

News from ITS

ISTTT 2011 Publications Expanded

Organizers of the 19th International Symposium on Transportation and Traffic Theory (ISTTT) are pleased to announce that all papers accepted for the 2011 symposium in Berkeley, California, USA, will be published both in symposium proceedings and in the journal series Transportation Research, Parts A-F. The deadline for submitting extended abstracts is 30 January 2010.

[Read the complete publications update.](#)



The Traffic Safety Center has a new name...and a new [website](#).

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Winter 2009

Vol. 5, No. 2

A Bullet Train for California?

Since voting to support high-speed rail last November with a nearly \$10-billion bond issue, it seems everyone's gotten crankier about how to make it happen. To understand some of the issues, ITS presented a symposium on the subject last October. Moderated by ITS Director Samer Madanat, five faculty panelists described the major issues as they see them.

[Read what they said, and watch the videos.](#)

When Bigger Trucks Aren't Better

Commonly held beliefs about the greenest way to move freight may be wrong. Working with ITS faculty, post doc Nakul Sathaye discovered unintended consequences of moving freight in larger vehicles and during off-peak hours.

[Read more.](#)

**Heading to the annual meeting of the Transportation Research Board?**

Here's a day-by-day guide to all the presenters and panelists from UC Berkeley attending the 18th annual meeting in Washington, D.C. January 10-14.

[View the schedule of events.](#)





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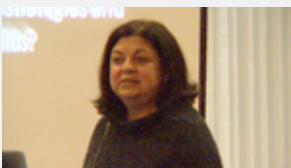
[Daganzo Video](#)



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[Cervero Video](#)



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Winter 2009

Vol. 5, No. 2

California's Bullet Train: Challenges and Opportunities



Challenges, opportunities, and unintended consequences were key words at a fall symposium on the California high-speed rail project moderated by ITS Director [Samer Madanat](#).

Six faculty with expertise in transportation and planning told an overflow audience at Alumni House on October 6, that the bullet train Californians voted to support with a \$9.95 billion bond issue last November has the potential to not only lessen congestion up and down the state but also within the state's increasingly-congested metropolitan areas.

On the other hand, without careful planning, the project could increase sprawl in the Central Valley where 50 percent of the country's fruits and vegetables are grown, create more environmentally hazardous emissions than air or road travel, increase the cost of air travel throughout the state, and be dependent on subsidies for years to come.

"If built, this will be the largest transportation infrastructure project in the U.S. since the completion of the Interstate Highway system," explained Samer Madanat, a professor of Civil and Environmental Engineering. "By definition, that makes this a megaproject. A [megaproject](#), he added "requires consideration of a very complex set of issues in finance, urban planning, design, construction, operation and maintenance."

Of the five panelists, [Carlos Daganzo](#), a professor of Civil and Environmental Engineering and Director of the UC Berkeley Center for Future Urban Transport, was the most optimistic about high-speed rail's potential in California. He argued that as the state's population continues to grow, the costs of intercity automobile travel—not only of fuel but in lost time and productivity—will also increase.

"High-speed rail's cost structure and energy consumption are quite different (from road travel). Energy consumption is smaller and can be expected to be more stable over time because of its type and form of delivery," he explained

To be successful, Daganzo said government will need to provide incentives in the form of subsidies to attract passengers from road and air travel onto the train. It will be expensive, but over time, the costs will go down, compared to the increasing costs of continuing with the present options.

In addition, he predicted that high-speed rail could have a "transformational effect" on mobility by encouraging cities served by it to feed and connect its stations (with transit), which could in turn encourage more dense development in metropolitan areas.

If this happens it could "start a positive feedback cycle that is hard to quantify but would magnify the benefits," he added.

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Fewer flights

[Mark Hansen](#), a professor in the Department of Civil and Environmental Engineering and Co-director of the National Center for Excellence in Aviation Operations Research told the audience that high-speed rail, if it is built and successfully woos riders away from air travel, would likely have a deleterious effect on airlines shuttling passengers along the California corridor.

As their passenger lists decrease, airlines are likely to reduce the frequency of flights. A greater tendency for monopoly will result as the number of passenger seats offered is reduced. All of which will increase ticket prices for passengers.

A positive consequence of this scenario, however, is that airport delays should lessen as congestion is reduced by fewer flights.

"If I were an airline," Hansen said, "I would hope that high-speed rail station locations are built out of the way, making travel to those stations more lengthy and difficult."

He also suggested that airlines should link themselves intermodally with high-speed rail; on foggy days when flights back up at SFO, for example, airlines might find ways to shift air travelers to rail.

Spawning Sprawl

[Robert Cervero](#), a professor of City and Regional Planning, Director of the University of California Transportation Center, and an expert on the effects of rail on land use in Europe and Japan, described how a bullet train has the potential to fuel sprawl throughout the Central Valley unless the state undertakes sufficient land use planning.

"If land use is sort of an afterthought, high-speed rail could have negative consequences."

Although transit has the ability to strengthen downtowns of large cities, like San Francisco and Los Angeles, and possibly Sacramento and San Diego in terms of those cities' ability to draw workers from a larger geographical area, the downside is the growth of less expensive suburbs and exurbs, which has detrimental environmental effects.

"We actually have invested in a lot of rail in California...and we have some insights. San Francisco could not have grown without BART—there simply was not enough bridge capacity," he said.

"The downside is sprawl, and that's the concern," he added. "We know workers in suburbs take electric trains to work, but that comprises only 30 percent of their weekly travel." For the remaining 70 percent of vehicle-miles-traveled—for non-work trips—they're driving, he added.

He said studies in Japan show that people don't mind commuting a longer distance by high-speed rail because work patterns are shifting. More people are working in cities fewer days of the week. For that reason, they are willing to live greater distances from the workplace, which is a recipe for sprawl.

In order to meet state mandates to reduce greenhouse gases over the next decades, station siting will be extremely important. Secondary transit feeder systems will help, as will better transit-oriented development, explained Cervero. But that will require regional and supra-regional planning which does not currently exist in California. "We don't have the capacity to do that. There is a huge institutional vacuum between (agencies such as) the Metropolitan Transportation Commission...and the state," he added.

A Closer Look at the Central Valley

At the request of the mayors of Stockton, Merced and Fresno, [Betty Deakin](#), a professor of City and Regional Planning and former chair of the National Academy of Sciences' Advisory Board on Surface Transportation-Environmental Research, examined how high-speed rail will affect those cities, and what transit-friendly development in those cities might look like.

Deakin told the audience that the Central Valley is growing fast, which makes it very different from France, Japan, and Spain, where population is stable or falling. "We need a strategy for a new regional development pattern of multi-nodal, multi-modal sustainable urban development," she explained, not a rail system aimed only at delivering workers to the Bay Area in the morning and back at night.

Among the design concepts she and her student researchers applied to the stations were: minimizing the amount of land in surface parking lots; adding more ridership within walking distance of HSR stations; creating new opportunities for housing and commercial development around the station; and mitigating traffic and parking impacts at the station itself by creating a downtown that is well served by transit.

In addition, she emphasized the importance of promoting high quality architectural design, using each city's historic buildings as design cues, and "considering the entire market for development in the city and county when planning for both downtown and outlying commercial development."

She noted other concerns that present challenges. Will people want to live in higher density apartments or townhouses designed around high-speed rail stations instead of single-family homes on the fringe of the city? Already there has been significant growth around the fringes at densities too low to support bus service.

The current housing meltdown is another issue, she said, and recovery may take years.

Still, she believes that sprawl is not inevitable if the "right recipe" for development is followed, one that provides a better quality of life for people living in these cities and one that also preserves farmland.

Environmental Trade-offs

While many consider high-speed rail an environmental silver bullet for transportation in California, [Arpad Horvath](#), Associate Professor, Department of Civil and Environmental Engineering and Director of the Consortium on Green Design and Manufacturing, punctured those assumptions.

"Our transportation decision-making is based on atrocious environmental data," he told the audience. Decisions about which transportation modes are greenest must be made not only the basis of tailpipe emissions, but rather, a [total life-cycle assessment](#) of the various modes.

These must include manufacturing of the vehicles themselves, their required infrastructure, and the fuel used to power them. High-speed rail will produce some 10 million metric tons of carbon dioxide per year during its construction, said Horvath. It will need to run very full trains almost immediately to offset the emissions expended in building tracks, stations, rail cars to "compete environmentally" with air or road travel.

In addition, if the train's electricity is produced by coal-fired or natural gas-fired plants there will be substantial, harmful emissions produced until cleaner, alternative fuel sources, such as wind power, are available for use.

The bottom line, he said, was high-speed rail "only outperforms other modes if there is a very high passenger load or a very clean energy source, neither of which is assured at the moment."

In response to a question from the audience, Madanat suggested that one way to get more passengers on board quickly is to route the bullet train through the Altamont Pass in order to attract intercity travelers from eastern Alameda and Contra Costa counties.

"If we're hoping to have high-speed rail serve some regional short distance travel in addition to long distance, and to help reduce congestion regionally...the Altamont Pass is ...superior on both counts to Pacheco Pass," he said.

Madanat pointed out that the large East Bay population living and working between Walnut Creek and Pleasanton will not be served by the Pacheco Pass alignment for high-speed rail.

Following the symposium, panelists answered questions from the audience concerning the alignment of the system, possible funding sources, and costs of putting the train underground on the Peninsula where residents are concerned about noise.

(Note: Professor Horvath's remarks are not available because they are based on research under peer review for publication at the time of the videotaping.) A shorter article on this subject appeared in the College of Engineering's publication [Innovations](#).





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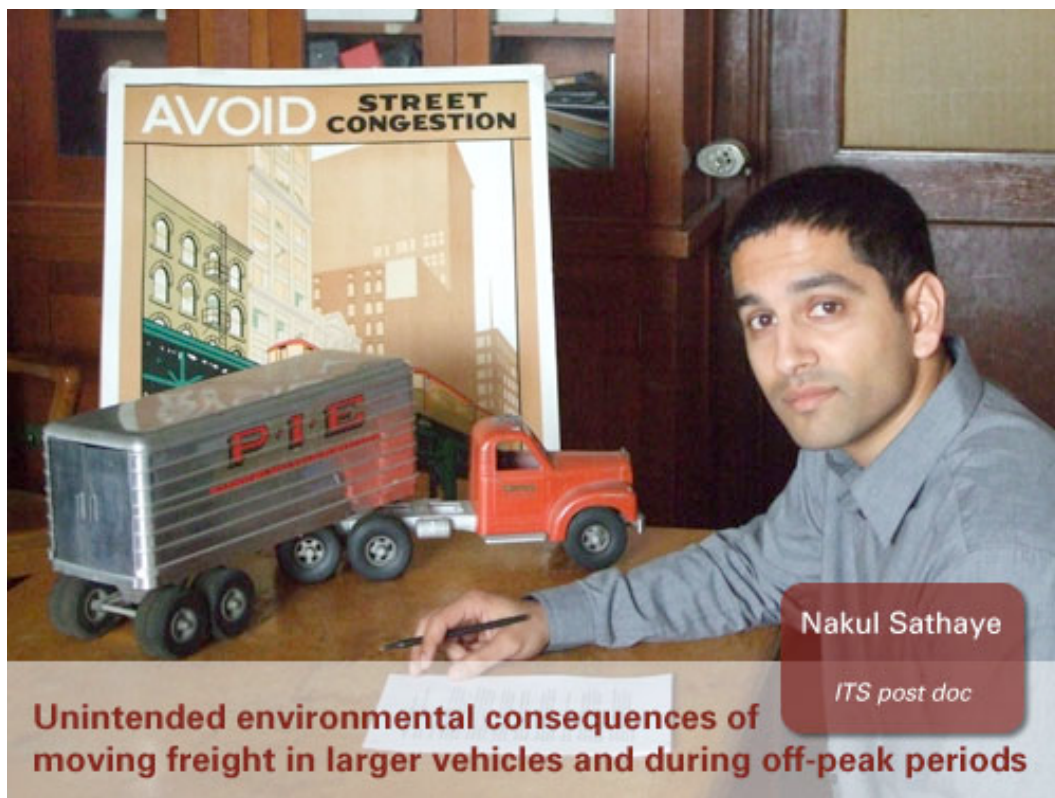
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When Bigger Trucks Aren't Better ...and Nighttime's Not the Right Time

True or false?

1. Transporting freight in large trucks creates fewer emissions than moving it in a greater number of smaller trucks.
2. Moving freight at night rather than during the day reduces human exposure to unhealthy emissions such as particulate matter, which has been implicated in respiratory and heart diseases.



Policy makers over the last 15 years would answer “true” to both questions, and have done their best to mitigate the negative environmental effects of transporting goods by shifting to larger trucks as well as moving them during off-peak hours and at night.

But Nakul Sathaye, an ITS post doc who spent several years examining the issues of so-called “green logistics” policies for his doctoral dissertation, says it’s not so simple; his research indicates that these commonly accepted policies are based on incomplete information.

Sathaye, a Bay Area native who received his undergraduate and graduate education at UC Berkeley in civil and environmental engineering, knew that moving goods in larger vehicles causes roadways to deteriorate at a far higher rate than they would without heavy truck traffic.

“What I wanted to find out was how those lower tailpipe emissions compared to the supply-chain emissions, particularly sulfur dioxide and particulate matter, that resulted from repairing and replacing roadway infrastructure caused by consolidating loads into fewer, larger vehicles.”

What he discovered calls into question the continued use of consolidating loads into larger vehicles.

As for putting trucks on the roads earlier in the morning or later at night, Sathaye’s research indicates that not all communities benefit from moving freight at off hours; in some locations, atmospheric conditions may keep the layer of emission-filled air closer to the ground where particulate matter and other emissions can cause greater health problems for those breathing them.

“Because the surface layer of the atmosphere is usually more stable during the nighttime than during the daytime when wind and higher temperature tends to disperse emissions, shifting truck traffic to nighttime can actually increase the daily intake of diesel exhaust for people in some locations,” he explained. “The bad stuff tends to become more concentrated at street level.”

Adding infrastructure management concepts to life-cycle analysis

Arriving at these conclusions did not happen overnight or without significant roadblocks. In 2005, Sathaye had barely decided on the topic for his dissertation when he hit a brick wall.

“I soon realized there was very little data available related to real-world truck operations and emissions—as most of it was proprietary. We knew diesel emissions were bad for human health, but whatever information trucking companies had, they weren’t about to share. Instead, he began reading anything remotely related to the topic, including trucking trade magazines, public health papers, and journals on atmospheric science.

He was helped along the way by ITS faculty, Samer Madanat, Rob Harley, and Arpad Horvath, whose combined expertise in different fields related to transportation engineering propelled Sathaye to examine long-held policies in more comprehensive ways.

Madanat provided all-important pavement deterioration models. Horvath and a group of grad students—Nick Santero, Mike Chester, and Christiano Facanha—had been developing new methods for analyzing the life-cycle emissions of pavement, passenger and freight travel in previous years.

“Much of the work on life-cycle analysis for transportation systems has been done at Berkeley in the last half dozen years,” Sathaye explained.

Harley’s classes in air quality engineering and air pollution modeling suggested ways to Sathaye to re-examine long-held notions about the benefits of off-peak freight movement.

“The concept of atmospheric stability is well known, however it has received little consideration in transportation policy assessments,” he wrote in his dissertation. “As a result, policy makers have overlooked the fact that nighttime freight operations can increase 24-hour average diesel exhaust concentrations and environmental impacts.”

He was then able to combine this knowledge with models he had seen in transportation systems courses to reveal additional unintended concerns that a typical environmental analysis would likely overlook.

For his dissertation, Sathaye developed a six-step framework to help planners and policy makers assess environmental impacts of freight logistics policies in metropolitan areas.

“If you overlook any of those steps--which include predicting concentrations of pollutants through atmospheric modeling, as well an estimation of impacts on humans--you have the potential for unintended consequences, Sathaye said.

In January, Sathaye will present his [work](#) at the Transportation Research Board’s annual meeting in Washington. Additional publications include: ["Unintended environmental impacts of nighttime freight logistics activities,"](#) and ["Unintended impacts of increased truck loads on pavement supply-chain emissions,"](#) published in the January 2010 issue of Transportation Research PartA: Policy and Practice.

“Sathaye’s findings are an example of how many important societal-scale research problems fall at the intersections of disciplines,” explained ITS Director Madanat. “Here at U.C. Berkeley, our ITS research

centers allow faculty members and graduate students to collaborate across domains to find solutions to complex problems such as these.”



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Winter 2009

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ITS at TRB

In a few weeks, dozens of ITS faculty members and student researchers will wing their way to Washington, D.C. to present their latest findings at the 89th annual meeting of the Transportation Research Board.

TRB's Annual Meeting, which runs from January 10 through 14, covers all modes of transportation, and attracts more than 10,000 transportation professionals from around the world. The theme for 2010 is Investing in Our Transportation Future – BOLD Ideas to Meet BIG Challenges.

Below you will find a list of U.C. Berkeley panelists and presenters along with the dates, times and places of their presentations. Although ITS researchers frequently collaborate with researchers from other institutions and agencies, NewsBITS has only included the names of Berkeley researchers in this listing. For more information, please consult the [TRB Annual Meeting Program](#).

Please note that former ITS Director Martin Wachs will deliver the Thomas B. Deen Distinguished Lecture on Transportation Policy, Poverty, and Sustainability: History and Future, on Tuesday, January 12 at 6 p.m. at the Marriott. Wachs, who retired from U.C. Berkeley in 2005, is currently the Director of Transportation, Space, and Technology for the Rand Corporation.

JANUARY 10

9:00AM- 5:00PM, Marriott, Thurgood Marshall North
Emerging Issues in Traffic Signal Systems: Air Quality and Traffic Signal Systems in an IntelliDrive World ([P10-1503](#))
Misener, James A.

9:00AM- 12:00PM, Marriott
Doctoral Student Research in Transportation Operations and Traffic Control ([P10-1530](#))
Pilachowski, Joshua

9:00AM- 12:00PM, Marriott
Mashtans.org: Looking at Transportation with a Web 2.0 lens ([P10-0890](#))
Levine, Kendra

9:00AM- 12:00PM, Marriott
Improving University Pedestrian and Bicycle Transportation Education ([ANF10-11](#))
Schneider, Robert J.
Sanders, Rebecca

9:00AM- 12:00PM, Innovative Doctoral Transportation Research by Eisenhower Graduate Fellowship Recipients ([P10-0779](#))

--Methods for Improving Compliance with Posted Regulations
Campbell, Robert

--Queueing Models for Aircraft Operations in NextGen
Nikoleris, Tasos

1:30PM- 4:30PM, Marriott
Parking Standards: Turning the Relationship Between Parking and Sustainable Transportation on Its Head ([ABE50](#))

Rodier, Caroline J.

1:30PM- 4:30PM, Marriott
Reinventing Carpooling to Meet Transportation's Greatest Challenges ([P10-0641](#))
Shaheen, Susan A

1:30PM- 4:30PM, Shoreham
Moving from Research to Services for Traveling Public: Unique Public-Private Partnership Path ([P10-0680](#))
West, Thomas
Guy, Ann Brody

1:30PM- 4:30PM, Shoreham
ACRP Project 03-17, Evaluating Airfield Capacity: Research Objectives and Needed Industry Input ([P10-0977](#))
Hansen, Mark

1:30PM- 5:30PM, Hilton
Doctoral Student Research in Transportation Modeling:

Modeling City Evacuations ([P10-1463](#))
So, Stella K.

A Congestion Mechanism For Uphill Expressways ([P10-1465](#))
Patire, Anthony D.

Using GPS And Speed Control To Eliminate Bus Bunching ([P10-1466](#))
Pilachowski, Joshua

What's Driving Mode Choice To Suburban Rapid Transit? ([P10-1472](#))
Appleyard, Bruce

JANUARY 11

8:00AM- 9:45AM, Marriott
Statistical Methodology and Statistical Computer Software in Transportation Research Committee ([ABJ80](#))
Washington, Simon P.

8:00AM- 9:45AM, Marriott
Intelligent Transportation Systems Committee ([AHB15](#))
Schladover, Steven

8:00AM- 9:45AM, Shoreham
Use of Passenger Transit Infrastructure for Goods Movement: Bay Area Economic Feasibility Study ([10-2942](#))
Sivakumaran, Karthikgeyan
Lu, Xiao-Yun

9:30AM- 12:00PM, Marriott
High-Occupancy-Vehicle, High-Occupancy-Toll, and Managed Lanes ([10-3423](#))
Jang, Kitae

9:30AM- 12:00PM, Marriott
Behavioral Model for Ingress-Egress Decision on Buffer-Separated HOV Facilities for Microsimulation Model ([10-3658](#))
Chu, Lianyu

9:30AM- 12:00PM, Marriott
Performance Measures for Complete, Green Streets: A Proposal for Urban Arterials in California ([10-1898](#))
Sanders, Rebecca
Macdonald, Elizabeth
Anderson, Alia

9:30AM- 12:00PM, Marriott
Using Mobile Phones to Forecast Arterial Traffic Through Statistical Learning ([10-2493](#))
Herring, Ryan

Hofleitner, Aude
Amin, Saurabh
Abou Nasr, Tania
Khalek, Amin Abdel
Abbeel, Pieter
Bayen, Alexandre

10:15AM- 12:00PM, Marriott
Committee on High-Occupancy Vehicle, High-Occupancy Toll, and Managed Lanes ([AHB35](#))
Chan, Ching-Yao

10:15AM- 12:00PM, Marriott
Integrated Approach to Sustainable Transportation, Land Use, and Building Design: Case of Luokou District, Jinan, China ([10-1806](#))
Duduta, Nicolae,
Shirgaokar, Manish
Deakin, Elizabeth

10:15AM- 12:00PM, Marriott
Modeling Private Car Ownership in China: Investigating Impact of Urban Form Across Mega-Cities ([10-1181](#))
Walker, Joan L.

10:15AM- 12:00PM, Shoreham
Supply Chain Coordination for Port Sustainability: Lessons for New Institutional Designs ([10-3779](#))
Deakin, Betty

10:15AM- 12:00PM, Hilton
Decision Factors in Service Control on High-Frequency Metro Line and Their Importance in Service Delivery ([10-2369](#))
Carrel, André

1:30PM- 3:15PM, Shoreham
Development of Pavement Crack Initiation Models by Combining Experimental and Field Data ([10-1096](#))
Christofa, Eleni
Madanat, Samer Michel

1:30PM- 3:15PM, Shoreham
CalME: Mechanistic-Empirical Design Program for Flexible Pavement Rehabilitation ([10-1938](#))
Lea, Jeremy David

1:30PM- 3:15PM, Hilton
High-Speed Railways: Ambitious Plans and Big Challenges ([P10-0056](#))
Zhang, Wei-Bin

1:30PM- 3:15PM, Hilton
Carsharing's Impact on Household Vehicle Holdings: Results from North American Shared-Use Vehicle Survey ([10-3437](#))
Martin, Elliot
Shaheen, Susan A.
Lidicker, Jeffrey R.

1:30PM- 3:15PM, Hilton
Bikesharing in Europe, The Americas, and Asia: Past, Present, and Future ([10-3567](#))
Shaheen, Susan A.
Guzman, Stacey
Zhang, Angela Hua

1:30PM- 3:15PM, Marriott
Pedestrian Research Subcommittee, [ANF10](#)
Schneider, Robert J.

2:30PM- 5:00PM
Freeway Traffic Density Estimation with Loop Detector and Probe Vehicle Data ([10-1333](#))
Lu, Xiao-Yun
Chow, Andy Ho Fai
Shladover, Steven E.

2:30PM- 5:00PM

Influential Factors on Level of Injury in Pedestrian Crashes: Applications of Ordered Probit Model with Robust Standard Errors ([10-2817](#))

Jang, Kitae

2:30PM- 5:00PM

Factors Associated with Hit-and-Run Pedestrian Fatalities and Driver Identification ([10-3715](#))

MacLeod, Kara E

Griswold, Julia

Arnold, Lindsay S.

Ragland, David R.

2:30PM- 5:00PM, Marriott

Impact of Traffic States on Freeway Collision Frequency ([10-1431](#))

Jang, Kitae

Skabardonis, Alexander

2:30PM- 5:00PM, Marriott

Effects of Weather Variables on Pedestrian Volumes in Alameda County, California ([10-2658](#))

Attaset, Vanvisa

Schneider, Robert J.

Arnold, Lindsay S.

Ragland, David R.

2:30PM- 5:00PM, Marriott

Association Between Roadway Intersection Characteristics and Pedestrian Crash Risk in Alameda County, California ([10-2692](#))

Schneider, Robert J.,

Arnold, Lindsay S.

Attaset, Vanvisa

Griswold, Julia

Ragland, David R.

2:30PM- 5:00PM, Hilton

What Makes Public Transit a Success? Perspectives on Ridership in an Era of Uncertain Revenues and Climate Change ([10-2646](#))

Deakin, Elizabeth

Tal, Gil

Frick, Karen

3:45PM- 5:30PM, Marriott

SafeTrip-21: Recent Field Test Results and Lessons Learned ([P10-0075](#)) Misener, James A.

3:45PM- 5:30PM, Hilton

Station Area Planning and Parking Management in the Urban Core: Cases in Oakland and Berkeley ([10-3279](#))

Deakin, Elizabeth

Frick, Karen

3:45PM- 5:30PM, Hilton

Carsharing Parking Policy: Review of North American Practices and San Francisco Bay Area Case Study ([10-2921](#))

Shaheen, Susan A.

Cohen, Adam

Martin, Elliot

3:45PM- 5:30PM, Hilton

Class of Perturbed Cell-Transmission Models to Account for Traffic Variability ([10-3622](#))

Blandin, Sebastien

Work, Daniel B.

Bayen, Alexandre

3:45PM- 5:30PM

Taxing for Takeoff: Estimating Airport Tax Incidence Through Natural Experiments ([10-1888](#))

C. Edward Huang

Adib K. Kanafani

3:45PM- 5:30PM, Marriott

Lean Project Delivery: Lessons Learned from California and the World ([P10-0894](#))
Ballard, Glenn

7:30PM- 9:30PM, Marriott
Energy and Emission Benefit Comparison Between Stationary and In-vehicle Advanced Driving Alert Systems ([10-3829](#))
Wu, Guoyuan
Zhang, Wei-Bin
Li, Meng

7:30PM- 9:30PM, Marriott
User Perception and Preference for Displaying Travel Time on Changeable Message Signs in San Francisco Bay Area ([10-2956](#))
Li, Yuwei
Skabardonis, Alexander

7:30PM- 9:30PM, Marriott
Real-Time Arterial Performance Measurement Using Signal Timing Data and Bus Rapid Transit as Probes ([10-3292](#))
Song, Myoung Kyun
Li, Meng

7:30PM- 9:30PM, Marriott
Use of Field Observations in Developing Arterial Red-Light-Running Collision Avoidance System: Factoring Headway and Vehicle-Following Characteristics ([10-3153](#))
Zhang, Liping
Zhou, Kun
Zhang, Wei-Bin
Misener, James A.

7:30PM- 9:30PM, Marriott
Microscopic Traffic Simulation of Vehicle-to-Vehicle Hazard Alerts on a Freeway ([10-3091](#))
Shladover, Steven E.
Skabardonis, Alexander

7:30PM- 9:30PM, Marriott
Driver and Pedestrian Behavior at Uncontrolled Crosswalks in the Tahoe Basin Recreation Area ([10-2965](#))
Cooper, Douglas L.

7:30PM- 9:30PM, Shoreham
Prediction of Longitudinal Cracking in Rigid Pavements Under Various Environmental Conditions Using RadiCAL ([10-3298](#))
Signore, James M., University of California, Berkeley
Hiller, Jacob E., Michigan Technological University
Kannekati, Venkata , T.Y. Lin International
Basheer, Imad , California Department of Transportation
Harvey, John , University of California, Davis

JANUARY 12

7:00AM- 8:00AM, Hilton
Emerging Methods Methods and Developments in Urban Activity and Travel Analysis Subcommittee, ([ADB40](#))
Walker, Joan L.

8:00AM- 9:45AM, Marriott
Multimodal Traffic at Isolated Signalized Intersections: New Management Strategies and a Framework for Analysis ([10-1165](#))
Xuan, Yiguang
Gayah, Vikash
Daganzo, Carlos F.
Cassidy, Michael J.

9:30AM- 12:00PM, Hilton
Critique of Policy Document Smarter Travel--A Sustainable Transport Future: New Transport Policy for Ireland 2009-2020 ([10-3925](#))

Schipper, Lee

9:30AM- 12:00PM, Hilton

Are We Reaching a Plateau or "Peak" Travel? Trends in Passenger Transport in Six Industrialized Countries ([10-2711](#))

Schipper, Lee

9:30AM- 12:00PM, Hilton

Climate Change and Urban Transportation in Latin America: Analysis of Recent Projects ([10-2225](#))

McAndrews, Carolyn

Deakin, Elizabeth

Schipper, Lee

9:30AM- 12:00PM, Hilton

Hot Deal or Hot Air? Life-cycle Analysis of Pneumatic Cars ([10-0694](#))

Kammen, Daniel

Schipper, Lee

9:30AM- 12:00PM, Hilton

Energy Trends of Passenger Transportation in Korea ([10-3997](#))

Schipper, Lee

9:30AM- 12:00PM, Hilton

Carbon Dioxide Emissions from Urban Road Transport in Latin America: CO2 Reduction as Co-benefit of Transport Strategies ([10-3832](#))

Schipper, Lee

Deakin, Elizabeth

McAndrews, Carolyn

Frick, Karen

9:30AM- 12:00PM, Hilton

Passenger Transportation Environmental Life-Cycle Assessment: High-Speed Rail, Automobiles, Heavy Rail, and Aircraft in the California Corridor ([10-3253](#))

Chester, Mikhail

Horvath, Arpad

9:30AM- 12:00PM, Hilton,

Unintended Impacts of Increased Truck Loads on Pavement Supply-Chain Emissions ([10-2824](#))

Sathaye, Nakul

Horvath, Arpad

Madanat, Samer Michel

9:30AM- 12:00PM, Shoreham

Impact of Fuel Price on Large Jet Operating Cost and Scale Economies ([10-3817](#))

Smirti, Megan L.

Hansen, Mark

9:30AM- 12:00PM, Shoreham

Validation of Runway Capacity Models ([10-2271](#))

Kim, Amy M.

Hansen, Mark

10:15AM- 12:00PM, Hilton

Life-Cycle Costs and Support Decision-Making Research Agenda ([P10-1207](#))

Madanat, Samer Michel

10:15AM- 12:00PM, Shoreham

Need for Airport Congestion Management: Proposals from ACRP Project 3-10 ([P10-0401](#))

Hansen, Mark

1:30PM- 3:15PM, Marriott

Control and Electrification of Highway Vehicles: Integrating Concepts and Infrastructure Needs ([P10-1314](#))

Shladover, Steven E.

1:30PM- 3:15PM, Shoreham

Environmental Planning for RNAV Implementation ([P10-1113](#))

Smirti, Megan L.

9:30AM- 12:00PM, Marriott
Traffic Signal Optimization Strategy Considering Both Vehicular and Pedestrian Flows ([10-2955](#))
Li, Meng

2:30PM- 5:00PM, Shoreham
Mn/ROAD Case Study Using CalBack and CalME ([10-3373](#))
Tsai, Bor-Wen

3:45PM- 5:30PM, Hilton
Direct Ridership Model of Bus Rapid Transit in Los Angeles County ([10-0108](#))
Cervero, Robert
Murakami, Jin
Miller, Mark A.

3:45PM- 5:30PM, Hilton
Transfer of Innovative Policies Between Cities to Promote Sustainability: Case Study Evidence ([10-3263](#))
Frick, Karen
Deakin, Elizabeth

3:45PM- 5:30PM, Hilton
Direct Ridership Model of Bus Rapid Transit in Los Angeles County ([10-0108](#))
Murakami, Jin
Cervero, Robert
Miller, Mark A.

3:45PM- 5:30PM, Marriott
Strategy for Overcoming Plug-in-Hybrid Battery Cost Hurdles in California: Integrating Post-Vehicle Secondary Use Values ([10-3652](#))
Williams, Brett
Lipman, Tim

3:45PM- 5:30PM, Marriott
Economic Assessment of Electric-Drive Vehicle Operation in California and the United States ([10-3667](#))
Lidicker, Jeffrey R.
Lipman, Tim
Shaheen, Susan A.

5:45PM- 7:15PM, Shoreham
Airfield and Airspace Capacity and Delay Committee ([AV060](#))
Hansen, Mark

7:30PM- 9:30PM, Shoreham
Evaluation of Traffic and Environment Effects on Skid Resistance in California ([10-2830](#))
Oh, Soonmi, University of California, Berkeley
Madanat, Samer Michel, University of California, Berkeley
Ragland, David R., School of Public Health, UC Berkeley
Chan, Ching-Yao, University of California, Berkeley

7:30PM- 9:30PM, Hilton
Approximation Issues in Simulation-Based Estimation of Random Coefficient Models ([10-2986](#))
Train, Kenneth E.

7:30PM- 9:30PM, Hilton
Understanding the Role of Modeler in Overestimation Forecasts of Policy Impacts: Case of Travel Demand Management Policies ([10-1897](#))
Tal, Gil

7:30PM- 9:30PM, Hilton
Equity Analysis of Land Use and Transportation Plans Using Integrated Spatial Model ([10-3638](#))
Rodier, Caroline J.
Dix, Brenda

7:30PM- 9:30PM, Shoreham
Safety Performance of Experimental Pavement Types in California Using Before-and-After Comparisons ([10-2876](#))
Oh, Soonmi
Ragland, David R.

Chan, Ching-Yao

7:30PM- 9:30PM, Shoreham

Evaluation of Traffic and Environment Effects on Skid Resistance in California ([10-2830](#))

Oh, Soonmi ,

Madanat, Samer Michel

Ragland, David R.

Chan, Ching-Yao

7:30PM- 9:30PM, Marriott

PDO Equivalents for Identifying High-Risk Sites for Safety Improvement ([10-2456](#))

Washington, Simon

7:30PM- 9:30PM, Marriott

Identifying Large Truck Hot Spots Using Crash Counts and Property-Damage-Only Equivalents ([10-2335](#))

Washington, Simon

7:30PM- 9:30PM, Marriott

Single-Vehicle Fatal Crash Prediction for Two-Lane Rural Highways in the Southeastern United States ([10-3682](#))

Washington, Simon

7:30PM- 9:30PM, Marriott

PDO Crash Equivalency Factors for Solving the Crash Frequency-Severity Dilemma: Case Study on Korean Rural Roads ([10-1867](#))

Washington, Simon

7:30PM- 9:30PM, Marriott

Energy and Emission Benefit Comparison Between Stationary and In-vehicle Advanced Driving Alert Systems ([10-3829](#))

Wu, Guoyuan

Zhang, Wei-Bin

Li, Meng

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7:00AM- 8:00AM, Hilton

International Rail Transit Subcommittee, [AP065](#)

Newmark, Gregory L.

8:00AM- 9:45AM, Hilton

Twitter for Transportation: Effective Uses of Twitter for Transportation Information, News, and Building Communities ([P10-1001](#)), Hilton

Levine, Kendra

8:00AM- 9:45AM, Marriott

Incorporating Delay Effects into Airport Runway Pavement Management Systems ([10-1397](#))

Zou, Bo

Madanat, Samer Michel

9:30AM- 12:00PM, Hilton

Geocoding Police Collision Report Data from California: Comprehensive Approach ([10-2618](#))

Bigham, John M.

Rice, Thomas M.

Pande, Swati

Lee, Junhak

Gutierrez, Nicolas

Ragland, David R.

9:30AM- 12:00PM, Hilton

Experimental Economics in Transportation: Focus on Social Influences and Provision of Information ([10-3637](#))

Gaker, David

Zheng, Yanding

Walker, Joan L.

9:30AM- 12:00PM, Marriott
 Aurora Road Network Modeler: Macroscopic Simulation Tool for Arterial Traffic Modeling and Control ([10-1948](#))
 Chow, Andy Ho Fai
 Gomes, Gabriel
 Kurzhanskiy, Alex
 Varaiya, Pravin P.

9:30AM- 12:00PM, Marriott
 An Empirical Study of Traffic Speed Drop for Freeway Management ([10-1967](#))
 Chow, Andy Ho Fai
 Lu, Xiao-Yun
 Shladover, Steven E

10:15AM- 12:00PM, Hilton
 Parking Management: Pricing and Policy Shaping Travel Behavior ([10-4108](#))
 Broaddus, Andrea

12:15PM- 2:15PM, Hilton
 Shared-Use Vehicle Public Transport Systems Subcommittee, [AP020](#)
 Shaheen, Susan A.

2:30PM- 4:00PM, Hilton
 Emerging and Innovative Public Transport and Technologies Committee ([APO20](#))
 Shaheen, Susan A.

2:30PM- 6:00PM, Shoreham
 Executive Committee Conflict ([P10-1392](#))
 Kanafani, Adib K.

7:30PM- 9:30PM, Marriott
 Intelligent Transportation Systems Committee ([AHB15](#))
 Shladover, Steven E.

2:30PM- 5:00PM
 Class of Perturbed Cell-Transmission Models to Account for Traffic Variability (10-3622) ([P10-1302](#))
 Blandin, Sebastien
 Work, Daniel B.
 Bayen, Alexandre , University of California, Berkeley

2:30PM- 5:00PM
 New Modifications to Bus Network Design (10-1994) ([P10-1216](#))
 Foletta, Nicole C.

2:30PM- 4:00PM, Hilton
 Markets for Dynamic Ridesharing? The Case of Berkeley ([10-3629](#))
 Deakin, Elizabeth
 Frick, Karen

2:30PM- 4:00PM, Marriott
 Queue Spillovers in City Street Networks with Signal-Controlled Intersections ([10-3498](#))
 Skabardonis, Alexander

4:30PM- 6:00PM, Hilton
 Mobile Transit Trip Planning with Real-Time Data ([10-3748](#))
 Jariyasunant, Jerald
 Work, Daniel B.
 Kerkez, Branko
 Sengupta, Raja
 Bayen, Alexandre
 Glaser, Steven

January 14

8:00AM- 12:00PM
 How to Achieve a Global Low-Carbon Transport System by 2050 ([P10-1040](#))
 Schipper, Lee

8:00AM- 12:00PM

Panel Discussion: Regional Study Results, Policies, and Measures ([P10-1051](#))

Schipper, Lee



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