



# INSTITUTE OF TRANSPORTATION ENGINEERS

## SOUTHERN CALIFORNIA SECTION

# NEWSLETTER

2012 – 2013, Issue No. 6

March 2013

## President's Message

*Andrew Maximous, PE, TE*



Dear ITE Southern California Members,

I would like to thank Rock Miller for his time and presenting to the February joint meeting with the Central Coast Section. His presentation on bicycle transportation in the Netherlands was very interesting. I would also like to thank Central Coast section president Stephen Orosz for organizing and hosting the meeting.

A streetcar will be returning to Downtown Los Angeles. The City Council has approved up to \$294 million of Measure R transportation tax money over 30 years to cover the operation and maintenance of the system. The streetcar will be a four-mile fixed rail line that will run on

city streets in a loop from the Civic Center to the Convention Center, running down Broadway through the Historic Core before heading into the Fashion District and South Park, and hitting the Financial District on the way back--it'll travel on Broadway, Eleventh, Figueroa, Seventh, and Hill. Check out [www.streetcar.la](http://www.streetcar.la) for more details.

Finally, a bit of trivia: back on February 21, 1902, the Pacific Electric Railway officially took over the Mt. Lowe Railway line. During its short life, Mt. Lowe became one of Southern California's primary tourist attractions, with more visitors than either Yosemite National Park or Catalina Island. 160,930 passengers were carried up the mountain in 1921, the railway's busiest year.

The photograph below (circa 1910) depicts a view of one of the Alpine Division's open-bench cars on the circular bridge section of the Mount Lowe line. (Photo courtesy of Metro Transportation Library and Archive)



## *Meeting Announcement*

**Wednesday, April 17, 2013**

**11:30 AM**

**Monterey Hill Restuarant**

3700 W Ramona Blvd

Monterey Park CA

(323) 264-8426

*For Reservations Contact:*

**Neelam Sharma, TE,** at

[Neelam.sharma@urs.com](mailto:Neelam.sharma@urs.com)

By 12:00 pm on Wednesday,

April 10, 2013

**2011-2012 Southern California Section Officers**

**President**

Andrew Maximous, PE, TE  
*City of Santa Monica*  
 Ph. (310) 458-8291  
[andrew.maximous@smgov.net](mailto:andrew.maximous@smgov.net)

**Vice President**

Sri Chakravarthy, PE  
*Kimley-Horn & Associates*  
 Ph. (818) 227-2790  
[srikanth.chakravarth@kimley-horn.com](mailto:srikanth.chakravarth@kimley-horn.com)

**Secretary-Treasurer**

Neelam Sharma, TE  
*URS Corp.*  
 Ph. (714) 433-7664  
[neelam.sharma@urs.com](mailto:neelam.sharma@urs.com)

**First Past President**

Steven Itagaki, PE, PTOE  
*JMDiaz Inc. (JMD)*  
 Ph. (626) 820-1137  
[sitagaki@jmdiaz.com](mailto:sitagaki@jmdiaz.com)

**Second Past President**

Lisa Martellaro-Palmer  
*City of Los Angeles DOT*  
 Ph. (213) 928-9665  
[lisa.martellaro-palmer@lacity.org](mailto:lisa.martellaro-palmer@lacity.org)

**2011-2012 Southern California Section Chairs**

**Newsletter Editors**

Jay Dinkins, PE  
*City of Santa Monica*  
 Ph. (310) 458-8963  
[jay.dinkins@smgov.net](mailto:jay.dinkins@smgov.net)

**Scribes**

John Dorado, PE  
*DKS Associates*  
 Ph. (714) 597-8063  
[jad@dksassociates.com](mailto:jad@dksassociates.com)

David Schwegel, PE  
 Ph. (425) 466-5677  
[davidmschwegel@aol.com](mailto:davidmschwegel@aol.com)

Clinton Quan  
*City of Los Angeles DOT*  
[clinton.quan@lacity.org](mailto:clinton.quan@lacity.org)

**Industry Coordinator**

Janna McKhann  
*NexTech Systems, Inc.*  
 Ph. (714) 289-8940  
[nextech@cox.net](mailto:nextech@cox.net)

**Student Chapter Liaisons**

Neelam Sharma, TE  
*URS Corporation*  
 Ph. (714) 433-7664  
[neelam.sharma@urs.com](mailto:neelam.sharma@urs.com)

**Legislative Analyst**

Martin Varona, EIT  
*CSUF ITE – President & Founder*  
[mvarona360@gmail.com](mailto:mvarona360@gmail.com)

**Giancarlo Ganddini**

*Kunzman Associates, Inc.*  
[giancarlo@traffic-engineer.com](mailto:giancarlo@traffic-engineer.com)

**Membership Coordinator**

Ted Mekuria  
*CH2M Hill*  
 Ph. (213) 228-8218  
[ted.mekuria@ch2m.com](mailto:ted.mekuria@ch2m.com)

**Sponsorship Coordinator**

Julia Wu, PE, PTOE  
*Port of Long Beach*  
 Ph. (562) 590-4143 x3322  
[julia.wu@polb.com](mailto:julia.wu@polb.com)

**Section Administrator**

Erik Zandvliet  
*Willdan Engineering*  
[ezandvliet@willdan.com](mailto:ezandvliet@willdan.com)

**FTA/FHWA Liaison**

Lawrence (Jesse) Glazer  
*FTA/FHWA LA Metro Office*  
 Ph. (213) 202-3955  
[Jesse.Glazer@fhwa.dot.gov](mailto:Jesse.Glazer@fhwa.dot.gov)

**Technical Coordinator**

Bernard K Li, PE  
*Iteris Inc.*  
 (949) 270-9633  
[bkli@iteris.com](mailto:bkli@iteris.com)

**Webmaster Chair**

Vikas Sharma  
*Kimley-Horn and Associates, Inc.*  
 Ph. (818) 227-2790  
[vikas.sharma@kimley-horn.com](mailto:vikas.sharma@kimley-horn.com)

**Committee Chair for Awards to Universities**

Carlos Ortiz, PE, PTOE  
*RBF Consulting*  
 (949) 855-3657  
[cortiz@rbf.com](mailto:cortiz@rbf.com)

**Chair of Professional Development**

Lisa Martellaro-Palmer  
*City of Los Angeles DOT*  
 Ph. (213) 928-9665  
[Lisa.martellaro-palmer@lacity.org](mailto:Lisa.martellaro-palmer@lacity.org)

**Brief Look Ahead**

**March**

- Fri 15<sup>th</sup>, 10:00 AM, ITE So Cal/San Diego Meeting, El Adobe Restaurant, San Juan Capistrano
- Fri 22<sup>nd</sup>, 8:00 AM, ITE Riverside-San Bernardino Section 30<sup>th</sup> Annual Golf Tournament (page 10, flyer)
- Thu 28<sup>th</sup>, Adaptive Signal Control Workshop (see flyer)
- Fri 29<sup>th</sup>, 11:59 PM, ITE So Cal Newsletter Deadline (contact: Newsletter Editors)

**April**

- Wed 17<sup>th</sup>, 11:30 AM, ITE So Cal, Monterey Hill Restaurant, Monterey Park
- Mon 22<sup>nd</sup> – Wed 24<sup>th</sup>, TransForm's Transportation Choices Summit and Advocacy Day ([www.transformca.org](http://www.transformca.org), page 10)

**May**

- Wed 22<sup>nd</sup>, 5:00 PM, ITE So Cal/OCTEC, Student Chapter Presentations, North Orange County Location TBD

**June**

- Wed 19<sup>th</sup>, 8:30 AM, ITE/ITS So Cal Mini-Workshop/Annual Meeting, Monterey Hill Restaurant, Monterey Park

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## Legislative Analysis

*Martin Varona, EIT*  
*ITE So Cal Legislative Analyst*

Here are some interesting new pieces of transportation-related legislation that are either currently under review or will be heard in committee this month.

### LEGISLATIVE BILL UPDATES

#### **AB 210 Transactions and Use Taxes: County of Alameda**

The County of Alameda has the authority to impose a transactions and use tax for the support of countywide transportation programs at a rate of no more than 0.5% that, in combination with other specified taxes, exceeds the combined rate of all these taxes that may be imposed, including a requirement that the ordinance proposing the transactions and use tax be submitted to, and approved by, the voters on a certain date. On January 1, 2014 the current law will rescind this authority if the ordinance is not approved by the voters on that date. This bill would extend the authority of the County of Alameda to impose the transactions and use tax for countywide transportation programs until January 1, 2017 conditioned, upon prior voter approval. This legislation will be heard in committee on March 7<sup>th</sup>.

#### **AB 220 Vehicles: Low Emissions: Financial Incentives**

The Department of Motor Vehicles (DMV) is required to make available for issuance certain identifiers that clearly differentiate specified vehicles from other vehicles, including a vehicle that meets California's Super Ultra-Low Emission Vehicle (SULEV) standard for exhaust emissions and the federal Inherently Low-Emission Vehicle (ILEV) evaporative emission standard, as defined. This bill would clarify the Legislature's intent to enact legislation to develop and implement a policy consisting of financial incentives to encourage the purchase of particular low-emission vehicles. This legislation will be heard in committee on March 7<sup>th</sup>.

#### **AB 62 State Highway Route 86: Relinquishment**

The California Transportation Commission has authorization to give up certain state highway segments to local agencies. This bill would allow the Commission to give up to the Cities of Brawley, El Centro, Imperial and County of Imperial specified

portions of State Highway Route 86 under specified conditions. A certain portion of State Highway Route 86 would also be re-designated as part of State Highway Route 78 following this reassignment. This bill would also allow State Highway Route 86 to remain a state highway along a new, specified route. This legislation was heard in committee on February 7<sup>th</sup> and is still in review.

#### **AB 206 Vehicles: Bicycle Transportation Devices**

This bill would authorize the Sacramento Regional Transit District to install folding devices attached to the front of its buses for bicycle transport provided such devices meet certain requirements, such as not extending more than 40 inches from the front of the bus when fully deployed, with bicycle handlebars extending no more than 46 inches. The district must submit a report, containing specified requirements, to both the Assembly and Senate Committees on Transportation and Housing on or before December 31, 2018. This legislation will be heard in committee on March 2<sup>nd</sup>.

#### **AB 14 State Freight Plan**

Caltrans is required by law to prepare a state rail plan that contains a freight element. Existing law allows state and regional agencies to participate in various transportation planning activities, including those related to goods movement. Federal law contains certain incentives to the states for developing a state freight plan pursuant to federal guidelines. This bill would mandate the Business, Transportation and Housing Agency to prepare a state freight plan with certain elements to govern the immediate and long-range planning activities and capital investments of the state as they relate to the movement of freight. This bill would also require the agency to establish a freight advisory committee with associated responsibilities. The initial state freight plan would be submitted to the Legislature, the Governor, and certain state agencies by December 31, 2014, and updated in 5 year cycles.

#### **AB 178 Highways: Exit Information Signs**

Caltrans has rules and regulations that allow the placement, near exits on freeways in rural areas, of information signs identifying specific roadside businesses. Existing law prevents Caltrans from placing such signs in urban areas with 5,000 or more people. This bill allows placement of such signs in urban areas of up to 50,000 people if it has had a highway bypass completed since 2002.

## Cal Poly Pomona ITE Student Chapter Update

*Ruben Hovanesian, Student Chapter President*

### What have we been up to this year?

To kick off the year, we had a very exciting Site Visit of the Wilshire Bl. Ramps Reconstruction project on the 405. Hosted by Kiewit, Cal Poly Pomona students were joined by USC students to tour the immense construction site, getting a first-hand look of the ramp demolition and construction in process. Definitely one of the best site visits we've done in recent years!



We've continued our bi-weekly guest speaker series, giving students the opportunity to listen to professionals present on their career paths and the projects they've worked on. We're currently gearing up to continue our successful educational outreach project from last year, where we'll be teaching students about Civil Engineering and mentoring them about college.

Our school's motto is "learn by doing", so we reached out to our campus's Transportation, Police, and Facilities departments to organize several transportation projects that would benefit our school. The result is a team of students gaining real-world experiences while benefiting our school. Students have met with representatives from all departments to identify each of their goals. They have developed methodologies to collect the proper data and to analyze it, allowing them to make final recommendations to school officials. A team of students is performing a roundabout study to identify what problems still exist in the form of multimodalism, driver speeds, heavy vehicle accommodations, and driver education. Another team is studying several intersections of concern to identify the problems and make recommendations, including whether signals are warranted. A team of students is reviewing and evaluating the current bicycle and skateboarding policy for the campus, to accommodate the uptrend in the number

bicyclists and skateboarders on campus as well as to maintain a safe environment for everyone else. There is also a team performing a complete parking study of our parking structure with over 7,000 spaces. Our last team is developing a geo-database of Traffic Control Devices that will not only inventory signage and striping on campus, but also provide recommendations on maintenance and standards-compliance. For the first time in our school's history, we are organizing a Joint Studio Course between the Civil Engineering, Urban and Regional Planning, and Landscape Architecture departments for the Fall 2013 term. Interdisciplinary teams of students from all three departments will work together on a transportation/transit based project.

That's not all that's new; we're putting together an online Transportation Resource Library that provides links to all of the wonderful transportation resources available, from popular blogs to technical documents. We've also joined with the American Planning Student Association (APSA) to offer a discounted joint membership to students, whether they'd be interested in the transportation engineering or the planning side of things.

Saving the best for last, working with APSA, we are organizing and hosting the first TransModal Connection Conference this May 3-4. The purpose is to bring together professional engineers, planners, and students within the transportation field to exchange experience and knowledge on the past, present, and future state of active transportation and multimodalism as well as to provide an opportunity to develop a multidisciplinary approach to engineering and planning.



But most importantly, thank you. Thank you to all the professionals and firms and everyone who has been supporting our student chapter. Our intense and vibrant program has been, and will continue to be, a success because of your support! We'd love to hear from you and work with you to make this year another successful year, so let me know how you'd like to get involved, [ite@csupomona.edu](mailto:ite@csupomona.edu)! In the meantime, check out our website for the most up-to-date happenings (and lots of pictures too)!! [www.itecpp.wordpress.com](http://www.itecpp.wordpress.com).

**Socio-Economic Benefits of High-Speed Rail**

*Jeff Windham, San Jose State University/Mineta Transportation Institute*

An Excerpt from "On Board with the United States – California High Speed Rail: Re-Aligned Strategies and Push Pull for the Future" (Oct 9, 2012)

High-Speed Rail (HSR) development across the globe is varied but the need for highly efficient transportation besides road and air traffic is vital to all industrialized nations. The international experience in Western Europe and Japan with HSR has resulted in many benefits to the economy, environment and for job creation. The similarities between these countries and California are more similar than different. By linking strongly developed mega regions with HSR, it increases the competitiveness of those regions and improves transportation technologies and employment.

HSR is considered for use in distances from 100 to 500 miles to reduce car usage and airplanes. The congestion problems on California Highways are well documented with California ranked as having regions ranked in the top ten for congestion (LA Basin, SF Bay Area) according to the USDOT Federal Highway Agency (FHWA, 2010). The San Francisco to Los Angeles air corridor is the busiest in the nation. The USDOT places the cost of congestion on our highways and at our airports to cost the economy nearly \$130 billion each year. HSR is a safer, cleaner and more efficient travel mode in consideration of costs and effects on urban form and the environment. Expansion of highways and airports are extremely costly, estimations by independent engineers place the costs at 2.5 times that of HSR infrastructure and the HSR infrastructure requires far less space than highway lanes per passenger mile (UIC, 2010). In 2006, the Center For Clean Air Policy published a report showing HSR to have lower CO2 emissions than the automobile or plane.

Table 1 shows the breakdown by mode.

**Table 1: Summary CO-2 Emissions Factors by Motive Power Travel Mode <sup>1</sup>**

| Mode              | Emissions Per Passenger Mile (lbs. CO-2) | Emissions Per Vehicle Mile (lbs. CO-2) | Passengers per Vehicle |
|-------------------|--|--|------------------------|
| Bus               | 0.14                                     | 4.87                                   | 35                     |
| Conventional Rail | 0.21                                     | 66.96                                  | 322                    |
| High Speed Rail   | 0.26                                     | 25.10                                  | 97                     |
| Automobile        | 0.53                                     | .85                                    | 1.6                    |
| Airplane          | 0.62                                     | 48.04                                  | 77                     |

Calculated from U.S. Department of Energy, Energy Information Administration, 2005

These comparisons show the clean advantage of HSR over Air and Auto and Conventional Rail based on technology and vehicle capacities at the time. Current advancements in technology such as Hybrid buses and cars and added passengers for HSR and fuel efficiency efforts for airplanes continue to reduce mode emissions. As a compliment and substitute to existing travel modes and as a catalyst to greener travel, HSR is a highly viable technology for pollutant reductions.

High Speed Rail is not about trains. Sure they travel at speeds of over 200 mph and they look futuristic, but the fundamental focus of a HSR / HSIPR (High-Speed Intercity Passenger Rail) is on passenger experience. Trip times, reliability, safety, station services, accessibility, amenities and creature comforts are top priorities for planning the system. Achieving the goal of getting people out of their cars and into Transit options are greatly improved with the integrated interconnectivity of High Speed Rail Stations and Transit Oriented Development (TOD). The stations are located in City Centers unlike airports. The feeder systems to TOD facilities receive greater ridership which results in more revenues which leads to increased capacity and frequency of service. The TOD areas provide for "value capture taxes" for real estate and business operations near the City Center which allows for

<sup>1</sup> Calculated from U.S. Department of Energy, Energy Information Administration, 2005.

<http://www.cnt.org/repository/HighSpeedRailEmissions.pdf>

improvements to urban form and sustainable (equitable) development. Opportunities to use transit for employment, recreation, leisure and social connectivity are enhanced.

The California High Speed Rail Authority Business Plan “Economic Analysis” (Chapter 9) shows that the initial construction of the Initial Operating Segment (IOS) will provide a much needed boost to the economy of the Central Valley. This is the fastest growing part of the state and the region has unemployment figures of 15% - 18%.<sup>2</sup> The IOS construction is targeted to add almost 100,000 job-years of employment and 4,500 permanent jobs for operations and maintenance. These will be private industry jobs as the plan calls for Design, Build, Operate and Maintain Contracts. The private rail industry has waited a long time and is investing heavily in supporting California’s passenger rail operations. The American Recovery and Reinvestment Act (ARRA) funds stipulate a “Buy America” policy.<sup>3</sup> The initial investment of \$2.7 billion will earn state and local governments over \$600 million in tax revenue. This provides the building block for future cash flows from ancillary businesses. New denser planned communities with affordable housing will be built around the station areas and reduce the blighted conditions of inner city neighborhoods. New businesses will be attracted to the areas and connectivity with other businesses will add to employment opportunities, commerce and industry.

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<sup>2</sup> US Decennial values, “Valley’s Cry For Help”, Local Newsgroup Papers, Valley Chamber of Commerce Groups.

<sup>3</sup> IRS Releases Guidance on ARRA Bond Provisions, **Build America Bonds & Recovery Zone Economic Development Bonds** [Notice 2009-50 \(Recovery Zone Bond Volume Cap Allocations\)](#)

**The California State Rail Plan**

David M. Schwegel, PE

The *Draft California State Rail Plan (2013)* (Caltrans, Rail Plan, California Transportation Plan 2040) (<http://californiastaterailplan.com>) was a major focus of the February 14 California High Speed Rail Authority (CHSRA) ([www.cahighspeedrail.ca.gov](http://www.cahighspeedrail.ca.gov)) Board Meeting in Sacramento. At the May 2012 US High Speed Rail Association (USHSR) ([www.ushsr.com](http://www.ushsr.com)) San Francisco Conference, CHSRA Board Chairman Dan Richard emphasized high-speed rail's (HSR) role in a "statewide integrated system of mass transit and station area development." This 2013 rail plan is the first to incorporate CHSRA's *Final Business Plan* (April 2012). This 2013 integrated rail plan is necessary for state and federal rail funding. State requirements include a 10-year horizon covering both passenger and freight. Federal requirements include a 20-year vision, high-speed and conventional rail inclusion, and vision and implementation policies.

Public meetings took place statewide in February as well as an online webinar. The Tuesday, February 26 webinar provided a brief overview and an extensive question and answer session.

**Overview**

The *California State Rail Plan* is one of five modal plans for the state. The others are the *Interregional Transportation Strategic Plan (2013)* (highway), *Freight Mobility Plan (2013)* (freight), *Statewide Transit Strategic Plan (2012)* (transit including bus and local rail), and *California Aviation System Plan (2011)* (aviation).

**Role**

It is important for transportation professionals to understand where our state's metropolises fit in the national picture both in terms of ridership volume and growth.

The *Sacramento Business Journal* (March 1, 2013) staff article "Where Amtrak ridership is soaring" contains Brookings Institution data on Amtrak volume by metropolis in [Table 1](#).

**Table 1: Amtrak Ridership "Volume" by Metropolis**

| Metropolis    | Growth (1997-2012) | 2012 Ridership Volume (million) |
|---------------|--------------------|---------------------------------|
| New York      | 23%                | 10.86 (1)                       |
| Washington DC | 60%                | 5.80 (2)                        |
| Philadelphia  | 26%                | 5.30 (3)                        |
| Chicago       | 64%                | 3.76 (4)                        |
| Los Angeles   | 72%                | 3.42 (5)                        |
| Boston        | 211%               | 3.17 (6)                        |
| Oakland       | 113%               | 2.06 (7)                        |
| Baltimore     | 50%                | 1.78 (8)                        |
| Sacramento    | 197%               | 1.76 (9)                        |
| San Diego     | 27%                | 1.54 (10)                       |

Source: Brookings Institution (2013)

**New York:** The related congestion relief article later in this newsletter does not identify the nation's most populous metropolis as also having the worst traffic congestion, primarily due to the high transit ridership among Amtrak, subways, Long Island Express, and other transit sources. New York's Amtrak passenger volume is nearly double that of second place Washington DC (nation's worst roadway congestion).

**Boston:** While the infamous \$24 billion "Big Dig" project may not have cured roadway congestion woes as effectively as some had hoped, the region has the highest Amtrak ridership growth among the nation's top 10 cities.

Curtis Tate's *Sacramento Bee* (March 1, 2013) article "Amtrak ridership grows even as federal cuts loom," notes between 1997 and 2012, Amtrak ridership (currently at 31 million annual passengers) grew 55 percent, while car vehicle miles traveled grew by 16.5 percent, and airline passengers grew by 20 percent. [Table 2](#) shows the Amtrak ridership growth by metropolis per the Brookings Institution data in Tate's article.

**Table 2: Amtrak Ridership "Growth" by Metropolis**

| Metropolis                | Growth (1997-2012) | 2012 Ridership Volume |
|---------------------------|--------------------|-----------------------|
| Dallas                    | 483% (1)           | 202,000               |
| Lancaster, Pennsylvania   | 258% (2)           | 740,600               |
| Harrisburg, Pennsylvania  | 245% (3)           | 644,800               |
| Boston                    | 211% (4)           | 3,170,000             |
| Sacramento                | 197% (5)           | 1,760,400             |
| Greensborough, N Carolina | 153% (6)           | 173,200               |
| San Jose                  | 140% (7)           | 357,600               |
| Oakland                   | 113% (9)           | 2,058,000             |
| Fresno                    | 84% (14)           | 394,100               |
| Los Angeles               | 72% (17)           | 3,424,900             |

Source: Brookings Institution (2013)

**Dallas:** At the December 2012 US High Speed Rail Association (USHSR) ([www.ushsr.com](http://www.ushsr.com)) Los Angeles Conference, Irving, Texas Mayor Beth Van Duyne noted Texas' recent significant "change of heart" toward transit as a welcome alternative to fighting traffic in this ever growing expansive region.

**Lancaster and Harrisburg:** Neither Lancaster or Harrisburg are along the Washington DC to Boston *Acela Express* (America's closest to true high-speed rail) corridor with America's highest ridership, yet they still rank near the top of the nation's fastest growth list.

**Fresno:** At the August 2012 California High Speed Rail Authority (CHSRA) ([www.cahighspeedrail.ca.gov](http://www.cahighspeedrail.ca.gov)) Industry Forum, Mayor Ashley Swearingin was pleased to announce her City's distinction as the "birthplace of true high-speed rail in America." On a February 2013 NPR radio program, CHSRA CEO Jeff Morales announced that the Authority is on track to break ground here in July.

**Los Angeles:** While Los Angeles Union Station leads the state in passenger volume, a major growth impediment is the lack of a passenger rail connection to Bakersfield. CHSRA deemed the Bakersfield to Palmdale Gap Closure ("project of the century") a high priority.

## Existing Conditions

It is also important for transportation professionals to understand where our state stands from the standpoint of statewide integrated rail.

Amtrak operates four long-distance (interstate) routes – Coast Starlight (Los Angeles to Pacific Northwest via coast), California Zephyr (Nevada, points east), Southwest Chief (Northern Arizona, points east) and Sunset Limited (Southern Arizona, points southeast). Service to Las Vegas was discontinued over a decade ago, accelerating interest in XpressWest (high-speed rail).

Amtrak operates three intra-state routes – Pacific Surfliner (San Luis Obispo to San Diego, 2<sup>nd</sup> highest ridership in the nation), Capitol Corridor (Auburn to San Jose, 3<sup>rd</sup> highest ridership in the nation), and San Joaquin (Sacramento to Bakersfield, 5<sup>th</sup> highest ridership in the nation). San Joaquin's high ridership ranking in the Central Valley ("fastest growing part of the state"), was a key justification used by CHSRA Board Chairman Dan Richard in addressing Senator Joe Simitian's "starting in a low ridership area" objection at last year's Senate High-Speed Rail Hearings.

Commuter rail lines include Metrolink (Southern California), Coaster (San Diego), Caltrain (San Francisco to Gilroy), and Altamont Corridor Express (ACE) (Stockton to San Jose).

Freight lines include Union Pacific Railroad (UPRR) and Burlington Northern Santa Fe (BNSF) plus 23 regional, short lines, or terminal/switching railroads.

## Proposed Conditions

Additionally, it is important for transportation professionals to understand where California is going in the overall rail picture beyond high-speed rail.

In addition to California High Speed Rail and XpressWest, Amtrak plans the Coast Daylight (Salinas to San Luis Obispo based on a Caltrain extension to Salinas), and the Sonoma Marin Area Regional Transit (SMART) "Smart Train" between the Larkspur Ferry Terminal (Marin County) and Cloverdale (Sonoma County). Caltrans is currently preparing Service Development Plans (SDPs) for the San Joaquin, Pacific Surfliner, Coast Daylight, and Coachella Valley. The Capitol Corridor Joint Powers Authority (CCJPA) is currently preparing an SDP for the Capitol Corridor. SDPs are projected to be completed by May 2013. The *Final State Rail Plan* is projected to be completed by June 2013. CHSRA also has an SDP underway.

## Question and Answer

Finally, it is important for transportation professionals to understand typical questions raised by the public in open houses and webinars, so we can anticipate questions that may arise. This clarifies confusion among the public on complex issues while boosting our credibility.

1. What about integrated fare systems? Passenger rail service providers in both Northern and Southern

California are actively discussing fare integration, recognizing its high importance in improving the overall rider experience.

2. Will any high-speed rail funds come out of the highway trust fund? Check out the high-speed rail "Fact Sheet" on the California High Speed Rail Authority website ([www.cahighspeedrail.ca.gov](http://www.cahighspeedrail.ca.gov)) for the source breakdown.
3. What about service to Eureka? Demonstrated ridership and committed funding would be needed for justification and implementation.
4. How do freight providers feel about improving passenger rail service? They are delighted. Dedicated passenger railways de-clutter their own freight railways, allowing these freight providers to do what they do best, expedite freight delivery.
5. Will the California High-Speed Rail project include skip-stop service for trains? Yes. Express trains, designed for minimal travel time between San Francisco and Los Angeles, will not stop at selected intermediate stations.
6. What about consulting with Indian tribes? Such meetings will take place starting in March.
7. Why is high-speed rail where it is? Statewide Environmental Impact Statements (EIS's) (2002) were included in CHSRA's *Final Business Plan* (April 2012) based on areas of highest projected ridership and growth, as well as those currently underserved by transit (Inland Empire).
8. What is the status of XpressWest? It has cleared the environmental hurdles (first high-speed rail system in the nation to do so), yet funding uncertainties remain.
9. What are the two phases of XpressWest? Phase 1 connects Victorville and Las Vegas. Phase 2 connects Palmdale and Victorville. CHSRA and XpressWest will collaborate to evaluate Phase 2's synergy with the statewide high-speed rail project.
10. Why do we need a new transportation agency in California? A new transportation agency puts a renewed emphasis on multi-modal (CHSRA, Caltrans, California Transportation Commission).
11. Are their alternate plans if high-speed rail does not move forward? Funding for the Initial Construction Segment (ICS) (Madera to Bakersfield) is secured along with initial funding for "bookend" improvements (Metrolink, Caltrain). High-speed rail is taking a phased approach with each phase benefiting other modes and services.
12. Will some highway funding become available for rail? Yes. The new transportation agency provides new ways of funding from a multi-modal perspective, but legislation would still be required.
13. The CHSRA *Business Plan's* low end ridership projections are based on \$2.60/gallon gas, yet gas will likely be closer to \$6.00/gallon in 2030. What should we make of that? Higher gas prices boost the appeal of train travel, thereby significantly increasing ridership over the highly conservative low-end estimates.
14. What about "complete streets" within the station development areas? This is a high priority. Check out the *California High Speed Train Urban Design Guidelines* on the California High Speed Rail Authority website ([www.cahighspeedrail.ca.gov](http://www.cahighspeedrail.ca.gov)) for further information.
15. What about the potential loss of service to smaller Central Valley cities? The number of high-speed rail stations is limited to 24, per Prop. 1A law passed by voters in 2008.

## Opportunities for Newsletter Advertising and Sponsorship

*Julia Wu, PE, PTOE (Port of Long Beach)*

The newsletter is a perfect venue for advertising your products and services, as it is circulated nine (9) times a year to approximately 800 ITE recipients all over Southern California. Advertisements are priced reasonably for the benefit of our members.

There is no charge for brief job announcements or course announcements (about 100 words) that would be of interest to our members. Free announcements may be edited or condensed as necessary, though. Only ads that are of direct interest to our members will be accepted. The costs are as follows:

- Sponsorship full page Ad: \$300 per month
- Full page Ad: \$200 per month
- Half page Ad: \$125 per month
- 1/4 page Ad: \$ 75 per month
- 1/8 page (business card) Ad:\$ 50 per month

If you are interested in sponsoring the newsletter, the price is \$300. The sponsoring company ad is displayed prominently in the newsletter.

For an additional \$50 per month, companies can also include the same advertisement on our section web-page. The web advertisement will be on the page for the entire month.

|                   |                               |
|-------------------|-------------------------------|
| <b>Jan-12</b>     | KOA Corporation               |
| <b>Feb-12</b>     | Sensys Networks               |
| <b>Mar-12</b>     | Iteris                        |
| <b>Apr-12</b>     | Minagar & Associates          |
| <b>May-12</b>     | Minagar & Associates          |
| <b>June-12</b>    | Iteris                        |
| <b>Sept-12</b>    | Sensys Networks               |
| <b>Oct-12</b>     | Iteris                        |
| <b>Nov/Dec-12</b> | JMD                           |
| <b>Jan-13</b>     | South Coast Lighting & Design |
| <b>Feb-13</b>     | URS Corp                      |
| <b>Mar-13</b>     | Kimley-Horn & Associates      |
| <b>Apr-13</b>     | (Available)                   |
| <b>May-13</b>     | (Available)                   |
| <b>June-13</b>    | (Available)                   |

In addition to Newsletter Sponsorship opportunities, we also have lots of Luncheon Sponsorship Opportunities at \$100 per meeting. This is an extraordinary opportunity to educate one of the West Coast's largest Transportation Engineering communities on your organization. Some other Sections charge \$200 or more for lower profile meeting sponsorship opportunities. At \$100 per meeting, this is an extraordinary value.

The Newsletter Editors must receive your ad by the 3<sup>rd</sup> Friday of the month prior to the following month's newsletter. Thank you in advance for your contribution to the ITE Southern California Section.

Please contact **Julia Wu** at (562) 283-7882 or [Julia.wu@polb.com](mailto:Julia.wu@polb.com) if you have questions or if you would like to submit an ad or sponsor a newsletter.

On behalf of our Newsletter committee, I, Julia Wu, would like to thank you, all currently-committed sponsors, for your support. Your help in sharing the production costs is what makes the newsletter distribution possible and allows us to increase our student support. I hope the advertisements in our newsletter have contributed to raising your profiles in the local transportation industry. Please note that with the electronic newsletter, the ads are now full-page and in color.

To our prospective sponsors, I encourage you to make your company better known in the community. We have sponsorship vacancies starting in **April 2013. We also have the sponsorship (\$300) and co-sponsorship (\$150) open for the Annual Steak Fry in August. First come first serve. Look forward to hearing from you!**

## Opportunities for Newsletter Content

*David M. Schwegel, PE*

The newsletter is also a perfect venue for keeping the membership informed of a fascinating project you are working on or for educating the membership on a unique development of interest to the local transportation engineering community. Typically 600 words and two photos fit on a single page. Articles should be objective and focus on the project, not the firm. This way they are not misconstrued as advertisements. Please submit content to Newsletter Editors Jay Dinkins ([jay.dinkins@smgov.net](mailto:jay.dinkins@smgov.net)) and David Schwegel ([davidmschwegel@aol.com](mailto:davidmschwegel@aol.com)) by the deadline. The deadline for the November Newsletter is **11:59 PM on Friday, March 29, 2013**. Thank you.

## Announcements

**ITE Community:** Got a topic of interest to the ITE International Membership? If so, post it on the All Member Forum on ITE Community (<http://community.ite.org>).

**ITE International on LinkedIn:** LinkedIn ([www.linkedin.com](http://www.linkedin.com)), the business social media choice for 100M users worldwide, has an ITE group. LinkedIn users, search for "Institute of Transportation Engineers," join the group, and weigh in on discussions pertaining to international transportation engineering issues.

**ITE So Cal Latest Information:** [www.itesocal.org](http://www.itesocal.org)

**ITE So Cal Meeting, Event Photos, Facebook:** <http://picasaweb.google.com/itesocal>

Facebook: [http://www.facebook.com/home.php?sk=group\\_174132915945907](http://www.facebook.com/home.php?sk=group_174132915945907) or search for "Southern California ITE." Facebook users, please join the group and weigh in on discussions pertaining to local transportation engineering issues.

**Riverside – San Bernardino Section’s 30<sup>th</sup> Annual Golf Tournament:**

- Friday, March 22, 8:00 AM, Shotgun Start, Scramble Format
- Menifee Lakes Country Club (29875 Menifee Lakes Dr, Menifee, 951-672-4824)
- Attire: Slacks or Bermuda-length shorts, collared shirts, no Denim
- Cost: \$70 (by Tuesday March 12), \$80 (by Monday, March 18)
- RSVP: Fill out form on attached flyer with checks made out to “RSBITE.” Send to: JR Morgan, 7182 Westport St, Riverside, CA 92506

**University of Nebraska-Lincoln Students “Fast Forward” to Transportation Careers:**

University of Nebraska-Lincoln Students have published a “Fast Forward” Newsletter designed to encourage students to pursue transportation-related careers including transportation engineering. The newsletter features interviews with high-level engineers including American Society of Civil Engineers (ASCE) ([www.asce.org](http://www.asce.org)) Executive Director Pat Natale discussing engineers as “unsung heroes.” Check out the “Fast Forward” webpage at <http://fastforward.unl.edu>. Sign up for their free newsletter. (source: ASCE *Smart Briefs* Feb. 22, 2013)

**Transportation Choices Summit and Advocacy Day:**

Oakland-based TransForm ([www.transformca.org](http://www.transformca.org)) – a non-profit advocating for “Transportation Choices” holds its “Second Annual Transportation Choices Summit and Advocacy Day” in Sacramento Mon April 22 to Wed Apr 24. Mobile walking and biking tours of Sacramento’s best land-use practices take place on the 22<sup>nd</sup>. The “Transportation Choices Summit” takes place on the 23<sup>rd</sup>, featuring presentations and discussions with experts on topics such as the future of transit, Cap-and-Trade, legislative reforms, “complete streets,” equitable land uses and housing, and effectively conveying transportation and land use reform messages to different audiences. The “Advocacy Day” on the 24<sup>th</sup> features a briefing on legislative issues followed by meetings with legislators in the Capitol. Legislators asked ASCE “Day at the Capitol” (2006) participants, “Where have you been all of these years?” ITE places high value on education. Engineers are historically underrepresented at events like these, particularly advocacy days. Therefore, participation is strongly encouraged, particularly at the “Advocacy Day,” where you can testify as a transportation engineering professional. For more information and registration, go to [www.transformca.org](http://www.transformca.org).

**Engineering Technician I/II Job Opportunity (Costa Mesa):**

<http://agency.governmentjobs.com/costamesa/default.cfm>



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## How much do Collisions Cost Relative to Congestion?

David M. Schwegel, PE

The National Academy of Engineering *Changing the Conversation: Messages for Improving Public Understanding of Engineering*, Executive Summary (<http://www.nap.edu/catalog/12187.html>) reveals that the public does not understand what us Engineers do. This is part of a five-article (congestion in two parts, commute time, collision, and cost) public relations series to encourage us to discuss our profession with elected officials, citizens, and other decision makers. According to the Texas Transportation Institute (TTI) (<http://mobility.tamu.edu>) *Urban Mobility Report (2011)* roadway congestion cost Americans \$101 billion in 2010.

**Problem Severity:** According to CBS News correspondent Mark Strassmann (Nov. 3, 2011), "Car crashes cost Americans \$300 billion a year," per the American Automobile Association (AAA). That's three times the cost of roadway congestion! Every hour, four people are killed on America's roadways. AAA spokesman Troy Green says, "Traffic crashes really need to be moved to the forefront of the American discussion as the public safety and health threat that they are." Collisions cost \$6 million per fatality and 126,000 per injury. The National Highway Traffic Safety Administration (NHTSA) ([www.nhtsa.dot.gov](http://www.nhtsa.dot.gov)) reports that around 33,000 fatalities took place on American roadways in 2010. CBS News Transportation Safety Analyst Mark Rosenker reports, "It would take a small airline falling out of the sky every day for 360 days for us to get close to that number." Among the primary causes are excessive speed, driving under the influence, and driving while distracted (with texting while driving illegal in 35 states).

**General Solutions:** CBS News indicates that Electronic Stability Control (ESC) (puts on brakes when cars skid), currently under development, would save 9,600 lives annually. Additional lives would be saved with short-range radar sensors (also under development) that turn on airbags and seat restraints before the collision occurs instead of on impact. AAA's Troy Green also suggests boosted enforcement and steeper penalties along with messaging and education campaigns.

**Trends:** According to a joint US Department of Transportation (USDOT)/NHTSA report, *The Economic Impact of Motor Vehicle Crashes (2000)*, there were 41,821 fatalities (including some not reported to the police), 5.3 million non-fatal injuries, and 28 million damaged vehicles in 2000, for a total economic cost of \$230.6 billion, or \$820 per US citizen and 2.3 percent of the national GDP. This includes productivity, property damage, medical/rehabilitation, travel delay, legal, emergency services, insurance administration, and employer costs. It excludes physical pain and lost quality of life. While annual fatalities have dropped by around 9,000, annual costs have increased by around \$70 billion between 2000 and 2010. Safer vehicles (better safety restraint systems and airbags, more durable vehicles), stricter laws (bans on composing text messages and holding cell phones while driving), and traffic engineering solutions (ITS strategies, variable speed limits, improved signal coordination, changeable message signs, traveler information systems, etc) have reduced fatalities. Increased roadway congestion, healthcare costs, and labor value have increased the overall collision cost.

**Cost Breakdown:** The USDOT/NHTSA report provides a cost breakdown as follows:

- Lifetime economic cost (employer and domestic productivity) per fatality: \$977,000
- Cost per critically injured survivor (medical services, productivity): \$1.1 million
- Total employer productivity: \$61 billion
- Total domestic productivity: \$20.2 billion
- Total property damage: \$59.8 billion
- Medical services from injuries (present and future): \$32.6 billion
- Lost time: \$25.6 billion

**Funding:** The USDOT/NHTSA report provides a funding breakdown as follows:

- Federal revenues: 6 percent
- State and local revenues: 3 percent
- Private insurers: 50 percent
- Victims: 26 percent
- Third parties (uninvolved motorists, charities, health plans): 14 percent

The victims pick up 26 percent (\$60.6 billion) of the tab while the uninvolved pick up the remaining 74 percent (\$170 billion) via insurance, taxes, and delay.

**Injuries, Fatalities, and Property Damage Only:** The USDOT/NHTSA report provides quantity breakdowns as follows:

- 5.3 million people injured or killed in the 16.4 million crashes
- 27.6 million vehicles damaged (86% property damage only, 14% injuries to either occupants or non-occupants)

**Other Statistics:** The USDOT/NHTSA report also offers these statistics:

- Fatalities in alcohol-related crashes: 16,792
- Fatalities in speed-related crashes: 12,350
- Lives saved through seat belt use: 11,900

**Traffic Engineering Solutions:** While traffic engineering solutions do not prevent alcohol consumption or lighten heavy accelerator feet, such solutions do prevent collisions, reduce collision severity, and safeguard lives. Such solutions may include illuminated signing, turn prohibitions, crash cushion installation, driveway channelization, pedestrian rerouting, and traffic barrier installation among others.

Predominant collision patterns and causes are deduced from collision reports.

Table 7-13 of the ITE *Traffic Engineering Handbook* (p205) lists probable causes and possible countermeasures based on collision patterns such as right-angle at signalized intersection, run off roadway, fixed object, parked or parking vehicle, and head-on.

Table 7-14 provides a more in-depth exploration of collision pattern countermeasures including various possible causes, possible studies, and safety enhancements by collision type. Such types include overturn, fixed object, right-angle at signalized intersection, parked cars, and pedestrian/bicycle among others.

Participation in public outreach events to discuss the exorbitant societal cost of collisions and the traffic engineer's role in preventing and reducing the severity of collisions through innovative infrastructure design and enhancements is encouraged. Traffic engineering solutions are a vital part of the equation. Other parts include driver responsibility, law creation, and enforcement among others.

**How Severe is the Roadway Congestion Problem? How are Traffic Engineers Creatively Addressing it?**

David M. Schwegel, PE

The National Academy of Engineering *Changing the Conversation: Messages for Improving Public Understanding of Engineering*, Executive Summary (<http://www.nap.edu/catalog/12187.html>) reveals that the public does not understand what us Engineers do. This is part of a five-article (congestion in two parts, commute time, collision, and cost) public relations series to encourage us to discuss our profession with elected officials, citizens, and other decision makers.

Melanie Wise's Feb. 5, 2013 *Sacramento Business Journal* article "Stuck in traffic again? That'll be \$834M in Sacramento," cites the recently released Texas Transportation Institute (TTI) (<http://mobility.tamu.edu>) *2012 Urban Mobility Report* (December 2012), necessitating a follow-up article., Sacramento's low \$834 million congestion price tag and No. 47 ranking are due to a struggling economy and a high transit use. Curtis Tate's March 1, 2013 *Sacramento Bee* article "Amtrak ridership grows even as federal cuts loom" includes a Brookings Institution table showing Sacramento's Amtrak ridership tripling between 1997 and 2012, the highest gain in California.

**Problem Severity:** The *2012 Urban Mobility Report* pegs America's 2011 "congestion invoice" at \$121 billion (same as "lost productivity and direct medical expenses of 12 flu seasons") in wasted time and fuel. 5.5 billion hours wasted is the same as Americans spend filing taxes. 2.9 billion gallons of wasted fuel fills New Orleans Superdome four times. 56 billion pounds of greenhouse gas emissions (GHG) is the blast off weight of 12,400 full-gas-tank Space Shuttles. The cost for the average commuter grew from \$342 (1982) to \$818 (2011). Population and employment growth will slow somewhat through 2020 while alternatives (biking, walking, home-working/shopping) will maintain their growth rate.

**Recent Changes:** Table 1 shows 2011 rankings from the 2012 report. Table 2 shows 2010 rankings from the 2011 report.

**Table 1: America's 5 Most Congested Metropolises (2011)**

| Metropolis    | Wasted Time (hrs) | Travel Time Index | Wasted Fuel (gal) | Cost Per Auto Commuter |
|---------------|-------------------|-------------------|-------------------|------------------------|
| Washington DC | 67 (1)            | 1.32 (4)          | 32 (1)            | \$1,398 (1)            |
| Los Angeles   | 61 (2)            | 1.37 (1)          | 27 (3)            | \$1,300 (2)            |
| San Francisco | 61 (2)            | 1.22 (23)         | 25 (6)            | \$1,266 (4)            |
| New York      | 59 (4)            | 1.33 (3)          | 28 (2)            | \$1,281 (3)            |
| Boston        | 53 (5)            | 1.28 (6)          | 26 (4)            | \$1,147 (6)            |

Travel Time Index: Congested/Non-Congested Travel Time  
Source: Texas Transportation Institute *Urban Mobility Report* (2012)

**Table 2: America's 5 Most Congested Metropolises (2010)**

| Metropolis    | Wasted Time (hrs) | Travel Time Index | Wasted Fuel (gal) | Cost Per Auto Commuter |
|---------------|-------------------|-------------------|-------------------|------------------------|
| Washington DC | 74 (1)            | 1.33 (2)          | 37 (1)            | \$1,495 (2)            |
| Chicago       | 71 (2)            | 1.24 (13)         | 36 (2)            | \$1,568 (1)            |
| Los Angeles   | 64 (3)            | 1.38 (1)          | 34 (3)            | \$1,334 (3)            |
| Houston       | 57 (4)            | 1.27 (6)          | 28 (4)            | \$1,171 (4)            |
| New York      | 54 (5)            | 1.28 (3)          | 22 (7)            | \$1,126 (5)            |

Travel Time Index: Congested/Non-Congested Travel Time  
Source: Texas Transportation Institute *Urban Mobility Report* (2011)

The overall number drop suggests traffic engineering solutions are gradually starting to show progress.

Washington DC: While numbers have improved, high tourism, limited freeway capacity, and lack of a Metro Rail connection to Dulles International Airport (nearly 50 miles from downtown) keeps this region No. 1. Aggressively transit (Metro to Dulles, Union Station expansion), transit oriented development, and other congestion reduction measures are in place. European transportation publications like *Reuters* note while London to Paris is comparable to Washington DC to Raleigh NC in distance, "it's no *Eurostar* journey."

Los Angeles/Orange County: While our region's numbers have improved slightly, particularly in "wasted fuel," late light rail transit and Metrolink adoption (90's and later), and a slower rate of Amtrak passenger boardings to other major metropolises degraded our ranking from 3 to 2. Curtis Tate's March 1, 2013 *Sacramento Bee* article "Amtrak ridership grows even as federal cuts loom" includes a Brookings Institution graph (2997-2012) shows a 72% increase in Amtrak boardings in Los Angeles verses 483% in Dallas.

Boston: Seattle's Cascade Bicycle Club (CBC) *Cascade Courier* "CBC Opposes Referendum 51" (2002) claims massive roadway expansions (\$24 billion "Big Dig") may not solve congestion woes.

**Air Quality:** Table 3 shows CO<sub>2</sub> emissions.

**Table 3: CO<sub>2</sub> Emissions**

| Metropolis     | Pounds per Auto | Total Pounds During Congestion | Total Pounds During Free Flow | Congestion relative to Free Flow |
|----------------|-----------------|--------------------------------|-------------------------------|----------------------------------|
| Washington DC  | 631 (1)         | 1,703 (5)                      | 29,916 (9)                    | 5.7                              |
| New York       | 557 (2)         | 5,146 (1)                      | 76,858 (2)                    | 6.7                              |
| Boston         | 526 (3)         | 1,338 (8)                      | 26,161 (12)                   | 5.1                              |
| Baton Rouge LA | 526 (3)         | 210 (49)                       | 5,791 (52)                    | 3.6                              |
| San Francisco  | 503 (5)         | 1,298 (10)                     | 44,642 (4)                    | 2.9                              |
| Los Angeles    | 436 (15)        | 3,578 (2)                      | 84,264 (1)                    | 4.2                              |

Source: Texas Transportation Institute *Urban Mobility Report* (2012)

Boston: The per auto emissions ranking is even higher than the congestion ranking in this infamous "Big Dig" metropolis.

Baton Rouge: This region's low population relative to the other top 5 may be indicative of less restrictive automobile emissions regulations, a heavier truck concentration, unusual atmospheric conditions, or a few extremely heavy polluters.

Los Angeles: California's strict air emissions regulations along with effective ITS measures keep our region well out of the top 5.

**Freeway Travel Reliability:** Table 4 shows freeway planning and travel time indices.

**Table 4: Freeway Planning and Travel Time**

| Metropolis             | Planning Time Index | Planning Time Index (80) | Travel Time Index |
|------------------------|---------------------|--------------------------|-------------------|
| Washington DC          | 5.72 (1)            | 2.56 (1)                 | 1.38 (4)          |
| Los Angeles            | 4.95 (2)            | 2.50 (2)                 | 1.54 (1)          |
| New York               | 4.44 (3)            | 2.13 (6)                 | 1.32 (6)          |
| Bridgeport-Stamford CT | 4.40 (4)            | 2.05 (7)                 | 1.28 (14)         |
| Austin TX              | 4.26 (6)            | 2.15 (4)                 | 1.40 (3)          |
| Portland OR            | 4.26 (6)            | 2.15 (4)                 | 1.34 (5)          |

(80): 80<sup>th</sup> percentile  
Source: Texas Transportation Institute *Urban Mobility Report* (2012)

**Los Angeles:** Freeway travel time is extremely unpredictable in our region with the most cautious motorists allowing nearly a factor of 5 to arrive at their appointments on time. Significant investments in reliable rail transit boosts transit's attractiveness in our later adopter (90's) region.

**Portland:** This region's No. 6 ranking is initially surprising given aggressive transit and transit oriented development innovations to reduce vehicle miles traveled (VMT). A rapidly changing downtown core (multi-family housing in and around the fringes), rapid population growth, and unpredictable weather in a region with relatively low per capita freeway capacity contribute to unreliable freeway travel.

**Stress:** A May 5, 2011 "Odd News Blog" survey indicates 5 million workers annually "call in sick because they cannot face the commute" costing companies 8.7 percent of their annual payroll. Workforce Institute Director Joyce Maroney advises being mindful of workers' commute time as "it has a significant impact on job satisfaction."

Table 5 shows stress-related congestion measures.

**Table 5: Stress-Related Congestion Measures**

| Metropolis    | Peak Period Travel Time | Commute Stress Index | Delay per Non-Peak Traveler |
|---------------|-------------------------|----------------------|-----------------------------|
| Washington DC | 53 (1)                  | 1.39 (3)             | 17 (2)                      |
| New York      | 50 (3)                  | 1.40 (2)             | 15 (5)                      |
| Atlanta       | 50 (3)                  | 1.33 (13)            | 15 (5)                      |
| Los Angeles   | 48 (6)                  | 1.34 (9)             | 15 (5)                      |
| Boston        | 48 (6)                  | 1.35 (5)             | 14 (15)                     |
| Detroit       | 48 (6)                  | 1.22 (37)            | 13 (21)                     |

Commute Stress Index: Peak Period/Free Flow Travel Time  
Source: Texas Transportation Institute *Urban Mobility Report* (2012)

**Atlanta:** Massive road building sprees in this region boasting America's busiest airport, failed to keep it out of the top 5.

**Los Angeles:** The moderate commute stress index indicates citizens anticipate much off-peak congestion.

**Detroit:** The low commute stress index is indicative of the region's chronic unemployment and severe financial woes (subject to a potential state takeover per the March 1, 2013 PBS News Hour).

**Effectiveness Measures:** Table 6 quantifies the time savings and financial benefits of both operational treatment (ramp metering, incident management, signal coordination, arterial access management, HOV lanes) and public transportation.

**Table 6: Congestion Solutions**

| Metropolis    | Operational Time (Hours) | Operational Benefits (\$ Million) | Public Transport Time (Hours) | Public Transport Benefits (\$ Million) |
|---------------|--------------------------|-----------------------------------|-------------------------------|--|
| Los Angeles   | 61,264 (1)               | \$1,316.4                         | 32,345 (6)                    | \$695.0                                |
| New York      | 53,981 (2)               | \$1,174.4                         | 440,647 (1)                   | \$9,586.8                              |
| San Francisco | 18,956 (3)               | \$400.6                           | 36,714 (4)                    | \$775.9                                |
| Houston       | 15,113 (4)               | \$323.4                           | 6,733 (13)                    | \$144.1                                |
| Miami         | 15,073 (5)               | \$323.6                           | 11,589 (9)                    | \$248.8                                |
| Washington DC | 14,185 (6)               | \$298.3                           | 33,810 (5)                    | \$711.0                                |

Source: Texas Transportation Institute *Urban Mobility Report* (2012)

**Los Angeles:** Our region's No. 1 ranking in freeway/roadway operational improvements is seen as a model for transportation planners in Beijing China. Look for short-term light rail and

Metrolink (bookend beneficiary of last July's high-speed rail legislation) improvements, the implementation of Beijing-tested transit solutions, and the long-term introduction of high-speed rail to significantly boost the public transportation numbers.

**New York:** Public transport benefits in the nation's most populous metropolis trump benefits in any other region by a factor of 10. Look for short-term Hurricane Sandy transit repairs and long-term \$150 billion Washington to Boston high-speed rail implementation to significantly boost the public transportation numbers.

**Miami:** This is the only region that does not use ramp metering.

**Washington DC:** The congestion solution rankings are surprisingly low in America's worst congestion region. Look for aggressive transit oriented development, station enhancements (especially Union Station), the Metrorail Dulles Airport extension, and the \$150 billion high-speed rail system to boost benefits.

**US Innovations:**

**San Antonio:** Bill Barker of San Antonio's Office of Sustainability and ITE's Sustainability Task Force made a February 2013 *Business World Magazine* article available entitled "City of San Antonio Syled Sustainability" (pp. 68-81) ([http://www.businessworld-magazine.com/digital\\_magazine/2013/feb/#/1/](http://www.businessworld-magazine.com/digital_magazine/2013/feb/#/1/)). Our nation's seventh largest city boasts Texas' first modern-day bike share system, 242 miles of bike routes (including 100 miles of trails), and a rapidly growing electric vehicle (EV) program (free downtown parking for hybrids and EV's and over 130 public EV charging stations including some on I-35) that have been instrumental in mitigating air quality (averted "non-attainment"), water quality, and water shortage (recent severe drought) concerns from climate change. According to the Texas Transportation Institute, the region uses incident management, signal coordination, and arterial access management among its operational treatment solutions, amounting to a savings of 1,450 hours (No. 31) and \$29.9 million.

**Innovations outside of the US:**

Jane Wakefield's *BBC News Technology* (Feb 21, 2013) article "Building cities of the future now," spotlights traffic engineering solutions in "smart cities" worldwide.

**Barcelona:** At recent "Smart City" conferences, Chief Information Officer Manel Sanroma discussed innovations like boosted bus route efficiency, streamlined sensor-based garbage collection, and smart street lights. A contact-less payment system among transportation services is currently under implementation.

**Rio de Janeiro:** Mayor Eduardo Paes commissioned IBM to create a city-wide operation center integrating 30 agencies in managing traffic, public transportation, water, and power (gas and electricity) – complete with a "coordinated response" system. Keep an eye on how this heavily populated metropolis (pop. 8 million) (severely constrained by mountains and water) readies itself for the 2016 Summer Olympics.

## How much do out-of-pocket Transportation Costs Vary by Location?

David M. Schwegel, PE

The National Academy of Engineering *Changing the Conversation: Messages for Improving Public Understanding of Engineering*, Executive Summary (<http://www.nap.edu/catalog/12187.html>) reveals that the public does not understand what us Engineers do. This is part of a five-article (congestion in two parts, commute time, collision, and cost) public relations series to encourage us to discuss our profession with elected officials, citizens, and other decision makers. We reduce out-of-pocket transportation costs for citizens by reducing roadway congestion and providing "transportation choices."

Bay Area-based TransForm ([www.transformca.org](http://www.transformca.org)) is one of California's largest non-profits advocating for "transportation choices," with an especially strong sensitivity to the "poor, elderly, and communities of color." At their May 2012 "Transportation Choices Summit and Advocacy Day" (covered in our June 2012 Newsletter), Senator Mark DeSaulnier discussed how the former "California Dream" of peaceful suburban living has become the new "California Nightmare" of lengthy, costly, and exhausting commutes. Adding to this challenge is changing workforce demographics. In 1974, 14 percent of women were in the workforce. By 1994, this figure increased to 74 percent, as more household incomes were needed to support the suburban lifestyle.

"Granite Bay 95746" is the wealthiest zip code in the four-county Sacramento region (Sacramento, Placer, El Dorado, and Yolo Counties) (*Sacramento Business Journal*, March 1, 2013, "Which Zip Codes are Richest?"). It is the "dream" for those who value nature, expansive lots, and spacious dwellings with offices. It is a "nightmare" for those who value low cost transportation choices.

One of the handouts at last year's "Transportation Choices Summit and Advocacy Day" was a summary of TransForm's "Windfall for All" report discussing how "sustainable transit oriented communities" produce a "windfall for all," saving households thousands in transportation-related expenses. That savings depends largely on the location of households relative to transit.

A February 5, 2013 *Sacramento Business Journal* staff article "Americans spend 4% of income on gas" discusses their ever growing "pain at the pump." The article specifically cites the US Energy Information Administration report claiming household gas spending is currently the highest in three decades. While our ITS strategies that improve flow on arterials and freeways boost fuel efficiency and reduce pump pain, "Windfall for All" cites American Automobile Association (AAA) statistics showing fuel at \$1,514, or 19% of the annual driving cost. The balance is \$800 or 10% for maintenance and a whopping \$5,783 or 71% for ownership, for an annual car driving cost of \$8,097. All three elements vary considerably based on car make/model, reliability, and fuel efficiency. They also vary considerably based on driving needs. Households in "20-minute-walk" communities where key needs (work, shopping, banking, recreation, transit) are met within a 20-minute walk from home can expect to spend considerably less than those in "30-minute-drive" communities that lack even a transit stop within walking distance of home.

"Windfall for All" also notes that high transportation costs pose an especially heavy burden on households in the lowest quintile income bracket of \$20,000 to \$30,000, where 31% of income goes to transportation. Households in the highest quintile of \$100,000+ only spend about 8% of their income on transportation. With an average annual income of around \$124,000, work out-of-home Granite Bay residents are more likely to feel the pain in the commute travel time and human energy consumption than in their pocketbooks. On the other hand, higher incomes correlate with longer and more frequent travel (by various modes) as well as the purchase of more expensive automobiles.

Go to TransForm's website ([www.transformca.org](http://www.transformca.org)), click "reports," then scroll down to "Windfall for All," for a free downloadable PDF. Check out page 8 (PDF reader page 9) "Map A: Household Transportation Costs by Census Block," to see a color coordinated map by transportation spending (in quintiles with "yellow" being lowest and "purple" being highest) in the Bay Area. The closer to rail lines, the brighter the colors. Now go to page 17 (PDF reader page 18) "Map D: Greater Los Angeles Metropolitan Area, Annual Transportation Costs per Household Census Block." Notice how transportation spending varies among our Los Angeles/Orange County region. Then check out neighboring Ventura, San Bernardino, and Riverside Counties. Notice the great variation in colors. Next go to page 18 (PDF reader page 19) "Map F: Greater San Diego County, Annual Transportation Costs per Household Census Block." Note the variation in quintile designations relative to the other maps. The lowest quintile (yellow) is less than \$3,730 per year. Finally go to page 19 (PDF reader page 20) "Map H: Sacramento Region, Annual Transportation Costs per Household Census Block." Granite Bay is located in southwest Placer County just east of eastern terminus of the two Sacramento Regional Transit District (RTD) eastern lines. Sacramento, Placer, and El Dorado Counties all come together in Folsom Lake. Granite Bay is within the purple zone west of the lake. Now go seven miles south, across the county line into the Sacramento County City of Folsom. Notice the significantly brighter colors indicating reduced transportation spending. This is primarily due to Folsom's location at the northeastern terminus of the Sacramento RTD Gold Line. Familiarize yourself with these maps. At last year's "Transportation Choices Summit and Advocacy Day," delegates handed out the appropriate map to elected officials based on their district.

It is important that transportation professionals keep discussions of household transportation spending in the forefront of our discussions with elected officials, the public, and other decision makers. Note the role our roadway expansion, signal coordination, freeway management, and transit design efforts play in reducing household spending. Discuss the cost effectiveness of various options. Most households are interested in saving money. They need to be made aware of how our transportation planning and engineering efforts assist them in this endeavor.

Next month, we continue our exploration of TransForm's "Windfall for All" report. For now, check out other elements of the report. Note how the benefits of transit oriented developments extend far beyond just household transportation savings. Considerable environmental benefits can be gained as well. Also note how transit oriented developments tie into Senator Darrell Steinberg's SB375 (Sustainable Communities). California's legislation is being used as a sustainability model by transportation planners in other states.

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New Pilot Course Offering:

## Integrating Traffic Signal Program and Metropolitan Planning Processes to Build Support for Implementation of ASCT and Other Operations Strategies

Applying traditional methods to the management and operation of traffic signals becomes more challenging when traffic demands become variable and unpredictable. This workshop is part of a suite of solutions to enable metropolitan transportation planners, traffic engineers, and traffic system operators to better consider and address traffic signal management and operations strategies and specifically Adaptive Signal Control Technology (ASCT) to meet operations objectives.

### Workshop Goals

At the conclusion of the workshop, participants will be able to describe critical linkages between traffic signal programs and metropolitan planning processes; empowering them to articulate and execute the steps necessary to build regional support for improved traffic signal operations.

### Workshop Content

- **Lesson 1:** Overview of ASCT
- **Lesson 2:** Planning for Operations and Model SE Documents
- **Lesson 3:** Objectives-Driven, Performance-Based Approach to Planning
- **Lesson 4:** Evaluating Traffic Signal System Needs and Strategies
- **Lesson 5:** Describe a Systematic MPO Selection Process for Traffic Signal Projects
- **Lesson 6:** The Model Systems Engineering Process for ASCT
- **Lesson 7:** Next Steps to Advance Traffic Signal System Operations
- **Lesson 8:** Key Resources

### Target Audience

Agency Professionals involved in regional planning for ITS or the management and operation of traffic signal systems.

### Where

Valley of Discovery Meeting Room  
1 Civic Center Drive  
San Marcos, CA 92069

### When

Thursday, March 28  
9:00am to 4:00pm

### Class Size

30 Participants

### Cost

Free

### Interested in Participation?

**Please email soon:**

*Eddie.Curtis@dot.gov*



**The Institute of Transportation Engineers  
Riverside - San Bernardino Section  
Invites you to play in our**

**30<sup>th</sup> ANNUAL GOLF TOURNAMENT**

|               |   |
|---------------|---|
| <b>When:</b>  | Friday, March 22, 2013 at 8:00 am- Shotgun Start, Scramble Format   |
| <b>Where:</b> | Menifee Lakes Country Club<br>29875 Menifee Lakes Dr. Menifee, CA (951) 672-4824<br>I-215 to Newport Rd. East on Newport Rd to Menifee Lakes Dr.<br>WWW.Menifee-Lakes.com |
| <b>Who:</b>   | Everyone is welcome to play. You need not be a member to participate.<br>Dress Code: Slacks or Bermuda-length shorts only. NO Denim. Shirts must have collars.            |
| <b>Cost:</b>  | \$70- Early bird special if received by Tuesday March 12.<br>\$80- if received by deadline date Monday March 18.<br>Includes green fee, cart, and buffet lunch.           |

Golfing Awards and Raffle prizes will be made possible by money and items donated by our vendor and consultant friends. If you would like to make a donation or you have any questions, please contact JR Morgan, at (951) 780-8435.

Make checks payable to "RSBITE" and send to:

JR Morgan  
7182 Westport St.  
Riverside, CA 92506



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| <i>List Names of Golfers You Will Be Playing With</i> |  |          |      |
| Name:   |  | Name:    |      |
| Company:  |  | Company: |      |