Hello Southern California ITE Members,

Spring is here. To those of you of Persian descent, Happy Spring time and Happy Nouruz! Also, to those that celebrate Easter, Happy Easter!

During the month of April, I attended the ITE Technical Conference, called Moving Toward Zero, in Lake Buena Vista, Florida. There are so many changes being introduced into our profession. One of the hot topics is “Connected Vehicles.” This technology has had many names in the past, such as IVHS (Intelligent Vehicle Highway Systems) and more. Currently, the USDOT has “an advanced open source wireless technology called DSRC (Dedicated Short Range Communications) which can make transportation systems safer, more efficient, and greener. DSRC enables connectivity for vehicles of all kinds...It allows vehicles, whether traveling slowly or over 60 mph, to communicate with each other, stationary roadside equipment and mobile devices.” These so-called transponders have “Here I Am” devices based on wireless technology. The FAA has dedicated a specific bandwidth for this technology and Siemens Electronics is developing a product. More info can be accessed at http://connectedvehicle.challenge.gov.

Another big event was the campaign for the “Decade of Action for Road Safety” from 2011 to 2020. “It is a global call for collaborative efforts to drastically reduce transportation-related injuries and fatalities around the world.” There was a presentation that showed roads in different countries that do not have safe pedestrian crossings. The goal is to improve the quality and safety of these roads from one and two star ratings to three, four and five stars. Check out www.decadeofaction.org.

Also, distracted driving was a topic as well as complete streets and context sensitive solutions. I think that a big part of the conference is about networking and seeing old friends. Discussing projects in your area and comparing experiences. It's good to know that our profession is diverse, vibrant and global. I encourage everyone to attend one of the ITE conferences that are held annually from spring until summer. You will get a bigger picture of our profession, become re-energized and meet friends. It's a wonderful experience on a personal and professional level.

We look forward to seeing you on Wednesday, April 20, 2011 at Monterey Hill Restaurant in Monterey Park. Our speaker will be Eric Shen, P.E., Director of Transportation Planning, The Port of Long Beach. We are looking forward to his presentation on “Moving Freight Beyond the San Pedro Bay Ports – What Should ITE Members be Aware Of?” Please join us for our lunch time meeting.

Before I close, I want to thank our Vice-President, Steve Itagaki for submitting an impressive Annual Report to our Western District. Although we were not selected as the winner, we had an impressive report. Please thank him for his efforts. A copy of our Annual Report will be posted on our website.

Best Regards,
Lisa Martellaro-Palmer, President of the Southern-California ITE Section, April 2011
2009-2010 Southern California Section Officers

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**Brief Look Ahead**

**April**
- Wed 20th, 11:30 AM, ITE So Cal Lunch Meeting at Monterey Hill Restaurant (3700 W Ramona Blvd, Monterey Park)
- Thurs 28th, Cal Poly Pomona Student Chapter Meeting (contact: Neelam Sharma)
- Fri 29th-Sat 30th, Transportation Infrastructure Security Partnership (TISP) Critical Infrastructure Symposium, Renaissance Newark Airport Hotel, Elizabeth, New Jersey (contact: TISP)
- Fri 29th, 11:59 PM, ITE So Cal Newsletter Deadline

**May**
- Fri 13th, OCTEC/ITE Golf Tournament, Green River Golf Club, Corona (contact: Jim Sommers, 714-573-0317, jsommers@koacorp.com) (flyer)
- Mon 16th, California MUTCD Comments Due
- Wed 18th, 5:00 PM, Joint ITE So Cal Meeting with OCTEC featuring Student Chapter Presentations, Holiday Inn & Suites, Fullerton

**June**
- Wed 15th, 8:30 AM, ITE So Cal Mini-Workshop Business Meeting at Monterey Hill Restaurant (3700 W Ramona Blvd, Monterey Park)
- Tues 21st, Move LA’s Third Annual Conference, Cathedral of Our Lady of the Angels, 555 West Temple Street in Los Angeles (call: 310-310-2390)

**July**
- Sun 10th to Wed 13th, Western District Annual Meeting, Alaska, www.westernite.org (see page 8)

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ITE Southern California Section  
www.itesocal.org
The Institute of Transportation Engineers Southern California Section monthly meeting was held on Friday, March 18, 2011 at El Adobe de Capistrano Restaurant in San Juan Capistrano. This joint meeting with the San Diego Section included a mini-workshop and a luncheon. The two topics for the workshop were the California Environmental Quality Act (CEQA) and the Simulator Tool for Land Use & Travel Demand Management (TDM). The lunch keynote address was on the latest Manual on Uniform Traffic Control Devices (MUTCD).

Yara Fisher of AECOM, Margaret Moore Sohagi, and Robert Tyson Sohagi of The Sohagi Law Group presented the CEQA update. One of the statutory revisions is that an agency can collect reasonable fees from members of the public for a copy of an Environmental Document (ED). This ED, available in electronic format, includes CEQA and NEPA documents used by state and local agencies.

Parties in objection to a CEQA approval action may request mediation. Such mediation may be conducted concurrently with judicial proceedings. A notice requesting concurrency must be filed within five business days from date of NOD. The request is denied if the agency fails to respond within five business days. The statute of limitations is tolled if the agency accepts mediation and there is a ninety-day limit on a mediation attempt.

A court may sanction an attorney for filing a frivolous lawsuit. Frivolous is defined as totally and completely without merit. The court can impose sanctions of up to $10,000 against the attorneys, law firms, or parties responsible for the frivolous claim. When an organization formed after project approval files a CEQA lawsuit, it will be limited to litigating issues specifically raise by its own individual members during the administrative process.

The Enhanced CEQA Action Team (ECAT) is a joint group which includes the American Planning Association CA (APACA) and the Association of Environmental Professionals (AEP). The mission is to provide recommendations to enhance CEQA’s efficiency and effectiveness. The group kicked off in November and will be making recommendations this month or next month.

The ECAT legislative issues include litigation process, infill streamlining provisions, MNDs/NDs, tiering provisions, cumulative impact analyses. Other issues include GHG analyses, standardized mitigation, SB 375 streamlining, alternative analyses, thresholds of significance, public outreach and participation, planning/environmental “disconnect”, co-lead agencies, electronic distribution/noticing.

Monica Suter of the City of Santa Ana gave the lunch keynote address regarding the status and the changes on the MUTCD. In December 2009, the Federal Highway Administration (FHWA), published the "Final Rule" for the 2009 federal MUTCD. On January 15, 2010, the federal manual was adopted nationally, but it was not adopted by California. Public comments for the 2011 California MUTCD (draft) are due to Caltrans by May 16, 2011. The California MUTCD is due in January 2012.
The general approach to California’s compliance dates is that updating signs, etc. can be taken care of during major projects or when maintenance occurs. Per FHWA 2009, non-compliant devices can be replaced under certain circumstances.

The implementation compliance date for the sign retro reflectivity method is January 22, 2012. By January 22, 2015, non-retro reflective signs including regulatory, warning, ground-mounted guide (except street name signs) will need to be replaced. The compliance date to replace street name and overhead guide signs is January 18, 2018.

There will also be changes to stop signs, overhead lane-use control signs, school crossing signs, pedestrian crossing signs, traffic signals, in roadway lighted crosswalks, guide signs and highway at-grade railroad crossings. Most of the federal changes to the MUTCD are likely to be adopted in order to achieve substantial conformance with FHWA.

AB 441 State Planning (Monning) – Transportation Health Impact
This bill was amended to state that until the CTC commission revises the guidelines for publication, the commission shall include an appendix to the current guidelines to highlight best practices, share resources and support the adoption of health and health equity factors, strategies, goals and objectives in the regional transportation plans.

AB 650 (Blumenfield) Blue Ribbon on Public Transportation
This bill was amended to require the transit (blue-ribbon) task force to contract with consultants, such as the Institute for Transportation Studies for expert research, analysis, advice, written reports, and other services. The State Department of Transportation shall provide administrative staffing to the task force and administer the funds appropriated from the Public Transportation Account to the department.

AJR 5 (Lowenthal) Transportation Revenues
Amended and Adopted by Assembly March 29, 2011. Sent to Senate, Committee on RLS.

SB 468 Dept. of Transp. - Coastal Zone Expansion
Amended to require the department to collaborate with local agencies, the California Coastal Commission, and countywide or regional transportation planning agencies to develop traffic congestion reduction goals. The bill would, for these projects, require the department to suspend a notice of determination relating to environmental impact, issued between January 1, 2011, and January 1, 2012, until it is determined that environmental documents for the projects satisfy the requirements of the bill.

Feel free to contact me with any questions or comments at sri.chakravarthy@kimley-horn.com.

Below is a quick update on the changes to bills that were discussed in our previous legislative update.

AB 345 (Atkins) Vehicles: Traffic Control Devices - Consultation
This bill was amended to additionally require the department to ensure that the advisory committee should include representatives from groups that represent non-motorizing interests of users of streets, roads and highways. The previous version of this bill required the California Traffic Control Devices Committee (CTCDC) and Caltrans to consult with groups representing users of streets, roads, and highways, such as bicyclists, children, persons with disabilities, motorists, commercial goods, pedestrians, public transit users, and seniors.
On March 30 I testified before the California High-Speed Rail Authority (CA HSRA) equitably distributing the harvest of the $43 billion California High-Speed Rail project— the “people” aspect of the “triple bottom line” (people, planet, profits).

Routing

Round 1 whisks passengers between San Francisco and Anaheim up to 220 miles per hour in under three hours. Round 2 extends to San Diego and Sacramento. Anaheim to Sacramento follows a circuitous route from Sacramento to Stockton to San Jose and then San Francisco. Amtrak’s Capitol Corridor connects Sacramento to San Francisco, but can take 3 hours when the train breaks down like it did during my trip last June to the ITE Western District meeting. While not in the CA HSR cards, the US High Speed Rail Association (US HSR) (www.ushsr.com) map includes these direct connections in the discussion forefront.

Sharing the Harvest

CA HSRA CEO Roelof van Ark’s Small Business participation requests generated approximately 1,100 expressions of interest, positioning many for a piece of the harvest. What about geographic distribution of the harvest? Round 2 cities may reap it much later. Sacramento, capital of California’s $1.8 trillion economy (world’s 8th largest) and home to the CA HSRA and many HSR decisions, bled 14,500 jobs in 2010 – more than any other major metro area of the country. Yet impoverished smaller Central Valley cities, like Yuba City - 50 miles north of Sacramento and off the CA HSR map - must capitalize on strategies like Sacramento Area Council of Governments’ (SACOG’s) (www.sacog.org) (Sacramento, Yolo, El Dorado, Placer, Yuba, and Sutter Counties) Sustainable Communities Strategies (SCS), noted in a March 25 Sacramento Business Journal article. Transportation professionals promoting 110-mile-per-hour commuter rail heavy investment in transit oriented development in downtown Yuba City brings extensive prosperity potential.

Central Valley cities south of Sacramento along the CA HSR map are extremely receptive to the considerable employment prospects of the CA HSR project, bringing welcome relief to regions suffering chronic unemployment. Where will the maintenance facility go - Merced, Fresno, or Bakersfield? Which overseas investors have sufficient bonding capacity - Germans or Chinese? Overseas investors have a vested interest in the world’s largest untapped HSR market.

Establishing a Percent Match

Higher local matches for federal funding improve a proposal’s competitiveness. Roelof van Ark’s French HSR TGV experience suggests California’s proposal include a 30% match. Yet Board members perception of: (1) California’s financial woes and (2) “dropping like flies” competition (Wisconsin, Ohio, Florida) suggest only a 20% match in the proposal to acquire Florida’s rejected funds. Even if California is only awarded half of these funds, it should be sufficient to extend the debut line to Merced and Bakersfield.

Bringing California into the Discussion Forefront

On the one hand, with receipt of rejected funds from other states and the passage of the nation’s only statewide HSR bond measure (prop IA, Nov. 2008) California may lead the nation. On the other hand, the $110+ billion northeast corridor project dwarfs California’s project. The US High Speed Rail Association (US HSR) (www.ushsr.com) sold out last November’s New York Conference while June’s Los Angeles conference was only 55 percent full. Let’s focus on making our profession as prosperous as possible so the $1,200 registration is easily affordable on a transportation engineer’s salary. Let’s start our prosperity quest now, so that by July 2011 many can afford to attend the Western District Conference in Alaska. When people talk high-speed rail, do we want them to talk California? If so, remind them of California’s transportation pioneering history – railroads in the 1800’s and freeways in the 1950’s – and our state’s longing to pioneer HSR.

Fitting Transportation Planning and Traffic Engineering into the Big Picture

A recent legislative council meeting with numerous engineering disciplines notes while fare box recovery and profitability of HSR are debatable, HSR is a hot topic at the Capitol. All engineering disciplines - practice (civil, mechanical, electrical) and title (agricultural, industrial, metallurgical, chemical, control systems, fire protection, nuclear, petroleum, and traffic) have expertise to contribute to CA HSR success. The October 2009 ITE So Cal meeting in Buena Park reminds us that massive HSR multi-modal centers like ARTIC (Anaheim Regional Transportation Intermodal Center) and Transbay Joint Powers Authority (San Francisco) are the new “fireplaces of downtown,” bringing floods of passengers to a concentrated area spurring widespread mixed-use transit-oriented development. We plan transit-oriented communities, analyze traffic conditions and greenhouse gas emissions within the impacted multi-block region, and design the ITS systems generating smooth traffic flow. Let’s keep this is the discussion forefront whenever HSR is mentioned at the Capitol.

Questions and comments may be directed to David M. Schwegel (davidmschwegel@aol.com, 425-466-5677).
On March 24, 2011, Allen Chen with the California Department of Transportation (Caltrans) District 7, gave ITE So Cal a tour of the Traffic Management Center (TMC) operations and state-of-the art facility. Located in Glendale, Caltrans moved their TMC operations from downtown Los Angeles to the current California Highway Patrol (CHP)/Caltrans facility in 2002. Implementing one of the largest Advanced Traffic Management Systems as part of its Regional Integration of Intelligent Transportation System, the TMC integrates local transportation agencies such as Caltrans, CHP, City of Los Angeles Department of Transportation, and Metropolitan Transportation Authority through a web-based technology that allows for critical information exchange between these agencies. The TMC monitors and improves freeway operation through the use of traffic control and monitoring equipment such as changeable message signs, media interface, closed circuit television cameras, ramp metering systems, and vehicle detector stations. To monitor and implement corrective actions against freeway capacity impediments, the TMC operates jointly with the CHP in computer-aided dispatch and highway advisory radio to maximize roadway capacity.

On Sunday February 27th, the Southern California Section hosted their first Student Traffic Bowl. This will become an annual event, in additional to Student Presentations Night. The event rounds up E-week and was hosted by Cal Poly Pomona. We had participants from four universities (Cal State Long Beach - CSULB, Cal Poly Pomona, UC Irvine, and UCLA) compete in 3 rounds of a Jeopardy-style tournament consisting of questions about transportation engineering and ITE.

Pizza and drinks were provided and Traffic Bowl Trophy (pictured below) was given out to our winners, Cal State Long Beach.

Congratulations to the CSULB winning team, which consisted of Emad Elias, Edgar Garcia, and Joseph Khilla, for a stellar performance.

We hope that this event will better prepare our students for the Western District Traffic Bowl in July at the Western District Annual Meeting in Anchorage (www.westernite.org). The District Traffic Bowl provides an outstanding networking venue for students. The scholarships given out in the upcoming Student Presentation Night in May will consider the results of the Traffic Bowl.
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.

If you have questions or if you would like to submit an ad or sponsor a newsletter, please contact Julia Wu at (562) 590-4152 or juwu@polb.com.

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 Schwiegel (davidmschwiegel@aol.com) by the deadline.

The deadline for the February Newsletter is 11:59 PM on Friday, April 29, 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. Schwiegel, PE, PTOE

ITE So Cal Latest Information: www.itesocal.org

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

Annual ITE So Cal OCTEC Golf Tournament: Friday, May 13, 2011 at Green River Golf Club in Corona: Contact: Jim Sommers, 714-573-0317, jsommers@koacorp.com

See flyer for more details.
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

University Mentoring Visits: Our next student chapter visit is at Cal Poly Pomona on Thursday, April 28. If you would like to attend the meeting and speak to the students for a few minutes please contact our Student Chapter Liaisons: Neelam Sharma at nds@dksassociates.com or Giancarlo Ganddini at Giancarlo@traffic-engineer.com for further information.

Resumes Online: If you are a Southern California Section ITE member and would like to post your resume on our website, please contact our Webmaster Irina Constantinescu (irina.constantinescu@kimley-horn.com, 818-227-2790).

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. Tome 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 our of World War II and need fro access to an ice-free port. Monday and Tuesday tours will take you to the Port of Anchorage, the arrival destination for the lions 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.

Of the 58 Sacramento Business Journal and 100 San Francisco Business Journal Book of Lists of Fastest Growing Companies, only one – Berkeley-based Sensys Networks (No. 14) – represents our industry. What’s their product? What can we learn from them?

Induction loops, video, and wireless detection add value to the detection industry. Loops have been around for nearly a century. Video emerged in the 90’s offering detection zone relocation ease. In 2008, wireless detection was noted the “Best Innovative Technology” by ITS America.

Sensys Networks introduced wireless detection systems in 2003 offering scalability and installation ease. These wireless sensor networks have three key components – (1) wireless sensor, (2) access point, and (3) repeater.

The wireless sensor detects vehicles. Contractors drill a 2-1/4” deep, 4” diameter core in the middle of the lane, orient the sensor, and then fill the hole with epoxy. The access point is installed above the controller cabinet and transmits the detection information into a detection device in the cabinet itself. If detection is needed beyond the 150-foot radio frequency zone – such as in advanced detection applications - repeaters are used.

Agencies and associated applications include: (1) Los Angeles DOT (Adaptive Signal Controls), (2) Baltimore Maryland (Traffic Signal Optimization), (3) Caltrans (Freeway Performance Measures), and (4) Melbourne Australia (Freeway Operations and Lane Management) among others.

Wireless detection is a key component of the movement of building “data infrastructure for smart cities.” By providing “accurate, dependable, real-time traffic data, whole regions are seeing improvements to mobility through budget saving wireless sensor networks.” 500 of the world’s cities populations have exceeded one million. These cities contain half of the world’s population and are creating unprecedented traffic congestion. A recent Forbes study notes Los Angeles tops America’s traffic congestion list with a staggering 85 weekly hours of congestion and a 14-mile per hour average congestion speed. ITE So Cal, we have our work cut out for us! Other cities (by weekly hours of congestion and average traffic speeds) include: (2) New York (94, 11.4), (3) Chicago (83, 11.1), (4) Washington DC (32, 14.0), (5) Dallas (43, 20.1), (6) Houston (22, 13.2), (7) San Francisco (68, 19.6), (8) Boston (43, 16.7), (9) Seattle (23, 11.2), and (10) Philadelphia (45, 18.9).

ITS systems need accurate data to effectively manage traffic congestion. Wireless systems provide such data, allowing cities to deploy large-scale “detection and traffic data, building the analytical foundation for optimized transportation networks.” Such systems offer cost effective acquisition and maintenance with limited encroachment on traffic. They are not sensitive to “infrastructure capacity, inclement weather, and roadway conditions.” Sensors are battery operated. Expect a 10-year battery life. They can be managed, configured, and diagnosed remotely. Firmware (software) is upgradable. For more information, visit www.sensysnetworks.com.

As transportation professionals seeking a much larger portion of the harvest from demands like ITS applications around High-Speed Rail multi-modal centers, it is imperative that we learn as much about emerging technology as possible, define innovative applications, and recommend them to our clients and end users. Many of this month’s articles come from technology experts at an ITE Vendor Night in Lodi in March passionate about educating transportation professionals about the latest technology. Check out the numerous vendor displays at the ITE Western District Conference in Anchorage in July. Sensys Networks introduces a Consultant Advantage Program (CAP) this year empowering transportation professionals to take technology to new levels in engineering applications such as ITS applications associated with a Downtown LA NFL Stadium near the Convention Center. Participate in vendor-provided classes. Wireless sensors helped redefine the detection industry. High-Speed Rail, JPODS, sustainable communities, and other trends seek to combat our nation’s gross addiction to foreign oil (4% of the world’s population consuming 25% of the world’s scarce non-renewable resource). This is “prime time” to redefine transportation engineering. Next year, I want to see at least 20% of the companies on Sacramento, San Francisco, San Jose, Los Angeles, Orange County, and San Diego’s fastest growing company’s lists from our own industry. Let’s draft a plan and make it happen!
Traffic detection can be done in a way that is friendly to the environment.

The photo above shows a typical side looking radar installation on a freeway in California. Each site uses a pole mounted on a foundation 30 feet from the traveled way, and all installation work is done without lane closures. The radar detects up to 12 lanes, including lanes on the other side of the freeway, and does so from a safe shoulder location like that shown above. The radar sends vehicle counts, average vehicle speed, and lane occupancy every 30 seconds for each lane to the Caltrans traffic management center via cellular modem. All equipment is solar powered, eliminating wiring, conduit, trenching, and work zones along the freeway. The only maintenance required is to replace the two 8A24 batteries in the cabinet at roadside every 6-7 years. Typical site cost is under $20,000 installed. Caltrans has a standard Special Provision for this solution, which Caltrans calls an MVDS.

Programming a radar to detect at a site is automated. Once powered up, the radar works with software in a notebook PC to monitor traffic moving through each lane at the site. Using these detections, the radar “learns the lanes” and presents the user with a lane map like the image below.

The user can adjust the lane widths, and the lane line locations to suit the actual roadway. Once that is done, the radar calibrates itself for vehicle speeds. The user can then review the data reported by the radar to assure counts and speeds are satisfactory. Once performance has been verified, the radar is connected to a cellular data modem, and operation with the TMC proceeds. To support widespread use, Caltrans has implemented the communication protocol to use the radar as a Traffic Monitoring Station and for Ramp Metering main line detection.

Each radar detects vehicles up to 250 feet away. Changing lane locations takes less than an hour with a notebook PC. This makes radar a favorite for detection in construction zones where lane locations must change. Radar has no field wiring to be damaged in construction zones, either. The only requirement is to keep the radar on a pole out of the way of the dirt movers.

Being environmentally friendly is economically desirable. With solar power, wireless communication, and no need for sensing equipment in the traveled lanes, radar makes traffic detection much less expensive to implement, and even less expensive to change, as lanes are added or moved.

Caltrans has been the largest customer for side looking radars, but congestion management agencies are a growing user group. Mid-block flow monitoring for congestion management is easy to implement with radar. Rather than use solar panels, many mid-block sites use lighting circuit power to charge a battery overnight. Battery powers the system during the day, and the lighting circuit provides the power at night. Detection data is reported wirelessly either to the local traffic cabinet, or to a central traffic management center, using either the cellular network or 900 MHz radios. The 900 MHz radios cost a little more to install initially, but have the advantage of no monthly bill for service.

Image Sensing Systems developed the first side looking radar over 20 years ago, and has been supplying side looking radars to Caltrans for more than a decade. For more information about side looking radars, please feel free to contact Mike Juha at mjuha@imagesensingca.com or via telephone at 951-600-9499.
Pedestrian mobility and safety has become a top priority for communities both large and small throughout the United States.

In a policy statement signed on March 11, 2010, US Secretary of Transportation Ray LaHood notes:

"Because of the benefits they provide, transportation agencies should give the same priority to walking and bicycling as is given to other transportation modes. Walking and bicycling should not be an afterthought in roadway design." ¹

If pedestrians and bicycles are to be given the same priority as other transportation modes, it's imperative that crosswalks be made safer for them.

How can transportation professionals make crosswalks safer?

Striping and marking crosswalks is a great start. But according to the 2009 Federal MUTCD, marking crosswalks alone is not sufficient in many situations. For example, the MUTCD states that on roadways that lack median islands and have a posted speed limit of 40 mph, four or more lanes of travel, and an ADT of 12,000 or more, other safety enhancements are required. Examples of such enhancements include shortening crossing distances, adding measures designed to reduce traffic speeds or installing warning devices to warn drivers of pedestrians' presence.²

Safety enhancement treatments fall into two categories: static treatments and active treatments.

Static treatments, so-called because they are always in place, can help to improve safety at crosswalks by reducing motorists' speeds and bringing attention to pedestrians crossing the road. For example, refuge islands can provide valuable protection for the pedestrian, and have been shown to reduce pedestrian/vehicle crashes by 40 percent.³ Overhead illumination, though only effective at night, has also been shown to increase safety.³ Bulb-outs, or extensions of the curb into the roadway, reduce the crossing distance for the pedestrian, limiting the amount of time they are exposed to road traffic.³

US Manufacturer, Spot Devices specializes in active crosswalk treatments that warn motorists when pedestrians are present. Traditionally these systems include the use of pedestrian activated In-Road Warning Lights or Round Flashing Beacons. A new treatment called the Pedestrian Hybrid Beacon, or HAWK, was approved by the 2009 Federal MUTCD. The HAWK boasts a compliance rate of 97%, rivaling the compliance rate of a full signal.⁵ However, the HAWK is less expensive and provides the added benefit of increasing motorist mobility and traffic flow when compared to a full signal.

The Rectangular Rapid Flashing Beacon, or RRFB, is another active treatment garnering attention for its compliance rates. RRFBs emit a rapid "emergency vehicle" type flashing pattern to oncoming motorists, warning them to slow down for pedestrians in the crosswalk. With a cost of under $10,000 and compliance rates of over 80 percent⁶, many agencies are installing RRFBs as a cost-effective crosswalk safety treatment. RRFB systems can be solar or AC powered, can be installed quickly on standard poles and can communicate across the roadway using radio frequency signals, thus avoiding the need for trenching or conduit.

A balanced combination of static and active crosswalk treatments will help assure that pedestrians and bicyclists can safely navigate our roadways - an outcome with environmental, social and health benefits that all can agree on.

Questions and comments may be directed to Dusin Hinds (775-353-8419, dustinh@spotdevices.com).

¹United States Department Of Transportation. Policy Statement on Bicycle And Pedestrian Accommodation Regulations And Recommendations, Signed On March 11, 2010
³Safety Effects Of Marked vs Unmarked Crosswalks at Uncontrolled Locations, Final Report and Recommended Guidelines, Charlie Zegeer, Et Al, August 2005
⁴Treatments at Unsignalized Pedestrian Crossings Webinar, Charlie Zegeer, Peter Eun, August 2010
⁶An Analysis of the Efficacy of Rectangular-shaped Rapid-Flash LED Beacons to Increase Yielding to Pedestrians Using Crosswalks on Multilane Roadways in the City of St. Petersburg, FL., Dr. Ron Van Houten, Dr. J.E. Louis Malenfant, 2008
Bicycle Detection Innovations

Chris Mysz, Engineer, Reno A&E

The California 2010 MUTCD (Section 4D.105(CA) Bicycle/Motorcycle Detection) requires bicycle and motorcycle detection in all new limit line detector installations and modifications to the existing limit line detection on a public road, or be placed on permanent recall or fixed time operation. This section also requires the sum of the minimum green, plus the yellow change interval, plus any red clearance interval be sufficient to allow a bicyclist riding a 6 ft long bicycle to clear the last conflicting lane. Extra time must be programmed for each phase in the controller to insure that bicycles have adequate time to safely pass through an intersection. Any vehicle (car or bicycle) actuating the signal will receive the programmed extra time. This will increase cycle times and reduce the efficiency of the intersection!

The Reno A&E Model C-1100-B and C-1200-B loop detectors are designed to increase intersection operational efficiency by detecting and identifying bicycles for the purpose of providing a special initial time for bicycles. The special initial time insures that bicycles have adequate time to safely pass through an intersection. This special initial time is programmed to be greater than the minimum initial time and less than the pedestrian time, which are programmed in the controller.

This special operation requires the controller phase green logic signal to be connected to the detector phase green input. The special bicycle initial time is programmed through the detector's front panel LCD display and stored in the detector's non-volatile memory. This provides the ability to adjust timing for a phase on a lane by lane basis. When bicycles are detected the detector provides a call output. When larger size vehicles are detected the detector also provides a call output. When a bicycle exits the loop area the detector's output is latched in the call state. When larger size vehicles travel through the loop they provide a call output; however, larger size vehicles do not latch the call output. Once the call is latched the call remains until the special initial timer counts down to zero. The special initial timer begins counting down to zero when the controller's phase green logic appears at the detector phase green input.

At the time the controller's phase green logic (connected to the detector's phase green input) becomes active the latch is cleared and at the same time the special initial time begins counting down to zero. If the loop is vacant when the special initial timer reaches zero the call is dropped. If the loop is occupied when the special initial timer reaches zero the call output will remain until the loop is vacant. The loop detectors integral Call Extension Timer only extends bicycle calls. Therefore a separate extension time (longer) can be provided to accommodate bicycles travelling through large intersections. This extension time would be longer than the normal extension time programmed in the controller.

The Model C-1100-B and C-1200-B detectors can be set for Bicycle Detect Only mode. When programmed in this mode the detector does not output call signals for large vehicles travelling over the bicycle detection loop. This mode is useful for dedicated bicycle lanes, which allows the controller to use the detector's programmed initial time for only bicycles. The Model C-1100-B Bicycle Detector is designed for Type 332/170 applications and NEMA TS 2-1992 applications.

Questions and comments may be directed to Reno A&E at 775-826-2020 or John Kluga of Pentrad at 650-948-6243.
Flooding causes more deaths and property damage in the U.S. than any other severe weather-related event. Many people drown during flooding because few realize the incredible power of water. A mere six inches of fast-moving water can knock over an adult. It takes only two feet of rushing water to carry away most vehicles, which includes pickup trucks and sport utility vehicles.

Texas is prone to extremely heavy rains and flooding. Texas also had the most flood-related deaths in the past thirty-six years. Bexar County in central Texas, about 190 miles west of Houston, is particularly vulnerable because storms stall along the Balcones escarpment. This region, known as the Hill Country, has earned the nickname "flash flood alley". Due to this geography, floods are a natural hazard and a regular occurrence.

In order to better prepare residents, County officials implemented a High Water Detection System in 2007. This system is designed to target two primary goals. The first is to warn motorists they are approaching hazardous road flooding conditions, giving them the opportunity to stay out of harm’s way. This is accomplished by activating warning beacons located at strategic locations. The other goal is to notify transportation and emergency management personnel of the flooded roadway condition so additional action can be taken.

High Sierra Electronics, Inc. (HSE) was awarded multiple contracts by Bexar County for the implementation of a flooded roadway warning system. The first in 2007 included four solar powered rain and stream gauging sites for monitoring conditions at two separate roadways.

When three inches of water threatens to flood the road, HSE’s Advance Warning System automatically activates flashing beacons to warn motorists.

According to Art Villareal, Watershed Program Coordinator at Bexar County, the project was managed "in a professional manner. From hardware installation to software set-up and configuration, the system has performed and has helped our agency improve safety measures for area residents and visitors".

HSE is located in northern California and has been supplying weather monitoring systems, data management, and field services since 1992. HSE started in the field of flood warning and environmental monitoring and in 2000 expanded into the field of road weather management. Other road weather management solutions include the “Mini” RWIS remote processing unit for weather-responsive traffic signal management.
Editor’s note: This article educates the ITE So Cal membership on the latest LED traffic signal technology innovations to assist members in the development of plans, specs, and estimates (PS&E) on signal design projects.

LED vehicle and pedestrian signal technology continues to progress boosting flexibility, reducing power consumption, and easing installation. One example of this technology is a GTx series of modules by GE Lighting Solutions (www.gelightingsolutions.com).

The vehicle signal module features a power supply that permits fault logging and LED degradation compensation by actively controlling the current to the LEDs. This technology also features the flexibility of option boards that allow the simple adoption of incandescent mimicking, data communication, ITS integration, and other elements. These signals also have a slanted front shell for reduced sun phantoms, internal mask capability and a sleek polycarbonate back with weatherproof connections for trouble-free longevity and ease of installation. This next generation signal is ITE compliant and ETL verified.

The GTx series of pedestrian signals are adaptable to agency and municipality needs with over 100 combination possibilities based on specifiable parameters including countdown and screen display.

Questions may be directed to: signals@gelightingsolutions.com.

Solar-Powered Transportation
David M. Schwegel, PE, PTOE

January’s “Photovoltaic Solar-Powered Solutions for Transportation Applications” article references US Debt Clock (www.usdebtclock.org) non-renewables consumption figures. How much have they increased?

March’s “The Case for Transportation Systems Powered by Renewables” article pictures gas prices. How much have they gone up since then? Families lose around $2,000 in annual disposable income when per gallon gas prices jump from $1.45 (2002) to $2.92 (2006). How much disposable income is lost by a one-month jump from $3.50 (March) to $4.25 (April)?

On my way to the Roseville Traffic Operations Center tour, I tried to get an updated photo with April gas prices, but the digital camera died. Gas was available to get my camera to the factory for repair. Will gas be available to get it home once repaired?

How sustainable are your communities? How effectively will they function if the gasoline supply is interrupted? As professionals, we are responsible for “protecting the public health, safety, and welfare.” As transportation professionals, we represent those systems that consume the lion share of our non-renewables. Railroads of the 1860’s are one of many examples illustrating how “transportation is the catalyst for changing energy systems.” How much longer must we let our nation’s oil addiction “crime of treason” escalate before we unite with other transportation societies and effectively educate decision makers in a unified voice of the inherent dangers?
The 1973 Arab Oil Embargo threatened transportation, the “lifeblood” of Las Vegas so much that a high-speed rail connection to Southern California was conceived to change this “lifeblood” from “oil to ingenuity.” Since then eight US Presidents “declared imported oil a threat to national security – an enemy of the Constitution.” Yet nearly four decades later, the Desert Xpress is still not operational. Crises such as the Loma Prieta and Northridge Earthquakes disrupt supply lines. How effectively are we formulating and implementing alternative transportation solutions to boost the redundancy of our systems?

How do we feel about Thomas Edison’s 1910 quote: “Sunshine is spread out thin, and so is electricity. Perhaps they are the same. Sunshine is a form of energy, and the winds and tides are manifestations of energy...Do we use them? Oh no! We burn up wood and coal as renters burn up the front fence for fuel. We live like squatters, not as if we owned the property...There must surely come a time when heat and power will be stored in unlimited quantities in every community, all gathered by natural forces. Electricity ought to be as cheap as oxygen...”

How much energy in watt-hours per passenger mile do our transportation mode choices consume? Trains come in at 890, followed by planes at 950, cars at 1033, buses at 1245, and high-speed rail at 1,400. JPods (www.jpods.com) – “small, efficient, safe, computer-driven” 450-pound vehicles consume 130. They are powered by overhead solar collectors gathering 8,000-30,000 vehicle miles of power per mile of rail per day from distributed natural power. They travel at approximately 30-40 miles per hour and maintain this speed climbing grades up to 3 percent. The JPods, Inc. Sustainable Infrastructure organization set a goal of “displacing 70% of repetitive urban oil-powered transportation with solar-powered, on-demand mobility by 2020.” Local Mobility Companies (LMCs) can purchase the rights to operate JPod technology in a given area either privately or as a public private partnership.

Have we thought about the economic impacts of living in communities featuring a solar-powered transportation system among the alternatives? Working family annual transportation costs would drop from around $10,300 to around $5,300. Privately financed construction has a 1-8 year payback based on 85% energy savings and congestion relief.

Have we thought about using solar-powered systems to provide “cleanup, relief, food, water, and medical support” during a disaster? Such silent energy-efficient system networks can be constructed over “broken heavy infrastructure” such as failed bridges, damaged roadways, and flooded rivers instead of deploying noisy heavy oil consuming trucks damaging fragile roadways. Another application is sealing levee breaches, delivering 1,200-pound sandbags at 50 tons per minute.

How do we as transportation professionals turn the transportation infrastructure Titanic around? Start by researching transportation innovations such as JPods and determine their feasibility for your given situation. While no JPods are up and running now, JPods, Inc. signed letters of interest from The Water Park of America (Bloomington Minnesota), the City of Richfield Minnesota, and The Mall of America (Bloomington Minnesota). Negotiations with venture capital firms are underway.

Determine the applicability of JPods and related transportation innovations to society’s current pain points and natural disasters such as the Japan earthquake and tsunami – the costliest natural disaster in history. Embrace innovation immediately as escalating commuting prices degrade the percentage of families that can afford both commutes and mortgages in this era of escalating foreclosures collapsing the banking system. Check out Hubbert Peak. Note daily World Crude Oil Production peaked in 2005 at 74 million barrels. Escalating gas prices indicate parallel escalating production and acquisition challenges. Net oil energy to power communities is expected to drop 95 percent over the next two decades. It normally takes 20-70 years to significantly change infrastructure. Do we have this much time? How can we expedite a widespread transition to a more sustainable transportation infrastructure? How can we help our clients recognize the importance of significantly contributing to a sustainable world?

JPods Inc notes that if we immediately tool for a more sustainable transportation infrastructure, then “economies will do fine.” Pulitzer Prize Winning Author Thomas Friedman reminds us in Hot, Flat, and Crowded – “we have just enough time starting now!”

Let’s get to work!
Los Angeles is well-known for its traffic. But soon, Angelenos will have the option to travel between downtown Los Angeles and Santa Monica in approximately 46 minutes – even during rush hour. Currently under construction, the 15.2-mile Expo Line will bring light rail to the Exposition Corridor, with 19 stations serving popular destinations like USC, Exposition Park, the Mid-City Communities, the Crenshaw District, Culver City, and West Los Angeles.

Phase 1 of the Expo Line was approved in 2005 and broke ground the following year. Service on Phase 1 is expected to begin in 2011, with service to the Venice/Robertson station in 2012. Phase 2 of the project, from Culver City to Santa Monica, was approved in early 2010. The Expo Construction Authority is currently awarding the design-build contract with construction scheduled to begin later this year. Estimated costs for the project are $899 million for Phase 1 and $1.5 billion for Phase 2.

In March 2010, Balfour Beatty Infrastructure Inc. (BBII) was awarded a $23 million contract to construct the Venice/Robertson aerial station and bridge structure in the City of Culver City, the last portion of Phase 1 of the Expo Line. This 23 month long project that began in April 2010 consists of a new 1711 ft., fourteen span, 7.5 ft. deep by 30 ft. wide cast-in-place pre-stressed concrete box girder bridge. It features a station platform with a unique archway with mass concrete caps, and construction of 3400 ft. of cast-in-place walkways. The elevated station includes work packages for constructing all of the station elements such as steel canopies, rain shields, 3 steel stairway structures, 2 elevators, elevator enclosures, and 2 cast-in-place concrete buildings that house electrical and communications/signal rooms for train systems. Negotiations are currently underway for additional scope of work including 3400 ft. of track (to be installed by Balfour Beatty Rail, a sister company to BBII) and traction power electrical and communication systems. Other possible additional work packages include station plaza area, parking lots and street work. The project is required to be complete in January of 2012. However, the bridge work was completed in December 2010 – 90 days ahead of schedule.
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.

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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.

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INSTITUTE OF TRANSPORTATION ENGINEERS

Presents
Our April Lunch Meeting

“Moving Freight Beyond the San Pedro Bay Ports - What Should ITE Members be Aware Of?”

By Eric Shen, P.E.
Director of Transportation Planning, The Port of Long Beach

To be held on Wednesday, April 20, 2011 at 11:30 AM at
Monterey Hill Restaurant
3700 W Ramona Blvd
Monterey Park, CA 91754-2105
Phone: (323) 264-8426

Directions:
From 10 Eastbound, take Ramona exit and turn right, turn left on Corporate Center Drive, at the first signal turn left into the driveway.

From 710 Northbound, take Ramona exit, continue straight ahead past signal into the driveway.

From 10 Westbound, take Eastern exit, turn left on Campus Rd., turn left on Ramona, turn right on Corporate Center Drive, at the first signal turn left into the driveway.

$30 with advance reservation
(By noon, Friday, April 15th)
$35 at the door $15 for students
(Cash or Checks only, payable upon check-in)

FOR RESERVATIONS, please contact:

Andrew Maximous, P.E., T.E.
Secretary-Treasurer of Southern CA Section
andrew.maximous@smgov.net
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
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OCTEC / ITE GOLF TOURNAMENT
FRIDAY, MAY 13, 2011

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