



INSTITUTE OF TRANSPORTATION ENGINEERS

SOUTHERN CALIFORNIA SECTION

NEWSLETTER

2012 – 2013, Issue No. 8

May 2013

President's Message

Andrew Maximous, PE, TE



Dear ITE Southern California Members,

I would like to thank Eric Shen for his time and presenting at the April meeting on the very important topic of goods movement.

The ITE Western District Technical Committee has selected our Section as the winner of the Western District award for the best section activities for a large section (more than 300 members). The award will be presented during the Western District Annual Meeting in Phoenix, AZ in July. This recognition is a testament to all of you, the members, for your continued leadership and hard work to put on the meetings and activities every year.

I congratulate each and every one of you. A special thank you goes out to our Vice President, Sri Chakravarthy, who put together and submitted the Section report to the district.

The ITE Western District Board voting is underway. You will receive an email with voting instructions. For a list of candidates please go to <http://westernite.org/2013/2013-western-district-candidates>.

Our Section election is also coming up. Ballots will be sent to the email on file with ITE.

The Section Student Presentations Night meeting will be held at the Knott's Berry Farm Hotel on Wednesday May 22nd at 5:30 pm. Be sure to RSVP with Neelam at neelam.sharma@urs.com

Finally, a bit of trivia: The creation of the El Camino Real bells was an effort adopted by the California Federation of Women's Clubs in 1902. Given the lack of standardized road signs at the time, it was decided to place distinctive bells along the route, hung on supports in the form of a shepherd's crook, and also described as "a Franciscan walking stick." The first of 450 bells were unveiled on August 15, 1906 at the Plaza Church in the Pueblo near Olvera Street in Los Angeles. Through Southern California, the El Camino Real route roughly follows the original US-101 alignments along the Santa Ana Freeway (I-5), Whittier Blvd., and the Ventura Freeway (US-101).



Meeting Announcement

Wednesday, May 22, 2013

5:30 pm

-Knott's Berry Farm Hotel

7675 Crescent Avenue

Buena Park, 91754

For Reservations Contact:

Neelam Sharma, TE, at

Neelam.sharma@urs.com

By noon on Wednesday,

May 15, 2013

See Flyer for Details

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Brief Look Ahead

May

– Wed 22nd, 5:30 PM, ITE So Cal/OCTEC, Student Chapter Presentations, Knott's Berry Farm Hotel, Buena Park

June

– Sun 2nd, 11:59 PM, ITE So Cal June Newsletter Deadline (contact: Newsletter Co-Editors)
 – Mon 3rd, 12:00 noon, Young Professional Achievement, Employer Recognition, and Best Paper by a Young Professional Awards Nominations Deadline (see page 10)
 – Wed 19th, 8:30 AM, ITE/ITS So Cal Mini-Workshop/Annual Meeting, Monterey Hill Restaurant, Monterey Park

July

– Sun 14th – Wed 17th, ITE Western District Annual Meeting in Phoenix (see page 10)

August

– Sun 4th – Wed 7th, ITE International Annual Meeting and Exhibit in Boston (see page 10)

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Bike Sharing in the USA – State of the Art

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Introduction

In the fall of 2007, I visited Paris, France, where I was introduced to the Vélib' Bicycle Sharing System. At that time, the Vélib' program included approximately 10,000 bicycles with 750 docking stations and since then has expanded to include over 20,000 bicycles with 1,451 docking stations covering the entire City of Paris. Bike Sharing is a short-term bicycle rental system that allows users to make relatively short trips of 30 minutes to an hour instead of using other modes of transportation (i.e. auto, public transit, taxicab, walking, etc.). Bicycle sharing is not geared towards longer distance recreational trips and generally serves local trips to work, shopping, and nearby destinations.

In an April 2008 article published by *WesternITE* – a publication of the Western District of the Institute of Transportation Engineers – I provided a detailed discussion of the Vélib' program. At that time, a limited number of bicycle sharing programs were available in the U.S.A.; but numerous cities were contemplating their use in the future. Many cities, including Washington, D.C., wanted to implement similar systems in their communities to help promote the use of bicycling as an alternative mode of short-term transportation to replace automobiles, public transportation, taxis, and walking.

Between 2007 and 2012, bicycle sharing in the U.S.A has expanded in cities and universities. This paper documents some of the current and proposed programs. This discussion is primarily limited to local public agencies; however, numerous university programs are in operation and are successfully used by students and staff in lieu of other transportation modes.

Most systems in the U.S.A. are currently being run and operated by private companies, who provide the physical hardware, bicycle monitoring systems, docking stations, maintenance/operation, and they collect a portion of the fees collected through subscriber usage of the bicycle sharing systems. Some financial return to the local agencies is also provided on a case-by-case basis.

Currently, there are at least 19 U.S.A. Bike Sharing programs in operation (see Table 1 at end of article). In addition, there are numerous university systems in operation, including Kent State University, Ohio, Oakland University, Michigan, University of California, Irvine, University of Mississippi, University of Tennessee, and Washington State University. The advantage of the university bicycle sharing systems is that the travel areas where the bicycles are used are relatively small and trip lengths are usually shorter than within an entire city. Also, students are accustomed to riding bicycles and have fewer automobiles available to them. The universities are implementing their own programs for students and university staff which will serve local trips around the universities.

Benefits of a Bicycle Sharing Program

An effective program will reduce dependency on the automobile and increase mobility to the public. This in turn will improve the environment, by reducing air emissions and Greenhouse Gases. This strategy is in keeping within current policies for sustainable communities and air quality regulations.

Bicycle sharing programs also provide an affordable transportation alternative. Annual subscription fees and usage charges are low and are affordable to all economic sectors, which

may not be able to afford other transportation alternatives. Bicycle sharing also reduces the need for individual bike ownership as well as potential theft of individually owned bicycles. Bike share also reduces parking demand.

Many Americans are overweight. Bike Sharing programs encourage increased physical activity throughout the day including walking to and from the bike sharing docking stations.

Bike Sharing reduces traffic congestion especially in high density areas. Bike sharing programs also creates program operation and bicycle maintenance jobs as well as introducing citizens to bicycle transport.

Operational Characteristics

Table 1 (end of article) provides a list of the bicycle sharing programs, year initiated, and available information on the number of bicycles / docking stations, bicycles per station, number of daily trips, and number of daily trips per bicycle for each program.

There is considerable variation in program size from 12-14 in the Hawaii B-Cycle (Kailua, Hawaii) to the projected 10,000 bicycles in New York City. The number of stations also varies considerably among the programs. There are as few as one (1) docking station in the Bright Angel (Grand Canyon, AZ) program (which is currently only operating as a bike rental system, but hopes to expand to a bike sharing program in the near future) and two (2) stations in the Hawaii B-Cycle and Spartanburg B-Cycle programs and as many as 600 stations planned for the New York City Bike Share program. A typical station has ten (10) bicycles. Photos of typical bicycle stations operated by Chicago B-Cycle (Chicago, IL) are shown below along Lake Michigan and in Downtown Chicago. A comparison of the U.S.A. bicycle sharing programs to the very successful Paris Vélib' system is also included in Table 1. As can be seen in this table, the Vélib' system provides a much more intense number of bicycles / docking stations and their usage is substantially greater than any of the existing or planned U.S.A. system. This is primarily due to population density, traditional use of bicycles for commuting, and the fewer number of automobiles per person in the Paris area.



Figure 1. A Chicago B-Cycle Station near Lake Michigan

Many of the U.S.A. systems close during inclement weather periods in the winter months. This usually occurs between the months of December and March to avoid the cold, wet, and snowy seasons in some areas of the U.S.A. During these conditions, the use of bicycles is not as feasible given the adverse weather

conditions. The Paris system also sees a drop in usage during heavy weather, but they are still open during these periods. The mild Southern California weather patterns make it an ideal location for bike sharing programs.



Figure 2. A Chicago B-Cycle Station downtown

The average number of trips in the U.S. bike sharing programs varies substantially by the size of the program. A low of eight (8) trips per day was reported from the Des Moines B-Cycle (Des Moines, IA); whereas, up to 2,000 trips per day have occurred in the Deco-Bike system (Miami, Florida) and approximately 2,861 trips per day have occurred in the Capital Bike Share (Washington, D.C. and Arlington, Virginia) program. One interesting operating system characteristic is the number of trips per bicycle per day for each of the bike sharing programs. On the low end, a trip rate of 0.26 trips per bicycle per day has occurred in the Omaha B-Cycle (Omaha, Nebraska) program; whereas, 2.5 and 2.6 trips per bicycle per day have occurred in the Deco-Bike and Capital Bike Share programs, respectively. As can be seen in Table 1, this utilization rate is still substantially lower than the trip rates being achieved in the Paris Vélib' system which has produced nearly 6.8 trips per bicycle per day. Almost all of the bicycle sharing programs are in their infancy and not yet producing results which would significantly reduce the use of other modes of travel (i.e. autos). However as more bicycles and docking stations are provided, greater usage is expected.

Bicycle safety is stressed by the various programs. Safety criteria are posted on the various program websites which require compliance with local safety rules including the use of bicycle helmets. Many programs will also provide helmets if the user does not have one. Many programs (i.e. Chicago B-Cycle) show the potentially safest bicycle routes that interconnect the various docking stations.

What Makes for a Successful Bike Sharing Program?

The success of a local bike sharing program is dependent upon a number of factors that can be increased through proper planning and implementation. Not all programs serve similar communities, therefore, local conditions need to be considered in implementing any bicycle sharing program. In the author's opinion, the following ten (10) items generally apply to all potential programs:

1. There must be ample coverage of docking stations and bicycles throughout the service area. The system can be phased over time; however, high usage areas should be identified early in the planning process. Key high density

residential and destination areas, such as employment and retail centers, need to be serviced in the program.

2. The area should be served by a good system of bicycle paths, on-street bicycle lanes, and bicycle routes within the community. This should provide connectivity throughout a community where the bike sharing program is implemented.
3. Terrain must be considered in the bike sharing service area. Since most bicycles used have limited capabilities with respect to gearing and due to their weight, hilly communities may not be best served by bike sharing systems.
4. Higher density population areas – employment and other attractions – must be served. A review of demographics within the service areas need to be considered in advance of implementing any programs.
5. A key element to a successful bike sharing program is ensuring that an experienced, well-funded system operator runs the system. At the present time, there are a number of these sharing companies that have successfully implemented bike sharing systems throughout the Country.
6. Use of the system must be simple and should charge relatively low fees for both the annual subscription and user charges to attract the most possible users within the service areas. Most systems have a membership fee for a certain number of days which entitles the member to use the bicycle for some short period of time (i.e. one hour) and then additional usage charges would apply for extra hours. Many programs allow the users to sign up for a specific membership card where the user can charge directly to that card as the bicycles are used. Also the use of a personal credit card can be used for temporary use of some systems. The Capital Bike Share program (Washington, DC) uses a fee program very similar to the Vélib' system in Paris. Daily passes can be purchased for seven dollars or an annual pass for 75 dollars. Capital Bike Share allows the first 30 minutes of usage free of charge, a second 30 minutes is charged at \$1.50, and the third 30 minutes is charged at three dollars. This structure encourages the use of short trips primarily for work and shopping trips.
7. The system must be well-maintained to ensure that the bicycles are always available within the community. An affective maintenance program is a must, since poorly maintained bicycles will definitely affect usage of the system.
8. Within some service areas, there may be the need to redistribute bicycles if there is a high directional demand occurring during certain hours. In this case, the supply of bicycles needs to be adjusted throughout the day to meet the changing demand within the service area. This has been employed in the Paris Vélib' system.
9. An active public information program of the bicycle sharing system is imperative. The public information program should identify the location of the docking stations, where bicycles are available and how the system works. This requires an active marketing program in the community and web-based information systems are extremely important. The use of "smart phone" applications, to provide information on the availability of bicycles and location of docking stations, is an important component of a successful system.
10. There is a need to have a plan-phased expansion of the program, to show how the system will serve other areas of the community in the future. A small area system can be implemented; however, information on future expansion should be disseminated to the public to show how the system will serve the community in the future.

These factors will all help maximize the use of the bike sharing system and its future success. It should be noted that several of

the programs shown in Table 1 are very small and may not meet all of the criteria listed above, especially Item #1.

Where Are the Bike Sharing Programs Going?

Bike sharing programs are continuing to expand substantially in the U.S.A. Since 2007, when nearly no programs were in existence, bike sharing programs have expanded in many metropolitan areas, to nearly 20 programs by the end of Year 2012. Substantially more programs currently exist at various universities throughout the country.

As people become more familiar with the bicycle sharing systems and a greater number of bicycles become available, their usage will substantially increase. Also, as the programs expand, the number of trips per bicycle per day will increase over time. Since the urban density in most U.S. communities (typically 10,000 to 26,400 people per square mile) is not nearly as high as in Paris, France (which has 53,883 people per square mile) or many other European cities, usage levels may not reach the higher levels currently being seen in these high density cities. However, it is anticipated that through program expansion, additional marketing efforts, and increased system coverage, bicycle sharing in the U.S.A. will substantially expand in the near future.

Funding of bicycle sharing programs is also another way to support the successful operation of new programs. This could include improvements in bicycle infrastructure (i.e. construction of bike lanes), through highway safety improvement programs, safe routes to school, and other transportation enhancement programs. Prototype systems can also be used to initiate new programs. The Orange County Transportation Authority (OCTA), is in the process of establishing a trial program which may be implemented in the near future. Funding for this feasibility study would come from the OCTA Transportation Planning Funds.

Marketing of the bicycle sharing programs is very important to their successful operation. Radio/television ads will enhance the

understanding of the systems, but web-based marketing is also critical in publicizing the program to potential users. All of the current/proposed U.S.A bicycle sharing programs have active websites to provide critical information to potential users of the system. This includes the number of bicycles/docking stations, how to use the system, location of the docking stations, and other frequently asked questions. Potentially, the best marketing practice is operation of the bike sharing program itself. As bicycles and docking stations appear in a community, they will act as their own advertising system to the local potential users who take interest in the program. The expansion of the program will then allow an added level of convenience and availability with an increased number of bicycles and docking stations within their community. This marketing technique is the main reason for Vélib's success, since their bicycles are visible everywhere in the City. Likewise, as more bicycle sharing programs are expanded, increased usage will occur throughout the USA.

Locally in Southern California many bike share programs are currently being planned and launched. A bike share program in the City of Anaheim began this year with stations including the Convention Center, Honda Center and train station. OCTA and Bike Nation have teamed with plans underway to install a bike sharing program with 15 stations and 165 bikes with plans to expand to 50 stations and 515 bikes in the City of Fullerton. Bike Nation also has plans to open bike sharing programs in Los Angeles with up to 400 stations and 4,000 bikes beginning with Downtown Los Angeles, with future plans for Hollywood, Venice and Westwood. Long Beach is planning to have a bike share system including up to 2,500 bikes. Southern California is an excellent location for implementing bike share systems due to the mild weather and active residents. This alternative form of transportation would be an effective way to offset the ever increasing traffic demands on busy Southern California roadways in the future.

Table 1: USA Bicycle Sharing Programs

Organization	Date Started	Bikes	Stations	Bikes Per Station	Usage	
					Trips Per Day	Trips Per Bike Per Day
Hubway - Boston, MA ¹	2011	600	60	10	1,200	2.00
Boulder B-Cycle - Boulder, CO ¹	2011	110	15	7	97	0.88
Broward B-cycle - Broward, FL	2011	200	20	10	56	0.28
Chicago B-Cycle - Chicago, IL	2010	100	6	17		
Denver B-Cycle - Denver, CO ¹	2010	510	52	10	510	1.00
Des Moines B-cycle - Des Moines, IA ¹	2010	18	4	5	8	0.44
Bright Angel - Grand Canyon, AZ ^{1/3}	2010	100	1	100	75	0.75
Hawaii B-Cycle - Kailua, HI	2011	12	2	6		
Louisville B-Cycle - Louisville, KY		26	3	9		
Madison B-Cycle - Madison, WI ¹	2011	280	27	10	98	0.35
DecoBike Miami Beach - Miami, FL ¹	2011	800	85	9	2,000	2.50
Nice Ride Minnesota - Minneapolis, MN ¹	2010	1,050	116	9	1,500	1.43
New York City Bike Share - New York City, NY ¹	2012 ²	10,000	600	17	82	0.01
Omaha B-Cycle - Omaha, NE ¹	2011	35	5	7	9.2	0.26
Portland, OR	2012 ²	740	74	10	960 - 1370	1.30 - 1.85
San Antonio B-Cycle - San Antonio, TX ¹	2011	200	20	10	125	0.63
San Francisco, CA ¹	2012 ²	1,000	100	10		
Spartanburg B-cycle - Spartanburg, SC ¹	2011	14	2	7	9	0.64
Capital Bike Share - Washington, DC / Arlington, VA	2010	1,100	110	10	2,861	2.60

Sample University Bicycle Sharing Programs

Flashfleet - Kent State University, Ohio ¹	2010	62	7	9	57	0.92
Bike @ OU - Oakland University, Michigan		200	12	17		
Zotwheels - University of California, Irvine ¹	2008	28	4	7	7	0.25
Rebel Pedals - University of Mississippi	2010		1			
CycleUshare - University of Tennessee ¹	2011	10	1	10		
Green Bike - Washington State University	2010	80	9	9	32	0.40

Paris, France	2007	20,600	1,451	14	140,000	6.80
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(1) Data obtained directly from the operating organization. Data for other programs was obtained from a list of bike sharing systems, Wikipedia, and program web sites.

(2) Program not currently in operation and data provided has been based on the projections for the program's first year of operation.

(3) Program is currently only a bike rental system; however, they plan to expand to a full bike sharing system in the near future.

Legislative Analysis

Martin Varona, EIT
ITE So Cal Legislative Analyst

Here are some interesting new pieces of transportation-related legislation that are either currently under review or have already been implemented.

Legislative Bill Updates

SB 448 Energy: Petroleum Supply and Pricing

The State Energy Resources and Conservation and Development Commission researches and evaluates monthly production reports prepared by the State Oil and Gas Supervisor under a specific stipulation. Existing law allows the State Lands Commission to participate in oil and gas leases for the extraction and removal of oil and gas deposits on state lands. These leases also comprise a royalty provision. The bill would require the Commission, upon appropriation by the Legislature from royalty payment proceeds generated by the collection of royalty payments from the oil and gas leases, to spot motor vehicle fuel price manipulation, determine a methodology for gauging whether motor vehicle fuel price manipulation is occurring, and analyze data and investigate for suspected motor vehicle fuel price manipulation. The bill would require the commission, in consultation with the State Air Resources Board and other relevant state agencies, to put in order and present to the Legislature a report on further legislative recommendations to restrict the amount of price volatility and comparative price increase in the California motor vehicle fuel market. SB 448 has been amended twice now, and is currently being reviewed by Committee.

AB 541 Buses: Illuminated Advertising: University of California, Irvine

A bus operated by a publicly owned transit system on regularly scheduled service is to be outfitted with illuminated signs that display information directly related to public service and include destination signs, route-number signs, run-number signs, public service announcement signs, or a combination of those signs, that can be seen from any direction of the vehicle, that put out any light color, other than the color red put out from forward-facing signs, according to specified conditions. Until January 1, 2017, a pilot program permitting up to 25 buses operated by the City of Santa Monica's publicly owned transit system for the first 2 years of the pilot program, and up to 30 buses thereafter, is to be outfitted with illuminated signs that display advertising subject to certain conditions. It is also required for the City of Santa Monica to present a particular report by July 1, 2016, on roadway and pedestrian safety to the Legislature and the Department of the California Highway Patrol. This bill would allow, until January 1, 2019, the University of California, Irvine to operate a similar program. The bill would ask the university to submit a report by July 1, 2018, documenting adverse impacts on roadway and pedestrian safety due to illuminated signs on transit buses displaying advertising, if

any, to the Legislature. As of April 29th, this bill is being read for the first time by the Senate.

AB 738 Public Entity Liability: Bicycles

Existing law specifies that a public entity or a public employee shall not be responsible for an injury caused by the plan or design of a construction of, or an improvement to, public property in certain cases. Existing law permits public entities to add bicycle lanes on public roads. This bill would grant that a public entity or an employee of a public entity acting within his or her role is not responsible for an injury caused to a user, if the public entity has constructed a bike lane on that roadway. This bill is still waiting to be read by the Committee.

AB 946 Transit Buses: Counties of Monterey and Santa Cruz

Existing law sets up the Monterey-Salinas Transit District and the Santa Cruz Metropolitan Transit District with various responsibilities associated with the operation of public transit in those counties. Motorists are generally required drive on the right half of a roadway, which includes only that portion of a highway upgraded, designed, or normally used for vehicular travel. Motorists typically may not overtake or pass another vehicle by driving off the paved or main-traveled portion of the roadway. The bill would allow the Monterey-Salinas Transit District and the Santa Cruz Metropolitan Transit District to run a transit-bus only program via shoulders of selected state highways as transit-bus only traffic corridors per Caltrans and CHP approval. Such segments would be jointly selected by the districts and the department. The bill would thereby allow transit buses along the shoulder of a selected state highway segment within these transit districts. The bill would require the districts to collaborate with the department and the CHP to establish guidelines that uphold driver and vehicle safety and the reliability and functionality of the infrastructure. The bill would necessitate monitoring the state of repair of the highway shoulders used in the program, and hold the districts responsible for program funding. This bill was amended once and is currently under review by the Committee.

CSUF ITE Simpson Strong Tie Tech-Tour

*Martin Varona & Reed Salan
Founders of CSUF ITE*

The CSU Fullerton (CSUF) ITE Student Chapter hosted a Simpson Strong Tie (SST) facility tour on April 26, 2013. Over 25 civil engineering students from Cal State Fullerton attended the event. Students and faculty from Cal Poly Pomona also joined us for the tour.



The SST facility is located in Riverside and houses one of the biggest manufacturing sites for SST products and a Research and Development Department. SST is dedicated to helping engineers with any type of structural related issues and also providing vast amount of information regarding the proper use of SST products.



The SST employees demonstrated two different shear wall experiments using their applied moment frame machine and gave a detailed tour of the manufacturing plant. The SST facility manufactures several types of connections such as hanger, beam-column, joist, anchors, and hold-downs. Special custom orders are also made on products such as Ordinary Moment Frames, Special Moment Frames, Simpson Strong Walls, and extra-large connections. During the tour, students listened to a lecture by one of the staff engineers regarding seismic design and load analysis.



We would like to give special thanks to SST staff for giving CSUF ITE a spectacular tour and providing lunch after the tour. Students walked away with some SST parting gifts and useful knowledge for their future careers.

We posted a blog about our tour on ITE Community!

<http://community.ite.org/Blogs/BlogViewer/?BlogKey=6bc95aa5-928e-4b2f-9a7c-b1abe1c5c7dc>

Opportunities for Newsletter Advertising and Sponsorship

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

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

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

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

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

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

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

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

The Newsletter Editors must receive your ad by the 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) 283-7882 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 starting in **June, 2013. We also have the sponsorship (\$300) and co-sponsorship (\$150) open for the Annual Steak Fry in August. First come first serve. Look forward to hearing from you!**

Opportunities for Newsletter Content

David M. Schwegel, PE

The newsletter is also a perfect venue for keeping the membership informed of a fascinating project you are working on or for educating the membership on a unique development of interest to the local transportation engineering community. 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 600 words and two photos fit on a single page. Articles should be objective and focus on the project, not the firm. This way they are not misconstrued as advertisements. Please submit content to Newsletter Editors Jay Dinkins (jay.dinkins@smgov.net) and David Schwegel (davidmschwegel@aol.com) by the deadline. The deadline for the November Newsletter is **11:59 PM on Sunday, June 2, 2013**. Thank you in advance for your valuable contributions to this great team effort.

Announcements

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

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

ITE International Annual Meeting and Exhibit: The ITE 2013 Annual Meeting will be held August 4-7, 2013 in Boston, Massachusetts. To view the technical program please visit www.ite.org/annualmeeting and click on the "Agenda" tab.

Eunice Chege Thoya
Meetings Technical Program Associate
Institute of Transportation Engineers

Transportation and Public Health Session at ITE International Annual Meeting: One ITE International Annual Meeting highlight is a Transportation and Public Health Session on August 7 moderated by Karyn M. Warsaw, MS, MPH (Transportation-Public Health Link, T-PH Link) and Yolanda Savage-Narva (America Walks), and featuring presentations on: (1) Environmental Justice: Addressing Health and Safety of the Older Driver (Richard Retting, MS, FITE), (2) Project Communications: Reaching New Audiences with New Tools (Darrel W. Cole, Parsons Brinckerhoff Los Angeles), (3) Sustainable Return on Investment: The Economic, Social, and Environmental Elements of a Transportation Infrastructure Project (Pamela Yonkin, MA, HDR Decision Economics), and (4) Transportation Financing & Community Sustainability: Pulling the Pieces Together (Stephen F. Mayer, PhD, PE). For more information on T-PH Link, see article on page 11 and www.transpotohealthlink.com.

For more International Annual Meeting and Exhibit information, see www.ite.org.

ITE Western District Annual Meeting: "Hot Transportation – Cool Solutions," July 14-17, Phoenix. For more Western District Annual Meeting information, see www.westernite.org.

One highlight is the presentation of the Young Professional Achievement, the Employer Recognition, the Best Paper by a Young Professional, the Outstanding Section, and the Outstanding Student Chapter Awards.

ITE Western District Young Professional Achievement, Employer Recognition, and Best Paper by a Young Professional Awards

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. To be eligible for the Western District **Young Professional Achievement Award**, you must be 35 years old or younger and be an ITE member. This award was established to recognize a young professional who has shown:

- exceptional dedication to the transportation profession through ITE service;
- has significant accomplishments that benefit the profession of transportation engineering/planning; and
- has participated in mentoring transportation professionals.

Please provide name and contact information (email or phone number) of the nominee(s) by email to Neelam Sharma at neelam.sharma@urs.com. Nominations for the Young Professional Achievement Award are due by **Monday, June 3rd, 2013 at 12:00 noon**. Please be sure to check the website for more details at <http://westernite.org/aboutus/awards/young-professional-achievement-award/>.

The **Employer Recognition Award** is an effort to recognize employers for supporting young professionals (professionals 35 years or younger) in ITE activities, technical training and professional development/mentorship. Nominations for the Employer Recognition Award are also due by **Monday, June 3rd, 2013 at 12:00 noon**. Please review the eligibility criteria and nomination details at <http://westernite.org/aboutus/awards/employer-recognition-award/>.

If your paper was accepted for the 2013 Western District Annual Meeting and you are 35 years old or younger and would like your

paper to be considered for the **Best Paper by a Young Professional Award**, please submit a copy of your paper to Neelam Sharma at neelam.sharma@urs.com. Please type your last name in the subject heading and submit the file in a *.pdf format and with the same file name that was used for the compendium. Your paper must be received by **Monday, June 3rd, 2013**. Please be sure to check the website for more details at <http://westernite.org/aboutus/awards/best-annual-meeting-paper-by-a-young-professional/>.

If you have any questions regarding the awards, please contact Neelam Sharma, ITE Western District Career Guidance Chair via email at neelam.sharma@urs.com or via telephone at (714) 433-7664. The awards will be presented at the upcoming ITE 2013 Western District Annual Meeting in Phoenix.

Thank you,
Neelam Sharma
Western District Career Guidance Chair

Congratulations ITE Cal Poly Pomona!

Congratulations to the Cal Poly Pomona ITE Student Chapter for being designated the Outstanding Student Chapter in the Western District for the Second Year in a Row! When our Student Chapters prosper, so does our Section.

For more information on Cal Poly Pomona, see the ITE So Cal March 2013 Newsletter page 4 and visit www.itecpp.wordpress.com.

Congratulations ITE So Cal!

Congratulations ITE So Cal for being designated the Outstanding Large Section in the ITE Western District. Thank you Sri Chakravarthy, PE for putting together the Annual Report. Thank you Officers, Committee Chairs, Student Chapters, and Section Members for your valuable contributions in making this happen.

Congratulations RK Engineering Group!

Congratulations RK Engineering Group (www.rkengineer.com) (Newport Beach) on celebrating your 25th Anniversary on April 15, 2013. RK Engineering is led by Principal Robert Kahn, PE. Among Mr. Kahn's accomplishments is his "Roadway Striping as a Traffic Calming Option," winner of the Wayne T. Van Wagoner Award for best paper published in the *ITE Journal*, and presented at the 2012 ITE Western District Annual Conference. RK Engineering Group also provided the Bike Share article on pages 3-6 of this newsletter.

ITE So Cal Latest Information

www.itesocal.org

ITE So Cal Meeting and Event Photos

<http://picasaweb.google.com/itesocal>

ITE So Cal on Facebook

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

The Transportation-Public Health Link – A Trans/Cross-Disciplinary Approach

Karyn M. Warsaw, MS, MPH, DrPH(c), Founder & Chair, Transportation-Public Health Link

Editor's Note: ITE International President (2003) Steven Hofener noted the connection between Transportation and Health in a President's Message. The California Pan Ethnic Health Network (www.cpehn.org) and TransForm (www.transformca.org) co-hosted "The Road to Health: Transportation and Community Well-Being" Symposium in Oakland (see May 2011 Section Newsletter). T-PH presents at the ITE International Annual Meeting in August 2013.

The concept of Transportation-Public Health Link (T-PH Link) is based on a trans/cross-disciplinary approach to planning and developing transportation infrastructure in order to promote long-term sustainability and livability. This takes into account the multi-modal nature of the transportation infrastructure and health as an integrated system affected by sociopolitical, environmental, and economic factors. Please take a few minutes to learn more by visiting our website: www.transpothealthlink.com.



T-PH Link Presentation, ALPHA, San Francisco, October 29, 2012
Front: Stephen Mayer, Stephanie Yanovitz
Back: Ted Wolff, Stephane Larocque, Ron Deveman, Karyn Warsaw

Transportation has become a vital component to a people in terms of accessing health care, education, employment, entertainment, social support networks, and well-being. Decisions regarding the design, planning and development of a transportation infrastructure project; whether it is a complete street, an Interstate or non-Interstate highway, a public-private partnership toll facility, or an intermodal facility connection; all result in changes to sociopolitical, economic and environmental sustainability. Therefore, as part of the nation's transportation system, each project reflects a multilevel, multi-dimensional process impacting the health of a community. With that said, integrating public health professionals as part of the team involved in the planning and development of transportation infrastructure projects will provide a competitive advantage, not

only from a market perspective, but also in terms of strategic decision-making. This trans-disciplinary approach will help to eliminate miscommunication of priorities by partnering transportation and public health professionals, so that innovative and multidimensional problem solving can take place. The emphasis is on implementing practical solutions through mutual communication, capacity building, and sustainable change/growth that will impact the sociopolitical, environmental, and economic factors of the transportation infrastructure. To this end, a *cultural shift* in transportation project planning and development can occur based on a systematic evidence-based methodology in which challenges become opportunities. In this proposed scenario, public health professionals contribute the skill-set necessary to effectively evaluate the health impact of a proposed facility by implementing qualitative and quantitative measures that complement the accepted cost-benefit analysis of facility accountability. It is vital for both transportation and public health professionals to maintain their specific expertise and freely exchange information based on lessons learned so that causal links to planning and design issues can lead to improvements in best practices, policy making and community livability.

Strategic Goals: The transportation infrastructure development process is more than a simple needs assessment or facilitating partnerships or even educating key stakeholders on issues affecting livability and economic sustainability. Transportation infrastructure is vital to community planning, which not only integrates a quantitative and qualitative analysis of impact, but ensures the most efficient and effective use of resources, while focusing on safety, quality of life and public accountability. To ensure the effectiveness of this process, the right information needs to be communicated to the decision-makers, so that the appropriate policies can be implemented to support a systems approach to solving the nation's transportation problems within the built environment. The T-PH Link advocates for an understanding of the transportation network through:

- A transdisciplinary approach
- Systematic evidence-based research
- Integrative problem-solving
- Promoting cooperation, communication and collaboration

Objectives:

- Encourage cross-discipline communication between public health and transportation professionals by facilitating the exchange of information required to improve community planning and policy development.
- Encourage partnerships between public health and transportation professionals that support innovative problem solving by merging discipline specific ideas to improve livability.

Questions and comments may be directed to Karyn M. Warsaw, MS, MPH, DrPH(c) (karyn.warsow@t-t-i.com, 231-215-5525).

Why should Transportation Engineers become Experts on Cap-and-Trade?

David M. Schwegel, PE

What is Cap-and-Trade?

California's Cap-and-Trade system is a strategy for implementing AB 32 (Global Warming Solutions Act of 2006 requiring the state to reduce air emissions to 1990 levels by 2020). Cap-and-Trade "caps" emissions by businesses at specified levels, having them choose between bringing their own emissions below the "cap," or purchasing surplus reductions from businesses that can more cost effectively make the cuts ("trade"). The cap is reduced 2-3 percent annually until reaching 1990 levels by 2020. The California Department of Finance (DOF) and California Air Resources Board (CARB) released a *Cap-and-Trade Auction Proceeds Investment Plan* (Fiscal Years 2013-14 through 2015-16) on April 16, 2013. A hearing took place on April 25, 2013.

What is a Cap-and-Trade example?

Businesses "A" and "B" each emitted 30,000 tons of emissions in 2012. In 2013, CARB allows each to emit 90% of their 2012 emissions, or 27,000 tons for free, thereby either reducing their emissions by 3,000 tons (from 2012) or buying more allowances. Business "A" cost-effectively upgrades equipment and streamlines operations, reducing emissions by 4,000 or 1,000 below limit. This 1,000 cushion can either be saved for a future year, or sold at the 2013 California floor price of \$10.50 per ton or \$10,500. Business "B" is unable to cost-effectively reduce emissions beyond 2,000 tons, so it purchases 1,000 allowances for \$10,500, thereby boosting its "cap" to 28,000 tons.

Why Transportation?

According to TransForm's (www.transformca.org) "Cap-and-Trade: The System in California" brochure, transportation was the state's largest source of emissions in 2010, comprising 38 percent of California's 451.6 million metric tons of greenhouse gas (GHG) emissions. Industrial came in second at 21 percent, followed by In-State Electricity Generation at 12 percent, and Import Electricity Generation at 11 percent. Additional sources included residential (7 percent), agricultural and forestry (7 percent), commercial (3 percent), and other (3 percent).

Why California?

According to the May 2013 *Sustainability Smart Briefs*, California has 8 (Los Angeles/Orange County plus 7 Central Valley metropolitan areas) of the nation's 10 most polluted regions (Pittsburgh and Cincinnati also in the top 10), with Bakersfield and Merced tied for first. At the September 30, 2010 Greenwise Sacramento Meeting, Governor Arnold Schwarzenegger noted the state's 18,000 annual hospitalizations due to air-quality-related causes.

Why Sustainable Communities?

California passed SB 375 (Sustainable Communities Strategy, SCS) in 2008, requiring state metropolitan planning organizations (MPO's) (Sacramento Area Council of Governments, SACOG; Metropolitan Transportation Commission, MTC (Bay Area), Southern California Association of Governments, SCAG; and San Diego Association of Governments, SANDAG) to formulate and implement SCS's within specified time constraints. Such SCS's include Transportation Planning Areas (TPA's) mixing commercial,

residential, and retail uses, and encouraging walking and biking among the uses as well as to and from transit.

Why Low Income Communities?

The above-referenced DOF/CARB report notes such communities get the "brunt of the burden" of polluters, with a large percentage of residents without health insurance to combat the associated harmful health effects. The report includes a map indexing such communities in gray scale. The bulk of these communities are in the Central Valley, with a fair number in Los Angeles County. Such communities also exist in Orange County primarily in the Santa Ana vicinity.

Would Gross Polluters buy their way out of Emission Reduction Standards?

This was an objection identified by the Asian Pacific Environmental Network (APEN) at TransForm's (www.transformca.org) "Transportation Choices Summit." APEN wants assurance that gross polluters will not relocate to less expensive sites in low income communities and use their savings to purchase pollution rights, thereby further harming these communities.

How is Cap-and-Trade a "backstop"?

Future High-Speed Rail (HSR) funding was a theme at the 2012 Assembly and Senate HSR Hearings. Cap-and-Trade as a "backstop" if no future federal funding comes in, provided sufficient assurance to secure enough votes in both houses to "green light" HSR. Transportation for America Director James Corless advises California to make HSR, sustainable communities, Cap-and-Trade, and the triple bottom line (people, planet, profits) work to justify future federal funding requests in these areas.

How are Transportation Engineers doing so far?

Attendance at TransForm's (www.transformca.org) "Transportation Choices Summit" increased from 140 in 2012 to 220 in 2013 thanks in large part to increased involvement among transportation engineers. Specifically Charlie Alexander (Fehr & Peers), Mark Thomas (City of Rancho Cordova), and Adrian Engel (Mark Thomas & Company) led a light-rail accessed walking tour of Folsom Boulevard through Rancho Cordova, highlighting its progress from a military base community in the 1970's to a network of emerging sustainable communities. Matherfield Mills is one such community to be partially funded through SACOG's SCS.

What are some logical next steps?

Monitor related legislation like AB 1051 (application of Cap-and-Trade proceeds to sustainable communities with a certain percentage allocated to low income communities), SB 391 (funds affordable housing for low and moderate income households), and SB 1 (creates, funds, and executes sustainable communities investment plans), as well as SCA's 4, 8, 11 (reduces voter threshold from two-thirds to 55 percent for transportation project). See how the American Society of Civil Engineers (ASCE Region 9) (www.asce.org/region9), American Council for Engineering Companies – California (ACEC-CA) (www.acec-ca.org), and Professional Engineers in California Government (PECG) (www.pecg.org) weigh in. Educate the public on the pros and cons, particularly on transportation implications. In addition to public meetings and webinars, use social media as an educational tool.

Why should Transportation Engineers become Experts on California High-Speed Rail?

David M. Schwegel, PE

How influential is the California High-Speed Rail (HSR) project? The \$68 billion California HSR project is the state's most ambitious infrastructure endeavor ever and the nation's most ambitious infrastructure endeavor since the Interstate Highway System. At the April 23 TransForm (www.transformca.org) Transportation Choices Summit, James Corless (Director of Washington DC-based Transportation for America) emphasized how the rest of the nation is watching America's first true HSR project closely, so make it work.

Why power the system by 100% "renewables?" The California High Speed Rail Authority (CHSRA) (www.cahighspeedrail.ca.gov), the agency charged with "planning, designing, building, and operating" the project issued a "call to industry" letter dated April 23, 2013, seeking industry expertise on powering the system by 100% renewable energy sources. The CHSRA is taking a "net-zero" approach producing enough energy to power the system, thereby stimulating the renewable energy economy and providing a "cost-stable" electricity source. Rail adjacent developments can boost profitability by installing solar modules and wind turbines, and selling the power to the Authority.

How would HSR impact the Automobile and Aviation industries? The CHSRA *Final Business Plan (April 2012)* shows before-and-after car/bus, rail, and air market shares for the French Train a' Grande Vitesse (TGV) Southeast and the Spanish Alta Velocidad Espanola (AVE) Madrid-Seville as follows:

Before→After	Car/Bus	Train	Plane
TGV	29→21%	40→72%	31→7%
AVE	44→36%	16→51%	40→13%

Source: CHSRA *Final Business Plan (April 2012)* Exhibit 1-3

Initially one would expect the automobile and aviation industries to be "up in arms," perceiving HSR as stealing slices of lemon meringue pie. In fact, aviation interests derailed Texas TVG (Dallas-Houston-San Antonio) in 1995, seeing it as a direct threat.

A closer look suggests HSR may actually make lemon meringue pies, optimizing modes for their niche markets: car (up to 100 miles), train (100-600 miles), plane (over 600 miles). The *Business Plan* notes that many of the after-HSR trips are "new" trips not previously on the network due to the added travel convenience and resulting boosted trip making demand. The car quantity reduction reduces congestion, thereby improving the quality of the car driving experience. HSR's economic stimulation increases consumer purchasing power, further releasing California's pent-up demand for newer cars. At the April 2012 CHSRA San Francisco Board Meeting, San Francisco International Airport (SFO) management noted airlines dislike of short-haul (under 600 mile) low-profit-margin, airway-cluttering trips. HSR allows SFO to reallocate gates to more profitable long-haul (over 600 mile) trips. The SFO HSR station boosts airport accessibility, thereby encouraging long-haul air trip making.

How should the design/build results be evaluated? The CHSRA April 12, 2013 Press Release "California High-Speed Rail

Authority Announces Bid Results on Central Valley Construction Project" identifies the following results:

Proposer	Price (billion)	Price Score (out of 70)	Technical Score (out of 30)	Total Score
Tutor Perini/Zachry/Parsons	\$ 0.985	70.00	20.55	90.55
Dragados/Samsung/Pulice	\$ 1.085	63.55	26.13	89.68
California Backbone Builders	\$1.366	50.49	27.71	78.20
California High-Speed Rail Partners	\$1.263	54.59	20.70	75.29
California High-Speed Ventures	\$1.537	44.87	21.41	66.27

Source: CHSRA Press Release (April 12, 2013)

While these are ranked by "apparent best value," CHSRA will be negotiating with the top ranked proposers and possibly investigating past performance (such as track record for minimal change orders) before making a final decision at their June 6 Board Meeting.

While critics suggest dropping the two lowest technical scores, proponents note that all five proposers passed a preliminary quality evaluation to advance to the full evaluation stage. Proponents also note the roadbed infrastructure scope is simple relative to rails, electrification, train sets, and positive train control that will come in separate future construction packages.

How would HSR impact future generations? Many public comments suggest that it is unwise to undertake "luxury spending in lean times" and pass an exorbitant debt onto future generations. At the April 2012 San Francisco CHSRA Board Meeting, Millennials (born between 1982 and 2000) claimed "this represents how we access our employment and vacation destinations. We'll pay for it. Just get it up and running." Numerous California college campuses have "I Will Ride HSR" (www.iwillridehsr.com) alliances. The perceived positive impact on future generations encouraged Senator Leland Yee's deciding "yes" vote in July 2012, "green lighting" the project by a "razor close" margin (21-19).

How can California boost its prospects for future federal funding? Transportation for America Director James Corless encourages HSR stakeholders to prove HSR's effectiveness in boosting mobility, stimulating the economy, cleaning the air, encouraging sustainable communities, and preserving the environment (including precious farmland).

How can transportation engineers boost the effectiveness of their public comments? CHSRA Board Meetings allow for two-minute public comments, so choose your words carefully (200-250 words max), and respect time constraints. Describe your 2 ½ hour Los Angeles to Sacramento journey cranking out reports while eating lemon meringue pie. Cite credible sources such as the American Society of Civil Engineers (ASCE) *Infrastructure Report Card (2013)* (www.infrastructurereportcard.org). Close with a clear and concise statement indicating what you want CHSRA to do, and how it will benefit California citizens.

What are additional education sources?

Check out the US High Speed Rail Association (USHSR) (www.ushsr.com) for videos and past conference speaker presentations.



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May 22, 2013
At 5:30 p.m.

May SoCal Meeting

Southern California Section Student Presentations Night

Cal Poly Pomona, CSU Fullerton, CSU Long Beach,
CSU Los Angeles, UC Irvine, UCLA, USC

\$30 with advance reservation
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(Before noon, Wednesday, May 15th)
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