President’s Message
Lisa Martellaro-Palmer

Hello Southern California ITE Members,

For the month of May, I want to start saying good-bye to my Southern California ITE family. The sun is setting on my presidency and I have had a wonderful time serving as your Southern California President.

I believe that we had a great line-up of speakers for current and pertinent topics. I also believe we enjoyed our traditions and created new traditions such as an occasional raffle, creating an Administrative Chair position, posting resumes on our website, creating an Activities Chair position for technical field trips, creating a Student Bowl for Engineer’s Week, celebrating Engineer’s Week at the meeting by asking technical questions and distributing raffle prizes and creating mentoring opportunities for the established generation to reach out and help the aspiring professionals. We will also use our newsletter to list the speakers from our Section that will present at the District, National and International Conferences.

I have truly found that we are part of an ITE family and we are connected to each other professionally and personally. Many times I have found that when you need to ask someone about a project, your career, or a personal matter, you can count on your ITE family to help and support you.

This month, we are hosting our Annual Student Chapter presentations on Wednesday, May 25th with OCTEC at the Fullerton Holiday Inn. The universities competing will be Cal Poly, Cal State LA, UC Irvine, UCLA, Cal State Long Beach and possibly USC. Please attend this dinner meeting and if you have openings in your office, make an announcement. Steve Itagaki and Neelam Sharma will be hosting this meeting.

This month is also the beginning of an election period for our Section, so look out for election ballots in your mailbox over the next week or so. Be sure to have your vote counted and mail those ballots back to the address specified. If you prefer to vote in person, there will be an opportunity to do that at our June 15 meeting in Monterey Hills Restaurant in Monterey Park.

Our June meeting will be our Mini Workshop and Annual Business Meeting held at Monterey Hill Restaurant. I will say my farewell and we will install the new officers.

Best Regards,
Lisa Martellaro-Palmer, President of the Southern-California ITE Section, May 2011
Brief Look Ahead

May
- Mon 16th, California MUTCD Comments Due
- Mon 16th – Tues 31st, High-Speed Rail Open Houses (see page 8)
- Tues 17th, Metro Historic Streetcar Restoration (4:00 PM) and Meeting (6:00 PM), Los Angeles Theatre, 615 S Broadway, Los Angeles (Info: www.thetransitcoalition.org)
- Thurs 19th, Los Angeles Neighborhood Initiative (LANI) 9th Annual Community Forum, USC Davidson Conference Center (www.thetransitcoalition.org)
- Fri 20th, 12:00 PM, ITE So Cal Meeting Reservation Deadline (contact: Secretary-Treasurer)
- Fri 20th, Western District Employer and Young Engineer Nominations Due (see page 10)
- Wed 25th, 5:00 PM, Joint ITE So Cal Meeting with OCTEC featuring Student Chapter Presentations, Holiday Inn & Suites, Fullerton
- Fri 27th, 11:59 PM, ITE So Cal June Newsletter Deadline (contact: Newsletter Editors)

June
- Wed 1st – Thurs 30th, High-Speed Rail Open Houses (see page 8)
- Wed 15th, 8:30 AM, ITE So Cal Mini-Workshop Business Meeting at Monterey Hill Restaurant (3700 W Ramona Blvd, Monterey Park)
- Tues 21st, 8:00 AM, Move LA’s Third Annual Conference, Center at Cathedral Plaza, 555 West Temple Street, Los Angeles (call: 310-310-2390)

July
- Sun 10th to Wed 13th, Western District Annual Meeting, Alaska, www.westernite.org

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The ITE Southern California Section monthly meeting was held on Wednesday, April 20, 2011 at the Monterey Hill Restaurant in the City of Monterey Park. The topic of this meeting was regarding the “Movement of Freight Beyond the San Pedro Bay Ports: How it Effects Transportation Planning”. Our guest presenter was Jolene Hayes, Transportation Development Manager with the Port of Long Beach, who stepped in for Eric Shen.

Jolene opened up her presentation with an illustration showing the cargo forecast comparison between what was projected in year 2007 and an updated projection in year 2009. The cargo projections needed to be re-evaluated due to the state of the economy; therefore, forecast year 2009 was much more conservative than year 2007. In fact, she indicated that it will take until year 2013 to reach cargo volumes that peaked in year 2006.

Although there was a dip in the volume of cargo entering the ports, it is projected to rise increasingly through year 2030. Therefore, the volume of freight flows will increase along the rail and roadway networks, which needs to be improved/maintained with the increase in volume.

In addition, competition has increased between other ports throughout the United States, and the resulting diversion from the San Pedro Bay ports is a factor to consider.

From these challenges, what are advantages and what are the San Pedro Bay ports doing in order to maintain global competitiveness and to meet the demand of volume of cargo entering the ports?

- Southern California has deep waters and extensive rail networks
- There are various improvement projects enhancing the existing transportation infrastructure
  - Gerald Desmond Bridge Replacement ($950 m)
  - SR47 Expressway/Heim Bridge ($535 m)
  - I-710 Corridor ($5.4 b+)
  - Colton Crossing ($208 m)
  - Alameda Corridor East ($2.5 b)
  - Local mainline rail improvements ($3.4 b)
  - Various grade separations throughout region
  - Advance Transportation Management System (ATMIS)
- Planned Rail Infrastructure Enhancement Projects within the Port of Long Beach

Moving freight beyond the ports must be considered and analyzed including Green House Gas emissions, Land-use ramifications (Dedicated Truck Routes, Loading/Unloading of cargo), and Community concerns (noise, delay, environmental issues).

With that said, traffic congestion in Southern California has outpaced and will continue to outpace the enhancements in roadway capacities. Investing in freight infrastructure must be a national priority. Freight planning is often overlooked in land use and transportation planning processes. Without dedicated funding sources for freight infrastructure, regions will have to coordinate, cooperate, collaborate, and compete to deliver projects.

Thank you Jolene for your insight; and for providing a global snapshot of cargo/freight movement, operations, and planning within our area.
From February 23rd until March 25th I travelled to Europe as a part of the 2011 Marshall Memorial Fellowship program. This Fellowship, created by the German Marshall Fund of the United States in 1982, sends a group of Americans to Europe each year to exchange ideas and promote trans-Atlantic partnerships. Of the 44 people selected for the 2011 program, 16 of us travelled to Europe in the spring. We all started the program in Washington, DC. Once in Europe, we split into smaller groups and visited different countries. I visited Brussels, Belgium; Hamburg, Germany; Turin, Italy; Skopje, Macedonia; and Bucharest, Romania.

Although the Fellowship’s overall purpose is leadership development and governance, I had several one-on-one meetings with Transportation professionals. I also saw many different kinds of transportation facilities and programs. Much of my focus was on bicycle facilities, since so many of our colleagues and citizens have expressed interest in European approaches to bicycle facility design and operation. The lengthy trip and wealth of gathered information warranted breaking my summary in two parts. Here is Part One. Look for Part Two in June.

Part One: Washington, DC to Hamburg, Germany

Washington, DC

Our program began in Washington, DC, where we met with staff from the German Marshall Fund of the United States. We also spent a few days sightseeing and learning about major trans-Atlantic themes. In DC I saw an excellent separated counter-flow bike lane (or “cycle track”) on 15th Street right near the White House. I also saw a number of stations for DC’s bike sharing system - the first public bike sharing system implemented in the United States. Although we were there in late February and the weather was cold and rainy, I still witnessed a number of locals using bike share bikes. The Metro system in DC is fantastic, and in many ways reminded me of the BART system. Many of the Fellowship program participants complained about the lack of direct light rail connection to Dulles airport.

Brussels, Belgium

The entire group then travelled to Brussels to begin our European Fellowship. While in Brussels, I met with Mr. Remco Ruiter of ProVelo, a Brussels-based bicycle education and advocacy group. We spent about an hour discussing bike issues in Belgium and the US. I was surprised at the similarities between Brussels and Santa Monica in terms of bicycle facilities, mode share of commuters using bicycles, and issues regarding bicycle and vehicle interaction. For example:

- ProVelo is currently focused on improving bicycle education, and is organizing group bike rides for people who normally only drive cars. This is also very similar to what we do in Santa Monica with the Buy Local/Ride Local event.
- They will do a Ciclovia in Brussels this summer along with annual Bike to Work days.
- They have an annual car-free day.

ProVelo provides a bicycle education program, resembling community service hours, for motorists with driving infractions. The program requires participants to collaborate with ProVelo trainers to train young students in bicycle

Source: [http://www.copenhagenize.com/](http://www.copenhagenize.com/)
education.

While walking around Brussels, I noticed quality bicycle infrastructure full of marked bicycle lanes and directional signs. I also noticed a few citizens using a bike share system.

**Hamburg, Germany**

On to Hamburg, Germany, a City with light rail, suburban commuter rail, taxis, water taxis, buses, bikes, cars, and pedestrians. Talk about multi-modal! I first met with Merja Spott of the ADFC (Allgemeiner Deutscher Fahrrad Club), a bicycle advocacy group. She notes that 12% of all trips in Hamburg are by bicycle, compared to 10% to 12% in all of Germany. She works with the City Council Administration (City staff) of Hamburg to complete bicycle projects or modify existing ones to better accommodate cyclists. She is the “link” between City government and volunteers/activists in the cycling community. She holds an annual meeting with various City departments (Police, administration, parks, etc.) to discuss bicycle issues and finds this annual schedule adequate for their needs.

Other ADFC activities include:

- Annual car-free day
- Bike house project: The City builds bike houses - small wooden shacks, each holding about 12 bikes, taking up about three car parking spaces – on the streets. Users access these secured bike house facilities with a key. These bike houses serve as valuable bike storage areas for nearby apartment residents. Bike houses resemble bike corrals where residents either rent or buy space.
- Employee bicycle programs: Many large businesses in the area own bicycles, in some cases thousands of bicycles, for use by their employees.
- Relaxed multi-modal atmosphere: The overall goal of the ADFC in Hamburg is to “relax” the atmosphere between all transportation modes (quell the bikes vs. cars vs. pedestrian conflicts).

I asked Ms. Spott about the perceived lack of bicycle helmet use. She says many cyclists are not used to wearing helmets, as these cyclists are quite familiar with bicycle operations and traffic speeds. Spott notes that the ADFC does not promote helmet use as they are perceived as ineffective in injury prevention for the most common bicycle collision types. Instead, ADFC promotes collision avoidance through education and rider training. I also asked about bikes on sidewalks, noting that I saw lots of people riding on the sidewalk. She said it was for the same reasons as in Santa Monica - people don't feel safe on the road and instead ride on the sidewalk. She said the ADFC is trying to focus on building more bike lanes to get bikes to move away from the sidewalks. My new favorite German word is “fahrradstrasse” which means “bike street.”

I had a great meeting with Jan-Oliver Siebrand at the Hamburg Chamber of Commerce. He is in charge of infrastructure and traffic engineering projects within the City of Hamburg. I was very excited to learn about a planned project to build new parks over parts of their freeways (or motorways), a concept we are also exploring in Santa Monica. Mr. Siebrand provided project information, including great photos and lots of German text. I will translate it someday.

We took a day trip to the town of Lünneberg, a few miles north of Hamburg. This was mainly a sightseeing trip. Lüneberg is a beautiful city with many old streets and houses. Much of the City was built over a large salt deposit, and over the course of 800 years, most of the salt had been mined. This resulted in portions of the city “sinking,” and in the 1990s, the City started exploring solutions. Apparently the City's Planning department developed a master plan to completely redevelop the portions that were sinking. This plan was brought to the residents, and was roundly rejected. Some residents even voiced their displeasure by inscribing statements on the front of their historic homes such as the one below.

Questions and comments may be directed to Sam Morrissey (sam.morrissey@smgov.net, 310-458-8955).
Travel demand models serve as tools to help define, implement, manage and monitor a jurisdiction’s transportation plans, projects and programs. Since the release of the Southern California Association of Governments’ (SCAG) 2008 Regional Transportation Plan three years ago, the six-county regional model has been used as the basis for developing local area and citywide models, such as the City of Los Angeles, and used in numerous planning studies.

The City of Los Angeles developed a travel demand forecasting (TDF) model to help plan the City’s future transportation system. The TDF model was developed as part of the Transportation Strategic Plan Study and provides the ability to:

- Evaluate the transportation system
- Apply performance indicators for land use and transportation alternatives, such as vehicle miles of travel (VMT), travel time and mode split
- Forecast regional pass-through traffic versus locally-generated trips
- Estimate changes in travel patterns
- Display results graphically

The City’s model is designed to be sensitive to emerging land use trends through improved sensitivity to built environment variables referred to as the 4Ds: Density, Diversity, Design and Destinations. The 4D enhancement process was integrated into the full model script, as illustrated below (see figure).

4D Enhancement Model Integration

The model provides the starting point for creating more detailed, locally valid models that can be can applied in specific plans or community plan updates. The first project to use the new Citywide TDF model at a local level is the City’s Westside Mobility Plan, which will serve as an update to both the West Los Angeles Transportation Specific Plan and the Coastal Transportation Corridor Specific Plan. Starting with the City model ensures that regional and local travel patterns and transit ridership are accurately represented. For the Westside Mobility Plan, land use and roadway network detail have been added within and adjacent to the Westside study area. Refinements were also made to key model components to allow the model to capture travel patterns within and around the Westside more accurately. An example of these refinements is the detailing of land uses within the traffic analysis zone (TAZ) system. The Westside Model increased the number TAZs in the study area by 171 zones or 173%.

Following modifications to the roadway and transit networks, TAZ structure, and enhancement to key model components, the models were calibrated and validated to ensure they replicated existing traffic conditions (static validation) and responded in the correct direction and magnitude when making changes to land use and the roadway/transit networks (dynamic validation). The traditional approach to the validation of TDF models is to compare the traffic volumes for the model’s base year to actual traffic counts collected in the same year; however, models are seldom used for “static” applications. By far the most common use of models is to forecast changes in future travel conditions. Therefore, a series of “dynamic” validation tests were conducted to determine the model’s ability to predict realistic forecasts under various land use and transportation network scenarios.

The refinements and model enhancements to the City and Westside models comply with 2010 California Regional Transportation Plan Guidelines, which outline model development expectations and validation tests for all travel demand models used by public agencies in California. Compliance with these guidelines indicates that the model is suitable for developing traffic volume forecasts to evaluate future land use changes and transportation system improvements. Having a locally valid model is a critical step in ensuring a high level of confidence in the travel forecasts.
Southern California is in a unique position as a known leader in progressive alternative energy and transportation policy, coupled with a growing population. State and local governments along with multiple industry clusters, will now help to add High-Speed Rail from Northern to Southern California as another significant piece to California’s growing economic sphere, and attractiveness.

REMI, Regional Economic Modeling Inc., has worked with both public and private organizations across the nation and within California engaged in the economics of transportation projects. SCAG, SCAQMD and LAMTA use REMI to perform a variety of economic, demographic and fiscal impact studies. Our work is focused on providing organizations with the ability to understand and to quantitatively how changes in different underlying components within a region have larger-felt economic effects. This is never more evident than with changes to a transportation network. In order to quantify the larger economic effects, economist and researchers rely on the underlying data provided by engineers, modelers and those heavily involved at the project level.

California realizes the important role transportation planning and engineering plays when determining the sustainability and long-term viability of a transportation project. Traditional economic analysis solely accounts for what is termed “direct” spending, from initial investments to operations and maintenance. REMI’s approach allows you to go a few steps further as the model can quantify the indirect and induced effects of travel time savings, improved access to labor pools, cost savings and changes in labor productivity. Building from project specific information and specifically the data generated by traffic and travel modelers, both decision makers and the public can get a clear picture of how the entire project might play out.

The construction effort of High-Speed Rail routes will create job growth in the construction industry, and all their support industries that ripples across the entire economy. With access to local skilled laborers and resources California will not only witness regional economic and demographic growth, but also increased tax revenues in the short-run and going long into the future.

Once the rail system is constructed California may witness long-term fiscal and economic gains. Industries will now have access to a greater labor pool and productivity gains as travel times will decrease. Production costs will decrease as not only the current demand for fossil fuels will diminish but will decrease congestion on highways for shipping. Trade routes and infrastructure improvements made to support the rail will help industries gain a competitive edge as goods and services can reach the market more efficiently. Decreased emissions and eased congestion of overstressed roads will allow people to live healthier more productive lives.

With states and the nation facing fiscal deficits, financing large construction efforts tend to be the biggest difficulty to overcome. Using REMI, a state agency can score projects to determine which project will have the greatest net benefit based on their assigned criteria. Working in tandem with federal, state and local municipalities, agencies determine route planning for maximum impact and an optimum level of ridership. Ideally, ridership over the new rail network’s life will help pay the construction and maintenance costs, and create additional revenues for further rail improvements. Working with communities to strategically place stops that greatly increase the accessibility of the rail-line for commuters and industries will play a vital role in the system’s success and its continued support of California and the nation’s growing economy.

Here is a typical flowchart of a TranSight Structure, courtesy of REMI.

Questions and comments may be directed to Christopher Brown (413-549-1169, 413-559-1907, chris@remi.com), Associate Economist with Regional Economic Models, Inc. (REMI) (www.remi.com) in Amherst Massachusetts.
On Wednesday, May 4, I testified before the California High-Speed Rail Authority (CAHSRA) at the Executive/Administrative Committee meeting on: (1) competition, (2) public relations, and (3) mode balance. This meeting and the Operations Committee meeting that followed addressed additional considerations.

**Competition:** At the March 30 CAHSRA meeting, critics of CAHSRA CEO Roelof van Ark’s high 30%-match recommendation - in pursuit of Florida’s rejected funds – claimed declining competition as justification for a reduced match. I explained that competition is increasing. The Northeast Corridor is considering a $113B project. Florida’s rejection generating long lines outside of US Secretary of Transportation Ray LaHood’s door and 90 applications from 24 states (11 Republican, 12 Democrat, and 1 Independent Governor). A May 9 Sacramento Business Journal Article, “California gets $300M in rail money,” notes Florida’s funds were dispersed among 15 states and Amtrak, falling way short of the $2.4B desired and $1.2B anticipated funding for an initial Merced extension.

**Public Relations:** Journalists and public relations (PR) professionals nationwide note the required colossal PR efforts needed to advance HSR are similar in magnitude to Eisenhower’s interstate freeway efforts of the 50s.

**Mode Balance:** The Urban Land Institute and ASCE Executive Director Pat Natale agree - balance the investment among many modes (light rail, commuter rail, transit, bus rapid transit, pedestrian, bicycle, etc.) accessing the massive multi-modal centers. The Sacramento Area Council of Governments (SACOG) April 27 Sustainable Communities Strategy discussed David Letterman’s 10 Principles for Sustainable Development Around Transit as follows: (1) Make it better with a vision. (2) Apply the power of partnership. (3) Think development when thinking about transit. (4) Get the parking right. (5) Build a place, not a project. (6) Make retail development market-driven, not transit-driven. (7) Mix uses, but not necessarily in the same place. (8) Make buses a great idea. (9) Encourage every price point to live around transit. (10) Engage corporate attention. Multi-modal centers with HSR accommodation transform a 4-mile verses a 0.5-mile development radius.

**Small Business Participation:** While critics argued CAHSRA’s small business participation process – welcoming 1,100 expressions of interest – was less than perfectly transparent, CAHSRA did their due diligence of creating customized databases from the ground up prior to discovering the availability of California Department of General Services and Caltrans small business and minority databases.

**Routing:** Recently discovered cumbersome routing and environmental considerations for a Palmdale route led CAHSRA to revisit a Grapevine option to shave 20 minutes and 40 miles to the fury of: (1) Palmdale residents vying for economic and expedited LA commute benefits, and (2) Tejon Ranch environmentalists vying for land preservation. Other opponents fear such a bypass pattern could lead to rejecting Riverside and going for a direct San Diego connection compromising initial core values of minimizing environmental impacts and serving transit-starved areas. The 2005 environmental report notes steep environmental considerations for direct Sacramento to San Francisco and Anaheim to San Diego connections on these links currently served by Amtrak. Plus Sacramento (475,000) to San Francisco (900,000) (85 miles) adds additional cost without bringing additional major cities. A 40-mile San Jose (1,000,000) to San Francisco link (a typical 2-hour auto commute, without BART service along the entire length) is the logical north-end finish to a line with an LA southern terminus.

**Legislation:** The March 2011 CA HSR report notes the following legislation:

- **Support:** AB 41, AB 58, AB 615, SB 50
- **Monitor:** AB 16, AB 31, AB 133, AB 145, AB 277, AB 385, AB 471, AB 492, AB 650, AB 845, AB 952, AB 1092, AB 1164, AB 1206, SB 475, SB 733, SB 734, SB 749, SB 867, SB 953
- **Oppose:** AB 76, SB 22, SB 517

For bill title, content and status, go to [www.leginfo.ca.gov](http://www.leginfo.ca.gov).

**Open Houses:** CAHSRA hosts Community Open Houses in our So Cal Section from 4:00 to 7:00 PM between May 16 and June 30 to share Preliminary Alternatives Analysis (PAA) Report results:

- May events include: Tues 17 Montclair Senior Center, Montclair; Wed 18 Ganesha Park, Pomona; Wed 25 Grace T. Black Auditorium, El Monte; Thurs 26, West Covina City Hall, West Covina; Tues 31, San Gabriel Mission Playhouse, San Gabriel.

- June events include: Wed 1, Metro Headquarters, Downtown LA; Wed 8, Ladera Serra Park, San Dimas; Mon 20, Costello Senior Center, Los Angeles; Tues 21 City Hall, Corona; Wed 22, Josephine Knopf Senior Center, Fontana; Thurs 23, Alhambra City Hall, Alhambra; Mon 27, Lincoln Heights Senior Center, Los Angeles; Tues 28, El Sereno Senior Center, Los Angeles; Wed 29, Rosemead Community Recreation Center, Rosemead.

For more information, go to [www.cahighspeedrail.ca.gov](http://www.cahighspeedrail.ca.gov) or [www.slideshare.net/CAHighSpeedTrain](http://www.slideshare.net/CAHighSpeedTrain), or call 877-411-7230.

**Transportation Professional’s Role:** ITE values community involvement. Therefore, share your professional expertise as an individual before the CAHSRA and the public at both CAHSRA meetings and open houses.

Questions and comments may be directed to David M. Schwegel (davidmschwegel@aol.com, 425-466-5677).
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.

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 3rd 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) 590-4152 or juwu@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 after January 2012.

The newsletter is also a perfect venue for keeping the membership appraised 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. Feel free to either provide an article, or if you are too busy to write an article, feel free to submit a fact sheet, and our technical writing team can either write the article for you or co-author the article with you. Typically 500 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 (jaydinkins@gmail.com) and David Schwegel (davidmschwegel@aol.com) by the deadline. The deadline for the February Newsletter is 11:59 PM on Friday, May 27, 2011. Thank you in advance for your valuable contributions to this great team effort.

Opportunities for Newsletter Advertising and Sponsorship
Julia Wu, PE, PTOE (Port of Long Beach)

Opportunities for Newsletter Content
David M. Schwegel, PE, PTOE

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ITE Southern California Section  
www.itesocal.org

2010 – 2011, Issue No. 8

May 2011

Announcements

ITE So Cal Latest Information: www.itesocal.org

Meeting and Event Photos:  
http://picasaweb.google.com/itesocal

Our Transportation Community: There are two consortia that combine the talents and resources of elected officials, private firms and public agencies towards alleviating congestion in California: www.fastla.org and www.mobility21.com. These two websites have a lot of current and helpful information regarding transportation issues in our area. These are partnerships that are devoted to reducing congestion and improving safety on our roads - a recommended read for transportation professionals.

We Are Now on Facebook
http://www.facebook.com/home.php?sk=group_174132915945907 or search for Southern California ITE

FHWA Announces Discretionary Funding
Jesse Glazer, ITS Engineer for Southern California, FHWA

FHWA Headquarters recently announced that funding will be available on a competitive basis for specific types of projects. The program categories are:

- FHWA Headquarters Delta Region Transportation Development
- Ferry Boat
- Highways for LIFE
- Innovative Bridge Research and Deployment
- Interstate Maintenance
- National Historic Covered Bridge Preservation
- National Scenic Byways
- Public Lands Highways
- Rail Highway Crossing Hazard Elimination in High Speed Rail Corridors
- Transportation, Community, and System Preservation
- Truck Parking Facilities

For further information about eligibility and application process, see: http://www.fhwa.dot.gov/discretionary.

Eric Shen Update: Our invited guest presenter Eric Shen was unable to attend the ITE meeting on April 19. Eric was recently diagnosed with an early stage of Adenocarcinoma (lung cancer). Following a successful surgery on April 29, Eric is now recovering at home with his wife Jeannie Shen’s support. He is looking forward to a full recovery in a few months. Both Eric and Jeannie would like to thank many warm wishes and encouragements from their ITE friends.

2011 ITE Western District Young Professional Achievement and Employer Recognition Awards

ITE Western District is pleased to announce the 2011 Call for Nominations for the Young Professional Achievement Award and the Employer Recognition Award. These awards have been created to recognize exceptional young professionals and employers for outstanding contributions to the transportation profession and for supporting young professionals in ITE activities, technical training and professional development.

If you know a young, innovative, and vibrant leader from within your local section and/or the Western District, please take a few minutes to nominate them. Please provide name and contact information (email or phone number) of the nominee(s) by email to Patricia Camacho de Cano at patriciacamacho10@gmail.com. Nominations for the Young Professional Achievement Award are due by May 20, 2011 at 5:00 p.m. Please be sure to check the website for more details at http://www.westernite.org/awards/achievment_young.htm

Nominations for the Employer Recognition Award are due by May 20, 2011 at 5:00 p.m. Please review the eligibility criteria and nomination details at http://www.westernite.org/awards/emp_award.html

If you have any questions regarding the awards, please contact Patricia Camacho de Cano, Western District Career Guidance Chair via email at patriciacamacho10@gmail.com. The awards will be presented at the upcoming ITE 2011 Western District Annual Meeting in Anchorage, Alaska. For information on registration and technical program, visit their website at: http://www.ite2011.blogspot.com/

Patricia Camacho de Cano  
Western District Career Guidance Chair

Speakers: Peter Appel, Administrator of the US DOT Research and Innovative Technology Administration will address the conference on Sunday prior to the Get Acquainted Social. Tom Warne, Tom Warne Associates, LLC, will provide Monday's keynote address. Monday's luncheon speaker is Lance Mackey, a sled dog musher and four-time winner of the 1,049-mile Iditarod Sled Dog race.

Technical Tours: We offer three unique technical tours. Sunday you head south on the Seward Highway for a tour of the Whittier Tunnel. This is the longest joint highway/railroad use tunnel in North America. The project won an OPAL award from the American Society of Civil Engineers. The tunnel leads to Whittier, Alaska, a small town that arose out of World War II and need from access to an ice-free port.
Monday and Tuesday tours will take you to the Port of Anchorage, the arrival destination for the lion's share of goods that make their way throughout Alaska. The Port is undergoing a challenging and aggressive expansion. Tuesday, we take you to the Alaska Railroad's operations center to preview the positive trail control system currently in the development stage.

**Location:** Anchorage Hilton and Egan Convention Center.

**More Info:** [www.westernite.org](http://www.westernite.org).

We have speakers from our own Section that need our support. For up to the minute conference information including the preliminary program, please visit [http://ite2011.blogspot.com/p/blog-page_22.html](http://ite2011.blogspot.com/p/blog-page_22.html). The latest technical program shows the following ITE So Cal presenters:

2. John Lower (Iteris): Transportation for Sustainable Communities
3. Sam Morrissey (Santa Monica): Transit Planning, Design, and Operations II Detailed Operational Analyses for the Integration of a New Street-Running Light Rail Line in Santa Monica
4. Georgiena Vivian (VRPA Technologies): TSM/TDM Solutions for the Washington Street and Highway 111 Corridors in the City of La Quinta CA
5. Wen Cheng (Cal Poly Pomona): Do Roadway Features Contribute to Hit-and-Run Crashes?
6. Ruth Smith (Willdan): A Fresh Look at Developing a Useful Multimodal Corridor Improvement Plan
7. Scott Morrill (LADOT): How to Choose the Right Driver-feedback Sign and Does it make a Difference when the message is on it?
8. Tim Erney (AECOM): Bringing Century Boulevard into the 21st Century
9. Jonathan Hofert (Cal Poly Pomona): A New Method to Conduct Hotspot Identification
10. Monica Suter (Santa Ana): Enhancing Transportation Safety for All & Getting Consensus
11. Elaine Jeng (Culver City): Transit Oriented Developments, What does it take to construct one?
13. Joel Falter (KOA Corporation): Collecting Data from a Moving Target (and Lollipops Don’t Work)
14. Ryan O’Connell (Cal Poly Pomona): How to Improve the Efficiency of Signalized Intersections with High Left-turn Demand
15. Amir Sedadi (LADOT): ExpressPark™ – An Intelligent Parking Management System for Downtown Los Angeles
17. Alyssa Phaneuf (Kimley-Horn): Parking Guidance System for Parking/Event Management and GHG Reductions in Pasadena CA
The North American photovoltaics (PV) (solar electricity) market has seen explosive growth in recent years. Falling prices, a supportive public, and government policy designed to develop an emerging industry, have combined to position solar practitioners for long-term success.

With the emergence of this technology, building owners, community developers, infrastructure planners and progressive investors are now finding ways to incorporate this environmentally friendly technology to generate revenue while meeting sustainability requirements.

PV systems feature very few moving parts and are exceptionally reliable. Sunlight is collected through solar modules (panels), which generate direct current (DC) electricity. In most cases, to be used on the grid, that power must be converted to alternating current (AC). The inverter is the key component of a solar system that is responsible for this conversion. Because this step is so critical to system performance, it is imperative that the inverter be durable, reliable, and highly efficient.

This simple system is currently being incorporated in and through the transportation industry, which remains a largely untapped market full of potential.

PV systems can be installed wherever there is large, unused space, making it the perfect complement to existing infrastructure and commercial and industrial buildings. Railyards, bus stations, airports and other large transportation-related structures offer the perfect location for solar. By utilizing these available and unobstructed spaces, engineers can design highly efficient systems that can generate clean power and long-term, stable financial savings.

For example, Indianapolis International Airport has recently announced plans to construct a 10 megawatt (MW), ground-mounted solar array situated on a 30 acre parcel near the end of a runway. Land, otherwise unsuitable for development, will be turned into an asset with the addition of a solar-powered system. At 10 megawatts, the system will be one of the nation’s larger systems when complete, and a shining example of optimized land use.

Likewise, developers are increasingly utilizing carports to provide covered parking that generates power, delivering clean, safe electricity to the grid while creating huge savings for facility owners. The shade and protection provided by the carport results in an enhanced experience for the end user.

In New Mexico, the Bell Group recently commissioned the largest PV installation in the state. The 1.1 MW carport was installed by Affordable Solar and used 5,000
SCHOTT solar modules and four SMA Sunny Central (http://www.sma-america.com/en_US/products/grid-tied-inverters/sunny-central/sunny-central-250-us-500-us.html) solar inverters to generate more than 1,600,000 kilowatt hours (kWh) of electricity annually—enough to meet 80 percent of the Bell Group’s needs. With the completion of the carport, nearly five acres of underutilized space was converted into an ROI (return on investment)-generating component of its business.

As policymakers continue to push clean energy and plan for a transition away from dirty, polluting power sources such as coal and oil, integrators are finding more ways to incorporate solar technology into the public grid.

The impending rollout of electric-only and gas-electric hybrids like the Nissan Leaf and Chevy Volt will require the construction and integration of electrical charging stations into the public infrastructure. PV represents a naturally symbiotic supplier for many of these opportunities—electric vehicles are only cleaner than gasoline-powered engines when the fuel (i.e. electric-generation source) is non-polluting. Charging an electric vehicle with electricity generated from coal defeats the purpose of the concept.

Some developers are utilizing stand-alone—also known as “island”—systems to create battery-based solutions for vehicle charging.

In keeping with the automobile theme, forward-thinking companies in Europe have further utilized PV along the highways, (http://www.sunfixings.com/en/news/news/article/-5551fdf5f6.html) creating an additional sound barrier while creating opportunity for investment in clean power.

While low power, DC solar has been used in the transportation industry for years—traffic signs, lighting, and call boxes—have all utilized solar in some capacity—the industry has evolved, providing many more opportunities to implement solar on a larger scale. By integrating this now-mature technology, city planners, transportation engineers and commercial property owners can all realize the benefits of maximizing space, producing clean power and supporting our national and regional sustainability goals.

Questions and comments may be directed to Brad Dore (brad.dore@sma-america.com, 916-625-0870) Marketing Associate at SMA-America’s Rocklin California Office.
Traveler information systems have been in existence for awhile now. In the recent few years, there have been open data initiatives around the world that aid software/web developers disseminate transport/traffic information. With the advancement of mobile technologies and the increased penetration of smartphones, many transport mobile applications have flooded the market simply as dissemination mediums. The market is now ripe for transport professionals to further improve these systems to include a more expert emphasis in efforts to make an even greater impact specifically to improve the public transit user experience.

A study by Latitude Research that was briefly summarized in How Smartphones Can Improve Public Transit, Wired (website), April 8, 2011, correlates these mobile transport dissemination information systems to the increase of potential ridership on public transit due to improved convenience of gathering information. Due to the increased awareness of public transport information, it puts users in control of their ridership experience at the convenience of simply using their mobile phones. This shaves off past notions where public transportation was perceived as less efficient than private vehicles.

Combining expertise and standard practices from the transport industry, further enhancements can be made to these applications. In addition to being designed for the sole purpose of real-time information dissemination, these mobile applications can be designed to analyze the real-time information as well as act as public survey systems. Improvements to these systems can be made to inform riders of the optimum route based on real-time roadway information, thus improving overall network efficiency.

To some effect, certain applications seem to be moving in that direction, but it is unknown when these applications are using historical data/real-time data or the quality of data being used. From the live use of mobile information systems, public transport agencies can observe the utilization of these applications down to the second. The surveyed information can, for example, help to analyze how to dynamically control buses, trams, or trains, to maximize efficiency based on the crowd-sourcing of capacity information. This optimizes cost/revenues for the transportation agencies (resulting in the decreasing of tax payers costs), decreases vehicle emissions due to possible decreases in idling emissions, and increases vehicle capacities. The observed data also helps transportation agencies better design their routes and better shape public transportation systems in general.

With the potential benefits of these systems and the continual increase of smart or web-ready mobile phone adoption worldwide, it is difficult to ignore the possibilities of these systems. This is a new era of information dissemination and survey methodologies. It is our responsibility, as transportation professionals, to aid in the best interests of our public transit users, to improve such tools in efforts to increase public transit use where applicable.

Systems such as those provided by RT Traffic and other organizations do just that. They focus on combining transportation information and mobile systems by providing traffic and transport intelligence/monitoring/analytics and telemetric solutions and consulting services. With experience from transportation engineering, planning and IT development, specialized vendors and consulting groups design and build mobile applications with an end-goal of providing mobile application feature-sets combined with roadway traveller navigation information for multi-modal public transport use in a pre-emptive and real-time manner. Such systems increase user efficiency throughout the public transportation system and to decrease roadway congestion by informing users of available information.

Questions and comments may be directed to Daniel Fung (dfung@rttraffic.com) of RT Traffic’s Hong Kong Office.
On Thursday, May 5, I hopped a Light Rail train in Folsom and an Amtrak Train in Sacramento to attend a California Pan-Ethnic Health Network (CPEHN, www.cpehn.org) event at the California Endowment in downtown Oakland entitled “The Road to Health: Improving Community Well-Being Through Transportation.” CPEHN “works to eliminate health disparities by advocating for public policies and sufficient resources to address the health needs of communities of color.”

Their event focused on transportation and land use practices to promote healthy lifestyles. This connection is not new. ITE International President Steven Hoefner included a message on this topic in a 2003 ITE Journal. Thursday’s event was co-hosted by the Asian & Pacific Islander American Health Forum, California Black Health Network, Inc., California Rural Indian Health Board Inc., Latino Coalition for a Healthy California, Transform, Transportation for America, and Urban Habitat.

Diversity in the Engineering Profession

Thursday’s event had approximately 50 delegates. Of these, approximately 75% were female, and 65% were minority or elderly – reaching out to the “people” aspect of the “triple bottom line” (people, planet, profits). Many of the event delegates were from the American Association of Retired People (AARP). Such demographics remind us of the connection between boosting diversity in our profession and gaining greater societal respect. Selena Rezvani’s May 3 Washington Post Blog “Engineering gender parity” notes, in 2008 women comprised only 11 percent of practicing engineers. The University of Wisconsin-Milwaukee’s Center for Study of the Workplace interviews with female engineers exiting the profession cites poor working conditions, elevated travel, lack of advancement, poor compensation, and a rigid culture among the departure reasons. The University of Wisconsin-Milwaukee’s Center for Study of the Workplace interviews with female engineers exiting the profession cites poor working conditions, elevated travel, lack of advancement, poor compensation, and a rigid culture among the departure reasons. The University of Wisconsin-Milwaukee’s Center for Study of the Workplace interviews with female engineers exiting the profession cites poor working conditions, elevated travel, lack of advancement, poor compensation, and a rigid culture among the departure reasons. The University of Wisconsin-Milwaukee’s Center for Study of the Workplace interviews with female engineers exiting the profession cites poor working conditions, elevated travel, lack of advancement, poor compensation, and a rigid culture among the departure reasons. Such demographics remind us of the connection between boosting diversity in our profession and gaining greater societal respect.

US Mayors Oppose Highway Expansion

While highway expansion has value to the Transportation Engineering profession, “road” in this “Road to Health” theme does not include them. Sean Kilcarr’s “Trucks at Work” Blog (May 3, 2011) notes US Mayors now trend toward metropolitan-focused spending and away from highway investment to maximize the number of beneficiaries per dollar spent. Western District Meeting delegates may want to inquire about the defeated $398 million “Bridge to Nowhere” proposal of 2005 aimed to link 50 Gravina Island residents to mainland Alaska. A recent US Conference of Mayors (USCM) stressed opposition to such mega highway expansion projects serving few. Other fascinating viewpoints of USCM’s 176-city transportation survey include: (1) 98% see “investment in affordable, reliable transportation” as key to “economic recovery and growth,” (2) 80% say “highway expansion should be a low priority,” and (3) 75% support a federal gas tax increase if a greater portion of the funding goes toward bicycle and pedestrian projects.

Level of Service A

The opening session, “Why Transportation and Health?” by Jeff Hobson, challenged us with the notion – vehicle LOS A means traffic flows freely, but what about pedestrians crossing the street? While the Highway Capacity Manual also has bicycle, pedestrian, and transit LOS measures, is it time to devise an aggregated formula that includes these elements plus walk and safety scores into an overall multi-modal transportation-health assessment? The presentation noted that while reducing a vehicle speed limit from 40 to 20 degrades vehicle flow and LOS, it cuts collisions by a factor of 10.

ITE Representation

While at least 50 ITE members work within a one-mile radius of the event, I was the only ITE representative. Had it not been for my connections with the Social Work industry, I would not have even known about it. I was honored to represent ITE. The delegates love engineering representation. In fact, during self-introductions, I heard some applause when I mentioned ITE. Delegates expressed genuine appreciation for ITE publications. During the breaks, several delegates inquired about transportation engineering perspectives on safety, complete streets, and sustainable communities.

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ITE Southern California Section
www.itesocal.org
Aging Population

The Friday, May 6, Sacramento Area Regional Technology Alliance (SARTA) Med Tech Showcase notes a projected 59% increase in the senior citizen population over the next 20 years with a correlating working-age to senior ratio reduction from 5 to 3.3. In Japan, the situation is much more severe with a ratio reduction from 2.0 to 1.2. Medical experts agreed, the ill, especially the elderly ill would rather be treated at home than in the hospital. This preference gives rise to a tele-health (healthcare via high-speed internet). Yet this is a huge challenge especially in remote communities, many of which still may not have access to high-speed internet infrastructure. Fortunately almost all of the Bay Area is served by high-speed internet, yet many hospitals are not located close to BART stations, posing a huge financial burden on the poor and elderly to pay for transportation services. One solution is live-able, walk-able master-planned 20-minute (key needs met within a 20-minute walk from home) sustainable communities around transit stations. Economic benefits of sustainable community development were also noted. Per dollar job creation is significantly greater for the development of sustainable transit-oriented communities than for traditional roadway infrastructure.

Berkeley vs. West Oakland

Downtown Berkeley is two miles from Interstate 80. BART runs underneath. Streets are walk-able. Businesses are readily accessible on foot. It is a model sustainable community encouraging interaction.

Windsor (Sonoma County, 10 miles north of Santa Rosa) in several respects is a model sustainable community, but lacks a train station.

West Oakland has overhead BART lines and at-grade freeways, dividing the community, degrading walkability, and increasing crime in this not-so-model sustainable community. In fact, freeways break up some of the streets along the 1.5-mile walk from the Amtrak station at Jack London Square to downtown Oakland.

General Plans

Are such land use designations and zoning, requiring cumbersome amendment processes, an enemy to a world full of sustainable communities?

Commuting

A May 1 Odd News Blog survey shows 5 million workers at some point “call in sick because they cannot face the commute,” costing organizations 8.7 percent of their annual payroll. Workforce Institute Director Joyce Maroney advises managers to be mindful of employees commute time as surveys reveal, “it has a significant impact on job satisfaction.”

Obesity

CPEHN Deputy Director Jeff Hobson’s “Healthy Transportation, Healthy Communities” presentation reveals overweight, obesity, and inactivity cost California $21.678 billion in healthcare, lost productivity, and workers compensation in 2000 alone. By 2006, it nearly doubled to $41 billion. In 2004, 28.1 percent of school children were overweight, up from 22.1 percent in 2001.

Legislation

CPEHN is tracking SB 375 relating to Sustainable Communities strategies, Regional Transportation Plans, and Greenhouse Gas reductions. Hobson advises against the “all will drive” assumption. Such an assumption cuts out the poor, elderly, and ill who do not drive. The Bay Area has a $200-billion investment to provide the greatest per dollar benefit to the greatest number of people. Of the 10 environmental targets of the Bay Area Sustainable Communities Strategy, 3 are health focused.

CPEHN is sponsoring AB 441 relating to State-provided guidance “to local and regional government agencies on land use and transportation development.” Specifically AB 441 requires such guidance to also include “health and equity criteria” that promote clean air and water, safe buildings and streets, healthy public spaces, walking, bicycling, transit use, and a walk-able lifestyle to meet needs and fight obesity in the process.

Transportation Professional’s Role

Note society’s current and projected pain points particularly as they relate to elderly, low-income, and minority populations. Boost the diversity of the profession to enhance outreach to these populations. Encourage clients to develop communities with these areas in mind. Note how transportation professionals address these pain points.

Questions and comments may be directed to David M. Schwegel (davidmschwegel@aol.com, 425-466-5677).
Transportation Investment: Are We Leading the Way or Lagging Behind?
David M. Schwegel, PE, PTOE

The Rockefeller Foundation (www.rockefellerfoundation.org) and the PEW Center on the States (www.pewcenteronthestates.org) just released Measuring Transportation Investments: The Road to Results, documenting the transportation investment effectiveness of 51 US jurisdictions (50 states plus the District of Columbia). These jurisdictions represent a combined transportation investment of approximately $131 billion in calendar year 2010. How effective has this been? The report evaluates this effectiveness based on the following six criteria:

1. Safety based on injury and fatality collision statistics across multiple modes
2. Jobs and commerce based on business development and employment with job creation, freight movement, and economic return among the performance metrics
3. Mobility based on multi-modal movement efficiency with congestion levels, travel times, speed, volume, traffic delays, and on-time transit performance among the performance metrics
4. Access based on connection of diverse population groups to work and leisure goods, services, activities, and destinations with the availability of multi-modal transportation options for general public and specific-needs populations as the performance metric
5. Environmental stewardship based on energy consumption and environmental preservation with fuel consumption, greenhouse gas emissions, climate change, and ecological impact among the performance metrics
6. Infrastructure preservation based on system assets with the “physical condition of roads, bridges, pavements, signs, culverts and rail systems” as the performance metric

The report provides a color-coded exhibit (green-yellow-red) based on the number of jurisdictions overall leading the way (green, 13), mixed-results (yellow, 19), and not measuring up (red, 19).

For the record, California is a “green” (top performing) state. Other green states include Oregon, Washington, Utah, Montana, Texas, Minnesota, Missouri, Georgia, Florida, Virginia, Connecticut, and Maryland.

Does California really have its act together? The transportation and community well-being article notes California severely lacks mixed-use live-able walk-able master-planned transit-oriented communities. Organizations like the California Pan Ethnic Health Network (CPEHN) are aggressively promoting legislation to get the connection between quality transportation systems and citizen’s health more heavily in the forefront of public discussion. On the one hand, this month’s high-speed rail articles note California’s potential for pioneering true High-Speed Rail (HSR) (186+ mph) for the US. On the other hand, competition from other states is extremely stiff as California only got a meager slice of the $2.4 billion pie rejected by Florida.

Does the Los Angeles and Orange County region have its act together? The wireless detection technology article notes Los Angeles has the nation’s worst traffic congestion. Other publications note we have a long way to go with transit. Our region looks to overseas metropolises like Beijing China for tips on boosting transit effectiveness. Meanwhile, Beijing looks to us for tips on managing automobiles.

The national transportation investments report also breaks down the number of jurisdictions that have the “tools in place to understand the impacts of each of the six criteria above as follows:

1. Safety: All 51 jurisdictions lead the way.
2. Infrastructure Preservation: 40 lead the way, and 11 show mixed results.
3. Mobility: 29 lead the way, 18 show mixed results, and 4 trail behind.
4. Access: 26 lead the way, 21 show mixed results, and 4 trail behind.
5. Jobs and Commerce: 16 lead the way, 22 show mixed results, and 13 trail behind.
6. Environmental Stewardship: 16 lead the way, 18 show mixed results, and 17 trail behind.

These findings suggest we have our act together as a nation when it comes to safety, but struggle when it comes to jobs and commerce, and environmental stewardship.

Relative to other nations, do we really have our act together?

ASCE Society President Kathy Caldwell’s Blog (http://blogs.asce.org/president2011/) of May 9, 2011 notes “Americans Aren’t Aware How Our Infrastructure Is Falling Behind,” as “the American general public fails to look beyond our own borders to explore how other countries get things accomplished, or to see how we measure up compared with other nations.” Caldwell specifically cites the British publication The Economist article entitled “America’s Transport Infrastructure: Life in the Slow Lane” (http://www.economist.com/node/18620944?story_id=18620944) noting the World Economic Forum ranks the United States “23rd in overall infrastructure quality between Spain and Chile,” degrading our global economic competitiveness. The article showcases America’s transportation system for the world to see and notes Americans are “glummy” about their economy’s production ability with transportation infrastructure and innovation being especially key areas of concern. America’s degrading roadway and transit infrastructure and status as “the world’s largest untapped high-speed rail market” further escalate commute and intercity times and the growing time and cost burden on our nation’s poor. In fact, according to the European Survey on Working Conditions and the US Census Bureau, American average commute time is longer than most of the European nations surveyed including Netherlands, Poland, Germany, Sweden, Spain, Britain, and Italy.

From a productivity standpoint, this is horrific when one considers that a significantly higher percentage of Europeans than Americans commute via transit. With transit commuting, one can actually work (read, check email, write articles, conduct internet research, and perform other computer functions) en route. By contrast, when driving a single occupant vehicle, even talking on a cell phone with a hands free device pushes the limits of safety.

Therefore, as transportation professionals, let’s get transportation infrastructure lessons learned from overseas at the forefront of public discussion to boost awareness and stimulate immediate massive action on the part of decision makers.

Questions and comments may be directed to David M. Schwegel (davidmschwegel@aol.com, 425-466-5677).
Editor’s Note: Transportation professionals are responsible for “protecting the public health, safety, and welfare” including the economic health of our nation’s citizens – especially as escalating gas prices erode their quality of life while producing huge profits for oil entrepreneurs. Transportation systems consume the lion’s share of oil. To boost our understanding of the politics and supply issues around our nation’s oil addiction, I have asked Bill James (bill.james@jpods.com, 612-414-4211) of JPods (www.jpods.com) (visit website for enlarged and additional figures) to provide insight, so we can advise our clients and end users of alternatives. JPods was covered in April. Neighborhood Electric Vehicles will be covered in June.

Oil is becoming less affordable to more American families. For there to be an economic recovery, disposable income lost to rising oil prices must be recovered. Transportation can be re-tooled by measuring performance standards.

**Problem: Decreasing Disposable Energy:** Between 2002 and 2006, gasoline prices jumped from $1.45 to $2.92 per gallon, reducing disposable income per family by about $2,000 per year forcing more families to choose between paying for their commute or their mortgage. Consequently, foreclosures collapsed the banking system.

The following 60-year graph correlates economic growth (GDP Growth, blue line) with oil supply growth (OSG, green line) and people’s disposable income’s ability to buy oil (Disposable Energy, gold line). For the past 60 years, economic growth is tightly correlated with oil supply growth. Oil is the lifeblood of our economy.

Over the past 100 years, Net Energy (useful energy, i.e. energy required to get energy) dropped from 100:1 to around 10:1. Since 2002, world competition for oil increased. Since 2005, world crude oil production stopped growing. Consequently, Disposable Energy is plunging.

Combining the outputs from all oil fields with the affects of Net Energy illustrates the future of oil as the lifeblood of the economy.
There is still plenty of oil, but only about half. But, as can be measured at your local gas station and the 2008 banking collapse, Disposable Energy is what powers the economy. The economy will never again grow because of oil supply growth.

The Joint Forces Command’s JOE-2010 (General Mattis) published the following warning to all US military commands:

“By 2012, surplus oil production capacity could entirely disappear, and as early as 2015, the shortfall in output could reach nearly 10 million barrels per day.”

**Solution: Performance Standards:** Americans have experience in how to radically re-tool infrastructure:

- Between 1863 and 1869 the first Transcontinental Railroad was built. The cost of traveling from New York to San Francisco changed from $1,000 and 6 months to $67 and two weeks.
- June 7-9, 1944 two Mulberry Harbors, each with 10 miles of floating highways were installed on the beaches of Normandy, facing the North Atlantic, in a war, they deliver 2.5 million men and their equipment to defeat the Nazis.
- Since 1984 communications shifted from analog to digital networks, with the Internet and cell nets democratizing access to information and communications.

We know radically greater efficiency is practical. Nearly everyone has seen the CSX Railroad commercial of a Prius that asks, “What can a 50 mile per gallon car do for the environment? It cannot do nearly as much as the car that carries it. (Car drives onto a rail car). Our trains move a ton of freight - 423 miles on one gallon of fuel.”

As noted in the 1975 Congressional Office of Technology Assessment study PB-244854 on Automated Guideways and Personal Rapid Transit (PRT), rail efficiency can be applied to on-demand, repetitive urban transportation to make cities independent of imported oil.

Since 1975 the PRT network in Morgantown, West Virginia has delivered 110 million oil-free, injury-free passenger miles. In the same period the highway networks have killed about 1.3 million Americans.

**What gets measured gets done:** Apply efforts based on economic work accomplished per unit energy consumed.

Following is a Department of Energy (DOE) chart of energy used per passenger mile (energy used per unit of economic work) - modified with recommended Performance Standard and Personal Rapid Transit (JPods data).
Urban transportation can be quickly re-tooled (30 vs. 100-year typical to shift fundamental infrastructure) following examples set by: (1) post-1984 communications and (2) the Transcontinental Railroads construction race:

- Grant assess to rights of way to anyone willing to privately capitalize construction of transport networks that exceed a standard, such as 112 passenger miles per gallon. Apply communications rights of way law to transport networks.
- Encourage speed of deployment, so profits from cutting costs can add strength to deployment
- Fix a simple tariff for rights of way and taxes, such as 5% of gross revenues paid to the aggregate rights of way holders.
- Use government backed bonds to refinance profitably operating networks that achieve public policy objectives. This allows construction risk capital to be recycled to build more rail while bonds are repaid by fare box profits.

Calls for complacency – view the 50 or 100 years of shale oil and natural gas with grave concern. The Net Energy is low and the time required to normally re-tool a fundamental infrastructure is often more than 100 years.

Geology is slow and relentless. The rate and Net Energy of oil field geology has been known since US domestic oil production peaked in 1970. Since the 1973 Oil Embargo, eight US Presidents declared “imported oil a threat to national security.” Yet infrastructure has been designed, taxed for, and built that increased the need for imported oil from 20% to 65%. Even today, Stimulus money is being spent expanding the need for oil.

A shift to measuring economic work per unit of oil/energy can re-tool urban transportation.

With performance standards, urban transportation will be powered within a solar budget by 2030. The 10x cost savings will power deployment. Below is an illustration of a PRT network planned for Hull Massachusetts.

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<th>Mode</th>
<th>Load</th>
<th>whr/km</th>
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<tr>
<td>Rail, Amtrak</td>
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<td>73</td>
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<td>Motorcycles</td>
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<td>Vanpool</td>
<td>6.1</td>
<td>242</td>
<td>37</td>
<td>87</td>
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<tr>
<td>Performance Standard</td>
<td>1.57</td>
<td>186</td>
<td>28</td>
<td>112</td>
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<td>Personal Rapid Transit (JPods)</td>
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<td>12</td>
<td>264</td>
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<td>321</td>
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Wireless Sensor Networks — Transforming Transportation

Managing mobility in the 21st century requires a symphony of intelligent transportation systems—all working in accord. Yet worldwide, many roadway agencies still rely on outmoded, and disparate technologies—providing only a narrow view of the big picture—while leaving long-term planning to conjecture.

Until now.

With over 50,000 sensors deployed worldwide, Sensys Networks VDS240 infrastructure-based wireless detection solutions are rapidly replacing costly, maintenance-intensive inductive loop systems, and enabling traffic engineers to install detection precisely where needed—at a fraction of the cost.

Our compact, rugged, wireless sensors—with an unprecedented 10-year battery life—install in minutes, deploy in hours, and consistently outperform all other detection technologies in the world’s most adverse weather and pavement conditions.

With accurate, dependable, real-time data, freeway, arterial, and intersection optimization just got easier. From a single intersection—to an entire city, our flexible, highly scalable universal platform supports all traffic detection applications—with one set of equipment.


Are you getting the most out of your transportation infrastructure? Find out how Sensys Networks’ suite of wireless detection solutions can introduce efficiencies, streamline operations, and save your agency money.

Join the future. Go wireless.
INSTITUTE OF TRANSPORTATION ENGINEERS

Present
A Special Dinner Meeting this May

STUDENT PRESENTATION NIGHT

Featuring technical presentations from the talented students
of Cal State Long Beach, Cal Poly Pomona, UCLA, UC Irvine,
and Cal State Los Angeles

To be held on:

Wednesday, May 25, 2011
from 6:00 PM to 9:00 PM
Dinner: Buffet style

Holiday Inn & Suites Fullerton
2932 East Nutwood Ave
Fullerton, CA 92837
Phone: (714) 579-7400
*parking is free

$30 with advance reservation
(Before 12:00 p.m., Friday, May 20th)
$35 at the door, $10 for students
(Cash or checks only, payable upon check –in)

FOR RESERVATIONS, please contact:
Andrew Maximous
Secretary-Treasurer, ITE Southern CA
E-mail: andrew.maximous@smgov.net

DIRECTIONS

Take CA-57 Orange Freeway

Exit Nutwood Ave (Exit #7)
  • From 57 North - turn RIGHT
  • From 57 South - turn LEFT

Turn RIGHT into first driveway

Hotel is located behind Denny’s Restaurant
Candidates for ITE International Vice President

ZAKI MUSTAFA, P.E. (F)
Bureau Chief, City of Los Angeles Department of Transportation, Los Angeles, CA, USA

TOGETHER WE ARE THE BEST

I truly believe that we can accomplish more goals in more meaningful ways when we work together with each other. In preparing my vision statement for this campaign, I contacted all ITE presidents and many past presidents to learn about the issues our leaders are facing throughout the world. I found that there are common themes in all regions and generations of the ITE family: We need to work together to make ITE more accessible, visible, and affordable.

My experience gained from more than 30 years of ITE involvement has provided me with a valuable tool: I can recognize the needs and expectations of our members in the many different levels of our organization, and I know how our organization can meet these needs.

I have worked for the City of Los Angeles, Department of Transportation for the last 27 years. As the Chief of Field Operations, I am responsible for crews that install and maintain all traffic control devices for the City. I manage more than 280 employees with a budget of approximately $30 million.

I have been very fortunate to serve at all levels of ITE leadership: as a Student Chapter President, Section President, District President, and recently as a member of the International Board. This experience has allowed me to contribute my ideas, programs, and enthusiasm throughout the full spectrum of the ITE organization. My ITE career highlights include:

- International Director: 2008, 2009, 2010
- Western District President: 2005
- Initiated the Presidential Proclamation award program
- WesternITE newsletter editor
- WesternITE web-site manager
- LAC Chair Anaheim Annual Meeting: 2008
- Traffic Bowl Committee Member

I established the District’s Student Endowment Fund and helped establish my local Section’s Student Scholarship fund. I also established eight new student chapters throughout the Western U.S.

Please vote for me!

RAY DAVIS, P.E., PTOE (F)
President, RED3Consulting, Emeryville, CA, USA

“ITE is a multi-million dollar, multi-faceted, volunteer based professional organization. During these fiscally challenging times we need to make sure that the leadership of ITE has a thorough understanding on how ITE operates, and how it impacts our private and public sector members.

We are all affected by fiscal, time, and travel constraints. We need to develop and implement strategic actions to make ITE more accessible to all of our members and to keep them engaged in our professional organization.”

My Vision for Bringing ITE to You:

Use of existing technology for all ITE Committees, Councils, and Task Forces to enable all members to participate without having to travel. This will increase participation and enable ITE’s use of smaller meeting venues and save on meeting costs.

Create a Subscription Based On-Demand Electronic Library of ITE’s technical publications, compendiums, best practices, recommended practices, and web training that will provide transportation engineers and planners worldwide to have immediate access to the best information to assist them in developing solutions to the issues with which they are dealing.

Implement Professional Development and Mentoring Programs that will provide members with leadership training that will help them in both their ITE and professional careers.

Enhanced Advocacy for Roadway Safety to achieve ITE’s goal of zero deaths on our highways. Advocate for stronger legislation to reduce driver distractions.

Promoting Sustainable Transportation and making sure sustainable transportation, including pedestrian and bicycle facilities, transit, complete streets, incident management, and ITS, are an integral part of our transportation system.

Why Elect Ray Davis?

My vision, passion, commitment, 37 years of active involvement (21 years in elected or appointed leadership positions) at all levels of ITE, strong management and budget skills, and the time to commit, will help ensure that We will bring ITE to you.

Please visit www.ite.org/candidates/raydavis