? If communities do not adopt and take ownership of these plans, new development will not occur around these transit stations.

The third challenge is the California Environmental Quality Act. While SB 375 eases the requirements of CEQA for new development, local government will still be required to conduct environmental analysis. **Goldberg** wondered: how do we perform transportation studies for new development? Local governments must use measurement tools such as level of service and mitigation environmental impacts with traffic improvements. If Los Angeles cannot use pedestrian improvements to fulfill CEQA requirements, Los Angeles will not be able to achieve the objectives set forth in SB 375 and AB 32.

Another challenge is implementation. **Goldberg** stressed that planning alone does not make a project occur. The development tools must be in place. These include overlay zones for urban design, zoning, and infrastructure plans. All of these must align so that the developer can construct development that we want.

Goldberg suggested that the city must provide incentives for the development we want to occur. For instance, how do we encourage development around transit stations? Since transit-oriented development is popular, many people want to place more requirements on these developments. This includes affordable housing, but these mandates make development difficult. Instead of more requirements, **Goldberg** said we need more incentives such as less environmental review.

Goldberg concluded by reframing planning as the road to economic recovery. She stated that California will not recover until development creates construction jobs and stimulates local economies. So what can we do now? Now is the time to construct affordable housing. It is also time to ease requirements on developers by streamlining the development process and reforming the zoning code. This is politically feasible and the right time to encourage these changes.

Discussion

Jim Wunderman (Discussant), President and Chief Executive Officer, Bay Area Council

Wunderman opened by describing the Bay Area Council, a business association of almost 300 companies. The Bay Area Council supported AB 32 and SB 375. SB 375 achieves a good balance. It is not overly forceful, but instead encourages more efficient land use. **Wunderman** mentioned that he was a member of the Regional Targets Advisory Committee (RTAC), which he stated came to a reasonable set of conclusions on some hotly debated issues.

Wunderman explained that not every business association shares the Council's opinion of these issues. Many business associations do not support AB 32 and SB 375. Yet, the Council believes that business leaders should address the issue of climate change and that there is a sense of moral imperative to do so. Although there may be some near term economic impacts, overall addressing climate change can be a benefit to our state and our country. At the same time, there has to be a balance; we do not want a regime that forces change. **Wunderman** cited SB 375 as an example of balance because it does not force a specific outcome but rather creates the opportunity for a good, transformative conversation. In the Bay Area there is a lot of excitement about this. Bay Area communities are becoming more supportive of density around transit stations, but this did not happen overnight.

Wunderman emphasized the importance of predictable sources of revenue from government to make SB 375 work. In this economic climate, building construction is not occurring, especially for multi-unit housing near transit stations. SB 375 does not go nearly far enough to incentivize this type of development. **Wunderman** recommended the following: 1) federal recognition of CEQA regulatory relief, 2) adaptations of SB 375, 3) continued incentives, and 4) regulatory reform at a higher level.

Wunderman summarized that these efforts will require leadership in Sacramento. He stated that he supports a Constitutional Convention and recommends repaircalifornia.org. The system needs a shake up. On the economic side, the state needs to have a strategy on green jobs. Fairly good programs exist at the local level, like in Los Angeles, but not on a statewide level. Only four of the 30 biggest green tech companies are based in America. This indicates that we need state and local strategies to attract, site, and grow clean tech companies. Although a business group, the Bay Area Council recognizes the importance of government leadership. There is tremendous opportunity.

Wallerstein responded to **Goldberg**'s presentation, noting that numerous medical studies link proximity to freeways and other sources of air pollution with increased incidence of asthma and other serious health problems. **Wallerstein** observed we have to get a lot smarter about vehicle emissions, but we also need to be more cautious and think more intelligently about design and siting of sensitive sources like homes and schools. We need a way to create buffer zones in an appropriate manner because we know that particulate matter pollution reduces quite dramatically and rapidly with distance from the source.

Goldberg responded that she strongly agrees with **Wallerstein**'s comments. The first reaction of the Los Angeles Planning Commission was to amend the General Plan and try to get rid of residential zones near freeways. Her hope is that technology will reduce pollution rather than needing to rely on a long-term strategy like limiting all residential development.

Wallerstein countered that climate change alters the short-term and long-term equation. Climate change will exacerbate our air quality problems and therefore the timeframe for meeting our air quality goals could be 2020 or 2030. As studies about the health effects of air pollution are continuously released, standards are getting tighter and tighter. **Wallerstein** appreciated **Goldberg**'s comments, but he noted that the Los Angeles Unified School District is still putting schools right next to freeways and rail tracks.

Larry McCallon of the City of Highland commented that SCAG is working very hard to implement SB 375. He said that the bill does a good thing by bringing together the Regional Housing Needs Assessment and the Regional Transportation Plan. However, as a local official **McCallon** noted that he has three main problems with SB 375: 1) land use decisions should not be made at the state level, 2) the bill supposedly aims to limit greenhouse gases and reduce vehicle miles traveled from cars and light trucks, but the state could achieve this goal more effectively through road pricing, and 3) we should concentrate on meeting federal air quality standards, which will also reduce greenhouse gases.

Goldstene responded that there is a value to SB 375 that goes beyond just meeting AB 32 goals. There are impacts to society from an auto dependent society that need to be addressed. At some point, we are going to need to change the way that people use automobiles.

McCallon replied that without SB 375, SCAG created the Compass Blueprint, which concentrated growth around local transit modes. Local governments are working toward what is being codified in SB 375. In other words, local governments are rapidly moving toward more sustainable communities without state mandates.

Goldstene acknowledged that **McCallon** highlighted the challenge of having a lot of different entities involved in planning. However, he noted that SB 375 does not take local land use decision making authority away from local governments but rather is giving local governments a different way to think about some of their decisions and consider GHGs. **Goldstene** commented that three years ago local governments strongly resisted discussions about GHGs in their planning. It was only until the Attorney General's lawsuits that many local governments started to consider GHGs. A shift has occurred and it is becoming normal to think about GHG. It is even becoming normal for businesses to think about it.

Goldberg agreed with **McCallon**. Many of us have already made significant steps to creating less auto dependent communities that are transit-oriented and walkable. The struggle with state mandates is that it's a one size fits all approach that cities have to adopt. **Goldberg** is on board with the goals of SB 375 but would like more flexibility to meet the goals in Los Angeles using their existing methods.

Goldstene replied that local governments do have flexibility. SB 375 and AB 32 set performance standards but do not say how to get there. He reiterated that the state is not taking decision making authority away from anyone. The intrusion is not much greater than everything else you need to consider. **Goldberg** noted that she was talking about the process that is required.

Wallerstein commented that SB 375 says that the metropolitan planning organizations (MPOs) devise a Sustainable Community Strategy (SCS), propose a GHG reduction target, and that if the MPO cannot meet the target, it can develop an Alternative Planning Strategy. There is specific language in the bill stating that it does not infringe on local land decision making. The SCS would be tied to conformity, but there is no mandate under the alternative strategy. Many cities will do progressive things and get us to the target.

Steve Heminger of the Metropolitan Transportation Commission reflected on what **Taylor** mentioned yesterday. One reason why we are having trouble coming to consensus on transportation finance is that there seems to be a lack of consensus on whether travel is still a good thing. This new notion that VMT should be constrained also has the following implications: 1) congestion itself causes emissions, 2) the goods that we all buy have to get to us via a vehicle, 3) a VMT fee does not look as attractive if what we are really trying to do is reduce VMT. Are we really about constraining VMT in all cases or are we about reducing emissions associated with the VMT?

Goldberg remarked upon the length of time it takes for fleet turnover. She has become more convinced that it is not going to be the solution, suggesting that to some extent any new technology will induce more demand. We need to think about the necessary trips and the necessary car ownership rate because we don't have the capacity to accommodate an ever increasing number of cars. **Goldberg** wondered if we can have a land use plan that helps you do more with fewer trips.

Wallerstein commented that if every vehicle was an electric vehicle, then VMT would create energy and congestion issues rather than a local air quality issue. **Wallerstein** believed that **Goldberg** was alluding to the fact that we need to think about VMT in categories and prioritize trips while eliminating unnecessary ones. We also need pricing strategies to target those trips so that we can reach GHG reduction targets.

Heminger agreed with **Wallerstein** and **Goldberg**. He recommended VMT based pricing for auto insurance. **Heminger** also supported **Shoup**'s recommended parking strategies as very important but hard to implement. He then mentioned that there are lots of pricing strategies that we can pursue. The issue and challenge becomes finding political leadership at the local and state levels.

Goldstene noted that there is a future role for the vehicle. SB 375 does not limit goods movement and in fact may enhance it. It is very hard to change people's behavior in the short term, but urban design does and will matter. We need to look at the existing infrastructure, do what we can to improve it, and then when feasible in the longer term, address people's behavior. California should want to attract the best employees in the state by providing them a high-quality lifestyle, which according to **Raney**, is not built around a love affair with the car. SB 375 allows communities to move in this direction.

Allyn Rifkin, a transportation consultant, mentioned that he has not heard the panel discuss the role of ride sharing. **Rifkin** asked **Wallerstein** what would make the air district go back to Regulation 15 and other measures that would get people to think about sharing their ride?

Wallerstein replied that this is another issue that may be coming full circle. Regulation 15 was the original regulation that applied to employers with 100 or more employees, but the Legislature limited it to even larger companies. This is something we can look at strengthening, provided that the Governor and the Legislature will allow it.

Session 5: Defining, Measuring, and Evaluating Performance

Allison Yoh (Moderator), Associate Director, Ralph & Goldy Lewis Center for Regional Policy Studies; Associate Director, Institute of Transportation Studies, UCLA

Yoh remarked that during this morning's panel, we heard perspectives on Senate Bill 375. This piece of legislation will link land use, transportation, and environmental policy. **Wallerstein** posed the question how do we do this right and achieve the outcomes we seek. Our panel will discuss how we evaluate progress towards these issues.

You can't achieve what you can't measure: Developing clear measures of transportation objectives

JayEtta Z. Hecker, Director of Transportation Advocacy, Bipartisan Policy Center

Hecker described the Bipartisan Policy Center recommendations on national transportation performance goals and metrics. The project identified the following core principles for a surface transportation system: it must identify a clear federal role, it must promote performance standards, it must be mode neutral, and it must be linked to energy and the environment.

The report outlined five federal goals. First, economic growth is in the national interest. This is not necessarily regional growth, and the project acknowledged there would be winners and losers. Second, the report emphasized national connectivity, recognizing that transportation links states and regions. Third, the report recognized that the federal government plays a role in metropolitan accessibility. Forth, energy security and environmental protection are national interests. And finally, the federal government plays an important role in transportation safety.

To measure progress towards these goals, **Hecker** explained the proposed national performance metrics identified in the Bipartisan Policy Center report. The report suggested that federal transportation officials measure economic growth using access to jobs and labor, access to non-work activities, network utility, and corridor congestion. The report also suggested using petroleum consumption and carbon dioxide emissions to evaluate environmental and energy performance, using fatalities and injuries per capita and per vehicle mile traveled to evaluate safety. She noted the project focused on accessibility rather than mobility.

Hecker stressed that these measures are all outcome-oriented. The report did not include vehicle miles traveled as an evaluation measure, since it is not the ideal indicator in any area. For instance, heavy trucks account for only seven percent of the VMT, but 21 percent of the carbon emissions. **Hecker** suggested that VMT is a good tracking tool but that it should not be the fundamental goal of transportation policy.

The report also recommended that the federal transportation program should be restructured, collapsing all federal formula programs into three preservation-oriented programs that receive 75 percent of the funding. The program should include formulas for sustaining national and metropolitan connectivity as well as local access. The program should provide 25 percent of the federal transportation dollars for competitive programs to expand the transportation system.

The report suggested that all projects should be driven by performance and metrics. The metrics should be applied at the state and metropolitan planning organization levels and include the following key characteristics: mode-neutrality, comprehensive and systemic, non-formulaic, outcome-oriented, and advancing transparency and accountability.

Hecker described several challenges to implementing the program. Implementation takes time, and these fundamental changes would require incremental steps. Other challenges include preserving rigor and objectivity of data, accommodating major data gaps, varying investments across regions, recognizing variations in regional challenges, and continuously improving data, research, modeling, and public communication. Some policy makers on Capitol Hill are interested in performance-based planning.

Hecker concluded, arguing that the economic crisis is not sparking reform in Washington. Congress does not seem willing to reform the federal transportation bill, but opportunities still exist to reform the program. Both federal commissions identified steps to make fundamental changes, describing the severity of the crisis that transportation faces. Trucking companies and the U.S. Chamber of Commerce are willing to increase taxes, and there is a new understanding among policy makers that environmental concerns must be integrated into transportation.

Incorporating environment and equity into evaluations of land use/transportation systems

Kara M. Kockelman, Professor and William J. Murray Jr. Fellow, Department of Civil, Architectural & Environmental Engineering, University of Texas at Austin

Kockelman described the transportation industry’s interest in creating metrics that inform planning and policy making; however, it is difficult to quantify much less qualify issues of livability and sustainability.

What do land use-transportation models look like and what do they provide? Land use models include information about jobs and households as well as their allocation among zones or parcels. Some also provide estimates of building types and sizes, industrial production, and property prices. Models are typically linked to external travel models that estimate travel between zones and on links by time of day.

PECAS is an example of a complicated input-output model and one that is evolving daily with different outputs. California is pursuing PECAS as part of its statewide modeling effort. DRAM/EMPAL was the standard model for many years and it represents the simplest approach. URBANSIM is also an important model. In sum, there are a lot of model options, creating a complicated choice for planners.

Kockelman explained that especially in the more complicated models, there are a lot of inputs required and some are just estimates. Modelers have a relatively good handle on the network inputs (including distances, capacities, and linked performance). Other examples of inputs include zones, jobs and households, land use, vehicle types, and climate.

Kockelman provided an example of the City of Austin's network. The population of Austin has grown and the City's land mass has expanded, which means that computing has become more complicated. Consequently, modeling requires a lot of data from a lot of different agencies.

Kockelman gave an example of basic forecasts for Austin's job densities in 2030 under business-as-usual assumptions, a road pricing scenario, and a growth boundary scenario. Her models found neither congestion pricing nor a carbon tax pricing scheme would have much if any impact on future job densities and land use. On the other hand, her models definitely responded to an urban growth boundary. Based on transportation and land use modeling results, **Kockelman** highly recommended the simple urban growth boundary to get VMT reduction, reduced auto trips, and reduced energy use for travel and buildings.

Ratios of volume to capacity give a sense of congestion and can serve as an indication of the effectiveness of marginal pricing under different scenarios. **Kockelman** found that pricing bottle necks can be an effective way to reduce congestion while pricing all roads would be unnecessary. Speeds would increase under a marginal pricing scheme, distributing work trips. **Kockelman** also found that tolls result in an overall welfare gain for residents.

Kockelman provided an example of a normative analysis of a three county area in the Austin area under a tolling scenario. She found there was an overall welfare gain from a 10 cent toll, but those living in the far fringes did not benefit. More specifically, she forecasted that a toll of 10 cents per mile on just two congested sections in the Austin area would result in revenues of $241,000 per day and $132,000 per day welfare loss. However, 95 percent of travelers were expected to gain if revenues were uniformly returned. **Kockelman** also predicted that it would take more than 10 years to recoup the costs of a 202 lane-miles expansion via flat tolls, but only three years to pay off using tolling in the most congested areas.

Kockelman concluded that environment analysis comes at the end of the transportation-land use modeling process. Modelers use programs like EPA's MOBILE and MOVES to come up with pollutant levels. Photochemical engineers are necessary to assist in the use of the Urban Air-shed Models, which forecast ozone pollution formation by time of day recognizing non-road mobile, area, point (e.g. power plants) and biogenic sources of pollution. Then modelers do exposure estimates.

Efforts to develop a comprehensive transportation performance measurement system:

Regional blueprint and cross-sector performance metrics

Trish Kelly, Program Consultant, California Center for Regional Leadership (CCRL)

Kelly described the California Regional Progress Report. The policy report built on the California regional blueprint planning work led by Caltrans and evaluated how California's regions are doing across a range of integrated quality of life measures.

The plan sought to create a common structure to measure regional progress statewide related to equity, environment, and economy. CCRL intended for the report to identify where to change policy direction, what the emerging challenges are, and how the State can better support regions. **Kelly** noted the report is not a one-size-fits-all policy approach to regional planning. She suggested the report can be used to compare regions to help determine the policies and investments that will shape the well-being of a region.

The Progress Report built on many existing planning efforts. Caltrans invested $20 million in federal regional transportation planning funds. The blueprints engaged local communities in long term planning. They showed community trends and alternative growth patterns with scenario planning tools. These blueprints formed an umbrella for other planning efforts at the local and regional levels.

The Progress Report framework recognized the interdependence of policy choices, blueprint goals and outcomes. The Progress Report will track changes in performance measures over time. In the short-term, **Kelly** noted that some changes may not go the direction that you want them to go. She also stressed that the blueprints are a voluntary framework that influence policy choices. The regional planning does not preempt local policy making, and there is a significant interaction between these levels of governments.

The Progress Report identified six important challenges. These included a growing population, growing ethnic and racial diversity, an aging population, increased pressure to develop agricultural lands, open space and ecosystems, rising housing costs, and the growing global competitiveness of our regions. **Kelley** observed that the loss of funding for the Williamson Act, the primary tool to retain prime agricultural lands, was critically important. Also, **Kelly** stressed that we need to determine how we can make our regions more economically competitive.

The Progress Report categorized indicators into three groups: people, places, and prosperity. There are 13 areas of measures within these three categories and 27 indicators. Since blueprints influence place-based indicators most effectively, **Kelly** acknowledged that most of the indicators fall within that category.

Kelly described some opportunities and implications for the data. Foremost, the next Progress Report must create a priority list of indicators that measure what matters most. She observed that often we measure what is easy, not what is most important. **Kelly** also discussed the need for the state and regions to commit to an ongoing flow of timely data, consistent definitions and standards across agencies, expansion of data collection, and new tools to measure indicators.

Can the Progress Report align opportunities with the Strategic Growth Council? SB 732 established the Strategic Growth Council to coordinate state agency activities. **Kelly** stressed that local government needs assistance to do this kind of work, noting that bond funding has been allocated for modeling SB 375. She concluded that there will be significant governance issues. Blueprints are local documents, but regional and local governments need resources to implement policies and programs to meet our challenges.

Discussion

Goldstene asked about the importance of modeling and the difficulty models have in showing certain realities. Models help us make the best policy choices, but they have so many variables that we need to be careful. On the other hand, some of the model forecasts make common sense. Do we really need models?

Kockelman replied that she does not support using all models, especially those that look at the distant future. You do need a verifiable, transparent approach that looks at differences between various scenarios instead of one future. She reiterated that there are many factors that affect land use, and transportation is only about 25 percent of the picture. She also noted that it is hard to impact land use policies through transportation pricing and that land use policies are important.

Huasha Liu of the Southern California Association of Governments noted that both humans and models make mistakes. Models help humans made mistakes. **Liu** also commented on **Kockelman's** toll example. She noted that assuming a 10 cent per mile fee may not have much of an effect compared to a higher price. The assumptions that go into a model are critical. These assumptions and the policy-making decisions that go into the model must be held accountable.

Kockelman reiterated the importance of transparency in modeling. She noted that models are becoming more complicated and that she is wary of the more complicated models because they are less transparent. Models are just one tool in a complex process of decision making. **Kelly** agreed with **Kockelman**'s statement that models are tools, particularly valuable community engagement tools. They let the public see into the future and use visuals, which provides a different framework for discussion and decision-making.

Kockelman noted that the pricing scenario in her modeling did have a VMT effect of 15 percent. **Taylor** asked about the effect that the pricing scenario had on congestion. **Kockelman** replied that the pricing scenarios did have a beneficial effect on congestion.

Liu asked if **Kockelman** tested a congestion price of $1 per mile. **Kockelman** responded that they had never assumed such a high price. There are some segments of the transportation network where a price could be set higher, like the equivalent of $10 a mile to cross a bridge. She stated that people only think about marginal costs, and tolls send a strong price signal. **Kockelman** recommended credit-based congestion pricing that you cash out. Since congestion is a social cost, she believed that toll revenues should be returned to the community instead of only going to the transportation agency.

Michal Moore of the University of Calgary noted that decision-makers see model results as deterministic instead of probabilistic. He asked if there could be some sort of what-if game, something like SIMS that decisions-makers could play with in a way that indicates the probabilistic nature of the models. **Moore** suggested that graduate students perhaps could design such an application to help decision-makers ask questions about what happens at the margins. **Kockelman** replied that **Moore** has a good idea.

Greg Wilson of California State Polytechnic University, Pomona commented that Blueprint Planning is a great tool but could mislead us to think that some outcomes are possible when in fact something like an urban growth boundary may not be politically feasible. Wilson asked if it is good to test something that is not market or politically possible?

Kockelman replied that Oregon has had urban growth boundaries since the 1970s, Washington has now adopted urban growth boundaries, and she predicted that California will have them too. Urban growth boundaries are a relatively simple way to tackle a lot of problems at once.

Kelly described the Sacramento visioning process in which the public chose a growth option that created something similar to an urban growth boundary. This is now operational, market-tested, and included in a wide range of policies, project applications, and plans. For example, the Regional Transportation Plan in Sacramento is based around the priorities that the community identified in the workshops.

Joan Sollenberger of Caltrans reflected on how this discussion on tools and indicators relates to a previous discussion about transportation reauthorization. It appears that there will be a bigger emphasis on performance-based measurements under any new federal transportation bill. California is on the leading edge of integrated land use-transportation modeling and is looking at co-benefits related to health and greenhouse gases. **Sollenberger** asked if the federal government will create a performance based system that will consider public health co-benefits.

Hecker reiterated **Taylor**'s comment from yesterday: "be quick but do not hurry." There will be federal progress on performance measurement. However, **Hecker** worried that there is almost a simplistic anticipation that we can get it right. But we do not know the important measures. We need caution, rigor, and thoughtfulness to ensure that we are left with something reliable and meaningful. The structure of our current transportation program makes travel more like heroin than education. The way that we fund transportation does not send the right price signals to users. We are seeing a fixation on easier to measure indicators, but we need to use this focus on measurement to apply rigor and get us what we really want.

Session 6: The Rocky Road to Infrastructure Finance Reform: Pitfalls and Prospects

Stephen Finnegan (Moderator), Manager, Government Relations, Automobile Club of Southern California

To begin, **Stephen Finnegan** stated that he believed in the words by the famous political informant, Deep Throat, who counseled Woodward and Bernstein to follow the money. Making the link between the money and the value that people gain from the infrastructure investment is crucial.

The starting point for reform: Bribes, subsidies, or personal accountability for the costs we inflict?

Norm King, Founding Director, Consultant, Leonard Transportation Center, California State University, San Bernardino

Norm King began by outlining the breakdown of the American transportation system. The current model is characterized by a small and declining transit market share, increasing auto miles driven per person,and users who are paying less and less of the direct and external costs of the system. **King** stated that most transportation professionals know this; most citizens sense this; and most elected officials are scared of this.

King remarked that the way we conceive and visualize the solution to mitigating our externalities has not evolved past an early 20th century understanding about economics. Instead of dealing with externalities, we attempted to mitigate them by bribing people to do the right thing. **King** argued these policies are an ineffective and costly means to influence behavior.

King stated that reform is about how to most effectively manage and mitigate externalities and to create an honest demand for what we consume. The task is to design policies to influence consumer choices and achieve societal values such as clean air, a stable planet, reasonable mobility and equity. **King** reasoned this is a moral and ethical issue and not a technical issue.

Two choices exist when framing public policy options: bribery or personal accountability. Bribery induces the correct behavior by providing subsidies, while personal accountability requires holding users responsible for costs. **King** maintained that holding people accountable is cheaper and more effective.

King noted the earlier comments of **Goldberg**, joking that he appreciated a viewpoint that he fundamentally disagreed with. **King** explained that government should not try to limit his mobility choices if he pays the full cost of driving. He suggested that honest prices will create a demand for the right choices. This is a fundamental distinction between policy approaches.

Bribery attempts to mitigate negative externalities by spending tax payer money to motivate the desired behavior. Accountability "corrects" the market price of the consumption of products and resources to include the cost of the externalities to achieve the desired behavior. This is a demand approach, rather than a supply approach. **King** reasoned that this boils down to "should I pay for the costs I impose" or "should someone else pay" and is profoundly important.

Several examples of a bribery-based program include the income tax deductions for home mortgages, hybrid HOV lane stickers, the Cash for Clunkers program, and California high speed rail. Bribery-based policies often cancel out other subsidies.

King outlined four principles upon which to base reform. First, government must shift from providing services to creating opportunities for all of us to become more directly responsible and accountable for the costs we inflict on others. By interpreting issues of pollution, congestion, global warming as governmental problems, King suggested we perpetuate the false notion that the solution lies in better governmental decisions as opposed to personal decisions.

The second principle described by **King** focused on demand management. He reasoned we cannot reduce or stabilize the cost of government unless we reduce the demand for government services and for finite resources and/or whose consumption imposes costs on others.

Principle three related to honest prices. If prices reflect total costs of consumption, consumers will be accountable for the consequences of their actions. When prices do not convey accurate information, they are dishonest and consumers behave in ways that are inconsistent with public policy goals. For instance, smart growth will always be overwhelmed by dishonest prices. Fixing the prices to reflect true costs will reveal the true demand for smart growth.

King titled the forth principle as equity and stewardship. He suggested that when the total cost of consuming resources and products are not included in the price charged to consumers, the more affluent receive the most benefits. For example, the top 20 percent consumes around 35 percent of the total gasoline, water, auto use, and electrical use, whereas the bottom 20 percent consumes around 5 percent.

To conclude, **King** advised reformers not to dream of an idealized world but to reformulate the way we account for externalities. By converting the costs we inflict on others into honest prices which hold the user accountable for these costs, we can create an honest demand that defines the transportation modes, the fuels and the form of urban development. Then, **King** reasoned economic incentives will be the reformer's and the planner's ally.

Taxes, Pricing, Borrowing, or PPPs: Evaluating the options for financing future needs in transportation

Emil H. Frankel, Director of Transportation Policy, Bipartisan Policy Center

Frankel described the need to consider transportation goals in the context of an aging, deteriorating, and congested transportation system. Frankel underscored the needs and large funding gap highlighted by **Heminger** yesterday and identified by the National Surface Transportation Policy and Revenue Study. And yet, despite the estimate of need and the recognition of the inadequacy of current revenue sources, no action has been taken to establish sustainable sources for investment in transportation infrastructure. Congress cannot agree on the length of extension for the transportation bill deadline, let alone address fundamental questions of how we move forward in the transportation sector.

Frankel emphasized that this is more than a funding crisis. He believes that we will not be able to make a case for sustainable sources of funding for transportation, until we have addressed the loss of purpose and national consensus about our policies and programs. Since transportation enables economic growth and improves quality of life, the goals and metrics should reflect that transportation has these purposes and should improve health, enhance safety, reduce petroleum use, and improve national security.

Frankel reiterated that there is a growing sense that national transportation policy has lost a clear sense of purpose, and an understanding about what we are buying. This sense motivated the programmatic reforms recommended by the BiPartisan Policy Center's National Transportation Policy Project (NTPP). U.S. transportation needs to be more performance-driven, more directly linked to a set of goals, and more accountable for results. Two questions were central:

1. "Why and for what purpose should the federal government invest in transportation?"
2. "How can the federal government ensure that any greater investment be a wiser investment that effectively advances national purposes?"

Frankel stated that it is the question of "wiser investments" that he believes is critical to dealing with the challenge of establishing a more sustainable revenues stream during a time when we are in a period of constrained public resources. In this context, money should be directed to projects that bring the greatest returns and advance national economic, energy and environmental goals.

"Need" is not an objective standard and defining the gap is not readily quantifiable. Investment compared to what? We need to determine what investments are most strategic to enhance labor accessibility, reduce petroleum, and enhance security. We also need to shift away from a growing dependence on general revenues and borrowing. The gasoline tax has become less and less like a proxy for a user fee. Revenue collection can improve system improvement when users understand the full costs of the infrastructure that they use. We need to get the prices right in transportation and give people clear signals about the cost of the system they are using.

Frankel noted that the role of national government should be to set goals but to allow local governments to determine how to meet those goals. He called for a bottom-up approach that promotes flexibility in implementation at the state and local levels and promotes competition that will bring programmatic, financial, and technological innovations. **Frankel** emphasized that the federal government should remove restrictions on tolling, road charges, and PPPs (public, private partnerships). Indeed, **Frankel** hoped that the federal surface transportation programmatic framework will assist states to develop sustainable funding sources, eliminate federal restrictions on pricing, and support efforts by the states, if they want, to implement direct user charges. **Frankel** also highlighted the need to develop greater database capacity and better analytical tools at the federal government level that will allow us to move as promptly as possible to a sustainable and accountable system linked to system performance. Investment should not be driven by need. Instead, it should be about meeting goals and allowing us to make the best use of limited resources. Frankel concluded that the challenge now is to get the policymakers, particularly in the legislative branch, to focus on these issues. The time is now.

Attitudes toward alternative (including "green") methods of transportation finance: What do voters think?

Jennifer Dill, Director, Oregon Transportation Research & Education Consortium, Associate Professor, Nohad A. Toulan School of Urban Studies & Planning, Portland State University

Jennifer Dill described a 2006 research project that considered public acceptance of transportation finance options in California. The survey found that only two finance options, truck-only toll lanes and HOT lanes, received a majority of support. Survey participants rated toll roads, variable registration fees and express toll lanes near 50 percent, but the majority of measures fell under 40 percent.

Dill highlighted several aspects of the results. First, the survey showed 40 percent of respondents supported a one cent increase in the gas tax for ten years. **Dill** remarked this was a surprisingly high level of support. Second, 44 percent backed a variable rate registration fee that would impose a higher registration fee on vehicles contributing higher emissions. Third, **Dill** noted the measures most researchers champion such as a VMT fee and an indexed gas tax received the least public support.

The survey also revealed that the majority of respondents did not believe the transportation system should be funded by people who drove more. Rather, the majority felt the costs should be the same for everyone. Only about half the respondents believed fuel economy should be taken into account during vehicle registration, but 63 percent believed that emissions should be considered. **Dill** noted that while researchers support the concept of user fees, the public did not show the same level of enthusiasm.

Dill described a 2008 research project and survey that evaluated the public support in California for green taxes. **Dill** defined green fees and taxes as charges that vary by environmental performance, noting they can be applied to existing fee structures and new ones. Why green taxes? These fees may encourage a shift to lower-impact forms of travel, and they may be more politically acceptable to the public.

The survey found fees described as green boosted public support for the finance mechanism. The majority of survey respondents supported green vehicle registration fees, green mileage fees, and a feebate program for low emission vehicles. Feebates received 65 percent support, green registration 63 percent, and green mileage fees 50 percent. **Dill** showed the green versions of the finance mechanisms were more popular than the non-green version by over 20 percentage points. She remarked that this was the case in all but five demographic, behavioral, and attitudinal categories. Most categories increased at least ten percent. **Dill** noted that income, gender, ethnicity, age, voting patterns, miles driven, or usual commute mode did not matter much. Green measures received less support from republicans, automobile commuters, pickup truck drivers, and owners of the least fuel efficient vehicles.

To test the knowledge of survey respondents about transportation finance options, the survey asked about state and federal gas taxes. Sixty-three percent of respondents knew all the money raised by state and federal gas taxes raised in California were not spent here. However, only 20 percent knew gas taxes had not increased during the last 10 years.

Dill observed that people generally know how the money is spent, but they do not know when the gas tax was raised. She argued this was important because knowledge impacted the respondent's opinion about raising taxes and fees. Therefore, fee increases received less support from people less knowledgeable about the current tax system. In addition, the research found that pro-environmental attitudes are a strong predictor of support. Also, people were more likely to support fees if they believed there was a problem.

Dill concluded by describing two policy implications of the research. First, going green boosted public support for new taxes and fees, and second, public education may increase support for new fees and taxes. She acknowledged the research did not address whether the fee would change consumer behavior or any of the implementation issues associated with a new fee.

Politically effective approaches to pricing transportation: Seizing opportunities to both raise revenues and increase efficiency

Donald Shoup, Professor, School of Public Affairs / Urban Planning, UCLA

Shoup opened with an example of how the Lake Arrowhead Symposiums influence policy. He described California's Parking Cash-out Law, which passed in 1992, two years after legislative aides heard the idea introduced at a Symposium. The law required large employers with more than 50 employees to offer workers the option to take the cash equivalent to any leased parking space. As a result, firms break even. A study sponsored by the California ARB found that the law reduced the percentage of people driving alone by 13 percent, as more people carpooled, took public transit, or another form of transportation.

Shoup provided a second example of how Lake Arrowhead Symposiums influence policy. At one such conference, an aide to Senator Lowenthal heard that the Parking Cash-out Law did not have a penalty for non-compliance and that this posed a problem for implementing agencies. Consequently, Senator Lowental introduced SB 728, Parking Cash-out Program, and it was recently signed by Governor Schwarzenegger. SB 728 authorizes the State ARB and the South Coast Air Quality Management District to establish and impose civil penalties for a violation of the Parking Cash-out Law.

What can cities can do? **Shoup** suggested they can regulate parking policies and prices. Suppose curb parking costs $1 per hour and off-street parking costs $3 for the first hour in Westwood. How long would you be willing to cruise for underpriced curb parking? **Shoup** then illustrated that cruising for underpriced curb parking results in excess driving. Studies in multiple cities over time have revealed that a large percentage of traffic cruising time is spent cruising for parking. This is not good VMT.

What would an economist say to do about this problem? Set the right price. Parking works best when about 15 percent of parking spaces are not occupied, adjusting prices to maintain an 85 percent occupancy rate. An average of one curb space is vacant on each side of each block so that convenient parking is available. However, in many cities, parking prices have not changed in years. **Shoup** called this the Goldilocks parking price principle: pricing should not be too high or too low.

Shoup highlighted the Redwood City Parking Ordinance as a good example of parking supply management. The Redwood ordinance:

- established a parking target occupancy rate of 85 percent;
- directed the City's Parking Manager to survey the average occupancy for each parking area in the Downtown Meter Zone and based on the survey results, adjust the rates up or down in 25 cent intervals to achieve the target occupancy rate; and
- returned revenues back to the Downtown Core Meter Zone to build political support.

Ventura created a similar ordinance with a 15 percent vacancy rate. The ordinance removed all time restrictions on parking and devoted all parking revenues for purposes within the geographic boundaries of the parking district from which it was collected. The monies have been used to maintain and expand landscaping, pedestrian walk-ways, and other amenities.

Bigger cities have also passed similar parking policies. For example, Washington, D.C. approved the Performance Parking Pilot Zone Emergency Act of 2008 in anticipation of the opening of the National's baseball park. The act established that the City shall adjust parking meter rates to achieve a 10-20 percent availability of curbside parking spaces and that 75 percent of the meter revenues will be returned to the metered neighborhood.

Shoup noted that San Francisco's SF Park program merits special illustration. The parking prices vary both by time of day and by length of stay (higher prices for subsequent hours). The program aims for one or two vacant spaces everywhere so no one can say that there isn't a place to park.

In Westwood Village near UCLA, on average during the day there are two cars on each block cruising for parking. This adds up to almost one million VMT every year, the equivalent to four trips to the moon. This is wasted, bad VMT that affects pedestrians and air quality.

Parking meters are now very sophisticated. UCLA uses parking meters that set variable prices based on demand. **Shoup** took pictures of a set of parking spaces at UCLA every 4 minutes, at a time the parking price was $3 for one hour and $7 for two hours. Was this price too high, too low, or just right? **Shoup** emphasized that it is impossible to determine whether the price is right unless you know the results. His pictures illustrated that the price probably was right because the parking was well used, but readily available. **Shoup** also gave the visual example of a street in Los Angeles when the parking price was set too high. While metered street was devoid of vehicles, the “free” side streets were packed. The parking prices should not be too high and scare away all consumers or divert to side streets.

The parking problem is always going to be with us, but getting the price right will solve a lot of problems. **Shoup** concluded with a quote from Abraham Lincoln: “As our case is new, so must we think anew, and act anew.” As **Heminger** said, climate change provides an extra rationale to pursue the morally right and most efficient policy.

Discussion

Finnegan asked the panelists about the value issue. What is in it for the individual? He also asked **King**: how do we get the price right in terms of externalities?

King responded that getting the price right is not an easy task. The range of possible prices is large and it represents different accounting methods. We need to standardize the process, but it will still be controversial. This is better than the current system. Still, this does not get into the underlying issue: is the total cost of the public subsidy greater than the public benefit? **King** noted we often discuss these two interests separately, but he argued that we need to bring accountability together with public subsidies. It is superior to the system we have now.

Shoup observed that there are good examples of pricing HOT lanes in Southern California. The tolling authority sets the right price that yields the right flow. He acknowledged they do not calculate externalities. **Shoup** also stated it is easier to set the right price with parking since the vehicle is not moving. If we move towards performance measures, we can adjust price to achieve a policy goal.

Frankel acknowledged that he does not know how to set the right price, but we know the price is wrong. He reiterated King’s point about transportation investments not relating to total costs and benefits. He suggested that transportation needs to develop the tools that help us make the investment decisions, similar to the private sector.

Eileen Schoetzow of Los Angeles World Airports described the sustainability work of the Los Angeles airports. She noted they are struggling to integrate social justice issues. She asked: what are your opinions on successfully integrating social justice into sustainability policies?

Shoup recommended offering parking cash out. Every employee receives free parking, and if you offer every employee the cash value of the parking space, it would be much fairer to all the people at the airport. Current practice is not fair to people who use transit, walk, or bike. **Shoup** argued the moral high ground is to use prices to influence behavior. Free parking signals that we want employees to drive.

Frankel agreed with **Shoup**. If we price the system to achieve a performance goal and we are concerned about people being priced off the system, we should give individuals cash so that they can take part in the activity. We do this for electricity and telecommunication. We should create a separate program to ensure that people can effectively participate in the marketplace. **King** suggested that we do not protect everyone from the high prices of food. Instead, we provide food stamps to those who cannot afford the food. We should separate service provision for the aid. He remarked turning the question around: congestion fees are a way to have greater equity.

Paul Sorensen of the Rand Corporation responded to the results of **Dill's** research. He noted a penny increase in the gas tax for 10 years received more support than indexing the gas tax to inflation, but it likely cost an individual more. Does a respondent understand how he would fare under a specific tax structure? Not necessarily, as most people not doing all the calculations, prior to responding replied **Dill**. As a result, they are not always consistent in their answers.

Carolyn Flowers from Los Angeles Metro stated you cannot price to cover your expenses at a transit agency. Could we use green funds to subsidize public transportation?

King suggested that some subsidies for transit are important, particularly if the subsidies provided benefits such as congestion relief or fewer greenhouse gases. **King** argued we should evaluate the demand by pricing both automobile and transit properly. He suggested that investment in light rail was the opposite. It increased the distance of the work trips, resulting in a higher cost per passenger mile. The question is not whether transit is good or bad, but do we have an honest demand for transit?

Although we cannot price transit to cover its costs, **Brian Taylor** suggested transit agencies can charge a variable rate by time of day, route, or distance traveled, making agencies more efficient. The costs of a transit trip vary greatly, and by charging flat rates, we subsidize wealthy travelers that make longer trips during peak periods.

Frankel added that transit has become the green solution in the climate debate. The climate bills set aside money for transit. Without proper evaluation, we might not know if transit is the best option for all regions. Alluding to **Hecker's** presentation, **Frankel** suggested that performance and mode neutrality must be components of federal reform. We need to rigorously analyze all transportation modes.

Joe Lyou of the South Coast Air Quality Management District acknowledged that he was encouraged to hear about SB 728. He asked **Shoup**: have other cities adopted this program? **Shoup** answered that **Wallerstein** said he would like to have Regulation 15 come full circle. Unfortunately, he believed that SCAQMD has always been hostile to parking cash out. **Shoup** suggested adding a question to Rule 2202 asking employers whether they compile with the law.

Nidia Bautista of the Coalition for Clean Air stated that the bill allows local jurisdictions to charge a fine for compliance. **Jacki Bacharach** of the South Bay Cities Council of Government added the COG is working more closely with local government because of the current regulatory environment.

Richard Little of the Keston Institute at USC asked **Dill**: as we move towards achievement of our environmental goals, will we run out of money? We have not taken the analysis that far, replied **Dill**. It would be difficult to design fees, but perhaps, we would be switching to another system in the future.

Session 7: The Elephant in the Room: Reforming Governance in California

Allison Yoh (Moderator)

Yoh described the previous session discussions about integrating land use, transportation, and environmental goals into policy making. This has required a stable and adaptive system of government. She noted that **McMillan** described the volatility of tax revenues and how that has hindered sustainability in transportation finance. **Wachs** discussed the crisis to uphold a system of user fees. **Heminger** drove home the point that some of the best policies in transportation finance are also the least feasible to implement. This session is about government reform in California. Is fundamental change on the horizon and, if so, what might that be? Is incremental change possible or are we on the brink of a revolution?

Do voters really mean what they say? Attitudes toward institutional reform in California

David Metz, Senior Vice President, Fairbank, Maslin, Maullin & Associates

"Just how bad is it?" asked **Metz**. Three in four voters think the state of California is on the wrong track. These negative feelings are at a historic high, trumping even the weeks before the recall election. Not surprisingly, voters disapprove of the performance of the Governor and legislators in both parties. Less than one quarter of voters today think that Sacramento can be trusted "to do what is right."

Metz described that these sentiments have even come to affect voters' perception of their own State legislators. A former truism was that voters hate the State Legislature, but like their own legislator. Recent polls find that the dissatisfaction is becoming more local. The job approval rate for "Your State Senator" slipped during the late 2008 to mid-2009 period. **Metz** noted that these sentiments must be understood in a context where voters feel disconnected from their legislators. Only 33 percent named their state senator, while only 7 percent of California voters were able to correctly name their state senator.

What role does this dynamic play in voters' evaluation of major public policy issues? In October 2009, voters regarded the state budget deficit as the most pressing problem facing the state. When asked about solutions, three in five voters believe that the State can cut up to $25 billion in waste and inefficiency. A widely held belief is that Legislators have enough money; they just need to spend it more wisely. When forced to choose, two-thirds of voters believe that the deficit can be dealt with mainly through spending cuts. However, there is no agreement about how to cut spending. Prisons and parks were the only services that even a slim majority was willing to cut. When given the option, half of voters support a combination of reduced services and new/increased taxes and fees. So who are they willing to tax? Voters are willing to tax anyone but themselves. The most popular taxes were cigarette and alcohol taxes followed by taxes on the wealthiest one percent of Californians.

Within this environment, we need to understand the prospects for reform. Two-thirds of voters want reform of state government. But while voters are quick to pin the state's budget problems on legislators and special interests, relatively few fault structural issues, like the two-thirds requirement to pass a state budget. The challenge facing reform is a lack of voter understanding about structural problems.

Metz talked about reform in three main areas:

1) Reforming the state budget. In principle, voters overwhelmingly support pay-as-you-go budgeting and two-year budget policies. Support for these ideas cuts across party lines. The support begins to break down when talking about reforms that deal with process. A bare majority supports reducing the two-thirds vote in the State Legislature. However, voters do not want to make it easier for the State Legislature to raise taxes at the state level.

2) Empowering local communities. Voters have a higher regard and more trust for local officials than for State officials. Voters strongly support policies to protect local funds from the State and devolving funding and responsibility from the state to local governments. They have increasingly supported local ballot measures to fund services provided by local government. This success rate of local ballot measures increased as the state budget deficit increased.

3) A state constitutional convention. Voters support a potential measure to allow them to call for a constitutional convention. There would be a two-step process. First, voters broadly support having the option to call the constitutional convention. A plurality also says that they would vote to hold a convention, although many were initially unsure.

Metz concluded by reiterating that voters' unhappiness with state government has reached an unprecedented scope and intensity – creating a favorable environment for reform. But voters have, at best, a limited understanding of the structural problems that constrain state and local governments in California. As a result, the most far-reaching reform proposals are met with lukewarm support. In this environment, successful reform efforts must be straightforward and easy to explain, must impact voters' lives in ways they can understand, and must be backed by a diverse coalition outside government.

Reforming California government

James P. Mayer, Executive Director, California Forward

James Mayer began by describing the bipartisan California Forward project. He articulated the need to frame issues in ways that interest the general public. He suggested this is not just a sales job, but it grounds the discussion in a shared vision for California.

The general public understands that California competes in the global marketplace, and they want government to exhibit some qualities of business such as innovation, quality, and cost-effectiveness. This is not the impression most people have of California government. To make progress on governance reform, **Mayer** argued reform must be grounded in what people want from government, tied to a shared vision of California, and related to the realities of what government can accomplish.

Mayer stated that past performance is an indicator of future results. If our schools or transportation system are not improving fast enough, we cannot expect them to improve without reform. Is California ungovernable? **Mayer** does not believe this, noting government can change to meet our challenges.

Mayer outlined three issues:

1. Governance falls into three categories: Who runs it, what are the incentives of politicians, and what can they do once they reach Sacramento? **Mayer** suggested many successful local government officials have been frustrated after transitioning to state government, because they are unable to make an impact.
2. The money: It is what we tax and how we spend that money. We must show people how we spend the money and retain discretion to spend money on various programs.

3. Scale: The state includes a number of international regions. We need the state to consider this, and match the scale of our problems to the appropriate level of government.

What does a new governance model look like? **Mayer** suggested that we need to focus on community governance. We must give communities more discretion over their own money and develop incentives that enable cities, counties, and school districts to work together. Our system evolved into a complex set of silos that discourages people from collaborating. The public recognizes good and bad examples of government. They see successful models across the state. The public also understands when government does not work. **Mayer** described the conflict between the City and County of Los Angeles over Proposition 63 mental health money.

What is the role of the state? By devolving more authority to local governments, we can transform state government to best meet the needs of our communities. We must ensure that local communities do not forsake their responsibilities, and the state can play an important role in providing technical assistance.

Mayer argued that as we refine the governance system, we must consider the finance system. This is not just adding a one-cent tax. How do you do this? **Mayer** acknowledged California has been talking about the finance system since Proposition 13. At a time when we should be thinking about devolving power, we consolidated power in Sacramento.

Previous efforts to reform governance in California yielded some clear lessons. The reform cannot come from a small group of stakeholders, it must relate to all of California's citizens. This requires discussing policy options with the public and building the political coalitions across business, labor, and government to make this viable. California Forward started working on Proposition 11, a bipartisan effort to implement citizen-based redistricting. While this will not solve all the problems of government, it will reduce the conflict of interest for many politicians.

Mayer also recognized that California must improve the budget process. California Forward is developing an uncomplicated process that builds agreement and moves reform forward. This reform is all about trust between legislators and the general public. As **Metz** showed earlier, the public does not trust state government, and it is important to rebuild that trust.

The reforms proposed by California Forward include two guardrails. First, spikes in revenue should not be used for ongoing programs, and second, it rejects a spending cap as long as the government can pay for the services. Any new program must identify a funding source. **Mayer** remarked that the budget must be results-based, multi-year, and comprehensive.

Reforming public finance in California

Richard G. Little, Director, Keston Institute for Public Finance and Infrastructure Policy, University of Southern California

Little opened with a quote by H.L. Mencken. "For every complex problem there is an answer that is clear, simple, and wrong." Next, **Little** shared seven main thoughts on fixing California's finances:

1) Pay attention to the fundamentals. Public finance principles state that there are two ways that state and local governments raise money to pay for what they need: taxes or fees. If we cannot or do not want to raise more dollars, we need to buy less.

2) Try to agree on the problem. What is wrong with California's finances? Expenditures and revenues are out of balance. There are a lot of different explanations, such as Proposition 13, the required two-thirds majority to pass a budget, limited corporate taxation, and government waste. However, there is little agreement about what is really wrong.

3) Recognize that policy actions have fiscal consequences. **Little** suggested that when voters are asked if they want funding for an infrastructure project, they should choose which sector the money will come from or agree to levy a special tax assessment on all taxpayers to pay the debt service. Voters need to understand tradeoffs.

4) Don't make long-term commitments based on rosy revenue projections. Think more about contracting or making do with existing staff. California relies on volatile revenue sources, such as income and sales taxes. In April 2009, sales taxes were down 51 percent, personal taxes were down 44 percent, and corporate taxes were down 9 percent from a year earlier.

5) Don't confuse debt with revenue. Bonds equal debt. Barring drastic changes in fiscal policy, California will not have the revenues to pay debt service on new general obligation bonds.

6) Make a direct link between services and fees. The State Highway Operation and Protection Program (SHOPP) is chronically underfunded, under-maintained, and consequently is deteriorating. A deteriorating highway system becomes more expensive to fix, but a modest increase in the gas tax could restore and maintain California's highways. As of 2008, a one cent per gallon fuel tax would generate approximately $175 million per year. A 10 cent per gallon fuel tax would generate about $175 billion annually. The benefit would be great while the cost per person would be minimal. Someone who drives 20,000 miles a year in a vehicle that gets 20 miles to the gallon would only pay 27 cents a day.

7) Recognize that failure is an option. We do not have the luxury of doing nothing. There is a fixed amount of time between when you detect the problem and when disaster hits. Where are we in responding to our financial tsunami? A financial tsunami is coming and we are approaching the time needed to evacuate. We do not want to be remembered as the society that missed all the warning signals.

Little concluded with a quote from Albert Einstein. "Insanity is doing the same thing over and over again and expecting different results." Every year we go through the same budget follies and expect different results. We need to start making changes now.

Discussion

Mike Feuer (Discussant), Assembly Member, California 42nd Assembly District

Yoh thanked the panelists and introduced **Mike Feuer**. She asked **Feuer** to address the following questions. How politically feasible are the reforms discussed earlier this evening, and when will California break out of the cycle of insanity described by **Little**?

Feuer acknowledged the presentations reflected real life in California. He posed the question: in real legislation, how do we enact rule changes that capture the most important observations from these panelists? These observations represent the spectrum of thoughts being discussed in Sacramento. **Feuer** remarked that he chaired the committee to look at reforming the state government, which is charged with bringing all these ideas together.

Feuer disagreed with others who believe that the only credible source of state government reform can come from outside government. State government is engaged in the process, and to defer responsibility to organizations outside of state government, **Feuer** argued, is a mistake. Legislators know they must reform government to built trust and support from the public.

Reform must come in three categories. First, the legislation can make rule changes without going to the public. Noting an omission from the earlier presentations, why doesn't the legislature prioritize the most important legislation? This is how businesses and organizations work, and we should do this too.

Citing the poll data shown by **Metz**, many Californians believe the state's problems are a reflection of partisan bickering. **Feuer** acknowledged this widely held perception but suggested this was an expression of strongly-held core values. Nonetheless, we need to find structural ways to incentivize bipartisanship.

Second, in addition to rule changes, there are statutory changes that do not require placing a ballot measure in front of the public. **Feuer** described a problem with constitutional changes, stating they are very difficult to make and modify. He suggested that experiments are an important part of government and argued the state can experiment through pilot projects. Pilot projects are the creatures of rule and statutory changes not constitutional changes.

Feuer noted a lot of these points raised by previous speakers fall into broad themes, including how you sell these reforms to the general public. **Feuer** suggested the policy issues fell into broad categories: prioritize the most important issues, cut through undue bipartisanship, and maximize program efficiency with limited resources. **Feuer** argued these issues must be translated into terms the public understands.

Feuer remarked that he is not supportive of a constitutional convention. From a theoretical perspective, he believed this would be a fascinating exercise to convene a group of citizens to redefine the California Constitution. However, **Feuer** noted hazards in the process. Reiterating a theme described by **Little**, a convention is not a solution to a tsunami, timing is of the essence. In 1994, there was an effort to reform the California Constitution during a period of fiscal crisis. By the time the commission finished, the time had passed and no reforms were implemented.

Lastly, **Feuer** does not want to sacrifice the rights of California citizens. He acknowledged that he agreed with many proposals by California Forward, but articulated a fear of trading privacy rights for local government schemes to raise funds.

Huasha Liu of SCAG asked why we do not have performance-based budgets. **Feuer** responded that the status quo is hard to disrupt.

Rick Willson of Cal Poly Pomona asked how we can address climate change if we are looking at dissolution of authority. **Feuer** replied that we need nation-wide and state-wide responses to address issues like climate change. **Feuer** noted that he does not support devolving all authority to local government, only where it makes sense by identifying principles that should guide the distinction. **Mayer** agreed with **Feuer**'s comments, noting that it is really about finding the responsibility at the scale that is necessary to solve the problem. Not everything should be a local issue.

Feuer said that the real trick in the reform conversation is to take an academic conversation, distill it to its essence, and relay that key information to the public in a way that is real and helps the voter see a line by line way to reduce the deficit. Expression of detail is necessary.

Emil Frankel of the Bipartisan Policy Center mentioned that he is struck by the lack of discussion about the role of media. On a national level, the domination of information is highly dogmatic, ideological, narrow, and partisan. The media influences how elected officials approach issues in Washington, D.C. He noted that he is not from California and asked about the dynamics of the media in California.

Feuer replied that the decline of the mainstream media has been one important reason why there is a growing disconnect between voters and legislators, and that this lack of communication affects politics. **Feuer** also provided an anecdote about the radio jockeys Jon and Kim, who strongly influenced the recall of a Republican legislator when he did not oppose a certain tax increase. This is an example of the polarizing effect that the ideological media is having at a time when the mainstream media is absent.

Mayer reiterated that the changes in the media market are a problem for California. He then made three main points. First, in part because of its size, California has always had many media outlets. Even when traditional media was strong, this fragmentation made having a statewide dialogue difficult. Second, the decline of newspapers is not the only cause of the problem and saving the newspaper could not be the main solution. Third, we are not sure exactly what the Internet can do. It can be another vehicle for polarizing discourse, but it can be a direct connector between the public and local government.

Jesse Glazer of Southern California FHWA/FTA Metro Office asked **Mayer** to elaborate on his previous comments by sharing his thoughts about new and innovative ways to overcome remoteness with specific examples of success.

Mayer explained that several states, including Virginia, have used websites to communicate directly about state budget choices. This type of website is appealing to only a narrow group of people, but could be taking the place of traditional newspapers. California Forward has been exploring how to build an online social network around policy issues. A challenge around governance issues is how to create some appeal without the presence of a rock star, like Obama. There have been innovative and inter-disciplinary discussions about how to roll-out a large conversation using the media to reach new audiences.

Feuer noted that he sends newsletters out electronically, maintains a Facebook page, and has interactive budget discussion online, but all these new media outlets continue to reach only a very small swath of the electorate. The state still needs to figure out how to transfer government into more of a web based activity. We are at the beginning of a transformation in how the public relates to their government.

Peter Haas of San Jose University asked the prospects for good old fashioned political leadership right now to address current problems, given that we are in a financial tsunami and may not have time to tinker with reform.

Feuer replied that he hopes that the chances are real and immediate. Although he favors experimenting, some of the transformational changes will have to be Constitutional. The initiative process is a disaster but there are chances for bipartisan success around initiative reform. For example, **Feuer** mentioned the idea of allowing initiatives on the ballot only during general elections so that broader swaths of voters participate in the decisions rather than a narrower band that is involved in primary elections.

Stanley Hoffman of Stanley R. Hoffman Associates commented that he found the panel very engaging, but will leave depressed because Little's tsunami scenario seems appropriate. Where is the third floor we can get to? In other words, what are things we can really agree upon?

Little responded that the basic idea of user fees is really hard to sell to politicians. We will not get everything we want with the gas tax but let's work toward getting the most possible. Maybe we do not get a dime increase but we get an emergency nickel, which would result in real improvement to our transportation system. The government can make unpopular changes.

Feuer implied that he is willing to sacrifice to get budget reform. He added that he wrote the law that allowed Measure R to be on the ballot. Measure R passed during an economic recession, indicating that voters will support fee increases if they understand the local benefit. **Feuer** predicts that California will make progress on governance reform. He is optimistic that the state will lessen term limits, alter the budget process, and find structural ways to make things more bipartisan without sacrificing core values.

Little added that voters are given too little credit for their intelligence but too much credit for their attention spans. **Little** provided an example of voters making the right decisions when they understand the consequences: the residents of Salinas originally did not approve a local tax and as a result of a lack of revenue, the City was forced to close some libraries. Once they understood that their libraries could be closed, the voters overwhelmingly approved a second tax proposal. People need to understand the stakes.

Goldstene suggested that maybe we need our legislators to meet some minimum level of qualification. He asked **Feuer**: are your colleagues qualified to be in their jobs?

Feuer reiterated that term limits are a big problem. The legislature needs to find ways to have credible message carriers talk to the public. With term limits, you've fostered an environment of competition rather than collaboration. Also, **Feuer** noted term limits force legislators to make short-term decisions. **Little** noted we expect these legislators to learn the system in a short period of time. As a result, they turn to specialists and insiders who understand the system. This is an unintended consequence of term limits.

Session 8: Turning Crisis and Mandates into Opportunities for Action

Fran Inman (Moderator), Senior Vice President, Majestic Reality

Environmental streamlining – Balancing procedural efficiency with environmental protection

Lynn Terry, Deputy Executive Officer, California Air Resources Board (ARB)

Terry used the federal clean air planning process as a case study to discuss environmental streamlining. The process is inflexible, includes lots of mandates, and requires meeting rigid deadlines to clean the air.

When a more stringent air quality standard is enacted, we recalibrate and start the process again. **Terry** noted that the deadlines are not rooted in science or available technology. Also, the planning process requires plans for each pollutant, and she suggested that air quality planning needs to be integrated. **Terry** outlined the multiple players involved in the clean air planning process, including: the U.S. Environmental Protection Agency, the California ARB, local air districts, and metropolitan planning organizations (MPOs).

Has this process been successful? **Terry** argued that evaluating the results, the program has been a great success. While there are still challenges including public health impacts from exposure to pollutants, we have seen a dramatic reduction in California pollution.

Terry also suggested that we need to improve the efficiency of the process of planning. If we spent less time creating the plans, fighting over the plans, and litigating the plans, there would be more time and resources to implement the plans. Another issue highlighted by **Terry** was preemption. The federal government regulates certain activities such as railroads that are a major source of pollution. Local air districts can develop policies related to these activities, but they do not have the authority to impose mandates.

In addition to the federal clean air planning process, **Terry** used Senate Bill 375 as a case study. She noted it was not a heavy mandate but an incentive-based process. While each region must complete a Sustainable Community Strategy, there is no requirement to implement the strategy. **Terry** thought an important part of the process was coming to an agreement about the core values of a community. She believed it was important for these plans to come from the communities through a blueprint-like process.

Terry highlighted the tension between the financial constraints of regional transportation and the ambitious targets for sustainable communities. Federal law requires regions to develop fiscally-constrained transportation plans. If we only plan using the money that we have, **Terry** argued we might be missing an opportunity, and she suggested we may need different rules to plan for sustainable communities. MPOs will need more money, more authority, and more options to achieve the vision.

Terry also described Assembly Bill 881. The legislation enabled Sonoma County to create a Regional Climate Protection Authority to coordinate climate policies. The legislation allows the authority to create a voluntary policy. Sonoma hopes to create a greenhouse gas emissions cap for the sectors that it controls, connecting it to a statewide cap and trade system. **Terry** acknowledged this was an experiment, but she was enthusiastic about local government developing a new approach to reduce emissions.

So can better planning help? **Terry** argued that it can. If we can get the infrastructure to match future demographics and the market, we can reduce costs. She also noted CEQA relief in SB 375 is an opportunity to streamline the environmental process. **Terry** stressed the point made by other speakers that performance-based goals are important.

Efforts to mainstream regional planning among local governments: Moving from scenario planning into action and implementation

Harrison Rue (Moderator), Principal, ICF International

Rue ran the Thomas Jefferson Planning District, the metropolitan planning organization (MPO) in Charlottesville, Virginia and the rural area around it. The MPO developed a regional planning/sustainability action strategy that involved a single planning process, multimodal corridor planning, and focused investment.

The Thomas Jefferson Planning District started off with Sustainability Accords, which included green building and infrastructure. They used a hands-on, bring-everyone-to-the-table public participation process to develop the Sustainability Action Strategy. They had interagency project teams and coordination of plans and projects across jurisdictions and agencies.

Rue noted that the Thomas Jefferson Planning District's scenario planning effort is similar to the goals of the newly developed US DOT/HUD/EPA partnership. This partnership is an interagency task force created to better coordinate and enhance integrated regional housing, transportation, and land use planning. An objective of the partnership is to research, evaluate, and recommend measures that indicate the livability of communities.

The Thomas Jefferson Planning District Commission looked at four scenarios as part of its Eastern Planning Initiative Scenario Analysis. **Rue** highlighted the results of two scenario exercises. In the "Dispersed Scenario," the government invested $1 billion in roads. The model predicted that this scenario would result in 16 million miles driven daily, of which 44 percent of these miles driven would be congested. The "Town Center Scenario," on the other hand, involved the investment of half a billion dollars in roads and local transit. The model predicted that the "Town Center Scenario" would result in only 12 million miles driven daily, of which 29 percent of the miles driven would be congested.

Rue mentioned that there are some reasons why the model predicted less investment and less auto congestion under the "Town Center Scenario." The proximity of activities within communities promotes walking and transit, the proximity of communities to each other makes auto trips shorter, and the network makes travel more efficient by providing multiple travel choices. The compact development approach fared better under a number of different sustainability measures compared to the dispersed approach and would result in savings for both residents and the government.

Rue described his work on a 10 mile stretch of the US 29 corridor in Albemarle County, Virginia as an example of a focused multi-modal corridor investment strategy. The plan was based on Transit-Ready Development Principles that **Rue** worked on with the Urban Land Institute. These principles allow places that do not have a lot of project funds to incorporate transit-supportive strategies early on and then grow into transit-oriented development over time. The Principles involve mixed land uses and diversity of housing types; pedestrian-friendly site plans; a neighborhood street grid with plenty of connections; transit routes and stops that are incorporated into future plans; public and community facilities designed as Transit Targets and community focal points; regional transit planning across jurisdictions; and a link to developer marketing plans that take advantage of transit-supportive strategies.

Rue noted that his region is not getting much government funding, but rather has collaborated with the business sector. **Rue** recommended the following funding ideas for focused investment strategy: review available funds/projects across partners, including private; re-purpose money; target short-term action; and complete the network by providing mobility beyond the main road.

Rue stated that getting the next transportation bill done right will take time, in part because there are so many different stakeholders involved. We need to get the vision right, but not wait to act. Our surface transport problem is 95 percent complete. Let's finish the job by providing bike lanes, trails, comfortable transit shelters, and excellent street crossing details. This is achievable.

Discussion

Emil Frankel wondered whether the alternative transportation strategies sought by Virginia Department of Transportation matched the federal programs. Since state money for capital investment is used to match federal funds, he suggested it might be inflexibility at the federal level. He also recommended shifting from project-based funding to program-based funding. Alluding to previous presentations, does the program help achieve economic, energy, environmental, and safety goals?

Rue acknowledged the Virginia Department of Transportation was a willing partner in regional blueprinting efforts, and VDOT was transformed by the process. **Rue** remarked that we are stuck in a road-building paradigm in the U.S. and the federal government must step-up and say that coordinated land use and transportation planning is the new paradigm.

Ty Schuiling of the San Bernardino Associated Governments noted the difference in scale between Southern California and visioning examples shown by **Rue**. He asked: how do we adapt this model to our region? **Rue** referred to the terrain.org website which describes the public process. He noted interagency coordination is the most important part of the process. We started with VDOT at the table, and then we set up an interagency team to build support.

Jennifer Dill noted Portland is trying to construct dense, mixed-used development. She suggested this is difficult in suburban areas until the cost of land increases. In Portland, we only see this style of development in the suburbs if we put public subsidy towards it. Did you discuss the real estate market during the visioning process?

Rue recognized that it was important to bring all the players to the table including local government, housing developers, and social service providers. For instance, one Virginia county developed a comprehensive plan to coincide with the transportation plan. The plan focused infrastructure investment on supporting this style of development. The prices of the land are going up, because the county land use planning is guiding development to those areas.

JayEtta Hecker asked the panelists to discuss the current versions of the federal climate legislations, which she noted created a relatively standalone, separate process for reporting and controlling greenhouse gas emissions. How might you integrate this into the planning process?

Terry described the ARB scoping plan process, noting they analyzed every sector and developed strategies for it. It was clear all these policies were interrelated, and it was a nightmare to sort it all out from a conventional planning process. However, she suggested that greenhouse gases are a broader indicator of how you deal with criteria pollutants, water, and energy resources. For the federal government, they need to establish goals, and then incentivize states to do the right thing.

Rue joked that we should not throw the baby out with the bath water. We have regional planning institutions that can help deal with problem. He also said that if there was a financial incentive, the private sector will respond to the incentive.

Huasha Liu from the Southern California Association of Governments observed that climate change is an opportunity for all layers of government to work together. Liu wondered how federal agencies can participate in the process. She said that it is time to redefine what transportation planning is and to integrate economic development, housing, and the environment.

Larry McCallon of the City of Highland suggested climate policies require a bottom-up approach. He also speculated about the alternative planning strategies in SB 375. If a city creates an alternative planning strategy, at some point in the future, will the state take transportation funds from us? He encouraged ARB to develop a target that communities can achieve.

Local communities around the state are struggling with this, according to **Terry**. The alternative strategy approach allows communities to point out ways it can meet its target. At that point, local governments can lobby state governments for funding, resources, or authority.

Nidia Bautista talked about SB 375 and the CEQA streamlining provision. She noted that CEQA has been instrumental in protecting communities from pollution and asked: how can we ensure the streamlining provisions will not reduce the effectiveness of CEQA as a tool to safeguard communities? **Terry** remarked that the CEQA relief is for projects that meet strict criteria, focusing on exemptions with respect to greenhouse gas emissions analysis. SB 375 does not affect local authority or air quality permitting. **Terry** wondered whether there is a way in the blueprint processes to complete an environmental justice pilot project in Southern California.

Jody Litvak commented that the labor unions are particularly important related to transportation issues in Los Angeles. She noted they form a power coalition and care deeply about environmental and social justice issues. **Rue** remarked that he just completed planning work in Guam, and the labor coalition got it.

Jacki Bacharach of the South Bay Cities Council of Government asked Terry to clarify the relationship between the Sustainable Communities Strategy, the Alternative Strategy, and federal requirements. Do we need to ask for federal rule changes? **Terry** replied that the Sustainable Communities Strategy must match the federal requirements; however, the land use pattern can be different and this can help communities meet the emissions target. Other regions can choose pricing as an option to meet this requirement. These options could require state rule changes.

Joan Sollenberger of Caltrans commented that the money Caltrans provided to local communities for blueprint planning was intended to engage low-income and minority communities. Southern California has not been a strong participant in these programs. She also mentioned Caltrans is a proponent of building upon your regional blueprint to create your SCS. The SCS married with a constrained transportation plan could provide an opportunity to move to a more performance-based funding system.

Sollenberger noted one significant challenge is tying the urbanized regions together. The state has an underdeveloped highway system and constructing those roads poses a problem. **Rue** said we still need the roads to connect regions, but those roads need to be smarter. To ensure the roads are multi-modal, he suggested the federal funding process needs to slow down. However, a challenge is retriggering an environmental process. **Rue** also commented that we need to make sure our blueprint metrics fit into a national performance standard.

Jeff Rabin of UCLA asked if SB 375 affords an opportunity for better interagency coordination in goods movement. Will it require an unprecedented amount of coordination from local through international government? **Terry** agreed with **Rabin's** comment. She noted these sources need to be regulated, and the ARB is working with the EPA and Caltrans on this issue. She also stated this was an opportunity to begin to tie together regulation for criteria pollutants with greenhouse gases.

Susan DeSantis of SDS Associates pointed to the Ontario Model Colony demonstration project as an example of the SB 375 infill. She asked the panelists what they thought about the attorney general's use of comment letter regarding greenhouse gas emissions.

Inman concluded saying that it is all about relationships. We must build stronger bridges between the public and private sector to create trust among parties. We can respectfully disagree, but we must trust one another.

Session 9: Walking the Talk: The Most Important Next Steps

Brian D. Taylor (Moderator)

Taylor noted that this final session involves the tradition of having a thoughtful researcher and a thoughtful practitioner offer some interpretations of what they have heard during the past few days. The symposium will end with all conference participants having an opportunity to share ideas.

Martin Wachs, Director of the Transportation, Space and Technology Program, RAND Corporation

Wachs opened with a fundamental question from the symposium. Does this moment, during the worst economic crisis since WWII, represent a unique opportunity for reform within the realm of transportation, environment, and land use? **Wachs** stated this is not an especially opportune moment for reform. Rather, there are always opportunities for change and action.

Wachs described that the country is facing a great deal of anxiety as a function of the economic downturn. The stimulus package has not solved the economic problem. Elected officials are now even more timid and risk-averse than normal. At the same time, voters no longer trust their elected officials. Yet, **Wachs** expressed some optimism. When taking a long term view, we have accomplished a lot. **Wachs** gave the example of significantly improved air quality over the decades.

Wachs highlighted some key themes from the conference, including failing revenues, deteriorating transportation infrastructure, and the financial tsunami. He also mentioned that he heard a great deal of advocacy for user fees during this conference, something that has been a persistent theme at the Arrowhead Symposiums. **Wach**s cited State Route 91 and Interstate 15 as examples of progress in this area. He also mentioned that China and India have made amazing progress.

Wachs noted a few areas in which he wanted to hear more discussion:

- **Wachs** regrets that there was not a greater focus on disadvantaged communities. The economic crisis is having horrible consequences on the poor and the homeless. **Wachs** asked that we not lose sight of the fact that transportation investments and green technology can create jobs.
- **Wachs** noted that while many symposium participants advocated for mixed-use, higher density, and transit-oriented development, there was not much discussion about market demand. We have archaic zoning and sub-division regulations that push us toward single unit housing, but environmental benefits and economic demand should be moving us in a different direction.
- **Wachs** mentioned that the symposium did not give much attention to achieving VMT reductions from the goods movement sector. He described that a lot of growth in VMT is due to goods movement. Many VMT reductions could be achieved through more efficient goods movement rather than changes in personal travel.

Wachs highlighted a key theme of the symposium− the complex roles and purposes of government, as well as the related issue that the citizenry feels detached from all levels of government. **Wachs** summarized that we have a fiscal crisis more so than a government failure. For instance, California is supposedly near bankruptcy and complete dysfunction, yet AB 32 and SB 375 are cited throughout the country as examples of leadership. The transportation debate called for a greater vision for national transportation planning, at the same time calling for devolution. In sum, lower levels of government want more authority, more money, and fewer mandates from higher levels of government. This is not necessarily contradictory. **Wachs** emphasized that there is a national role in transportation; devolution of everything is not an option. However, we have not articulated well what this federal role should be. We need to create a vision for a transportation future because it is not going to come from the Legislature.

Wachs noted the importance of questioning commonly held assumptions and terms. He asked the following questions:

- Is VMT and congestion bad? During the symposium many people accepted the view that VMT reduction is important. **Wachs**, on the other hand, stated that VMT is a poor measure of sustainability. He gave the example of wanting to reduce VMT during peak hours while supporting more VMT if it means that a low-income person can get to their airport job at 2 am.
- Do we really benefit by having a public monopoly on transit? Or, would we benefit from having a more diverse set of offerings for public transit?
- What does mode neutral mean? Should we spend 70 percent on transit or should we recognize that the highway system is falling apart?
- How do we measure performance on a large scale? Measuring performance is easier to do at a local project level, but very challenging at a national level.

Wachs concluded that in a democracy there are many points of view and we need to reach consensus. Over the years we have found ways to reach consensus at these symposiums.

José Luis Moscovich, Executive Director, San Francisco County Transportation Authority

Summarizing a key point made by previous speakers, **Moscovich** stated that there is not enough of a perception of crisis to mobilize elected officials to take action about transportation infrastructure investment. **Moscovich** suggested transportation professionals rarely make the case for funds as well as teachers, firefighters, or prison guards. Alluding to Assembly Member **Feuer's** discussion, he argued it is easier for elected officials to understand the implications of placing 60 children in a classroom rather than the results of inappropriate road maintenance.

The current crisis of confidence is fueled by the deterioration of public trust in government and institutions. Its roots are in education. **Moscovich** remarked that it's difficult for the public to understand the massive size of California's government and programs. The general public feels more comfortable with local programs because they are a scale understood by the public.

Is this a time of crisis for all institutions? **Moscovich** wondered if Californians were better informed about these issues in the past. He contended they were not, but they were more willing to trust government with more complicated issues. **Moscovich** reiterated that it is difficult to reform government since the consensus occurs after the crisis passes. While there are changes that can be made without revising the California constitution, there is no consensus as to what to do next. He advocated an incremental approach to reforming the transportation finance system, testing vehicle miles travelled charges and gradually moving towards performance-based measures.

One interesting breakthrough is full lifecycle accounting of transportation projects. This is an opportunity to show the public what it takes to have a healthy infrastructure system. A natural outgrowth of lifecycle accounting is a reevaluation of fixed-route transit. In addition to performance measures, **Moscovich** recommended that core values must guide public investment decisions, but reconciling differences across jurisdictions is more an art than a science. He also argued that local governments do not know best all of the time. The decisions made locally have big effects on the national and international stage. Therefore, the federal government must play some role in transportation.

For instance, Argentina spends approximately 80 percent of its gasoline tax revenue in Buenos Aires. Unlike the U.S., Argentina sees less prosperity outside the urban areas. The federal government plays an important part in defining roles and redistributing tax revenues to achieve them. Similarly, China is spending $200 billion on a national rail network and constructing thousands of kilometers of tollways. **Moscovich** suggested there is a consistency in these policies that is important, and in the U.S., we need federal framework because California cannot do this alone.

Moscovich reiterated that the idea of goals is important in decision-making. We need to bring our societal goals together in a way that benefits everyone, rather than developing them within our individual silos. This will reduce costs for the public, freeing up money to fund other programs. As a society, we need to figure out the goals, and government needs to figure out how to fairly pay for them.

While transportation system needs do not generate the sense of crisis, the issue of climate change appears to do so. The environmental movement has a good track record of bringing issues to the forefront and transportation should ally themselves with the environmental movement. We need to make sure that policies like SB 375 do not get bogged down in the bureaucratic process. We need to help the measures capitalize on the momentum of the crisis. **Moscovich** concluded that transportation officials must figure out ways to convey transportation challenges in a compelling manner to the general public.

Discussion

Richard Napier of the Association of Governments of San Mateo County made two points:
1) The Legislature and the media do not differentiate between user fees and taxes. There needs to be a specific education effort about user fees being sharply different from taxes.
2) Local sales tax measures have been successful by presenting to voters the clear link with fixing pot holes, putting in a new interchange, and other local issues; we need to do the same with the gas tax. There is a perception that gas tax revenues can be taken away from local transportation and moved around. Let's call the gas tax a transportation fee and link it to specific benefits that each and every person would get.

Moscovich agreed with **Napier** and said that the only caveat is that government needs to have some discretion to do things that are not on the list.

Taylor replied that it is a slippery slope. We are moving more toward user fees but we are also doing more fudging back and forth across funding boundaries, for example taking money from the General Fund to cover the Transportation Trust Fund.

Mark Brucker of Mark Brucker Consulting recommended that we should question the notion that there is no money. As a whole society we have lots of money. California's gross product is still around 2 trillion or so. What has happened is that the proportion of what the state gets has decreased. If one more percent of a state's annual income went to the state government, it would be huge. We need to start thinking about ways to convince people to start spending more to address a myriad of societal needs.

Michal Moore of the University of Calgary commented that we are still skating perilously close to an inflationary spiral or a liquidity trap. **Moore** asked if we should plan for a potentially catastrophic event. Should we not have another planning mechanism to talk about the scary scenario? **Wachs** asked who should be responsible. **Moore** responded that the type of people in this room should be responsible. If you don't make the incremental change, you really do face the possibility of disaster.

Wachs responded that in California we pay attention to the possibility of an earthquake or a regional fire, but we have less interest in how our policies could create fiscal emergencies. We certainly have the analytical tools to stimulate a wide range of alternatives, and to even find the most causal variables and pay attention to those variables.

Michael Fitts of the Endangered Habitat League summarized what he heard at the conference: there is a huge fiscal crisis, people want to solve it through user fees, user fees are politically difficult, we need to figure out what we want before we can ask people to pay for it, but we don't know what we want because there is bad VMT, good VMT, bad congestion, and good congestion. We first need to understand what we want. **Taylor** is trying to come up with different measures of performance that go beyond VMT. **Fitts** suggested that articulating what we want could be the topic of a future conference.

Trish Kelly, Consultant with California Forward, commented on the social equity issue. SB 375 does offer a great opportunity. Some of the foundations are investing in helping equity representatives come to the SB 375 discussion. In addition, the Strategic Growth Councils have a lot of tools to help with smart growth. Kelly also noted that the private sector is innovating around the green economy and clean technology. She mentioned that California Forward has a harder time engaging the public on budget issues compared to issues around innovation and the green economy. The idea of focusing on innovations that will occur around climate change can build hope around what we do.

Moscovich replied there is a danger in only achieving marginal benefit with the green economy. He also noted that **Fitts** made an excellent suggestion for a future conference theme. We cannot assume that we will have the resources to continue our pattern of growth and land use. We may be attached to a type of lifestyle that we cannot sustain. We need to grow our industries, but we also need to look beyond to the land use connection.

Jesse Glazer of Southern California FHWA/FTA Metro Center commented that an overarching theme of the conference was how to change travel behavior. We talk a lot of about regulatory and economic approaches to bringing about those changes. Glazer suggested that maybe there is a third way− changing attitudes and values to make better travel decisions. He provided the example of the anti-smoking movement as a grass roots example of how major change was made by shifting public perception. People used to think that they had a right to smoke but now recognize that they impose externalities on others. Is there a way to get people to understand transportation externalities and begin to support and understand regulatory solutions?

Wachs described that in many countries the government pays teams of auditors to come to people's homes and make suggestions for improved travel behavior. **Wachs** noted that this approach is probably not appropriate for the U.S., but research does demonstrate that travel behavior can change as a result of more information about their travel options and consequences.

Glazer wondered if there isn't something in between. We ought to make people aware of the consequences of their choices without making their choices for them. We do not market this information to the public effectively.

Jonathan Redding of Wendel, Rosen, Black & Dean described research that showed the feedback effects of showing homeowners how their electric use compared to their neighbors.

Gail Goldberg was struck by the comments of **Wachs**. As a land use planner, she is charged by California to create land use plans that will reduce emissions. She cannot rely on vehicle technology because the fleet will not turn over quickly enough. Further, she noted California will continue to add people and cars, and this will increase VMT over time. The role of the land use planner is to enable people to make different choices about travel to reduce the need for VMT. We cannot stop VMT from increasing, but we need to spread those VMT across the system and time of day to reduce congestion.

Additionally, **Goldberg** agreed with **King** about charging the environmental cost of travel, mentioning it would reduce VMT but it would do so in the low income communities first.

Wachs responded they are on the same page, but they disagree on some of the details. For instance, he stated that the city should increase capacity through operational measures. If we increase density in an urban area, VMT will increase, and **Wachs** argued we need to more efficiently use the resources available to us. We can reduce VMT demand and increase capacity where it is needed. **Goldberg** agreed with **Wachs**.

Moscovich also stated that we need a balanced decision-making process that considers whether transportation is a commodity, a service, or a right. Incremental decision-making should move us towards a balance and away from any one extreme.

Stan Hoffman observed that we have been discussing compact growth and the interaction between regional governance and local control for 25 years. The breakthrough was pricing policy. For instance, the SR-91 and I-15 toll lanes illustrated that jurisdictions can work together.

Huasha Liu commented that she believed **King**'s point did not relate to good VMT or bad VMT, but rather it addressed choices. She reiterated **King**'s statement that society needs to pay for our services, reducing subsidies to the heavy users.

Taylor observed that the issue of choice came up several times during the symposium. For instance, he noted panelists discussed the choice of internalizing the cost of driving and placing transportation measures on the ballot. When confronted by a choice not to pay for the full costs of travel, it is not surprising that most people do not want to pay for it and the public becomes accustomed to this option. Therefore, as decision-makers, we are constrained about how we present policy choices.

Wally Siembab of the Southbay Cities COG picked up on a point raised by **Goldberg** about compact growth reducing the demand for travel. He noted there may be a market for higher density development at transit stations but the electorate does not want it. So instead of building more origins, we are focusing on increasing commercial density at our destinations.

Wachs said this is the mirror opposition of increasing housing density where there is already commercial density. However, he wondered about the market realities and whether commercial development was more politically feasible than the residential development. **Moscovich** noted San Francisco has these problems too. Parking is the critical link here.

LeRoy Graymer asked the audience what user fee has been doubled in the last two months. The state park user fee was increased, noting that the threat of park closure enabled the legislature to double the fee. **Wachs** acknowledged this is a brinksmanship approach, and it may be appropriate in some places.

Taylor thanked the participants and closed the conference.

III. Conclusion

The 19th annual ***Transportation, Land Use, and Environment Connection*** symposium took stock of the current economic crisis, its effect on transportation systems and finance, and the possibility for reform. The economic crisis is historic and far reaching. It is affecting a wide range of Americans, businesses, and government agencies at all levels. The state of California's budget situation is dire, exacerbated by a high level of foreclosures and other manifestations of the Great Recession. Yet the root causes of the state's budget problems are structural and institutional in nature. Many leaders are calling for a Constitutional Convention to fundamentally reform the budget process and other aspects of the governance system. However, these leaders do not agree on what exactly within this system of governance is the problem, and at the same time, the general public is less aware of or less concerned with the governance system and instead places blame with state elected officials.

While Californians may perceive a leadership crisis, others in the nation view the state's AB 32 and SB 375 laws as prime examples of leadership. Tackling global warming through land use and transportation presents both challenges and opportunities. SB 375 aims to reduce greenhouse gas emissions by reducing vehicle miles traveled, but there is no consensus that all travel is negative. SB 375 presents the opportunity for more discussion about state, regional, and local transportation, land use, and environmental goals.

The state's budget crisis has impacted transportation funding. The federal stimulus was an important one-time infusion of money, but it was still just a very large drop in a very large bucket. In terms of an ongoing source of transportation finance, the gasoline tax is no longer a viable solution for long-term sustainability. In the 1920s, the government intended the gasoline tax to be an interim source of revenue until technology development could make direct user fees feasible. Elected officials and others have forgotten this history. Direct user fees− automatic tolls and vehicle miles traveled fees− are now technologically feasible but politically very challenging. Instead, the most recent trend has been a shift toward borrowing and local sales tax measures.

Does the current economic crisis present opportunities for reform in both our system of governance and transportation system? Historically, sweeping transportation policy changes and environmental regulations happened during times of crisis. Likewise, this crisis does present opportunities to make policy change within the realm of transportation, environment, and land use. Yet, every moment presents some opportunity for policy change and this moment is not particularly ripe for quick and dramatic reform, nor would this be the ideal course of action. Policy change in the U.S. is incremental. Our window of opportunity is narrow and should be pursued quickly but without haste. Once a policy is in place, it is difficult to change. In sum, the crisis presents an enormous responsibility to get the right transportation policies.

IV. Appendix

Economic Crisis as Opportunity for Reform

The Transportation – Land Use – Environment Connection

UCLA Lake Arrowhead Conference Center
Lake Arrowhead, California
October 18-20, 2009

Appendix A: Program

Program

UCLA Conference Center at Lake Arrowhead
The Transportation—Land Use—Environment Connection
October 18 – 20, 2009

Overview

This is an unprecedented time. The depth of the economic downturn is historic, and its effects on cities, regions, land markets, and transportation systems are profound. Record foreclosures threaten the social and fiscal stability of cities, while those responsible for transportation systems face both deep budget cuts and expectations that increased transportation/infrastructure spending can help to stimulate the economy. Further, the specter of climate change has shifted debates over land use – transportation relationships and their role in a new, greener economy. New state legislation seeks to incorporate greenhouse gas emissions into planning practice, and some form of federal legislation is on the horizon. Amidst these economic and environmental challenges, however, are opportunities to effect fundamental changes to public policies and planning practice. Accordingly, this year's UCLA *Lake Arrowhead Symposium* explores these challenges and the opportunities they present for reforming the transportation – land use – environmental connection.

Over two and one-half days the participants in this symposium will explore the roots of the current economic crisis, its global scale and its local implications for both transportation systems and local government finance. We will examine the crisis in transportation finance, why a sustainable finance system has proven elusive, and what opportunities are presented by the current economic crisis for reforming how we pay for transportation. We will also address the challenges to building consensus for action amidst potentially competing economic and environmental imperatives, and consider opportunities to better measure and evaluate the performance of urban and transportation systems across a wide array of objectives. Finally, we will turn to debates over efforts to fundamentally alter systems of governance and public policymaking in California in order to increase the stability, accountability, and performance of government at all levels in the Golden State. Fundamental change, whether it is to the structure of state governance or to the roles of local planners, most often occurs during times of stress. As such, the symposium will close with a sharing of ideas – large and small – for positive change in response to economic crises.

This symposium is intended for decision makers and analysts at all levels of the public and private sectors whose work concerns land and transportation systems and their environmental consequences.

Symposium Co-Organizers:

Catherine Showalter, Director, UCLA Extension Public Policy Program; Director, Osher Lifelong Learning Institute at UCLA

Brian D. Taylor, Professor and Chair of Urban Planning; Director, Institute of Transportation Studies, UCLA

Allison Yoh, Associate Director, Ralph & Goldy Lewis Center for Regional Policy Studies; Associate Director, Institute of Transportation Studies, UCLA

Sunday, October 18, 2009

1:00 pm — Registration, Check-In & Refreshments

1:30 — Welcome

Karim Cherif, Associate Dean of Academic Affairs, UCLA Extension

Catherine Showalter, Director, UCLA Extension Public Policy Program; Director, Osher Lifelong Learning Institute at UCLA

1:45-2:15 — Symposium Overview

Speaker:

Brian D. Taylor, Professor and Chair of Urban Planning; Director, Institute of Transportation Studies, UCLA

2:15-3:30 — **THE ECONOMIC CRISIS: PUBLIC FINANCE AND LINKS TO TRANSPORTATION**

This opening session lays the groundwork for the sessions to follow by examining the relationship between transportation, public finance, and global economies. Given the sustained economic downturn, what are the implications for local revenues and transportation investments, and how is/will the federal stimulus funding affect California? How do transportation investments affect economic output? Do they grow economies, or mostly shift activity from place to place, and what are the implications for public policy?

Moderator:

Catherine Showalter

- **Global economy, local effects: The economic downturn and its effects on investment, employment, and revenues in California**
  Speaker:
  Jon Haveman, Principal, Beacon Economics

- **Just how do transportation systems affect the economy: Stimulus, or something more?**
  Speaker:
  Marlon Boarnet, Professor, Planning, Policy, Design & Economics, UC Irvine

- **The Federal Stimulus: What have been the effects on transportation, the economy?**
  Speaker:
  Earl Seaberg, Caltrans Recovery Program Deputy Manager for the American Recovery and Reinvestment Act (ARRA) of 2009

Discussion

3:30-3:45 Break

3:45-5:30 **WAXING NEEDS, WANING REVENUES: ONGOING EFFORTS TO DEVELOP A SUSTAINABLE SYSTEM OF TRANSPORTATION FINANCE**

This session highlights the evolution of transportation finance over the past century from one based on borrowing and general revenues, to one based almost entirely on user/beneficiary fees and taxes, to the largely *ad hoc* and unreliable system today. We examine the current sources and levels of revenues, and will consider likely options for the future, ranging from minor tinkering with the existing system to a major overhaul of who pays for transportation and how they pay.

Moderator:
Brian D. Taylor

- **Crisis and response: Lessons for today from a century-long struggle to develop a stable system of transportation finance**
  Speaker:
  Martin Wachs, Director of the Transportation, Space and Technology Program, RAND Corporation

- **Waxing needs, waning revenues: Trends and prospects in federal, state, regional, and local surface transportation finance**
  Speaker:
  Therese Watkins McMillan, Deputy Administrator, Federal Transit Administration; Former Deputy Executive Director, Policy, Metropolitan Transportation Commission

- **Two major commissions, no major policy changes (yet): The prospects for fundamental changes to transportation finance in the Obama Administration**
  Speaker:
  Steve Heminger, Executive Director, Metropolitan Transportation Commission

Discussion

5:30-6:30 Check-in and Reception

6:30-8:00 Dinner

8:00-9:30 **JOBS VERSUS THE ENVIRONMENT, OR JOBS AND THE ENVIRONMENT? A ROUNDTABLE ON PLANNING FOR GREEN JOBS IN THE NEW MILLENNIUM**

Panelists in this session will debate and deliberate on the challenges and opportunities for expanding green jobs in the coming year, particularly from a business perspective. What is the role of the private sector in responding to public environmental mandates, how are firms responding to the increasing market demand for green practices and industries, and are green jobs feasible as a business strategy during this time of economic distress?

Moderator:

***J.R. DeShazo*,** Associate Professor and Director of the Ralph & Goldy Lewis Center for Regional Policy Studies, UCLA

Panelists:

***David Raney*,** Senior Manager, Environmental and Energy Affairs, American Honda Motor Company, Inc.

***Dr. Mike Walter*,** Commissioner, Port of Long Beach

***Daniel M. Cashdan*,** Senior Managing Director, HFF Securities, L.P.

***TBA*,** Southern California Edison

Discussion

9:30-11:00 Informal reception

Monday, October 19, 2009

8:30-10:15 am **COLLISION OR COHESION? THE CHALLENGE OF INTEGRATING ECONOMIC AND ENVIRONMENTAL MANDATES**

If a more sustainable economy is a more productive economy, how should planners and policy-makers best unite economic and environmental objectives through policy? Speakers in this session discuss the opportunities and challenges of integrating California's climate action mandates, such as SB 375, at the state, regional, and local levels of government. Given the difficulty that institutions inevitably face in working beyond their organizational boundaries, what can be done to enhance inter-agency cohesion and avoid inter-jurisdictional collisions?

Moderator:

Catherine Showalter

- **California's climate action mandates: Opportunities and challenges to fundamentally integrate land use and transportation planning**

  Speakers:

  ***Mary Nichols*,** Chairperson, California Air Resources Board

  Barry Wallerstein, Executive Officer, South Coast Air Quality Management District

  Gail Goldberg, Director of Planning, City of Los Angeles

Discussant:
Jim Wunderman**,** President and Chief Executive Officer, Bay Area Council

10:15–10:30 Break

10:30-12:00 pm **DEFINING, MEASURING, AND EVALUATING PERFORMANCE**

Some say "you cannot achieve what you can't measure." If so, how can we better measure what we aim to achieve? In implementing policies to integrate transportation, land use, and the environment objectives, how can and should we go about measuring performance and evaluating success? Given the strong role of forecasts in planning, what can we do to improve them? Better data and measures, better models, better use of technology, better application in practice? How can we develop more integrated sets of measures that incorporate broader goals of the environment, economics, equity, and sustainability into policy and practice?

Moderator:
Allison Yoh**,** Associate Director, Ralph & Goldy Lewis Center for Regional Policy Studies; Associate Director, Institute of Transportation Studies, UCLA

- **You can't achieve what you can't measure: Developing clear measures of transportation objectives**
  Speaker:
  JayEtta Z. Hecker, Director of Transportation Advocacy, Bipartisan Policy Center

- **Incorporating environment and equity into evaluations of land use/transportation systems**
  Speaker:
  Kara M. Kockelman, Professor and William J. Murray Jr. Fellow, Department of Civil, Architectural & Environmental Engineering, University of Texas at Austin

- **Efforts to develop a comprehensive transportation performance measurement system: Regional blueprint and cross-sector performance metrics**
  Speaker:
  Trish Kelly, Program Consultant, California Center for Regional Leadership (CCRL)

Discussion

12:00-1:30 Lunch

1:30-3:15 **THE ROCKY ROAD TO INFRASTRUCTURE FINANCE REFORM: PITFALLS AND PROSPECTS**

What are our options for achieving a sustainable system of transportation finance that incorporates performance measures and accountability in the years ahead? This session focuses on the political realities and constraints on alternative methods of finance, and how we might build the political consensus necessary for reform. What will it take to move forward, and what should be the next steps?

Moderator:
Stephen Finnegan, Manager, Government Relations, Automobile Club of Southern California

- **The starting point for reform: Bribes, subsidies, or personal accountability for the costs we inflict?**

  Speaker:
  Norm King, Founding Director, Consultant, Leonard Transportation Center, California State University, San Bernardino

- **Taxes, Pricing, Borrowing, or PPPs: Evaluating the options for financing future needs in transportation**

  Speaker:
  Emil H. Frankel, Director of Transportation Policy, BiPartisan Policy Center

- **Attitudes toward alternative (including "green") methods of transportation finance: What do voters think?**

  Speaker:
  Jennifer Dill, Director, Oregon Transportation Research & Education Consortium, Associate Professor, Nohad A. Toulan School of Urban Studies & Planning, Portland State University

- **Politically effective approaches to pricing transportation: Seizing opportunities to both raise revenues and increase efficiency**

  Speaker:
  Donald Shoup, Professor, School of Public Affairs / Urban Planning, UCLA

Discussion

3:15-5:30 Free Time

5:30-6:30 Reception

6:30-8:00 Dinner

8:00-9:30 **THE ELEPHANT IN THE ROOM: REFORMING GOVERNANCE IN CALIFORNIA**

Successfully integrating transportation, land use, and environmental goals into policy and practice amidst economic prosperity requires a stable, enduring, and adaptive system of governance. Yet a growing chorus of voices from across the political spectrum argues that California is becoming ungovernable. In this session, speakers present evidence about voter attitudes toward governance, and efforts to reform California government and local public finance. Is fundamental change on the horizon and, if so, what might that be?

Moderator:
Allison Yoh

- **Do voters really mean what they say? Attitudes toward institutional reform in California**

  Speaker:
  David Metz, Senior Vice President, Fairbank, Maslin, Maullin & Associates

- **Reforming California government**

  Speaker:
  James P. Mayer, Executive Director, California Forward

- **Reforming public finance in California**

  Speaker:
  Richard G. Little, Director, Keston Institute for Public Finance and Infrastructure Policy, University of Southern California

Discussant:
Mike Feuer, Assemblymember**,** California 42^{nd} Assembly District

Discussion

9:30-11:00 Informal Reception

Tuesday, October 20, 2009

8:45-10:15 am **TURNING CRISIS AND MANDATES INTO OPPORTUNITIES FOR ACTION**

This session presents cases of efforts to integrate economic development into planning practice. How have these efforts fared? How have they turned crises and mandates into opportunities and success? If so, at what cost? What are the lessons learned when results did not achieve the stated planning goals but took an unanticipated change of direction for better or for worse? What lessons can we take from these efforts to effect fundamental change to policy and practice?

Moderator:
Fran Inman, Senior Vice President, Majestic Realty

- **Environmental streamlining – Balancing procedural efficiency with environmental protection**
  Speaker:
  Lynn Terry, Deputy Executive Officer, California Air Resources Board

- **Efforts to mainstream regional planning among local governments: Moving from scenario planning into action and implementation**
  Speaker:
  Harrison Rue, Principal, ICF International

10:15-10:30 Break

10:30-12:00 pm **WALKING THE TALK: THE MOST IMPORTANT NEXT STEPS**

During this closing session, we ask thoughtful, relatively high level researchers and practitioners to reflect on what we have learned in the symposium and what they see as the most important next steps. These comments will be followed by a moderated closing discussion among all participants. The symposium comes to an end with a sharing of ideas – large and small – for positive change in response to economic crises.

Moderator:
Brian D. Taylor

Martin Wachs, Director of the Transportation, Space and Technology Program, RAND Corporation

José Luis Moscovich, Executive Director, San Francisco County Transportation Authority

Closing Discussion

12:00-1:30 Concluding Lunch

Appendix B: Speaker Bios

The Transportation/Land Use/Environment Connection
Economic Crisis as Opportunity for Reform

UCLA Conference Center at Lake Arrowhead
October 18-20, 2009

SPEAKER BIOGRAPHIES

Marlon Boarnet is Professor of Planning, Policy, and Design and Economics at UC Irvine. From 2003 through 2006 he chaired UC Irvine's Department of Planning, Policy, and Design. He studied land use – travel behavior interactions, urban growth patterns, the economic impacts of transportation infrastructure, and economic development. Boarnet is co-author of *Travel by Design: The Influence of Urban Form on Travel* (Oxford University Press, 2001), a comprehensive assessment of the modeling and policy challenges inherent in linking urban design to transportation planning and is positioned as the reference monograph on the topic. Boarnet is ranked among the top ten most published planning scholars in North America for the years 1998 through 2002. He edits the *Journal of Regional Science* and serves as an associate editor of the *Journal of the American Planning Association,* and is on the editorial boards of the *Journal of Transportation and Land Use*, the *Journal of Planning Literature* and the *Papers in Regional Science*. Boarnet won the Fannie Mae Foundation Prize for best paper on housing and community development at the 2000 meetings of the Association of Collegiate Schools of Planning and the Best of ACSP Award for one of three outstanding papers at the 1997 Association of Collegiate Schools of Planning meetings. Boarnet is a member of the National Academy of Sciences/National Research Council Committee on "Relationships Among Development Patterns, Vehicle Miles Traveled, and Energy Consumption." Boarnet has served as a member of the Transportation Research Board's Committee on Transportation and Economic Development. He has been principal investigator on over a million dollars of funded research, supported by agencies that include the U.S. and California Departments of Transportation, the U.S. Environmental Protection Agency, the California Policy Research Center, and the Robert Wood Johnson Foundation. Boarnet has provided consulting services to the World Bank, the Bay Area Economic Forum, the Orange County Business Council, and the Urban Land Institute, among others.

Dan Cashdan is Senior Managing Director of HFF Securities L.P. Prior to joining HFF, Mr. Cashdan was a Partner and Managing Director at Chadwick Saylor and a Principal of CS Securities, Inc., its broker/dealer affiliate. His responsibilities included managing client relationships and raising capital for Investment Banking clients of the firm. During his tenure at Chadwick Saylor, Mr. Cashdan founded and served as chairman and CEO of a green energy firm by the name of Real Energy. Prior to joining Chadwick Saylor, Mr. Cashdan was a Senior Vice President at Aldrich, Eastman, Waltch where he was responsible for new product development and direct pension marketing. Prior to AEW, Mr. Cashdan was President of Real Asset Management Inc., an affiliate of Dimensional Fund Advisors and the RREEF Funds. He has developed and marketed institutional real estate products for the past 20 years and has been actively involved with real estate investment and development for the past 25 years. Mr. Cashdan graduated from the University of Southern California with a degree in Real Estate Finance and received an MBA from the University of Chicago GSB. Mr. Cashdan has served on the GSB's Distinguished Alumni Award Selection Committee and the Board of The U.S. Green Building Council. He has authored numerous articles relating to real estate investment and finance, is a member of the Pension Real Estate Association and the Urban Land Institute.

Jennifer Dill is Associate Professor in the Nohad A. Toulan School of Urban Studies and Planning at Portland State University and Director of the Oregon Transportation Research and Education Consortium (OTREC), a national university transportation center. Dr. Dill has a Ph.D. in City and Regional Planning from UC Berkeley, a MA in Urban Planning from UCLA, and a BS in Environmental Policy Analysis and Planning from UC Davis. She teaches courses in transportation policy and urban planning methods. Dr. Dill's research interests include the relationship between transportation policy and planning and land use, health, and the environment, travel behavior, and transportation finance. Her research is published in peer-reviewed journals, including *Transportation Research, Transport Policy, and Transportation Research Record*, along with several book chapters and research reports. Dr. Dill serves at the Chair of the Transportation Research Board's Committee on Bicycle Transportation, and on two NCHRP panels. Prior to entering academia, Dr. Dill worked as an environmental and transportation planner for the Bay Area Air Quality Management District and US Environmental Protection Agency in San Francisco, CA. She was also research director at the Local Government Commission, where she worked on energy, land use, and transportation planning issues.

Mike Feuer was elected to represent California's 42nd Assembly District in 2006. Mike wrote the law authorizing Los Angeles's Measure R, which will fund $40 billion in dramatic transportation improvements throughout Los Angeles County. In 2007 he played an instrumental role in directing more than $700 million to relieve congestion on Los Angeles's 405 freeway - one of the most crowded freeways in the world. For this and other work Mike was named "State Traffic Fighter of the Year" by Building L.A.'s Future, and Legislator of the Year by California's chapter of the American Planning Association. In 2008 Mike authored the biggest leap forward in chemicals policy in decades, granting California officials broad authority to regulate dangerous chemicals found in consumer products. He has written sweeping water conservation legislation that is pending this year, and successfully mediated two major environmental lawsuits which had threatened to derail 2008 budget negotiations. For his leadership on environmental issues Mike received awards from both the California and Los Angeles Leagues of Conservation Voters. Mike wrote the Crime Gun Identification Act, endorsed by more than 65 police chiefs and sheriffs, establishing the nation's first requirement that semi-automatic handguns be equipped with technology that imprints bullet cartridges with data establishing who purchased the gun that fired them. The Act gained national prominence, with the *New York Times* twice joining the *Los Angeles Times* and other newspapers in supporting it, and federal legislators introducing bills modeled on it. This year Mike is the author of legislation to require first-time drunk driving offenders to install ignition interlock devices on their cars to prevent the vehicles from starting unless their drivers are sober. He also wrote a newly-enacted law to encourage Good Samaritans to intervene in emergencies by protecting them from lawsuits when they act responsibly. Throughout his career Mike has been one of California's leaders on improving the lives of senior citizens and people with disabilities. He wrote legislation providing emergency funding to California's Long-Term Care Ombudsman, which investigates claims of nursing home abuse and neglect. Mike has also authored pending legislation to require nursing homes prominently to post ratings of the care they provide so that patients and their families can make the best possible choices. And he wrote the law extending assistance to victims of traumatic brain injury. Both the Congress of California Seniors and the disability rights group Protection and Advocacy have honored Mike for this leadership. Mike has a long record of fighting for equal rights for all Californians. Prior to his election, Mike received the Education Advocacy Award from the American Civil Liberties Union for his extensive *pro bono* work on *Williams v. California*, which brought sweeping education improvements to many of California's least advantaged students. Equality California named Mike its Legislator of the Year for his leadership on marriage equality. Prior to his service in the Assembly, Mike represented Los Angeles's Fifth City Council District from 1995-2001. He began his career as a judicial clerk to California Supreme Court Justice Joseph Grodin. His first formal political experience was as director of Research and Issues for Los Angeles Mayor Tom Bradley's 1986 gubernatorial campaign. In addition to the recognition discussed above Mike has received dozens of honors for his leadership throughout his career. Mike is a Phi Beta Kappa, *magna cum laude* graduate of Harvard College and a *cum laude* graduate of Harvard Law School.

Emil H. Frankel is the Director of Transportation Policy for the Bipartisan Policy Center (BPC) in Washington, DC, and an independent consultant on transportation policy and public management issues. In June 2009 BPC's National Transportation Policy Project, under Mr. Frankel's leadership, issued its report and recommendations, *Performance Driven: A New Vision for U.S. Transportation Policy*. In 2008 and 2009, Mr. Frankel was a Visiting Lecturer at the Yale School of Management and the Yale School of Forestry and Environmental Studies, where he taught on issues of transportation, energy, and environmental policy and public management. Mr. Frankel was Assistant Secretary for Transportation Policy of the U.S. Department of Transportation from 2002 to 2005. Appointed by President George W. Bush, Mr. Frankel played a key role in the coordination and development of the Administration's proposal to reauthorize the Federal highway, transit, and highway safety programs. He also provided policy leadership in such areas as intermodal freight transportation, reform of the Nation's intercity passenger rail system, transportation project financing, and the application of information technologies to transportation systems operations. From 2005 to 2007 he was a Principal Consultant of Parsons Brinckerhoff, the international engineering and consulting firm. From 1995 to 2001 Mr. Frankel was Of Counsel to Day, Berry & Howard in the law firm's Stamford, Connecticut, office. During that time he was also a Management Fellow at Yale University's School of Management and a Senior Fellow at the Yale School of Forestry and Environmental Studies. In 1995 he was a Joint Fellow at the Center for Business and Government and the Taubman Center for State and Local Government at Harvard University's John F. Kennedy School of Government. Mr. Frankel was Commissioner of the Connecticut Department of Transportation from 1991 to 1995, responsible for managing an agency with more than 4,000 employees and an annual budget of over $1 billion. During the 1970s and 1980s, he was a senior executive of The Palmieri Company, a national firm engaged in business and real estate reorganizations. Previously, Mr. Frankel served as Special Assistant to the Under Secretary of the U.S. Department of Housing and Urban Development and as a Legislative Assistant to U.S. Senator Jacob K. Javits of New York. Mr. Frankel served as a founding Vice Chair of the I-95 Corridor Coalition and as a Director of the Regional Plan Association of New York. He currently serves on RPA's Connecticut Committee. He was a Selectman of the Town of Weston, Connecticut, from 1999 to 2001. Mr. Frankel received his Bachelor's Degree from Wesleyan University and his LL.B. from Harvard Law School, and was a Fulbright Scholar at Manchester University in the United Kingdom. From 1981 to 1997 he was a Trustee of Wesleyan University, where he is now a Trustee Emeritus.

S. Gail Goldberg was appointed Director of Los Angeles City Planning Department in February 2006. As director, Ms. Goldberg is responsible for organizing and directing the policies and planning activities of the City's Planning Department. Those activities include the development, maintenance and implementation of all elements of the City's General Plan as well as a range of other special zoning plans. Additional responsibilities include plan implementation measures, subdivisions and other controls. The L.A. Department of City Planning is currently embarked on its most aggressive long-range planning agenda: updating twelve of the City's 35 community plans and two new elements of the general plan; ten transit-oriented district plans and several specific and master plans. The Department is also leading a city-wide effort to reform and streamline its development process. To create a more effective and efficient department, City Planning has begun an ambitious reorganization of its more than 300 person staff to create planning teams that will provide a full range of planning services to each of the City's seven geographic planning areas. Prior to joining the Los Angeles Planning Department, Ms Goldberg worked for 17 years in the Planning Department of the City of San Diego, the last 5 years serving as Planning Director. Her responsibilities included all long range city-wide and community planning. Other responsibilities included Facilities Financing, Transportation Planning, the Multiple Species Conservation Program (MSCP), and special projects. She oversaw a planning process to update the city's 20-year-old General Plan. The initial result was the adoption of a strategic framework plan that articulated a 20-year vision for the City and a long-term strategy for achieving that vision known as the "City of Villages" plan. Ms. Goldberg is a native Californian and holds a degree in Urban Studies and Planning from the University of California San Diego. She is an Urban Land Institute Trustee, as well as Chair of the San Diego/Tijuana ULI District Council; Past President of the San Diego Chapter of the Lambda Alpha Honorary Land Economics Society. Ms. Goldberg has also served on the Statewide Coordinating Committee for the Urban Land Institute's California Smart Growth Initiative; as a board member of the American Planning Association; and as co-chair of the State American Planning Association 2002 Conference. She is currently a member of the American Institute of Certified Planners; and a member of the California Planners Roundtable.

Jon Haveman is Founding Principal of Beacon Economics. He is widely considered to be one of California's leading experts on the economics of seaports, goods movement, and international trade policy. He is an expert in regional economies and local economic development. Prior to launching Beacon Economics, Dr. Haveman was the Director of the Economy Program at the Public Policy Institute of California. He has been a Senior Economist with the President's Council of Economic Advisers, an Economist with the Federal Trade Commission, and held a faculty position in the Business School at Purdue University. A prolific author and well-known media commentator, Dr. Haveman has published extensively, regularly appears on radio and television, and has been quoted in *The Economist*, *Los Angeles Times*, and *San Francisco Chronicle*, among many other publications. Dr. Haveman speaks regularly at events across California and has testified at numerous federal and state government hearings. He holds a Ph.D in Economics from The University of Michigan.

JayEtta Hecker is Director of Transportation Advocacy for the Bipartisan Policy Center's National Transportation Policy Project. She played a leadership role in supporting the work of the Project in addressing the performance challenges of current programs, as well as developing strategies for addressing critical freight, planning and funding dimensions of an efficient, sustainable national transportation system. She also serves on the Board of Advisors of the Eno Foundation. Until mid 2008, she served as Director of Physical Infrastructure Issues at the U.S. GAO where she was the senior partner overseeing GAO work on the economic impacts and policy options of diverse surface, aviation, and maritime transportation programs. She was recognized for her strong direction of hundreds of GAO reports and incisive and constructive testimony before over 100 Congressional hearings. She directed a major body of work focusing on the performance failure and need for a comprehensive restructuring of federal surface transportation policies and programs. Ms. Hecker directed GAO work for 25 years and before that served as a policy economist in various executive branch agencies, including coverage of regulatory issues in the Carter White House. She has degrees in economics from Boston University and Georgetown University.

Steve Heminger is Executive Director of the Metropolitan Transportation Commission (MTC). MTC is the regional transportation planning and finance agency for the nine-county San Francisco Bay Area. It allocates more than $1 billion per year in funding for the operation, maintenance and expansion of the Bay Area's surface transportation network. Since 1998, MTC has served as the Bay Area Toll Authority (BATA) responsible for administering all toll revenue from the seven state-owned bridges. BATA has a "AA" credit rating and plans to issue over $7 billion in toll revenue bonds to finance bridge, highway, and transit construction projects over the next several years. MTC also functions as the region's Service Authority for Freeways and Expressways (SAFE) and operates a fleet of 80 tow trucks and 2,600 roadside call boxes to assist motorists in trouble. In addition, MTC manages the TransLink® universal fare card program for public transit and the popular 511 traveler information telephone number and web site. Mr. 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 the Mineta Transportation Institute and the Board of Directors for the Association of Metropolitan Planning Organizations and International Bridge, Tunnel and Turnkpike Association. Prior to joining MTC in 1993, Mr. Heminger was Vice President of Transportation for the Bay Area Council, a business-sponsored public policy group. He also has served as a staff assistant in the California State Legislature and the U.S. Congress. Mr. Heminger received his Master of Arts degree from the University of Chicago and a Bachelor of Arts degree from Georgetown University.

Trish Kelly is Principal with Applied Development Economics, Inc., an economic development firm based in Walnut Creek and Sacramento. She has more than thirty years experience in research, strategic planning, policy analysis and capacity building in the areas of sustainable economic development, smart growth, infrastructure, and community indicators. Projects focus on facilitating regional-state partnerships and civic leadership engagement to improve the economy and quality of life throughout the State's diverse regions. She is the Project Director for the *2007 California Regional Progress Report,* the inaugural region-based statewide indicators report with measures of progress aligned with the framework of the Regional Blueprint Planning Program. The *Report* tracked how the regions were doing across a range of integrated quality of life measures as the State and the regions addresses the challenges of growth and competitiveness. A scoping process for the 2009-2010 update is incorporating new policy issues related to implementation of AB 32 and SB 375 to achieve greenhouse gas emissions targets, and other emerging priorities. The project is a partnership with the State's metropolitan planning agencies, Caltrans, U.C. Davis and many state agencies. Trish has been a consultant on indicator projects for the city and region of Sacramento, Orange County and the Sierra Business Council. She is a strategic advisor to the California Economic Strategy Panel, conducting research and organizing forums with business and workforce development leaders to develop policy recommendations on regional industry clusters of opportunity, including the clean tech "value chain" and California's green economy. She graduated cum laude from Georgetown University and holds a masters degree in City and Regional Planning from the University of Pennsylvania.

Norm King became the first Director of the Leonard University Transportation Center at California State University San Bernardino in January 2006. The Center is a newly established "Tier II Center" promoting research and outreach on transportation issues of the Inland Empire. Norm stepped down as Director in February 2008 and continues as an Associate of the Leonard Center. Norm served as Executive Director of San Bernardino Associated Governments (SANBAG)/San Bernardino County Transportation Commission and the three additional SANBAG related authorities from August, 1996 to his retirement in December, 2005. He was a City Manager for 20 years serving the Cities of Claremont, Palm Springs and Moreno Valley. At one time he served on the staff of the U.S. Conference of Mayors and the National League of Cities in Washington, D.C. Norm is Chairman of the Board of Directors of the ICMA Retirement Corporation, a financial service firm providing deferred compensation programs to 900,000 local and state public employees throughout the country. He serves on the City of Palm Springs Airport Commission and on the Advisory Board of the Blakely Center for Sustainable Suburban Development at UCR. Norm has been the President of the International City/County Management Association (ICMA) and the City Manager's Department of the League of California Cities. He is past Moderator of the California Self-Help Counties Coalition and is a Fellow of the National Academy of Public Administration. He has taught part-time at Claremont McKenna College and USC. Mr. King's articles on the management and economics of local government have appeared in several professional journals and books. He is considered a leading proponent of "demand management" and "market-based" public policies.

Kara Kockelman is Professor of Transportation Engineering, in the Department Civil, Architectural & Environmental Engineering at the University of Texas in Austin. She holds a PhD, MS, and BS in Civil Engineering, a Masters of City Planning, and a minor in Economics from the University of California at Berkeley. Her primary research interests include the statistical modeling of urban systems (both land use and transport), the economic impacts of transport policy, crash occurrence, and energy and climate issues (vis-à-vis transport and land use decisions). She is a co-author of the National Academy's recent report on land use, transport and energy, and she chairs TRB's Committee on Travel Survey Methods along with this year's North American Regional Science conference.

James Mayer is Executive Director of California Forward. In 2007, Jim was part of the team that developed California Forward from a concept to a strategic plan, and then led the organization. In 2006, Jim became the founding executive director of the New California Network, and worked to develop potential reforms to the state's budget process. Prior to joining NCN, Jim was the executive director of the Little Hoover Commission, an independent state agency and bipartisan panel that reviews state programs and policies for efficiency and effectiveness. For more than a dozen years, Jim was a daily newspaper journalist. He was a senior writer with the *Sacramento Bee* for seven years and was a staff writer for the *Bakersfield California* and the *Press-Tribune* in Placer County. He serves on the board of the Yolo County Flood Control and Water Conservation District, is a director of the Yolo County Resource Conservation District, and is a member of the advisory board of the Inmate Correctional Education Project.

Therese W. McMillan joined FTA as the newly-appointed Deputy Administrator on July 2, 2009 under the direction of Federal Transit Administrator Peter Rogoff. Therese will assist the Administrator in leading a staff of more than 500 in the Washington D.C. headquarters office and ten regional offices throughout the United States and manage an annual budget of approximately $10 billion. Prior to her appointment, Ms. McMillan was the Deputy Executive Director-Policy at the San Francisco Bay Area Region's Metropolitan Transportation Commission. Serving that role for nine years, she was responsible for strategic financial planning and MTC's management of federal, state and regional fund sources for transit, highways, roadways and other modes; state and federal legislative advocacy, and public affairs and community outreach. In addition, she oversaw the planning, including long range plans of transportation/land use, air quality and freight issues. Preceding her position as deputy executive director, Therese served as MTC's Manager of Funding and External Affairs for seven years. Ms. McMillan received her B.S. degree in Environmental Policy and Planning Analysis from the University of California, Davis (1981) and a joint M.C.P./M.S. in city planning/civil engineering science (1984) from U.C. Berkeley. 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, Ms. McMillan also taught a course in transportation funding and finance for the graduate transportation studies program for the Mineta Transportation Institute, California State University at San Jose.

David Metz, Partner with Fairbank, Maslin, Maullin & Associates, has provided opinion research and strategic advice to dozens of non-profit organizations, government agencies, businesses, and candidate and ballot measure campaigns in over 40 states since joining the firm in 1998. Metz has provided research to help win voter approval for five successful statewide bond measures providing $15 billion to protect land and water in California, and he and his colleagues have provided research in support of transportation sales tax efforts in 18 California counties, as well as major statewide transportation ballot measures. In addition, Metz has conducted research on political and budget reform topics including campaign finance, term limits, tax reform, primary elections, the initiative process, and constitutional conventions. Last fall, he provided opinion research to the successful campaign to pass Proposition 11, creating an independent process for legislative redistricting in California. Metz received his Bachelor's degree in Government from Harvard University, and his Master's in Public Policy from the Goldman School of Public Policy at the University of California-Berkeley.

José Luis Moscovich is the Executive Director of the San Francisco County Transportation Authority. His experience in transportation planning and engineering includes project development and oversight, environmental studies and strategic planning, both in the public and private sectors. As Executive Director of the Authority, he spearheaded the development of the 30-year Countywide Transportation Plan for San Francisco, in 2004, and the reauthorization of the local transportation sales tax in 2003, approved with a 75% vote. Under his leadership, the Authority has developed the city's nationally known activity-based travel demand model; prepared a 30-year Strategic Plan for transportation investment; completed the award-winning Octavia Boulevard project; initiated implementation studies for two BRT projects in major city corridors; initiated seminal studies on parking pricing and congestion charging and spearheaded the replacement of Doyle Drive, the south access to the Golden Gate Bridge. Moscovich chaired the Self-Help Counties Coalition (California's local transportation sales tax counties) between 2005 and 2007, and was President of the Board of the California Transportation Foundation between 2006 and 2008. He serves on the Advisory Boards of the Lake Arrowhead Transportation and Land Use Program at UCLA, and the University of California Transportation Center. He holds a degree in Urban Planning from the University of Illinois in Champaign-Urbana, and a master's degree in Transportation Engineering from the University of California at Berkeley. He is a member of the Institute of Transportation Engineers, the Transportation Research Board, and the American Planning Association.

Mary D. Nichols, JD, was appointed Chair of the California Air Resources Board in July 2007, a post she held previously under Gov. Edmund H, Brown Jr. from 1979 to 1983. At CARB she is responsible for implementing California's landmark greenhouse gas emissions legislation as well as setting air pollution standards for motor vehicles and fuels. After graduating from Cornell University and Yale Law School Ms. Nichols practiced environmental law in Los Angeles, bringing cases on behalf of environmental and public health organizations to enforce state and federal clean air legislation. President Clinton appointed her to head the Office of Air and Radiation at US EPA, where she was responsible for, among many other regulatory breakthroughs, the acid rain trading program and setting the first air quality standard for fine particles. She also served as California's Secretary for Natural Resources from 1999 to 2003. Prior to her return to the ARB, Ms. Nichols was Professor of Law and Director of the Institute of the Environment at UCLA.

David Raney is Senior Manager, Environmental and Energy Affairs for Honda in the United States, overseeing compliance and environmental and energy policy for all of Honda's passenger motor vehicles, small power products and engines, and motorcycle and off-highway recreational vehicles. He has been involved in safety, environmental and energy policy and regulatory affairs in the auto industry for the majority of his career. David began his professional career with Deere & Company in 1980 and continued at Saab-Scania of America from 1983 to 1993. He has been with American Honda Motor Company, Inc. since 1993. David graduated from The University of Oklahoma with a BS in Mechanical Engineering in 1980 and completed the Executive MBA program at UCLA's Anderson School of Business in 2006. He is a government appointee to the Federal Clean Air Act Advisory Committee and that Committee's Mobile Source Technical Review Subcommittee. He serves on the Board of Directors of the Elementary Institute of Science in San Diego, Santa Barbara Community Environmental Council, the Supporting Council of Resources for the Future, Advisory Council of Rand's Pardee Graduate School, and is a guest lecturer on environmental management and policy at Johns Hopkins University and UC Santa Barbara. He is based at Honda's North American corporate headquarters in Torrance, California.

Harrison Rue is Principal with ICF International, with expertise in transportation policy, integrated transportation & land use planning, sustainability & climate change, transit & TDM, transit-oriented development, green building & affordable housing, and public participation & communications. As Executive Director of the Thomas Jefferson Planning District Commission in Charlottesville, Virginia, he worked with local, state, and federal partners to create sustainable solutions to regional issues. As Founding Director of the Citizen Planner Institute, he created inclusive planning processes and training on sustainability, smart growth and New Urbanism, and led hundreds of workshops for staff and elected officials, communities, and nonprofits, throughout the US. Rue served as VP and Technical Committee Chair of the Association of Metropolitan Planning Organizations, and was appointed by US EPA Administrators to three terms on the National Advisory Council on Environmental Policy and Technology. He served on the Virginia Governor's Commission on Climate Change, and is a Founding Board Member and Technical Committee Chair of EarthCraft Virginia, an affordable green building non-profit. He received TRB's Communicating with the Public Award in 2008 and Excellence in Visualization Research in 2009, and AMPO's National Award for Outstanding Achievement in Metropolitan Transportation Planning in 2005. He is a frequent panelist, moderator, presenter and co-author for a variety of Federal agencies and national organizations.

Earl Seaberg has been with Caltrans since graduating from Michigan State University in 1983 and has worked in the areas of the design, construction, and maintenance of bridges, including quality assurance for Consultant designed bridges. In 2008, Mr. Seaberg served as the Acting Division Chief for the Caltrans Local Assistance Program. This $1.5 billion annual program provides federal aid to over 600 cities, counties, and other transportation entities in California. Since late last year, Mr. Seaberg has been assigned to the Director's Office as the Deputy Program Manager for the Recovery Act and has overall responsibility for the implementation of the recovery act transportation programs in Caltrans.

Donald Shoup is Professor of Urban Planning at UCLA, where he has served as Chair of the Department of Urban Planning and as Director of the Institute of Transportation Studies. His research has focused on how parking policies affect cities, the economy, and the environment. His research on employer-paid parking led to the passage of California's parking cash-out law, and to changes in the Internal Revenue Code to encourage parking cash out. His research has also led a growing number of cities to reduce off-street parking requirements, charge fair market prices for curb parking, and dedicate the meter revenue to finance added public services in the metered districts. Professor Shoup is a Fellow of the American Institute of Certified Planners.

Catherine Showalter (SYMPOSIUM CO-CHAIR) is the Director of the Public Policy Program at UCLA Extension. In this position, she uses the expertise she developed linking transportation demand management (TDM), land use and environmental management as a foundation from which to build programs that impact policy decisions at local, regional and national levels. Catherine also serves as Director of the Osher Lifelong Learning Institute at UCLA, fostering a community of active learning for older adults in the greater Los Angeles area. Prior to joining UCLA, Catherine led a non-profit organization, RIDES for Bay Area Commuters, Inc. as Executive Director. She held the position of Director of Transportation Programs at the South Coast Air Quality Management District, responsible for the development and implementation of transportation control measures. And finally, her experience at Transportation Management Services as a TDM consultant directly followed her tenure at the Orange County Transit District as a Transportation Systems Management Specialist. Catherine held management responsibilities within the public, private, and not-for-profit sectors disseminating technical information in a straightforward manner for ease in understanding by diverse audiences.

Brian D. Taylor (SYMPOSIUM CO-CHAIR) AICP, is Professor and Chair of Urban Planning and Director of the Institute of Transportation Studies at UCLA. His research examines both transportation finance and travel demographics. He studied the politics of transportation finance, including the influence of finance on the development of metropolitan freeway systems, the effect of public transit subsidy programs on both system performance, and measuring equity in transportation finance. His research on travel demographics behavior has emphasized access-deprived populations, including women, racial-ethnic minorities, the disabled, and the poor. His work in this area has also explored the relationships between transportation and urban form, with a focus on commuting and employment access for low-wage workers. Most recently his research has examined the effect of travel experience on cognitive mapping; technological and political obstacles to pricing roads and public transit systems; the factors explaining changes in transit ridership on public transit systems, including the deployment of rapid bus service in congested suburban settings, and transit system design for increased security and patronage; and alternative ways of measuring traffic congestion. At UCLA Professor Taylor teaches courses in transportation policy and planning and research design. Prior to coming to UCLA in 1994, he was a faculty member in the Department of City and Regional Planning at the University of North Carolina at Chapel Hill, and before that a Transportation Analyst with the Metropolitan Transportation Commission in Oakland, California.

Lynn Terry has served as a Deputy Executive Officer of the California Air Resources Board since 1997. She oversees a variety of policy and technical programs developed to implement federal Clean Air Act requirements, greenhouse gas emissions reporting requirements, SB 375 planning requirements for sustainable communities, ARB's environmental justice policies, and statewide air quality planning requirements. Ms. Terry previously served as the ARB Assistant Executive Officer and Chief of the Office of Air Quality and Transportation Planning. In that role, she worked closely with California's local air quality districts and transportation agencies on 1994 plans to meet federal air quality standards. Ms. Terry currently manages a variety of ARB projects and programs including new State Implementation Plans for meeting federal air quality standards, air quality studies in the San Joaquin Valley, federal transportation conformity analyses, air pollution transport assessment and mitigation requirements, federal regional haze plans, development of quantification protocols for reducing greenhouse gas emissions, air quality requirements for planned burns to reduce wildfire risk, emission inventory development for ARB regulations, and community air quality assessments. Ms. Terry began her career at ARB working on air toxics and risk assessment issues. She is a graduate of the University of California at Davis, where she received an M.S. in Pharmacology and Toxicology, with an emphasis in Environmental Toxicology.

Martin Wachs is Director of the Transportation, Space and Technology Program. Until the end of 2005 he was Professor of Civil & Environmental Engineering and Professor of City & Regional Planning at the University of California, Berkeley, where was also Director of the Institute of Transportation Studies. He earlier spent 25 years at UCLA, where he was Chairman of the Department of Urban Planning. Wachs has written 160 articles and four books on subjects related to relationships between transportation, land use, and air quality, techniques for the evaluation of transportation systems, and the use of performance measurement in transportation planning. His research also addresses issues of equity in transportation policy, problems of crime in public transit systems, the response of transportation systems to natural disasters including earthquakes, and most recently transportation finance in relation to planning and policy. Dr. Wachs served on the Executive Committee of the Transportation Research Board for nine years and was the TRB Chairman in 2000. He received a Guggenheim Fellowship, two Rockefeller Foundation Humanities Fellowships, a UCLA Alumni Association Distinguished Teaching Award, the Pyke Johnson Award for the best paper presented at an annual meeting of the Transportation Research Board, and the Carey Award for service to the TRB. In 2006, he was named "Member of the Year" by the San Francisco Chapter of the Women's Transportation Seminar.

Barry R. Wallerstein holds a doctorate in Environmental Science and Engineering from the University of California at Los Angeles, and M.S. and B.S. degrees in Biological Science. He has over 20 years of experience in urban planning and environmental studies, with an emphasis in air pollution control and public policy development. Barry has served AQMD in various positions since 1984, and was appointed Acting Executive Officer in August 1997. The Governing Board unanimously elevated him to Executive Officer in November 1998. Barry has also worked as an Environmental Control Administrator for Northrop, and was a member of the rule development staff in the Mobile Source Division of the California Air Resources Board.

Mike Walter is Executive Assistant to the President for Community Relations; Distinguished Professor of Economics and Business Administration; former Dean of College of Business Administration, and Professor of International Business at California State University Long Beach. Dr. Walter is a Harbor Commissioner for the Port of Long Beach. He also serves on the Board of Governors of Long Beach City College, the Executive Committee of the California Conference for Equity and Justice, the Board of Trustees for the St. Mary Medical Center (SMMC) and Secretary of the SMMC Foundation. He has served as Chair of the Long Beach Area

Chamber of Commerce, President of the International Business Association, Co-Chair of the Tenth Anniversary Gala of the Aquarium of the Pacific, and Chair of the Ocean Conservation Awards Gala. Dr. Walter is a former Dean of St. Mary's College in Moraga, California, and was Senior Vice President, and member of the Office of the President with Levi Strauss & Company. In 2004, in recognition of their generous support of California State University Long Beach, the University named its iconic sports complex the "Mike and Arline Walter Pyramid." Dr. Walter has received numerous federal, state and local awards for societal, human relations, business and philanthropic contributions. For both his business and community involvement, President Bush's Business Advisory Council selected Dr. Walter as a 2005 Businessman of the Year award winner. He is a native of Clinton, Iowa; holds B.S., M.S. and Ph.D. degrees from the University of Iowa, and is a veteran of the U.S. Army.

Jim Wunderman serves as the President and Chief Executive Officer of the Bay Area Council, a business-backed public policy organization in the San Francisco-Oakland-Silicon Valley Bay Area. Since becoming CEO in 2004, Wunderman has led the 64-year-old public policy organization to become one of the most influential, effective institutions of its kind. Prior to the Bay Area Council, Wunderman held key positions in both the private and public sectors. From 1997-2004, Wunderman was Senior Vice President of Corporate Affairs at Providian Financial Corporation, where he managed government relations, community affairs and oversaw the company's philanthropy program. Before joining Providian, Wunderman operated his own consulting company, The Wunderman Group, providing public affairs and marketing strategies for major organizations from diverse sectors. From 1992 through 1995, Wunderman served as Chief of Staff to San Francisco Mayor Frank M. Jordan. He oversaw the operations of all city departments and was responsible for annually balancing San Francisco's $3 billion budget during a particularly challenging economic period. From 1988 through 1991, Wunderman was General Manager for two of Norcal Waste Systems' largest subsidiaries, the first serving a 200-square-mile area in Silicon Valley, and the second operating in San Francisco. From 1984 to 1988, Wunderman worked in San Francisco Mayor Dianne Feinstein's administration in a variety of roles, including serving as the liaison to the Board of Supervisors and as a budget and policy analyst overseeing the city's infrastructure. He also played a key role preparing the city for the 1984 Democratic National Convention. In addition to his work at the Bay Area Council, Wunderman is an active member of the community and serves on numerous boards and commissions. Currently, he serves on the board of California Pacific Medical Center, where he chairs the Public Policy & Real Estate Committee. He also serves on the board of Bridge Housing Corporation, the Advisory Board of the Keston Institute for public Finance and Infrastructure Policy, the Advisory Board of the Partnership for America's Economic Success, the Bay Center, the Community Advisory Board for KB Home and the Policy Advisory Board of the Fisher Center for Real Estate and Urban Economics. Wunderman serves as a member of the SB 375 Regional Targets Advisory Committee and participates as Visiting Executive at the U.C. Davis – Graduate School of Management where he teaches an executive leadership seminar. Additionally, Wunderman is a member of the NBC Bay Area Editorial Board. Among many previous boards, Wunderman was the Chairman of the San Francisco Chamber of Commerce and a member of the Executive Committee of the California Childcare Resource Referral Network. He graduated with honors from San Francisco State University, majoring in Political Science. In 2003, he was inducted into San Francisco State's Alumni Hall of Fame. He also holds an Associate of Applied Sciences Degree (*summa cum laude*) from Kingsborough College of the City University of New York, where he majored in Business Administration.

Allison Yoh (SYMPOSIUM CO-CHAIR) is the Associate Director at the UCLA Institute of Transportation Studies and Associate Director of the UCLA Ralph and Goldy Lewis Center for Regional Policy Studies. In these capacities, she manages several research projects in transportation, and develops outreach and communications strategies to translate research findings into policies and action. Allison's transportation research focuses on inter- and intra-organizational behavior in the public sector, specifically in public transportation planning. She has published research on cost-effective ways to increase transit ridership, the costs and benefits of implementing bus rapid transit (BRT), the adoption of innovative technologies in public organizations, and strategies for congestion management in Los Angeles. She currently is also an Adjunct Researcher at the RAND Corporation. Allison is a graduate of UCLA, having received her M.A. and Ph.D. degrees from the Department of Urban Planning. She is a former board member of the Los Angeles County Metropolitan Transportation Authority, where she served for two years as a mayoral appointee.

Appendix C: Participant and Speaker Rosters

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