

# Los Angeles Section

*Monthly: Est. 1913*

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## PRESIDENT'S MESSAGE

Kenneth H. Rosenfield, P.E., F.ASCE  
Los Angeles Section President

VOL. LV NO. 6

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## Congratulations to our Students!

In mid-April, all eleven of our undergraduate program Universities participated in the annual ASCE Pacific Southwest Regional Conference (PSWRC) held at the University of Arizona in Tucson. All of our student groups are congratulated for participating in this Conference in which each group competed in as many as 19 events to demonstrate their technical and practical understanding of Civil Engineering. The students had time for some fun, as well, and thanks to the University of Arizona and the Arizona Section for hosting this annual event.

The Los Angeles Section was very well represented and we are thrilled to congratulate and recognize the fine work of the students at Cal Poly San Luis Obispo for their overall First Place finish! Cal Poly SLO was not only number one overall but they were first in both the Concrete Canoe competition and the Steel Bridge competition! This was a remarkable feat given the great competition provided by other schools. Ryan Smith, President of the Cal Poly SLO student group, reports, "Our Steel Bridge team has become forerunners in both the regional and national competitions. This year is no exception as Cal Poly Steel Bridge won 1st at the regional conference overall as well as in the categories of Display, Economy, Lightness, and Efficiency; while also placing second in Construction Speed. The Steel Bridge team is confident about their bridge and thrilled to be preparing for the National Conference which occurs in Kansas City on May 22-23. ASCE's concrete canoe competition was also held at PSWRC. Having won 16 of the past 18 regional competitions, Cal Poly SLO looked to continue our regional dominance this year. The team captains had been working on the project since September which included creating new mix designs and fabricating and finishing a full-scale canoe. The competition includes being judged on the final product, a design paper, an oral presentation, and canoe races. The team took first in three of the four categories and first place overall. This first place title qualifies the team to attend the National Competition at Clemson University in South Carolina from June 20-22." Congratulations are also extended to the Faculty Advisors and Practitioner Advisors at Cal Poly SLO for their mentorship of the students!



We also recognize the University of California, Los Angeles (UCLA) for their overall second place finish and second place in both the Concrete Canoe and Geotechnical competitions; the University of Southern California (USC) for their overall third place

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# California Infrastructure Report Card: An Update

by Yazdan T. Emrani, P.E. Past President, ASCE LA Section



It has been three years since the release of the 2012 California Infrastructure Report Card (CAIRC) and its estimated price tag of \$650 billion over 10 years. Unfortunately we have not done much to reduce that price tag, mainly because our economy has been fragile, and recovering from the worst economic depression in recorded history. To put things in perspective, the first release of the CAIRC was in 2006 and the overall estimated cost to upgrade our infrastructure was \$370 billion over 10 years. Two months after release of the 2006 CAIRC, voters in California approved a \$42 billion package of infrastructure spending and renewal. That was a great start, however once the great recession of 2007-2008 hit, the spending cuts went into effect and cities and counties went into an "Emergency Mode" where emphasis was placed on minimum needed maintenance only and reducing spending to keep their existing staff. This is part of the reason that the overall price tag from 2006 to 2012 went up by 75 percent. The other part of course is that infrastructure deteriorates on an on-going basis and maintenance alone can't and won't keep it in check. As we are slowly but surely coming out of the recession there are positive signs of infrastructure spending at the city and county levels. However, we are playing a catch up game and do need several much needed funding infusion to keep us in the game. Much work needs to be done on the local and State-wide level to improve the grades. Our work, however, is not done. Producing the 2006 and 2012 Report Cards were the first step in highlighting the importance of infrastructure renewal. In the meantime our task is to educate our public on the importance of infrastructure renewal, encourage our colleagues in the public sector to continue the fight for infrastructure funding and to actively communicate to our elected officials the important role that infrastructure maintenance plays in our everyday lives.

With 38 million residents, California is the most populated state in the country and its economy ranks as the world's eighth largest economy. These 38 million people rely upon these systems every day and their dependability and quality are silent, but significant contributors to our economic prosperity and quality of life. Never in our State's history has this been more important: California stands poised on the brink of tremendous growth.

This trend is expected to continue into the foreseeable future. Over the next 20 years, California is expected to grow at a rapid pace. Based on some estimates our State will add an additional 10 million residents over the next 20 years, putting California's population at a staggering 48 million people.

In the past five decades, our capital investment has plummeted precipitously. In the 1950s and 60s, California spent 20 cents of every

dollar on capital projects. By the 1980s, that figure dropped to less than five cents on the dollar. Current estimates put infrastructure investment at around a penny on the dollar. This is despite ever-increasing demands presented by population growth and economic development. Much of the state's public infrastructure was designed and built to serve a population half the size of California's 38 million residents today and we face an ever growing population in years to come.

It is the old adage of "Pay me now or Pay me later". The needed infrastructure investment in California has increased from \$37 billion annually in the 2006 Infrastructure Report Card to \$65 billion annually in this year's Infrastructure Report Card in just six years. Infrastructure components do not remain static and deteriorate over time so as engineers we are always playing a catch-up game even to maintain the infrastructure we have. As Californians we have to look at a variety of options including "Pay as you go", bonds, special assessments, etc. to be able to keep pace with infrastructure investment demands facing us.

A well-designed and maintained infrastructure anchors our economy and lifestyles and secures the public health and well-being. Investment in infrastructure is vital to our state's productivity, competitiveness and economic well-being. Congestion on our highways alone costs the United States an estimated \$100 billion a year. Communities with efficient road systems, good schools and sewers can better attract residents and businesses. With updated water treatment plants, we can trust our tap water is safe. When traffic flows, goods and services move to market faster and more efficiently, lowering the cost to consumers. Modern school buildings provide a secure and healthy environment where our children can concentrate on learning. Efficient waste management programs reduce waste volume, and dispose of and contain waste effectively.

The CAIRC rates eight infrastructure categories and recommends public policy options and funding needed to rehabilitate and revitalize our infrastructure and to continue California's economic growth and overall quality of life that her residents have enjoyed. California is one of the few states in the country to have well developed regional Infrastructure Report Cards. As we speak there are several efforts in various California counties to either update or develop from scratch their regional report cards. This gives us the best foundation and documentation for updating the CAIRC as we analyze and utilize the regional results for developing an accurate and inter-connected state-wide report card. We have targeted 2018 as the year of the next update of the CAIRC and are anxious to see what the grades and the needed investments will be at that time. For more information or to get involved in the 2018 update of the CAIRC please contact me at [yemrani@hfinc.com](mailto:yemrani@hfinc.com).

finish and first place in Technical Paper; and California State University Fullerton (CSUF) for their overall fourth place finish and first place in both Geotechnical and Environmental competitions! Congratulations are also in order for California State University Northridge, CSUN, for their second place finish in both the Steel Bridge and Surveying competitions. And, a shout out to my Anteaters at UCI for their second place finish in the Technical Paper competition.

Regardless of the scores received in the PSWRC competition, each team had a valuable experience and each team member grew as an individual and future Civil Engineer through their participation and team work experience. The Los Angeles Section provided funding for several of our schools to be able to participate in the PSWRC and many sponsors carried the larger load, and to them, we offer thanks for your funding commitment to our students. The competitors are now headed to the National Finals and we wish them all good luck in their efforts!

When I was a student at the University of California, Irvine (Class of 1978), I remember acknowledging the significance of being a member of ASCE and the benefits of having meetings with our Practitioner Advisors. The interactions with Civil Engineers in our meetings were a very important part of my educational experience and it helped me to frame my future plans. As working professionals, our contact with students is incredibly important and when you have the opportunity to share your career experience with them, please do not hesitate to do so as this information exchange is of great value to them. The sharing of your technical experiences along with your professional experiences is important to explain the well rounded nature of today's Civil Engineers. Yes, you can have a wholly technical career but many Civil Engineers also are needed for their soft skills of being able to run an effective meeting, speak to a crowd of people, explain technical issues in easily understood language, interact with elected officials, understand planning and budgeting and to convey that we, as Civil Engineers, understand the importance of quality of life, environmental issues and sustainability for our clients and the public.

As of the preparation of this article, the Los Angeles Section is comprised of 8143 members that, in total, establishes us one of the largest Sections in all of ASCE. Our membership includes 1853 Student grade members, 1356 Younger Member grade members (not including Students), 456 Associate grade members (not including Younger Members), 132 Affiliate grade members, 2962 Member grade members, 49 Fellow grade members, 1334 Life Member grade members, and 1 Distinguished grade member. In many of our Student Groups, membership is at an historic high level but this membership still leaves up to 50% of Civil Engineering students as not being members of ASCE. We must continue to engage the Students and impress upon them the benefits of being members of ASCE.

On a related note and another proud achievement for the Section, two of our Universities were selected for national honors. Society Executive Director Thomas Smith has announced that the Committee on Student Members has granted the prestigious 2015 Robert Ridgway Award to Cal Poly SLO "For excellence in the effective and

meritorious conduct of its affairs as a Student Chapter of ASCE through the ability and professional diligence of the Chapter officers, members and faculty advisors." And, ASCE has announced that Cal Poly Pomona has been awarded the 2015 ASCE Distinguished Chapter Award for Region 9 by the ASCE Committee on Student Members. This award is made annually to the most outstanding Student Organization in a Region. Congratulations!

## SUSTAINABILITY COMMITTEE CALL FOR MEMBERS

[www.ascelasection.org/main/groups/sustainability\\_committee](http://www.ascelasection.org/main/groups/sustainability_committee)

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# State Investments and Legislative Update

by Richard Markuson, CA Region 9 Legislative Advocate



## Major Policy Initiatives on GHG, Water Conservation and BDCP

Gov. Jerry Brown issued a new **greenhouse gas reduction** target for the state. The target, contained in executive order **B-30-15** seeks to reduce emissions in California 40 percent below 1990 levels by 2030. According to press accounts, State Senator Fran Pavley (D-Agoura Hills), said she will incorporate Brown's interim target into

one of her bills.

Brown is also updating his plans for the **BDCP**, which is expected to reduce habitat restoration. The revised plan calls for restoring less than one-third of the 100,000 acres of wetland and wildlife habitat originally planned. A news agency said the new cost of habitat restoration would amount to about \$300 million, a fraction of the \$8 billion originally projected. Brown confirmed in April that he would no longer seek a difficult, 50-year permit for the project, after federal agencies balked at permit approvals. The U.S. Environmental Protection Agency said last year that the project could violate the federal Clean Water Act and harm endangered fish.

Finally Brown released plans for legislation to help local officials better enforce **water conservation** requirements and direct state agencies to streamline environmental review of local water supply projects.

The proposed legislation will give new enforcement authority to local entities that don't currently have it and increase potential penalties against water wasters. It will specifically:

- Establish a new penalty of up to \$10,000 per violation, expanding on \$500 per day maximum infraction established in last year's drought legislation.
- Allow penalties to be issued administratively by wholesale and retail water agencies, as well as city and county governments. This change speeds up an infraction process involving courts that was established in last year's emergency drought legislation.
- Enable these entities to enforce local water restrictions against water waste, as well as conservation restrictions established by the State Water Resources Control Board.
- Allow local public agencies to deputize staff to issue water conservation-related warnings and citations.

## Transportation Bills Advance

The Senate Transportation & Housing Committee approved Senator Jim Beall's new transportation funding plan – SB 16, (Support) which raises \$3.5 billion annually each year over the next five years. Beall chairs the Committee.

According to Beall, "SB 16 creates a much-needed, temporary funding plan to address the maintenance backlog of our aging systems. Under this bill, everyone who uses the roads will share in paying for the cost of these essential repairs."

The bill increases taxes and fees, and creates new fees, over time as follows:

|   |  |
|---|--|
| Gasoline excise tax                             | \$0.10/gallon  |
| Diesel excise tax                               | \$0.12/gallon  |
| Vehicle license fee for non-commercial vehicles | 0.07% each year so that the VLF is 1.00% by July 1, 2019             |
| Vehicle registration fee                        | \$35 per vehicle plus an additional \$100 for zero-emission vehicles |

As an urgency bill and tax increase the bill requires a 2/3 of the legislature – which makes passage tough. On the Transportation Committee – Republicans Anthony Cannella and Patricia Bates abstained – along with Democrats Cathleen Galgiani and Richard Roth – the other Republican – Ted Gaines – voted NO.

SB 16 also moves truck weight fees, which since 2010 have supported the General Fund by paying the debt service costs of transportation bonds. This bill redirects the truck weight fees to the RMRA and is phased in over 5 years. The loss to the General Fund is backfilled by the VLF increase.

The Assembly Transportation Committee approved AB 194 by Assembly Member Frazier (Support) that would authorize a regional transportation agency, in cooperation with Caltrans, to apply to the California Transportation Commission to develop toll facilities. In 2013, the Governor directed the California State Transportation Agency (CalSTA) to convene a workgroup to, among other tasks, explore long-term, pay-as-you-go funding options. In February of last year, CalSTA released its vision and interim recommendations. AB 194 expands the potential for HOT lanes in California by granting CTC broad, indefinite authority to review and approve HOT lane applications submitted by regional transportation agencies and by Caltrans.

They also approved ACA 4 (Support) that would lower the vote threshold to 55% for any local measure imposing, extending, or increasing a special tax for local transportation projects. As a constitutional amendment – the bill will require a 2/3 in the Legislature, which may doom the bill.

Senate Bill 20 by Senator Fran Pavley (Support) that would make well completion reports available to the public is on the Senate Appropriations Suspense file because of one-time costs of \$625,000 from the General Fund to DWR to establish an electronic database that the bill requires. SB 20 is opposed by a coalition of agricultural interests who assert "this measure will only assist those trolling for lawsuits."

## Recent Reports

California Dept. of Water Resources has released results of its fourth manual survey of Sierra Nevada snowpack this year, finds water content of 1.4 inches, "just 5% of historical average of 28.3 inches for April 1," notes "no snow whatsoever" at Phillips Station, "first time in 75 years of early-April measurements."

Environment California Research & Policy Center has released its report, "Dangerous Inheritance: The Hotter, More Extreme Climate We're

Passing Down to America's Young," finds "in every state young adults in the Millennial generation and Generation Z are experiencing warmer average temperatures than young adults in the Baby Boomer generation."

State Water Resources Control Board has released its Monthly Urban Water Supplier Report Data, finds "dismal conservation rate" of 2.8% among urban water supplier in February, notes "mandatory 25% conservation measures to follow Governor's action."

California Public Utilities Commission has released its "2010-2012 Energy Efficiency Annual Progress Evaluation Report," findings include "utility energy efficiency activities" between 2010 and 2012 cut carbon dioxide emissions by 5.3 million tons, "equivalent of removing more than 1 million cars for California roads."

The Board of Equalization has released its report, "Estimate of Potential Revenue to be Derived from Taxation of Currently Non-Taxable Services," finds potential \$57.3 billion in new General Fund revenue.

Dept. of Water Resources releases "Groundwater Update to the California Water Plan Update 2013," findings include state's 515 groundwater basins and sub-basins "contribute close to 40% of California's annual water supply in an average year and over 45% in dry years."

The United Nations Educational, Scientific and Cultural Organization (UNESCO) released The United Nations World Water Development Report 2015: Water for a Sustainable World. This report discusses challenges in managing and allocating water across competing developmental sectors throughout the world.

Public Policy Institute of California released California's Water. The publication highlights some of the most pressing issues, including climate change and water, managing droughts, and paying for water.

The United States Geological Survey released Upper Klamath Basin Collaborative Groundwater Monitoring Map. "The U.S. Geological Survey recently launched the Upper Klamath Basin Collaborative Groundwater Monitoring website to provide information on groundwater conditions in the upper Klamath Basin.

The U.S. Government Accountability Office Information Security: FAA Needs to Address Weaknesses in Air Traffic Control Systems. "While the Federal Aviation Administration (FAA) has taken steps to protect its air traffic control systems from cyber-based and other threats, significant security control weaknesses remain, threatening the agency's ability to ensure the safe and uninterrupted operation of the national airspace system (NAS).... Until FAA effectively implements security controls, establishes stronger agency-wide information security risk management processes, fully implements its NAS information security program, and ensures that remedial actions are addressed in a timely manner, the weaknesses GAO identified are likely to continue, placing the safe and uninterrupted operation of the nation's air traffic control system at increased and unnecessary risk."

The New York Times covered How Much Water Californians Use. This interactive map shows per capita residential water use across the state.

The GAO also released Drug-Impaired Driving: Additional Support Needed for Public Awareness Initiatives. "[P]ublic awareness of

the dangers of drug-impaired driving is an area in which state officials told us that NHTSA [National Highway Transportation Safety Administration] could do more to support their efforts."

Fairbank, Maslin, Maullin, Metz & Associates released Key Findings from a Recent Survey on Water Conservation in California. "The survey results clearly show that awareness and concern about the drought is essentially ubiquitous, with overwhelming majorities both very concerned about the drought and water shortages, and feeling that drought or not, we essentially live in a state of perpetual water shortage.... Most Californians say they have already reduced their water usage during the current drought, and are anticipating continuing these new practices even after the current drought ends.... [G]etting Californians to reduce their water usage will require overcoming feelings that they have already done what they can, that changes are expensive or difficult, and a general reluctance to let landscaping die."

The American Meteorological Society released Challenges Associated with Adaptation to Future Urban Expansion. "As California will continue to make room for millions of new residents through the next century, one impact will be increasing urbanization and associated local temperature increases due to urban heat island effects."

The UCLA School of Law released Moving Dollars: Aligning Transportation Spending with California's Environmental Goals. "[A] group of transportation advocates, experts and public officials gathered at the University of California, Los Angeles in October 2014 for a discussion sponsored by the University of California Berkeley and Los Angeles Schools of Law. Ultimately, the participants envisioned a transportation system that provides greater and more affordable access for all residents, while furthering environmental and public health goals through reduced emissions."

PPIC also released Corrections Infrastructure Spending in California. Changes brought about by realignment, rehabilitation, and reducing recidivism, are being reflected in the infrastructure spending of the California Department of Corrections and Rehabilitation (CDCR). According to this PPIC report, some of these changes include: (1) California investing in short- and long-term prison and jail capacity; (2) over \$2 billion in bond revenue to finance medical and mental healthcare facilities; and (3) CDCR adding nearly 2,400 dorm beds by mid 2016 for low-level offenders. An additional \$2.2 billion in bond revenue made available by the state will add an estimated 14,000 beds across the state along with plans to "provide medical, educational, and other services to inmates—not just new jail cells."

The LAO released California's High Housing Costs: Causes and Consequences. Housing is more expensive in California than just about anywhere else. "The purpose of this report is to provide the Legislature an overview of the state's complex and expensive housing markets, encompassing both single-family homes and multi-family apartments. We pay particular attention to identifying what has caused housing prices to increase so quickly in recent decades, and provide information to assist the Legislature in making decisions that will affect the future performance of the state's housing markets."

## Nominations for 2015-2016 Board of Directors

Pursuant to the Section's Bylaws and Constitution, the Nominating Committee has offered three candidates to take office in October 2015 and the following nominees have been approved by the Board of Directors.

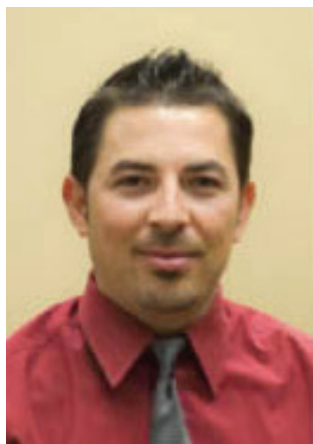


Kathereen M. Shinkai, PE

**Kathereen M. Shinkai, PE**, has been nominated as President-Elect of the Los Angeles Section for 2015-2016. This is a three-year appointment; after her year as President-Elect, she will lead the Section as President in 2016-2017, followed by a year as Past President until October 2018.

Kathereen is an Associate of LPA, Inc., an Architectural/Engineering integrated design firm in Irvine, where she manages the firms' Civil Engineering group in several offices throughout the State. She

received her degree from UC Irvine in 1998, served as ASCE Student Chapter President there in 1997, and has been active with the Society ever since. She has held numerous offices with the Orange County Branch, culminating as their President in 2009, followed from 2011 to 2013 as the Los Angeles Section Treasurer. Her focus as an ASCE member has always been to facilitate student and younger member participation in the Society, and she hopes to continue that effort during her term on the Board. A life-long Southern California resident, Kathereen currently resides in Ladera Ranch.



Edwin Quinones, PE

**Edwin Quinones, PE**, has been nominated for a two-year appointment as Section Treasurer. Edwin has been actively involved in the Section's Riverside-San Bernardino Branch for ten years, currently completing his Board term as Past President. He works at Riverside County Flood Control and Water Conservation District, where he leads the Project Planning Section, tasked with preparing Master Drainage Plans including all supporting hydrology calculations, hydraulic analysis, quantities, cost estimates and mapping. Edwin

received both Bachelor's and Master's Degrees in Civil Engineering from University of Southern California; he currently lives in Moreno Valley.



Jong-Wha Bai, Ph.D., PE

**Dr. Jong-Wha Bai, Ph.D., PE** has been nominated for a two-year appointment as Vice President for Student Activities. He is an Associate Professor of Civil Engineering, Chair of the Department of Civil Engineering, and Faculty Advisor of the ASCE Student Chapter at California Baptist University in Riverside.

Dr. Bai obtained his Bachelor's Degree at Yonsei University in his native Korea, and his Master's and Ph.D. at Texas A&M. His principal engineering expertise is in structural dynamics, earthquake engineering and seismic performance of structures. In addition to his current post at Cal Baptist, he has also taught at Texas A&M and at Southern Methodist University, has an extensive list of publications, and is currently a contributing editor of the American Journal of Engineering and Applied Science. He was a 2011 ASCE ExCEED Fellow, and holds memberships in a number of professional organizations including AISC, ACI, ASEE, EERI, and the Korean-American Scientists and Engineers Association. Dr. Bai resides in Riverside.

Additional nominations for any of these three positions may be made by a petition signed by at least 50 members of the Section. The petition must be accompanied by a written acceptance of the nomination signed by the nominee, and must be filed with the Secretary within 30 days after announcement of the nominees.

### Reminder:

*Copy deadline for the July 2015 issue is June 1, 2015; copy deadline for the August 2015 issue is July 1, 2015*





# Envision™ Gains Momentum in SoCal



Today's challenges require the engineering and public works communities to move beyond technological solutions to innovate and problem-solve for humanity. Envision is a modern platform that the Los Angeles County Public Works Department and its regional partners are advancing as we collectively plan and design for the complex societal, economic and cultural systems of the future. – **Gail Farber, Director, County of Los Angeles Department of Public Works**



The Port of Long Beach committed itself to sustainable development in 2005 as a part of its landmark Green Port Policy . . . With the development of the Envision Infrastructure Rating System, we have a peer-reviewed, industry-accepted, standard by which we can measure and demonstrate our commitment. Our staff is now able to understand the impacts of their design choices and to tangibly demonstrate the Green Port Policy's contribution to sustainable development. – **Doug Sereno, Director of Program Management, Port of Long Beach**



The Bureau of Engineering is proud to be an early adopter of ENVISION, which provides our engineers and architects with nationally-recognized standards that work well within our city's vast and varied landscape. Envision is key to advancing our ability to deliver sustainable infrastructure, open space and architecture projects as we work toward our goal of transforming Los Angeles into the world's most livable city. – **Gary Lee Moore, City Engineer, City of Los Angeles**

Who is next to join the movement? Submit your statement of support to [cbriggs@pacificaservices.com](mailto:cbriggs@pacificaservices.com) to be published on the ASCE Los Angeles Section Sustainability Committee website.

Learn more about Envision at [sustainableinfrastructure.org](http://sustainableinfrastructure.org)

# Transportation & Development Institute

by Victor Tirado, Moffatt & Nichol



San Diego, California. – Through this past year, the San Diego ASCE–Transportation Group has focused on hosting several special guests from various agencies. Our core objective was to engage local lead agencies to assist in the dissemination of information regarding local project with major regional impacts. Our most recent guest speakers have ranged from the California Department of Transportation (Caltrans), San Diego County Regional Airport Authority and the

San Diego Association of Governments (SANDAG). These agencies provided important updates to various regional project updates within San Diego County. The updates included the Interstate 8 Safety Program, an overview of the Airport Development Plan (ADP) Update 2035 Master Plan for San Diego International Airport and the Blue Line Reconstruction Project.

**Interstate 8 Safety Program** – “Caltrans is constructing an additional northbound lane and auxiliary lanes on Interstate 5 between Interstate 8 and SeaWorld Drive in San Diego. It will also add a lane on westbound I-8 at the northbound I-5 connector to relieve congestion at the interchange.

This section of I-5 provides access to the two largest employment centers in the San Diego Region: Downtown and Sorrento Valley. It also provides access to SeaWorld, Mission Bay Park, Old Town San Diego, University of California San Diego, and University of San Diego. Average daily traffic in the area ranges from 160,000 to 220,000 vehicles. This daily demand is expected to exceed 300,000 vehicles by 2030.

The programmed cost for the project is \$23.9 million. Congress has appropriated \$1 million and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users contributed \$4.8 million. Trans Net contributed \$3.9 million and \$14.2 million was funded by the State Highway Operations Preservation Program for the improvement. WHAT NEXT? Construction began in June 2014 and is scheduled for completion in the summer of 2016.”

**Airport Development Plan (ADP) Update** – “San Diego International Airport’s expansion of Terminal 2, known as The Green Build opened in August 2013. The project adds 10 new gates, a dual-level roadway and additional aircraft parking. These improvements will meet the airport’s needs until we reach about 20 – 21 million passengers annually. (In 2011, the airport accommodated nearly 17 million passengers.) Other capital improvements either under construction or in the planning/design phases include a new centralized receiving and distribution center, fixed-base operator building, relocated surface parking and a rental car center.

The Airport Authority is beginning the process to identify the next phase of improvements that will enable San Diego International

Airport to meet demand through 2035. This planning update is known as the Airport Development Plan (ADP). The 2008 Airport Master Plan (resulting in The Green Build) will be considered as part of the planning update.

The first two years of the process (2012-2013) will look at the entire airport and generate a plan that considers:

- The future of Terminal 1
- Redevelopment of the former Teledyne-Ryan property.
- Input to SANDAG as it plans for effective intermodal transportation facilities.
- Creation of new non-airline revenue opportunities.

The plan will also take into account new information from a recent passenger survey. The environmental review process for the draft plan will follow (2014-2016).”

**Blue Line Reconstruction Project** – “SANDAG, in coordination with the Metropolitan Transit System (MTS), Imperial Valley Transit, San Diego Trolley Inc. (SDTI), the City of Chula Vista, Caltrans, and San Diego Gas & Electric, is funding improvements to the San Diego & Arizona Eastern (SD&AE) South Line Railway.

The SD&AE Railway provides an essential connection for the region’s freight operations between the U.S.-Mexico border at San Ysidro, the Port of San Diego, and downtown San Diego. Through a series of improvements including rail and the replacement, signal enhancements, and construction of a new railroad bridge and new retaining walls, the South Line Freight Capacity project will enable freight to travel through the area by rail without interfering with San Diego Trolley service.

The project consists of improvements on the South Line (MTS Blue Line) in the City of Chula Vista, between J Street and the Otay River Bridge. The SD&AE South Line Rail Projects will enable expanded freight operations to meet existing and future growth of freight rail in the region. It is anticipated that this project, in conjunction with the San Ysidro Freight Rail Yard project, would divert about 31,000 trucks to rail annually by 2030.”

In addition to our technical endeavors, the San Diego Transportation group partners up with our counterparts at the American Public Works Association (APWA) to organize a summer social event. This year, our summer social will take place at Petco Park to cheer on our beloved San Diego Padres.

All of these events are sponsored by the various consulting engineering firms in San Diego such as Parsons, Moffatt & Nichol, Kimley Horn and Associates, Dokken Engineering, Geocon, Kleinfelder, Rick Engineering, CH2M Hill and TY Lin and, with the support of our esteemed participating members.



# Water Committee Hot Topics

by Xavier Irias, P.E., M. ASCE



With the current drought grabbing front page headline nearly every day as California faces a fourth consecutive dry year, the drought is shaping the discussion on a range of long-term issues ranging from climate change to endangered species protection to supply sustainability.

Many of us lived through the 1976-77 drought, which was exceptionally dry but thankfully short-lived as a wet 1978 decisively ended the drought. The current drought is by most measures more severe, and if it were to end today would still rank as one of the most severe in modern times. The drought has already shattered several records including that for the driest three-year period, surpassing even the driest years of the dust bowl era, and seems poised to topple even more records.

The current drought has prompted a strong response from government, with the second-ever declaration of a statewide drought emergency and unprecedented statewide mandatory conservation measures announced by the Governor on April 1 aimed at achieving a 25% reduction by municipal water utilities. Then on April 28 the Governor announced his intention to impose fines of up to \$10,000 for water waste.

Potentially complicating conservation efforts is a recent court decision published on April 20, by which the State's 4th District Court of Appeals found the City of San Juan Capistrano's tiered water rate structure, intended to promote conservation to be illegal based on Proposition 218. It's important to note that tiered rates can be legal, provided they are tied to the cost of service. Nonetheless the ruling has created confusion at an unfortunate time. As the Governor said in the aftermath of the ruling "The practical effect of the court's decision is to put a straitjacket on local government at a time when maximum flexibility is needed."

In addition to its impact on near-term water supplies the drought has focused attention on a host of pre-existing longer-term concerns such as groundwater depletion, water transfers, environmental and species protection, and climate change:

## Groundwater

California until very recently had the distinction of being the only western state without groundwater regulation. Last year initial groundwater legislation was passed to address sustainability, but its full effects won't be felt for many years. In the meantime, reports of wells going dry are increasing and well drillers are booked several months out.

## Water transfers

A number of pending bills in the legislature are aimed at easing the constraints on water transfers, based on the idea that water transfers particularly during a drought can lead to more efficient utilization of water statewide.

## Environmental and species protection

On April 7, DWR announced a new plan for the Bay Delta Conservation Plan (BDCP) which would separate the project's habitat restoration measures from the construction of new conveyance. Pundits on all sides of this controversial project are still digesting the impact of this move and possible impacts on the fate of BDCP.

## Climate change

As the drought continues, the question of whether the current drought is a portent of even more future extremes has gotten extensive coverage. Part of that discussion has involved a recognition that long, severe droughts are actually not new, based on analysis of paleo data such as tree rings.

In summary, it's been a very interesting year for water in California and the upcoming year promises more of the same.

*Xavier Irias, P.E., serves as the chair of ASCE Region 9's Water and Environment Committee.*

The U.S. Department of Energy, Wind and Water Power Technologies Office released Wind Vision: A New Era for Wind Power in the United States. National average wind costs remain above the national average for natural gas- and coal-fired electricity generation. However, "the Wind Vision analysis envisions new wind power generation costs to be below national average costs for both new and existing fossil plants within the next decade." The report explores one scenario in which wind could supply up to 35% of U.S. electricity by 2050, up from the current 4.5%.

The University of Michigan Transportation Research Institute released Road Safety with Self-Driving Vehicles: General Limitations and

Road Sharing with Conventional Vehicles. "Self-driving vehicles are expected to improve road safety, improve the mobility of those who currently cannot use conventional vehicles, and reduce emissions. In this white paper we discuss issues related to road safety with self-driving vehicles.

## Appointments

The Governor appointed:

To California Building Standards Commission: Raj Patel, Arcadia, assistant director of community development and city building official for the City of Beverly Hills.

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| Program  | State                 | City/State        |
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| Aluminum Structural Design with the 2015 Aluminum Design Manual —NEWLY UPDATED   | July 16–17, 2015      | Long Beach, CA    |
| Risk-Based Seismic Design and Evaluation   | June 25–26, 2015      | San Francisco, CA |
| Progressive Collapse Mitigation: Practical Analysis Methods and Proven Solutions | August 20–21, 2015    | Long Beach, CA    |
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