

METRANS NEWS

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Can Urban Freight and Communities Coexist?

Experts tackle that question and many others at national conference in Long Beach

Each day in metro areas such as Southern California, millions of motorists steer onto the region's roadways. Tens of thousands of other people take to the skies from one of the region's airports. Others roll across the region aboard trains.

Simultaneously, another not-so-little transportation drama is playing on the region's stage. Millions of tons of freight - the stuff we eat, the televisions we

There were some decidedly high-tech issues tackled. Examples: Is a humid air system the best way to reduce some diesel emissions from freight? Could a high-speed rail network built to handle freight take pressure off the nation's freeways?

But there were also broader, more philosophic matters addressed. Specifically: can freight movement and livable communities coexist?



A container ship at the Port of Los Angeles

watch, the cars we drive (to name just a few) - are pouring into and out of the region on ships, trucks, trains and planes.

The inevitable result isn't pretty - and it's not just happening in Southern California. Moving people and freight across crowded urban areas contributes to traffic headaches, pollution and issues of equity - some communities, usually low-income locales, are besieged with freight traffic while others rarely see much more than a moving van.

In late October, more than 200 experts from the world of goods movement gathered for the 3rd METRANS National Urban Freight Conference, held in Long Beach.

Southern California is "home to every conceivable urban freight problem you can imagine," said Genevieve Giuliano, USC School of Policy, Planning, and Development professor and the director of METRANS, during her opening remarks to the conference.

The ports of Los Angeles and Long Beach combined are the busiest in the United States, and Los Angeles International Airport is the third-largest air freight hub in the nation. The region is also a major rail center, with tracks radiating from Los Angeles to the rest of the country.

And where is all the freight going? Pointing to a map showing clusters of the nation's population east of the

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METRANS, a partnership of the University of Southern California and California State University, Long Beach, is a U.S. Department of Transportation designated University Transportation Center. Its mission is to solve transportation problems of large metropolitan areas through research, education and outreach.

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Can Urban Freight and Communities Coexist? continued

Mississippi River, the Federal Highway Administration's Mike Onder remarked that these "people need a constant supply of goods."

Traffic and logistics aren't the only issue. According to the California Air Resources Board, the ports - with their idling ships, trucks and trains - are the top source of air pollution in the region, contributing to 2,100 early deaths each year. Other studies have linked cancer to freight corridors.

Southern California, of course, has always been a significant player in the freight industry, but things really took off in the mid-1990s as Asian trade soared and the ports of Los Angeles and Long Beach were well-positioned to receive much of that freight.

All the problems and issues that come with freight traffic, said Giuliano, led to METRANS envisioning goods movement as an area in need of research. "And that's why we were more interested in it - the interest blossomed around the country and as international trade increased, we weren't the only ones hit."

The Los Angeles metro area was hardly the only one hit. Chicago, for example, saw railroad traffic jump to the point it was becoming increasingly more difficult to move trains through northeastern Illinois - there simply wasn't enough trackage.

Overall, there are 3.4 million trucks on the road in the U.S. - about one for every 89 residents. The problem with the truck traffic often comes in urban areas where the trucks become ensnared in - and in some cases worsen - existing bottlenecks on area roads.

A map of delays on the Federal Highway Administration website tells the story: among the metro areas in the nation that see the worst delays to truck traffic are Southern California and the metro regions around Atlanta and San Francisco.

Of course, urban freight is tolerated because it also brings with it serious benefits. Conference attendees acknowledged that freight movement provides tens of thousands of jobs and contributes to the Southern California's quality of life. Thus emerged the conference's central question: Can the region enjoy the

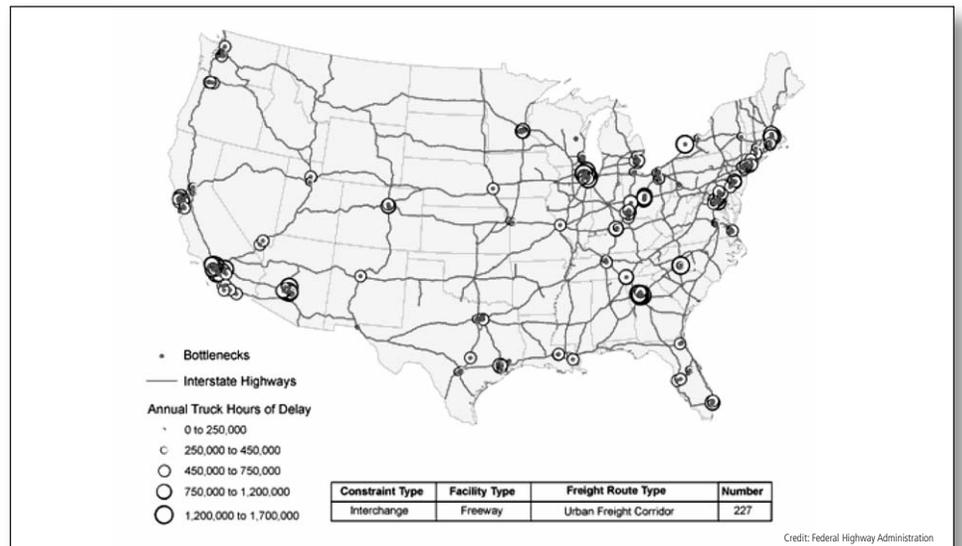
benefits of freight movement without destroying communities the freight travels through?

One of the early panel discussions centered on that dilemma. While panelists debated the ability of the freight industry to make investments in cleaner equipment that would benefit communities near ports, freeways and rail yards, another member of the panel, USC School of Policy, Planning, and Development assistant professor Lisa Schweitzer took the less popular view.

She wasn't so sure that freight and livable communities should mix. In her view, the problem



Patty Senecal, representing the International Warehouse Logistics Association, makes a point.

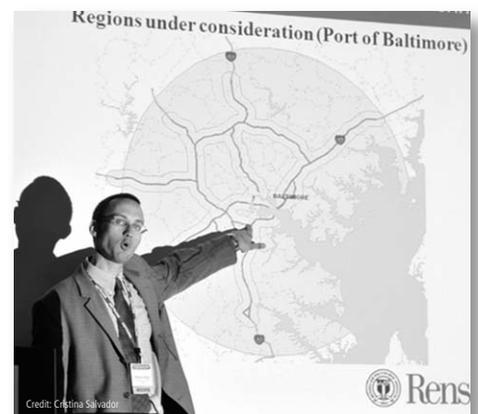


Truck delay hotspots on the U.S. road system

is that trucks, trains and people-friendly neighborhoods are simply not compatible no matter how clean the trucks and trains may be.

Schweitzer joined another speaker in pointing to the fact that urban freight does not exist in a vacuum - it's a product, to some degree, of people wanting more and more goods.

"No one is talking about wrestling a box of Cheerios from a child's hands," she said, "... but at some point, we have to say to ourselves that we can't have everything."



Matthew Brom, from the Rensselaer Polytechnic Institute, poses the question whether ports are to blame for urban congestion.

METRANS EDUCATION

METRANS Names Outstanding Student of the Year

Fynnwin Prager has worked to determine the impacts of terrorism on transit systems in Tokyo, Madrid and London

It is hardly surprising that attempted acts of terrorism aboard airplanes receive the attention that they do, particularly in the wake of the events of Sept. 11, 2001.

Yet, in the last 15 years, terrorists have also struck against transit systems. In 1995, sarin gas was used on the Tokyo subway system and bombs claimed lives aboard transit systems in Madrid in 2003 and London in 2005.

In particular, and not surprisingly, the number of passengers riding transit in Madrid and London fell steeply in the wake of the attacks. But how much was the fear factor in play? And how should officials have determined the real economic damage of those attacks?

Those were two significant questions and separating myth from reality was a task assigned to Fynnwin Prager, Ph.D student in the USC School of Policy, Planning and Development.

In November, Prager was named the METRANS Outstanding Student of the Year, in part for his work as a coauthor on three papers on the topic of how quickly ridership returns to transit systems in the wake of attacks.

In his nominating letter for Prager, USC Research Professor Adam Rose praised him for his work tackling a tricky subject.

"He demonstrated the ability to quickly up the research problem and to apply his knowledge of economics and risk analysis adeptly," wrote Rose. "We would not have been able to deliver an effective paper without him.

"This work will be a path-breaking contribution to the literature on transportation resilience, and will also be of great practical use to the Department of Homeland Security Transportation Security Administration."

There was little doubt that the attacks could be blamed for ridership drops on the Madrid and London terror systems. The trick was to figure out how much, as ridership on most transit systems

often follows seasonal patterns and is also tied to other outside factors such as economic health, labor stoppages and other service disruptions.

In the case of the gas attack in Tokyo, no infrastructure was harmed and the attack was limited to a small part of a vast transit system. In Madrid and London, on the other hand, the damage caused by bombs to infrastructure was significant and service disruptions much more widespread as a result.

"One interesting finding is that service disruptions do matter," Prager said. "So the quicker you can get the service back to normal, the faster passengers will return despite the fear.



Ridership on the London Underground fell by 47 million journeys in the year after the terror attacks of July 2005.

Government authorities can help on that side of things by influencing supply" of transit.

In the wake of the events of Sept. 11, 2001, there was significant interest from policymakers, economists and the media in measuring the economic damage inflicted by the terror attacks. It was not just a matter of being curious or having an interesting factoid on hand.

In Prager's view, policymakers must know about economic damages in order to determine what to spend to prevent them – and oftentimes to justify that expense to their constituents. "They have a better sense of how much to spend if they are interested in balancing the net social impact of these events," he said.



Fynnwin Prager
USC student

Prager is a native of Leeds, England, and said that he was predisposed to having an interest in international issues. The London bombings, however, particularly resonated with him on two fronts.

For one, the bus that was bombed as part of the London attacks was headed toward a bus stop that Prager often used while living in London. And three of the terrorists turned out to be from his hometown.

"I had friends who had been to the same mosques and who hung out at the same gyms as these people," Prager recalled. "It was quite troubling for people of my city to see this kind of thing happening and I was certainly interested to work on this issue because I had a personal connection to it."

Prager said that his career goals are to work in the public policy arena of academia. "I love research, communicating about the research and the teaching and presenting," he said. "And I like the atmosphere and environment that academia provides.

"I particularly like the field of public policy because it's a very applied field," Prager added. "You get the satisfaction of being in academia and you are striving toward a truth that can be employed in the often muddy waters of politics and hopefully improve decision-making as a result."

METRANS OUTREACH

Wanted: Employees to build and maintain America's transportation network

Industry and academics at California Transportation Workforce Development Summit struggle with question of where the next generation of employees will be found.

The day after promising to create more jobs in his State of the Union address, President Obama traveled to Florida to announce \$8 billion in federal grants to 13 high-speed rail projects around the United States.

The funds included \$2.25 billion for California, with the money going to the \$43 billion Anaheim to San Francisco segment of the state's planned bullet train network. It was a big score for the Golden State: no other project in the U.S. received more money.

"Folks, this [high-speed rail] is going to happen and we're not ready,"

Rod Diridon, Sr., Executive Director, Mineta Transportation Institute

While the news received considerable media attention, there was also an unsettling aspect to Obama's announcement. Who exactly was going to build the California high-speed rail system? Who in the United States—where low-speed rail prevails—has the expertise to construct something so complicated?

"We do not have the skills in the United States to build high-speed rail systems," said Rod Diridon, Sr., the Executive Director of the Mineta Transportation Institute. "It would be a travesty if we have to bring those skills from overseas...Folks, this [high-speed rail] is going to happen and we're not ready," he noted.



A luncheon panel at the Summit discussed "The Long Beach College Promise." Shown in the photo, from left, are California State University, Long Beach President F. King Alexander, the U.S. Dept. of Transportation's Lydia Mercado, Long Beach City College President Eloy Oakley, Long Beach Unified School District Assistant to the Superintendent Robert Tagorda and METRANS Deputy Director Marianne Venieris.

This situation exemplified the topics discussed at the California Transportation Workforce Development Summit 2010 held February 1 and 2 at the Hyatt Regency in Long Beach. The Summit was titled, "Ensuring the Growth of California's Transportation Workforce: Developing the Right Workers for Today's Challenges and Tomorrow's Jobs." It was organized by METRANS and the Mineta Transportation Institute in partnership with Long Beach City College.

This was one of several regional summits held around the U.S. sponsored by University Transportation Centers that will eventually culminate in a national summit in Washington, DC. The national summit will be spearheaded by the Council of University Transportation Centers and the U.S. Department



Credit: California High-Speed Rail Authority

of Transportation. Data and recommendations from each regional summit will become part of the national summit and influence the development of a national workforce development strategy.

The Summit in Long Beach included expert panels that addressed career development,

skills gaps, training strategies, outreach, and best practices. Participants were given the chance to meet educational service providers and industry representatives in the Showcase Hall which highlighted effective programs already underway.

The thrust of the summit, not surprisingly, was that the next wave of transportation workers needs to be trained sooner rather than later as the baby boom generation of employees sails into retirement.

It would be fair to say that, at times, optimism was in somewhat short supply.

"We're not there, we're asleep," said Gus Koehler, the CEO of Time Structures, Inc., a public policy research firm based in Sacramento.

"We're living off some type of vision of where we think we are."

Koehler pointed to the fact that emerging nations are capturing an increasingly larger share of the world's economy and could pass developing nations by 2030. California, on the other hand, isn't producing enough high school graduates to compete with other nations. The students who do graduate do not have a strong enough background in math and science.

Another speaker, Elizabeth Deakin, a professor of city and regional planning at the University of California, Berkeley, agreed California needs to greatly increase education levels. The problem: the university system in California is also being victimized by budget cuts that have made its mission of creating an educated workforce extremely difficult.

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METRANS OUTREACH, continued

"The system is threatened," Deakin said, pointing to higher student fees, cuts in classes offered and cuts in research.

The UC system has seen a \$621 million cut from its budget along with a 32% jump in tuition. Deakin said some Berkeley employees no longer had access to even basic office supplies and that she has had to convert classes that should be held in seminar rooms into ones that were housed in lecture halls to handle the student overload.

All those pressures, she said, make it harder for UC to compete for students with other universities with larger endowments and better finances.

"That's a pretty gloomy story I just told you," Deakin said. "But there are some bright spots...we still have a great system. It's not too late to address its needs."

Other panels focused more intently on what colleges and universities need to do to train the 21st century transportation workforce, how to get students interested in transportation, and how industry can better assist schools to provide work experience for students.

Dave Logan, faculty member at USC and senior partner at CultureSync, a management consulting firm, was the lunchtime speaker on the conference's first day and gave a speech that in some ways served as a pep talk for those at the conference.

Often, he said, the organizations suffering from brain drain are the ones that are not compelling places to work—something young people pick up on.

"The number one issue for most people is they want their lives to matter," Logan said, adding that the goal for most employers—including those in the transportation field—is to create a culture where workers feel their ideas can make a positive difference.

For more coverage of the Summit, visit www.metrans.org. Included are the detailed agenda, sponsors, speaker bios, PowerPoint presentations, the list of Showcases, and video interviews.

METRANS Recently Completed Projects

Area	PI	Co-PI	Project Title
Goods Movement	Genevieve Giuliano	Joseph Magaddino Tom O'Brien	Evaluation of Extended Gate Operations at the Ports of Los Angeles and Long Beach (Pier Pass)
Applied Research Program	Melody Kiang	Robert Chi	A Cargo Security Early Warning System - The Application of Neural Networks to Detect Cargos with Potential Security Fraud
Goods Movement	Alice Parker		Solving Metropolitan Transportation Problems Using Autonomous Ground Strategies for Vehicles with Computer Vision
Goods Movement	Maged Dessouky	Fernando Ordoñez Robert Leachman	Effective Rail Track Capacity Usage
Infrastructure	Kenneth James		Dual Use of Electric Utility Rights of Way by Integration of an Urban Maglev Container Corridor and Gas Insulated Transmission Lines
Safety and Security	Tridib Banerjee		Pedestrian Safety of School Children: Toward Improving Walkability of Inner City Neighborhoods
Applied Research Program	Robert Friis		Health Effects Associated with Goods Movement in the Los Angeles Basin
Goods Movement	Fokion Egolfopoulos	Theodore Tsotsis	Combustion and Emission Characteristics of Biofuels Used for Transportation
Safety and Security	Hossein Hashemi		Low-Cost Object Detection RF CMOS Sensor Development for Active Safety Systems
Goods Movement	Viktor Prasanna	Amol Bakshi	Integrated Modeling and Simulation Framework for Freight Transportation in Metropolitan Areas
Safety and Security	Detlof von Winterfeldt	Garrett Asay Christopher Lee	Estimating Behavioral Changes for Transportation Modes after Terrorist Attacks in London, Madrid and Tokyo
Mobility	Konstantinos Psounis		Efficient Routing for Safety Applications in Vehicular Networks
Infrastructure	Sami Masri	Roger Ghanem	Identification and Evaluation of Major Issues Involving the Impact of Global Climate Change on Transportation Systems
Goods Movement	Katharine Moore	Andrea Polidori Constantinos Sioutas	Toxicological Assessment of Particulate Emissions from the Exhaust of Old and New Model Heavy and Light Duty Vehicles
Infrastructure	Suya You	Ulrich Neumann	Rapid Extraction and Updating Road Network to Caltrans Database

METRANS OUTREACH

Urban Transportation in the News

It has been a busy six months since the last METRANS newsletter was published. Here's a roundup of some of the news that has transpired on the local, state and national front:

MTA says it has a plan. The MTA's Board of Directors, who over the years have been prone to geographically-inspired squabbling, agree on a long-range plan that focuses heavily on building high-profile rail and other transit projects in the next decade. Among those are phase 1 (2011 est.) and phase 2 of the Expo Line (2015), an extension of the Orange Line from Canoga Park to Chatsworth (2012), the Foothill Extension of the Gold Line (2013), the Crenshaw Line light rail (2018), the Downtown Regional Connector (2019) and the first phase of the Westside Subway Extension to Fairfax Avenue (2019). As part of the plan, the Board also agreed to request federal New Starts money for the subway and connector projects to speed up construction.

Teens turning their back on cars? National Public Radio is one of several big media outlets in November to begin reporting on an interesting phenomenon: a decline in the number of teen drivers getting their drivers license in the U.S. Why? It's expensive to drive, teens are finding plenty of things to do at home (video games and the internet) and they're comfortable taking mass transit.

More light rail for L.A. The MTA's new Gold Line Eastside Extension debuts in November. The six-mile line cost \$899 million and connects Union Station to East Los Angeles. Ridership in the early months of the line has mostly been below 10,000 passengers on average weekdays but MTA officials say that rail ridership usually climbs over time.

91 freeway tolls dropping. With the number of vehicles on the 91 Express Lanes in decline, officials in Orange County in December slightly

lowered tolls during some of the road's busiest times on the weekday eastbound commute in the afternoon.

Livability counts! Officials with the Federal Transit Administration announced in January that they're expanding the number of factors they consider when deciding which transit projects to



The Gold Line Eastside Extension takes the turn from 1st Street to the Little Tokyo station on opening day in November.

fund under the New Starts and Small Start programs. No longer will the emphasis be just on cost-effectiveness. Instead, factors such as livability and other social and environmental benefits will be taken into account.

A boost for faster trains. Following up on a promise made last year, President Barack Obama in late January announced \$8 billion in grants to 13 high-speed rail projects in the United States. California received \$2.25 billion for its planned \$43 billion line from Anaheim to San Francisco. Critics, however, noted that none of the grants include enough money to actually finish any of the projects. Other critics say the money would have been better spent on mass transit projects in cities.

NTSB issues ruling on Metrolink crash.

The National Transportation Safety Board issued a report in January blaming the engineer of a Metrolink train for running a red signal and

text messaging in the seconds before the deadly collision with a Union Pacific freight train in Sept. 2008. Twenty-five people aboard the Metrolink train, including the engineer, were killed.

Phase 2 of Expo Line clears one hurdle but...

The Board of Directors of the Expo Line Construction Authority voted 6 to 0 with one abstention in early February to approve the final environmental impact report for the second phase of the line from Culver City to Santa Monica. However, residents in the Cheviot Hills and West Los Angeles areas threaten to file a lawsuit alleging that the EIR failed to properly consider traffic and noise impacts at three at-grade crossings at Overland Avenue and Westwood and Sepulveda boulevards.

Meanwhile, on Phase 1 of the Expo Line...

Negotiations continued as of press time in February between the Construction Authority and the Los Angeles Unified School District over the best way to solve a dispute over the street-level crossing next to Dorsey High School. The LAUSD and another community group say the crossing won't be safe because of the number of students who must walk across the tracks. The current solution being discussed at press time involves adding a new station at Dorsey High, which, proponents say, will at least slow down trains in the area. The California Public Utilities Commission must sign off on the station before construction can proceed. The line between downtown Los Angeles and Culver City, which will run along USC, probably won't open until late 2011 at the earliest.

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METRANS Website

More information on transportation research, publications, education, training, and technology transfer can be found at www.METRANS.org.



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Dear Reader:

The new academic year was launched with the biggest and best cohort of graduate students in my home school (Policy, Planning and Development), as well as the growing budget challenges of Cal State Long Beach. Like everyone else at CSULB, we have had to adapt to furlough days and budget uncertainties. I am pleased to say that our excellent staff has not allowed these challenges to affect our METRANS work. METRANS funding is more important than ever in the current environment, both to support development of our transportation research programs and to continue our professional training and outreach activities. We are particularly grateful to Caltrans for its continued support despite the dire financial conditions of the state government.

Another uncertainty is the continuation of federal surface transportation funding and passage of a new authorization bill. This year is the last year of funding under the existing federal program. The sages of Washington DC are telling us that continuing resolutions should be expected for at least another year, so we are proceeding with our normal cycle of activities. At the same time, we are gearing up for the next national competition. You will read about some of the fall semester's accomplishments in this issue. I'm sure you will agree that we are building an ever stronger program that will put us in very good shape for the competition, whenever it might happen.

Genevieve Giuliano
Director
METRANS Transportation Center