

Los Angeles Section

Monthly: Est. 1913

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PRESIDENT'S MESSAGE

John Rogers, P.E., F.ASCE
Los Angeles Section President

VOL. LVI NO. 6

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Bridges

I'm a committed bridge freak. I grew up in northeastern New Jersey, near the George Washington Bridge. As a kid, my Dad used to take me hiking, on our own or with our Boy Scout troop, up along the cliffs in Fort Lee and Englewood Cliffs (now all part of Palisades Interstate Park), where we had wonderful views of the Great Grey Bridge. A trail and scenic road led under the bridge, where I used to look up and marvel at the massive structure 212' overhead that so easily spanned the 3,500 feet over the grand Hudson River. I walked across the bridge many times, leaning over the handrail and experiencing the creepy feeling of extreme vertigo. On special occasions we drove into the City, paying the 50 cent toll. Today's auto toll is \$15; 18-wheelers pay an unbelievable \$126. Bikes were, and still are, free.

As a teenager, the bridge was a great date site, walking across or taking the Red-and-Tan or Public Service bus. From Washington Heights, a 15 cent A-Train subway ride led to many of Manhattan's numerous attractions.

New York has over 2,000 bridges, owned and operated by a half dozen agencies. Because of the City's geography, many of the bridges cross major waterways. When they were built, four of New York's major suspension bridges set world records for length; all have, of course, since been surpassed. But by their sheer size, unique locations, and unmistakable surroundings, all are instantly recognizable today. At the ASCE National Conference in New York last October, those attendees who rode the Circle Line boat tour around Manhattan were fortunate to get up close and personal with all of the bridges entering Manhattan Island.

Los Angeles may not have the waterways or history that New York has to justify its bridge inventory, but according to City-Data.com, we do have 2,292 bridges totaling almost 31 miles in length. Many of them are photogenic and have historical status; many have served as settings for feature film and television production. The highly visible Vincent Thomas Bridge, connecting Terminal Island with San Pedro, is our entry into the world of classic suspension bridges- but the stunning new cable-stayed Gerald Desmond bridge at the other end of Terminal Island will soon follow, establishing its own set of records. The \$1.5 Billion project, being constructed by a Joint Venture team of Schimmick Construction Company, Inc., FCC Construction S.A. and Impreglio S.p.A., is scheduled for completion in 2018. Additional design-build participants include Arup North America Ltd. and Biggs Cardosa Associates, Inc. The Vincent Thomas Bridge and both the old and new Gerald Desmond Bridges have full pedestrian and bicycle paths, so I will be able to continue my George Washington Bridge tradition.

Downtown LA and its surroundings aren't neglected in bridge inventory. The LA River has required the creation of numerous street, rail and freeway crossings, and even some very cleverly-designed pipeline crossings in the form of miniature suspension bridges.

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California Infrastructure Report Card: An Update

by Yazdan T. Emrani, P.E., M.ASCE, Past President, ASCE Los Angeles Section, Chair, ASCE Region 9 Infrastructure Policy Committee



It has been four years since the release of the 2012 California Infrastructure Report Card (CAIRC) and its estimated price tag of \$650 billion for California's total unfunded infrastructure needs over 10 years. While that price tag remains high and keeps increasing, there is a glimmer of good news to report. First, we have slowly, but surely climbed our way out of one of the worst economic depressions in recorded history. According to the

California's Legislative Analyst's Office (LAO) "The state budget is better prepared for an economic downturn than it has been at any point in decades." The LAO also projects that in this fiscal year that personal income tax revenue will exceed previous year's budget assumptions by \$3.6 billion.

California Proposition 1, the Water Bond, was on the November 4, 2014 ballot in California, and was approved by the voters. Proposition 1 authorized about \$7.12 billion in general obligation bonds for State water supply infrastructure projects, such as public water system improvements, surface and groundwater storage, drinking water protection, water recycling and advanced water treatment technology, water supply management and conveyance, wastewater treatment, drought relief, emergency water supplies, and ecosystem and watershed protection and restoration.

We are continuing to see job growth rate increases here in California and nationwide. Cities, counties, and other municipal agencies are finally shifting from "Maintenance" mode to "Rehabilitation and Renewal" mode.

However, we are playing a catch up game in regards to investment in infrastructure, and do need several more avenues of funding infusions to keep us in the game. In the past five decades, our capital investment has plummeted precipitously. In the 1950s and 1960s, California spent almost 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.

Much work needs to be done at both the local and State-wide levels to improve the grades reported in the Report Cards. To that end, there are efforts underway in several jurisdictions within Region 9 to update the local infrastructure report cards, and to see the "Post Recession" grades. These local efforts include updates to the San Diego County, Orange County, Humboldt County, and the Inland Empire infrastructure report cards. These local report cards give

us the best foundation and documentation for updating the statewide California Infrastructure Report Card, as Region 9 Report Card committee analyzes and utilizes the local results for developing an accurate and inter-connected state-wide report card.

Speaking of the CAIRC, we will be gearing up to start work on its next update in 2017, with a scheduled completion and release date in 2018.

A well-designed and maintained infrastructure anchors our economy and lifestyles and secures the public health and well-being. 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 infrastructure systems every day, and while their dependability and quality may be unobserved and go unnoticed, they are however significant contributors to our economic prosperity and quality of life. 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. Investment in infrastructure is therefore vital to our state's productivity, competitiveness and economic well-being.

Congestion on California's 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 is an effective step towards assessing and hopefully fully funding our infrastructure needs.

Lastly, a big task in securing infrastructure funding is to educate the public on the importance of infrastructure renewal, encourage colleagues in the public sector to continue the fight for infrastructure funding, and to actively communicate to elected officials the important role that infrastructure maintenance plays in our everyday lives. The Region 9 Infrastructure Policy committee is involved in all these efforts on behalf of California engineering, and we welcome all to be a part of this process.

For more information or to get involved in the 2018 update of the CAIRC please contact me at yemrani@carollo.com.



www.ascelasection.org

The River and its bridges have served as backdrops for music videos and films (remember Grease, Chinatown, L.A. Story, Point Break?), TV Shows (Southland) and video games (Grand Theft Auto, San Andreas). The Sixth Street Viaduct, a \$449 Million project to be completed in 2019, is the largest bridge project in the history of the City. Would anyone be surprised if it receives the Los Angeles Section's Bridge Project of the Year award for 2019? The Design team of HNTB and Michael Maltzan Architecture was selected through an international design competition.

Just to the Northeast, in Pasadena, we can enjoy the historic Colorado Street Bridge. With a span of 1,913 feet and concrete arches rising 150 feet above Arroyo Seca, it was the highest concrete bridge in the world when it was completed in 1913. The bridge bears an ASCE Landmark plaque. A little nostalgia: Construction took 18 months; cost, \$750,000. A more recent landmark, the Gold Line bridge over I-210 in Arcadia was designed in collaboration with public artist Andrew Leicester as Design Concept Advisor. Completed in 2012, the cost was the same as the original estimate for a more conventional transit bridge structure.

We can't overlook the accomplishments of CALTRANS. Although justifiably famous CALTRANS structures grace San Francisco and San Diego bays, our friends in Districts 5, 7, 8, 9 and 12 in the Southland tend to create more modest, functional structures. Many, like the pioneering downtown four-level interchange joining the 101 and 110 Freeways, or the numerous bridges we traverse east of downtown where the 101, 10, 5 and 60 freeways get all tangled up, are located in such tight quarters that we can't begin to appreciate their design and construction intricacies as we pass by at 60 MPH (they are admittedly a little more visible at 10 MPH during rush hour). Others, like the monumental viaduct connecting westbound Route 60 with westbound Route 91, are so long that it seems they ought to have their own rest areas. I marvel at the surveying skills necessary to construct these structures, built in segments, often curving horizontally and vertically, and also super-elevated, beginning and ending at points in space 80' or 100' above ground level. If you have a few minutes to spare the next time you're in Riverside, drive around the local streets near Spruce and Chicago and enjoy the view. While you're in the neighborhood, do the same in Corona around the I-15/Route 91 interchange.

How many of you enjoyed watching the mobile feast for engineering eyes that was constructed on I-215 in Grand Terrace last year, when six classic truss bridges – that's right, the same bridges that you detailed in your sophomore steel design class – were constructed on the edge of the freeway, then moved down the lanes, one at a time, on a Space-Shuttle sized transporter and jacked into place to carry four Union Pacific tracks over ten freeway lanes.

We mustn't overlook local efforts. Riverside County spent \$32 million dollars, starting in 2009, to replace the Van Buren Boulevard bridge over the Santa Ana River. Constructed by The Griffith Companies, the project was recognized by the San Bernardino – Riverside Branch as the outstanding bridge project in 2013. When the bridge was in the

falsework stage, the Contractor's and the County's forces put forth a heroic effort to protect the work from a strong flood that occurred during the winter of 2011-2012.

There have been many grade separation projects on local streets that are notable for their complexity and ingenuity. The Sand Canyon Avenue –Metrolink crossing in Irvine, Riverside's Magnolia Avenue – Metrolink/Union Pacific bridge, and the Euclid Avenue / Union Pacific crossings in Ontario are remarkable.

Bridge engineers are my idols. I envy the guys and gals at T.Y. Lin, PB World, HDR and other national firms with Southern California offices who get to work on some of these fascinating structures, while I'm plodding along on dirt quantities, boundary closures and the rest of the minutiae that makes up my work day. I admired our 2012 ASCE national President, Andy Hermann, who became an expert on moveable-span bridges at Hardesty & Hanover; in addition to his recognized expertise, he is also a really nice guy.

So take a detour from the freeway, turn off your cruise control, get out and under the bridges that are around you every day, and enjoy some of our more notable handiwork as Civil Engineers.

ARTICLE

Engineer's Notes

by W. Dean Davidson

W. Dean Davidson received his Architecture degree from University of Oregon, and has been working in the profession for over 50 years, in spite of numerous intrusions by Civil, Structural, Mechanical and Electrical engineers. At 86 years of age, he is still working and enjoying it. He is also able to take the time to enjoy other art forms, including skewering the bureaucracy, plan checkers, contractors and his engineering colleagues through his cartoons. This is the first of several cartoons that we will be featuring in this newsletter."



Structural Engineering Institute (SEI) - San Francisco Chapter

by Edward J. Thometz, P.E., M.ASCE, Area Bridge Maintenance Engineer (ABME), California Department of Transportation, Chair, SEI San Francisco Chapter



San Francisco Bay Area, California. – Established in October of 2014, with a unanimous approval by the ASCE San Francisco Section Board, we became the third SEI local chapter in California. I am privileged to report what our chapter has accomplished in the past year and a half. But before I delve into our chapter's accomplishments, I would like to give accolades to the individuals that have helped realize our chapter.

First and foremost, the success of any organization does not come without dedicated individuals at the helm. Our chapter has been fortunate to have an inaugural board of directors that are extremely dedicated to laying a strong foundation for our chapter to grow, and become a successful organization for the Structural Engineering Institute of ASCE. With that, I'd like to call out these individuals:

Vice-Chair: Phoebe Cheng, PE - Principal Engineer and Project Manager at SC Solutions

Secretary: Zhaoshuo Jiang, PhD, PE, LEED AP - Assistant Professor at San Francisco State University

Marketing Director: Vladimir Calugaru, PhD - Project Engineer at InfraTerra

Technical Director: Brian Kehoe, PE, SE - Structural Engineer with Wiss, Janney, Elstner Associates, Inc.

Technical Director: Herbert Birlhelmer, PE - Runs an engineering firm, specializing in structural engineering design for residential and commercial projects

Treasurer: Mark Bird, PE - Structural engineer specializing in curtain wall and cladding systems for commercial buildings

Webmaster: Ian Prowell, PhD, PE – Engineer within the civil engineering group at DNV GL

Inter-Organization Director: Anna Teplitskaya - Design Engineer at FTF Engineering, Inc.

I encourage you to visit our website (www.seisf.org) and read the detailed bios of this diverse and talented group of engineers.

Secondly, I'd like to thank our ASCE San Francisco Section board of directors, local branches, and other institutes for the guidance and the monetary support. Their actions have shown that ASCE's specialty institutes are a critical component of an ASCE section to provide members access to technical, educational, and professional resources in specialty areas. I would also like to thank the SEI Local Activities Division (LAD). The LAD's proactive support through sponsoring events such as the annual SEI Local Leaders Conference, has provided me a pathway to learn about new initiatives, best practices, and insights from other local chapters and groups.

Inaugural Dinner and Technical Presentation

In November 2015, the chapter held its Inaugural Dinner and Presentation event. Terrence Paret, Senior Principal with Wiss, Janney, Elstner Associates, Inc., presented on the post-earthquake damage, repair, and seismic vulnerability assessment of the Washington Monument, which is the tallest unreinforced masonry structure in the world. More than 40 attended and the mood of the evening was really great; many folks networked, enjoyed the social hour and dinner, and of course a great presentation. The follow-up participant survey results were very positive.

ATC-SEI Conference

In December 2015, the 2nd Conference on Improving the Seismic Performance of Existing Buildings and Other Structures was held. It was a joint conference organized by the Applied Technology Council (ATC) and SEI that included case studies, emerging and innovative uses of new technologies and materials, standards and codes issues, and performance-based design methods. With the conference venue in San Francisco, our chapter not only had the convenient opportunity to attend, but were also fortunate to be asked by the SEI Director, Laura Champion, to assist with their exhibit booth. Having a presence at the SEI booth provided us a great opportunity to meet local structural engineers and inform them about our SEI local chapter.

Joint Event with the Structural Engineering Association

To kick off 2016, our chapter had a joint social networking event at Tonic Bar in San Francisco with SEAONC YMF. The two organizations enjoyed "building bridges" between SEI and SEA in a social setting. Three members from SEI SF, and three from SEAONC YMF bartended, making the event even more unique. The outcome was very rewarding for both organizations.

Joint GI and SEI Congress

In February 2015, the Geo-Institute (G-I) and SEI came together to create this first-of-its-kind event. Our chapter Vice- Chair, Phoebe Cheng, represented us at the congress in Phoenix, AZ. By combining the best of both Institutes' annual conferences into one unique conference, there were unique networking opportunities with colleagues within and across two tightly woven disciplines. To quote Phoebe, "...Structural and geotechnical engineers often work independently from each other. There's a gray area where the two disciplines meet, and the engineering challenges from both disciplines need to be addressed at the same time. It's so wonderful that in this conference we get to meet so many people who deal with these two disciplines simultaneously and to learn from each other..."

PEER Earthquake Simulator Lab Tour

In March 2016, our SEI chapter had the opportunity to tour the Pacific Earthquake Engineering Research (PEER) Center. Over lunch provided by the center, PEER-UC Berkeley Lab Manager Clément Barthès, Ph.D, gave a presentation on wireless remote sensors to

monitor bridge dampers. Led by Clément, the group of thirty SEI professionals and engineering students got to see the high capacity (4 million pounds) universal testing machine (UTM) and learned how experimental testing is conducted via watching a demonstration of a damper testing machine. The tour included a visit to the outdoor yard that features specimens from past testing programs. There was also a historical overview of the lab and the digital library provided by Chuck James, the NISEE librarian.

Looking Forward

Our Mission is "Serve and promote the structural engineering profession within the San Francisco Bay Area in a manner consistent with the purpose of the Structural Engineering Institute (SEI) of the American Society of Civil Engineers (ASCE)."

Our Vision is "Inspire and advance the art and practice of structural engineering, develop and implement programs to enhance knowledge exchange, networking, and other professional development and educational outreach activities."

Looking ahead in the coming months, we already have plans for dinner presentations, tours, and student outreach. We are making steady progress towards serving the needs of our members, and becoming an integral part of the local ASCE community.

For more information or to get involved with SEI-San Francisco Chapter, please contact me at ed.thometz@dot.ca.gov

Waterways, Harbors & Coastal Engineering Technical Group

by Jose Hernandez, P.E., Chairman, KPFF Consulting Engineers



The Waterways, Harbors and Coastal Engineering Technical Group of the Los Angeles Section, is one of eight Professional Chapters of ASCE's Coasts, Oceans, Ports and Rivers Institute (COPRI), and also serves as a local group of the International Navigation Association (PIANC-AIPCN). The local group, formed in December 1957, was established to advance knowledge in technical fields related to waterway, port and harbor development. Since its inception the

group has incorporated the broader field of Coastal Engineering. Membership includes scientists and engineers from both the public and private sectors, including employees of the Ports of Long Beach and Los Angeles along with other agencies. Group officers include a Chair, Vice-Chair, Treasurer and Secretary; it has been customary to have at least one representative from each of the two major ports on the Board at all times, so that both Ports are always adequately represented.

San Pedro Bay, including the Ports of Los Angeles and Long Beach, is the busiest port facility in the US, and the fifth largest in the world, making it a vital commercial engine for the U.S. economy. The Technical Group members play a critical role in the continued success of this economic giant by providing infrastructure support and project design. Members continue to play a key part in planning, design and construction of facilities in both ports. With the rapid and continuing evolution of the shipping industry through containerization and through the unprecedented increase in the size of container ships, the ports have had to work hard to keep up with the industry; COPRI members have been involved every step of the way.

The group typically meets every other month, with dinner venues alternating between San Pedro and Long Beach to accommodate

members who live and work in both Los Angeles and Orange Counties. Alternating between the two areas also demonstrates our strong affiliation with the two port agencies. With about 150 active members, 40 members can usually be expected at technical dinner meetings. One of our goals is to increase attendance, possibly by varying the types of meetings to include more site visits as well as school outreach events to promote engineering and the sciences. We will consider future fundraising events so that we can offer scholarships for disadvantaged students.

Past meetings have covered a broad range of topics, both technically and geographically. Presentations have been given on sites all along the West Coast, from San Diego to Seattle, and have even ventured to the Middle East with a presentation on the design of a bridge in Turkey. Topics have ranged from sustainability to the structural analysis of waterfront structures.

A recent presentations was a structural overview of the design of the Port of Tacoma's reconfiguration of Pier 4. In March we were honored to host Mr. Mario Cordero, the Chairman of the Federal Maritime Commission, who gave us his thoughts on sustainability and port productivity. Chairman Cordero was right at home with COPRI Los Angeles; he was born in Los Angeles, raised in Gardena, and attended Cal State Long Beach. He was one of the most engaging and entertaining speakers we have had, and we intend to have more speakers of his caliber.

COPRI Los Angeles is diverse yet friendly and welcoming. Please join us at one of our regular meetings.

Jose Hernandez, P.E., Chairman
KPFF Consulting Engineers
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State Investments and Legislative Update

by Richard Markuson, CA Region 9 Legislative Advocate



The State Legislature is in month six of its 2016 session, and many infrastructure issues – including the transportation special session – are still pending. The Legislature did pass a bi-partisan compromise on healthcare which leads some to believe a deal on the Governor's transportation plan might be close at hand. The Fix Our Roads Coalition held a rally at the State Capitol on May 19th in conjunction with an industry press conference.

Because of this lack of resolution, the California Transportation Commission will be forced to eliminate three quarters of a billion dollars in project work already programmed for the upcoming 2016 STIP because of declining revenues. Further, cities and counties have faced a similar reduction in revenues over the past few years and are eliminating important maintenance projects around the state. It remains to be seen if this will produce the necessary momentum to pass a new transportation package in California.

Assembly Member Rudy Salas has gutted AB 453 – a Bigelow bill on groundwater management – to authorize the Semitropic Water Storage District to impose fees and collect groundwater extraction information. This bill would authorize the district to impose fees on the extraction of groundwater from the basin to fund the costs of groundwater management and to require reporting of groundwater extractions. This bill would authorize the district to exercise these powers and authorities until a groundwater sustainability plan has been adopted for the area encompassing the district. He made the bill an urgency measure meaning he will need 2/3 vote in both houses to pass.

The Assembly Natural Resources Committee killed AB 1586 by Assembly Member Mathis that would have granted special CEQA protection to action or proceeding challenging the Temperance Flat Reservoir. In 2011, AB 900 (Buchanan) and SB 292 (Padilla) established expedited CEQA judicial review procedures for a limited number of projects. For AB 900, it was large-scale projects meeting extraordinary environmental standards and providing significant jobs and investment. For SB 292, it was a proposed downtown Los Angeles football stadium and convention center project achieving specified traffic and air quality mitigations. For these eligible projects, the bills provided for original jurisdiction by the Court of Appeal and a compressed schedule requiring the court to render a decision on any lawsuit within 175 days. AB 900's provision granting original jurisdiction to the Court of Appeal was invalidated in 2013 by a decision in the Alameda Superior Court in *Planning and Conservation League v. State of California*. The stadium project subject to SB 292 has not proceeded. In 2013, SB 743 (Steinberg) established special CEQA procedures modeled on SB 292 for the Sacramento Kings arena project. Like SB 292, SB 743 applied to a single project

and included specified traffic and air quality mitigations. SB 743 included a provision limiting injunctive relief which is nearly identical to the provision in this bill. Alas, water storage is less important than a basketball arena – so no-go for AB 1586. Mathis also authored AB 1589 that would, for the duration of a state of emergency proclaimed by the Governor due to drought conditions, have exempted from the requirements of CEQA certain projects that are undertaken, carried out, or approved by a public agency to mitigate those drought conditions. This bill died without a hearing as did his AB 1590 that would have added an additional 4 members to the State Water Resources Control Board appointed by the Legislature.

Assemblyman Kevin McCarty's AB 1886 that changes the current CEQA exemption for transit priority projects meeting certain requirements, is stalled in Assembly Natural Resources.

Assembly Member Ling-Ling Chang's AB 1925 that would establish goals to desalinate drinking water per year by the years 2025 and 2030 is moving with bi-partisan support.

Senator Richard Roth is author of SB 1085 that will require licensees under the BPELSG, upon renewal of their license, to complete a board-administered online assessment to reinforce their knowledge of laws applicable to their practice area. It provides that failure to complete the assessment within the allowed timeframe is cause for disciplinary action but provides that failure to complete this assessment does not prohibit renewal.

Senator Cannella's SB 1099 that would have expanded the definitions of civil engineering and land surveying to include laying out through the use of mathematics or geometric measurements the alignment or elevation for specified items, determining the configuration or contour of the benthic surface below water bodies or the measuring for volumetric calculations of earthwork, as specified, and making specified determinations by applying the principles of remote sensing has died. His other bill – SB 1165 – that extends the delinquent license reinstatement timeframe of a professional engineer and land surveyor's license from three to five years after the expiration of the license – is moving and is in the Assembly.

Senator Jerry Hill amended his SB 1195 to grant authority to the Director of the Department of Consumer Affairs (DCA) to review a decision or other action, except as specified, of a board within the DCA (like BPELSG) to determine whether it unreasonably restrains trade and to approve, disapprove, or modify the board decision or action.

Appointments

To California Transportation Commission: **Lucy Dunn** (reappointed), Coto de Caza, President of Orange County Business Council

Recent Reports

The **Legislative Analyst's Office** released Options for Funding Water-Related Activities. This brief reviews existing funding for water-related activities, cost pressures and funding challenges, important

considerations around water funding options, and identifies key legislative options to increase funding for water-related activities. State-level options include regulatory fees, polluter charges, a water use tax, a broad special tax, or an increase to General Fund spending levels. Local-level options include water related fees or differential water rates via constitutional amendment.

The **United States Geological Survey** (USGS) released its first-ever short-term forecast of the potential risks over the next year in the central and eastern United States from natural earthquakes, as well as induced earthquakes brought on by human activity. The report documents concerns that one cause of induced seismicity may be underground injection of wastewater. The report predicts

that portions of Kansas and Oklahoma have a 5 to 12% chance of experiencing a damaging earthquake in 2016 and that 7.9 million people live in areas of the United States with increased risks of induced seismicity.

TomTom released **TomTom Traffic Index: Measuring Congestion Worldwide**. The navigation products company TomTom has released their 5th annual Traffic Index, providing detailed congestion statistics for 295 cities across 38 countries. Los Angeles was ranked as the 10th most congested city in the world, and was the only US city to make the top 10. San Francisco and San Jose were also marked as highly congested, and all three were in the top 5 of congested US cities.

ARTICLE

Region 9 Water Committee Hot Topics

by *Xavier Irias, P.E., M.ASCE, Chair, ASCE Region 9 Water and Environment Committee*



On March 30, 2016, the California Department of Water Resources (DWR) announced snow pack of essentially average for that time of year. This result was a far cry from the same time last year, when a dismal snowpack holding only 5% of average prompted Governor Brown to declare 25% mandatory statewide conservation as a fourth year of drought continued. Water storage is also showing a strong rebound, with the two largest reservoirs in the state, Shasta

and Oroville, both above average for this time of year.

Despite the good news, DWR's optimism about the State's water outlook has been tempered with caution, given that nearly the entire state remains in drought accordingly the U.S. Drought Monitor. Frank Gerhke, chief of the California Cooperative Snow Surveys Program, said "While for many parts of the state there will be significant gains in both reservoir storage and stream flow, the effects of previous dry years will remain for now."

On May 18, the State Water Resources Control Board is expected to modify the emergency regulations put in place last year and most recently extended on February 2. In the meantime, water agencies in the state face a variety of circumstances, with the outlook generally better in the north due to a series of winter and late spring storms. Some reservoirs are so full they're on track to overflow, even as other parts of the state continue to struggle. As the State and water agencies plan for next season, they are also weighing reports that next year may be a "la Niña" year – which would correlate with lower-than-average levels of precipitation for southern California especially.

Whatever happens next, the last four years have been instructive. On the one hand, the drought's duration at four years showed that the State needs to be prepared for lengthy dry periods. On the other

hand, the huge success of conservation efforts – the 25% rationing goal was essentially met – signaled that water users are engaged and willing to aggressively conserve.

At this point, it appears that we are indeed headed out of the drought, albeit potentially at different rates in different places. The post-drought period will pose financial challenges to some water agencies, owing to the success of conservation measures, and with that success, a decline in revenues.

Beyond its immediate impacts, the drought focused attention on a host of pre-existing longer-term concerns such as groundwater depletion, water transfers, environmental and species protection, and climate change.

If you would like to learn more about the activities of the Region 9 Water & Environment Committee, please contact me at xavier.iriass@ebmud.com

LA Section Editor is USEPA Adviser

Dr. Cris B. Liban, P.E., LA Metro's Executive Officer, Environmental Compliance and Sustainability was recently appointed by US Environmental Protection Agency (USEPA) Administrator Gina McCarthy to serve on the National Advisory Council for Environmental Policy and Technology (NACEPT). Council members provide independent advice to the EPA Administrator on a broad range of environmental policy, technology and management issues. Dr. Liban serves a two-year term from April 25, 2016 through April 25, 2018. NACEPT helps EPA gain broad points of views from a diverse range of interest groups that would otherwise be unavailable to the Agency; and provides a cost-effective and efficient forum that can quickly respond to continually evolving policy challenges.

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