

Los Angeles Section

Monthly: Est. 1913

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PRESIDENT'S MESSAGE

Kathereen Shinkai, P.E., M.ASCE
Los Angeles Section President

VOL. LVII NO. 3

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BE PREPARED!



With all the earthquakes happening around the world and the multiple storms here in Southern California it's a good reminder that natural disasters are imminent. Whenever there is a disaster, we all tend to think about our preparedness for these situations. Even if we have not been in a disaster situation in the past, we can't depend on luck to avoid the possibilities. I thought this month would be a good time to do a quick review of things that can be done to ensure the safety of ourselves and our loved ones should a natural disaster happen. I published this article back in 2010, but I think it

is always important to be prepared. We have had a very raw look at what earthquakes can do to places such as Haiti and Northridge. For the last few years, scientists have concluded that the likelihood of California having an earthquake of magnitude 6.7 or larger is 99% and in Southern California having an earthquake with a magnitude of 7.5 and greater is 46% within the next 30 years. We've heard these warning for many years, but it is a very real possibility that a "Big One" may just be around the corner. Below are five quick things you can do to be prepared in the event of an earthquake.

1. Check for Hazards in the Home

- Hang heavy items such as pictures and mirrors away from beds, couches, and anywhere people sit.
- Fasten shelves or any heavy object that can fall over securely to walls.
- Store breakable items such as bottled foods, glass, and china in low, closed cabinets with latches.
- Secure your water heater by strapping it to the wall studs and bolting it to the floor.
- Repair any deep cracks in ceilings or foundations. Get expert advice if there are signs of structural defects.

2. Identify Safe Places Indoors and Outdoors

- Under sturdy furniture such as a heavy desk or table.
- Away from areas where glass could shatter such as windows, mirrors, pictures, or where heavy bookcases or other heavy furniture could fall over.
- In the open, away from buildings, trees, telephone and electrical lines, overpasses, or elevated expressways.

3. Educate Yourself and Family Members

- Contact your local emergency management office or American Red Cross chapter for more information on earthquakes.
- Teach children how and when to call 9-1-1, police, or fire department and which radio station to tune to for emergency information.
- Teach all family members how and when to turn off gas, electricity, and water.

continued on page 3



Environmental & Water Resources Institute (EWRI) Overview

by Ziad Mazboudi, P.E., F. ASCE, D. WRE, Los Angeles Section Secretary



Advancing Water Resources and Environmental Solutions to achieve a Sustainable Future

The Environmental and Water Resources Institute (EWRI) is an organization whose membership is comprised of professionals engaged in multi-disciplinary water resources and environmental engineering and science and who volunteer to advance the objective of EWRI. It is one of nine technical institutes within the American Society of Civil Engineers (ASCE). EWRI's vision is to be a recognized leader in the environmental and water resources professions and to integrate technical expertise and public policy into the planning, design, construction and operation of environmentally sound and sustainable infrastructure impacting air, land, and water resources.

EWRI is a specialty organization with approximately 26,000 members strong within ASCE. EWRI membership is open to both engineers and non-engineers, inviting a diverse group of environmental and water resource professionals to get their feet wet with EWRI.

Membership comprises:

- Hydrologists
- Biologists
- Academicians
- Researchers
- Attorneys
- Other professionals involved in "wet and environmental" projects and research.

ASCE/EWRI Membership

Membership in EWRI is open to all ASCE members. New ASCE members can opt to name EWRI as their primary institute during their ASCE membership enrollment period and will receive membership at no added cost. An additional annual fee of \$30.00 will be charged if EWRI membership is selected at a level other than first choice.

Members include professionals whose focus areas are:

- the Environment
- Groundwater
- Surface Water
- Hydraulics and Waterways
- Irrigation and Drainage
- Planning and Management
- Urban Water Resources
- Water Supply, Wastewater, and Storm Water
- Watershed
- Domestic and International Interdisciplinary Issues.

Student membership is open to full-time students with an expressed interest in the environmental or water resources field of practice.

Organizational membership is available for associations, government agencies, educational institutions, or corporations whose activities impact the environment and water resources fields of practice.

The objectives of EWRI are to provide for the technical, educational and professional needs of its members, and to serve the public in the use, conservation, and protection of natural resources and in the enhancement of human well-being by:

- Advancing the knowledge and improving the practice of engineering and the related sciences;
- Lending expertise to the development of public policy, and;
- Partnering with governmental, industrial, educational and other organizations.

The responsibility to provide leadership to accomplish these goals and to ensure the professional quality of EWRI products rests with the technical and operations councils and committees.

Your Career with EWRI

Early Career:

Whether you are a student eager to start your engineering career, or a new professional who wants to expand your knowledge and leadership skills, your EWRI Membership provides you with network opportunities as well as access to technical information. You can:

- Enroll in the ASCE P.E. Exam Review course to help you earn your first career milestone through expert-led webinars (also available for download at no additional cost).
- Join your local EWRI chapter to build your professional network.
- Submit a paper to the EWRI student competition.

Mid-Career:

Your EWRI Membership can help you further your career in any stage. As a mid-career professional, you can:

- Gain visibility by publishing articles or showcase your expertise by presenting at EWRI conferences and publications.
- Join any one of EWRI's 100+ technical and administrative committees.
- Advance your professional development through continuing education.

Late Career:

Showcase your expertise by earning certifications from allied organizations such as the American Academy of Water Resources Engineers (AAWRE) and the American Academy of Environmental Engineers (AAEE).

Stand out and be recognized for your accomplishments with EWRI honors and awards.

Stay involved by:

- Becoming an EWRI Fellow
- Join Engineers Without Borders.

For more information, please visit www.asce.org/ewri

4. Have Disaster Supplies on Hand

- Flashlight and extra batteries.
- Portable battery-operated radio and extra batteries.
- First aid kit and manual.
- Emergency food and water for three to five days.
- Nonelectric can opener.
- Essential medicines for at least three to five days.
- Cash and credit cards.
- Sturdy shoes.

5. Develop an Emergency Communication Plan

- In case family members are separated from one another during an earthquake, you should develop a plan for reuniting after the disaster.
- Ask an out-of-state relative or friend to serve as the "family contact." After a disaster, it's often easier to call long distance and make sure everyone in the family knows the name, address, and phone number of the contact person.

There are many websites that discuss what you should prepare for. Take this time to make sure that you and your family have the minimum prepared and can react accordingly. In addition to earthquakes, the recent storms here in California have been unusually intense and occur more frequently. We have had flashfloods, mudslides, high coastal surf, stream and creek flooding, snowstorms, and even tornado warnings. This has caused property damage, some of which could have been minimized. Below are four things to prepare for a storm:

1. Have a supply

- The same supply you have for your earthquake will be more than appropriate for a severe storm.
- Keep your automobile fueled. If electric power is cut off, filling stations may not be able to operate. Keep materials like sandbags, plywood, plastic sheeting, and lumber handy for emergency waterproofing.

2. When You Receive a Storm Warning

- If flooding is likely, and time permits, move essential items and furniture to upper floors of your home.
- If advised to leave your home, move to a safe area before access is cut off by flood water. Don't wait until it's too late. Leave a note telling friends or relatives where you are going.
- Before leaving, cut off all electric circuits at the fuse panel by pulling the main switch, or disconnect all electrical appliances. Shut off the gas service at the valve next to the meter, and turn off the water service at the main valve.
- Move vehicle in flood areas to higher ground.

3. During the Storm

- Avoid areas subject to flooding, which have hidden dangers such as open manholes and toxic substances which could cause infections.
- Do not try to drive over a flooded road. You could be stranded and trapped.

- If your vehicle stalls and water is rising quickly, abandon it immediately seek higher ground. Many people drown while trying to rescue their cars. You hear this too often.
- Do not "sightsee" in areas where flooding or snowfall is occurring.
- Avoid unnecessary trips. If you have to travel during the storm, dress warm and be sure your family and friends know where you are going.
- Use the telephone only for family emergency needs or to report dangerous conditions.
- Beware of power lines that are down or broken gas lines. Report them immediately to the proper agencies, police or fire department.
- Keep tuned in to one of your local radio or television stations for emergency information.

4. After the Storm

- If you turned off the gas, do not turn it on yourself. Rely on your gas company to turn it on for you.
- Do not visit disaster areas. Your presence will probably hamper rescue and other emergency operations. Do not handle live electrical equipment in wet areas. If electrical equipment or appliances have been in contact with water do not use them until local authorities tell you they are safe.
- Use flashlights, not lanterns or matches to examine buildings; flammables may be inside.
- Report broken utility lines to police, fire or public utilities authorities.
- Continue to avoid power lines that are down and stay away from gas lines.
- Stay tuned to local radio or television for vital information.

The above tips seem relatively self explanatory, however, many people are not prepared and act irrationally when faced with dangerous situations. As civil engineers, we can help our community by publishing a special section in our local newspapers detailing emergency information. We can work together in our communities to apply our knowledge of building codes, retrofitting programs, and neighborhood and family emergency plans.

As you know, the LA Section is always urging Branches to do a big push towards Disaster Preparedness and Branches have done several seminars on Post Disaster Safety Assessment Program (SAP) Training. SAP was developed to meet the local government building departments during an emergency by providing engineers, architects, and building inspectors to assist with safety evaluations. Our company recently did a SAP Training, and we all learned the importance of needing people who can evaluate structures for continued occupancy. By quickly being able to evaluate the occupancy, we can reduce the demands on homeless shelters and shelter capacity needs. The LA Section will try to organize more of these seminars so we can educate our members on how we can help should a disaster occur.

State Investments and Legislative Update

by Richard Markuson, CA Region 9 Legislative Advocate



The Legislature is back to work as the bill introduction deadline (February 17) approaches.

ASCE is supporting **AB 28** (Frazier D) – an urgency measure – that would reinstate California's participation in the Surface Transportation Project Delivery Pilot Program (later called the NEPA Assignment). This pilot program designated California as one of five states eligible to participate in a multi-

year program that delegates responsibilities of U.S. DOT and the United States Federal Highway Administration (FHWA) under NEPA to the states. States participating in the program would be subject to the same procedural and substantive requirements as if the NEPA requirement were carried out by U.S. DOT. The delegation of this authority to the state made Caltrans the lead agency for environmental reviews for projects subject to NEPA. To participate in NEPA Assignment, states were required to accept the financial costs associated with the delegated authority, as well as full liability for lawsuits filed under NEPA in federal court. Therefore, in order to participate, states were required to obtain a limited waiver of their 11th Amendment sovereign immunity, thereby allowing them to be sued in federal court and providing them the ability to defend against claims that may be brought against the NEPA document. The purpose of NEPA Assignment was to streamline the environmental review process and get projects delivered more quickly to the traveling public. The Assembly Transportation Committee passed the bill on a 13-0 vote. It now goes to Appropriations and hopefully to Governor Brown by March to preclude a lengthy reapplication process for California.

AB 161 (Levine D) would authorize the Department of Finance to identify infrastructure projects in the state for which the department will guarantee a rate of return on investment for an investment made in that infrastructure project by the Public Employees' Retirement System. The bill would create the Reinvesting in California Special Fund as a continuously appropriated fund and would require the moneys in the fund to be used to pay the rate of return on investment.

SB 193 (Cannella R) is a spot bill to modify the Sustainable Groundwater Management Act, which requires all groundwater basins designated as high- or medium-priority basins by the Department of Water Resources that are designated as basins subject to critical conditions of overdraft to be managed under a groundwater sustainability plan or coordinated groundwater sustainability plans by January 31, 2020, and requires all other groundwater basins designated as high- or medium-priority basins to be managed under a groundwater sustainability plan or coordinated groundwater sustainability plans by January 31, 2022.

Governor's Appointments

Christine Inouye, of Sacramento, has been appointed deputy secretary for project management and implementation at the California State Transportation Agency. Inouye has served as capital contracts procurement manager at the California High-Speed Rail Authority since 2016. She was a project manager at the California State Transportation Agency from 2014 to 2016. Inouye served in several positions at the California Department of Transportation from 1989 to 2014, including high-speed rail coordinator, management liaison to the chief engineer, project manager and supervising transportation engineer.

Recent Reports

Brookings published *Growth, Carbon, and Trump: State Progress and Drift on Economic Growth and Emissions 'Decoupling'*. "In all, 33 states and the District of Columbia achieved reductions in emissions while expanding their economies between 2000 and 2014.... Nine of 12 [states with the largest emissions reductions] still recorded real GDP gains exceeding 15%. Another 22 states also managed to cut emissions between 2000 and 2014 but did so at a slower rate. Cutting emissions did not appear to hinder steady economic growth. Over the 14-year period, all but two states—Michigan and Maine—recorded real GDP gains exceeding 10%.... [G]iven the policy reversal at the federal level, states will play an increasingly important role in combating climate change."

Pacific Institute released *Drought and Equity in California*. "The report finds that during the state's ongoing drought, water shortages and price hikes affected access to safe, affordable water for Californians, with substantial impacts on low-income families and communities burdened with environmental pollution. The report also examines the effects of a rapidly declining salmon population on commercial and tribal fishermen and finds that the decline and variability of salmon populations during droughts has impacted those dependent on the fish for income, food, and cultural traditions."

The **Legislative Analyst's Office** has released a series of posts on federal spending in California, estimates "total federal expenditures in California are around \$368 billion," corresponding to federal payments of "approximately \$9,500 per person in the state," also notes the state "receives \$0.99 in federal expenditures per dollar of federal taxes paid," which is "somewhat below the national average of \$1.22."

The **Legislative Analyst's Office** has released its report, "*The 2017-18 Budget: Overview of the Governor's Budget*," says "the Governor's estimate of personal income tax growth in 2017-18 is probably too low," and "as a result, by the May Revision, the state could have more General Fund revenue than the Governor now projects, but much of that revenue would be required to go to schools and Proposition 2 reserves and debt payments;" also says while facing uncertainties about the future of the economy and federal policy, it recommends

that the Legislature “set a target for total state reserves at—or preferably above—the level the Governor now proposes.”

CA Dept. of Water Resources has released report, “*Water Available for Replenishment*,” analyzing available water resources to bring local groundwater basins “into sustainable balance” under the Water Action Plan, finds “water scarce to recharge groundwater basins,” but also that “water may be available through conservation, recycling, desalination water transfers and other water management strategies.”

CA Natural Resources Agency, Dept. of Food and Agriculture and Cal/EPA have released their report on California Water Action Plan’s progress in 2016, say achievements include “the investment of hundreds of millions of dollars of Proposition 1 funds in local projects that recycle water, improve farm irrigation water efficiency, capture stormwater and otherwise stretch and safeguard supplies,” launching “dozens of habitat restoration projects around the state” and “creation of a five-agency framework for moving California beyond emergency, one-size-fits-all drought restrictions on water to permanent water-use efficiency standards.”

Central Valley Flood Protection Board has released a draft of its 2017 update of the Central Valley Flood Protection Plan, a blueprint to improve flood risk management in the Central Valley prepared

in conjunction with the Department of Water Resources; it lists the state’s investments in flood management since 2012 when the first plan was approved by the board, with updates required every five years; this one includes strategies to integrate flood management with ecosystem restoration per the Governor’s California Water Action Plan; public hearings on the plan begin Feb. 9 in Marysville and the board is expected to consider final draft in June.

State Water Resources Control Board has released its report on water conservation by urban districts during the month of November, finds districts used 18.8 percent less water compared to November of 2013, also says, “since June 2015, 2.35 million acre-feet of water has been saved – enough to supply more than 11 million people, or more than one-quarter of the state’s population for a year.”

Legislative Analyst’s Office has released an update on spending related to bonds approved by voters in 2006 that allocated \$42 billion for transportation, housing, K-12 and higher education, flood control and natural resources, “the biggest single approval of bonds in state history,” says 10 years later, agencies have expended “about \$36 billion – 84 percent – of the total amount authorized,” notes “variety of reasons” for expenditure lag including “coordination with other entities,” complexity of projects funded and multiple funding all locations.

Bi-Monthly Board Meetings



Day:
First Thursday
of every other month

Time:
6:00 pm

Location:
OCTA
550 S. Main St.
Santa Ana, 92868

Everyone is welcome

5 Reasons *Dream Big* Matters

The *Dream Big* dream has been more than a decade in the making.

But the wait is nearly over. In little more than a month, *Dream Big: Engineering Our World* debuts in museums and theaters around North America. The giant-screen film, presented by Bechtel and produced by MacGillivray Freeman Films in partnership with ASCE, is a game-changer for the engineering profession.

Here is a primer for engineers – five reasons *Dream Big* matters:

Showing the essential contributions of engineering

Engineers don't need a reminder that their contributions are vital to society. They live it.

The average person, on the other hand, may not be aware just how important a role engineering plays in their everyday life.

"I genuinely believe it's the greatest time in history to be an engineer," said Steve Burrows, P.E., CP, one of the world's foremost structural engineers and a star of the *Dream Big* film. "There's a perception that engineering's a dull profession. I don't know how that happened. It's just not true."

Dream Big, by highlighting engineering superheroes like Burrows, explodes that perception.

The power of narrative

Dream Big brings the facts and figures behind engineering to life by telling the stories of the engineers.

"MacGillivray Freeman have a rep – and deservedly so – of making films with a human storyline woven in," said Van Reiner, president and CEO of the Maryland Science Center in Baltimore, which will begin showing *Dream Big* Feb. 17. "They have done an outstanding job in this case showing engineers solving problems. I think that's what we have to get across to the students – engineering is all about solutions."

Inspiring engineering's next generation

It might sound like a conspiracy except the plan is out in the open for everyone to see. *Dream Big* aims to inspire a generation of young students to get excited about engineering.

"I think this movie will help a lot to bring younger kids, younger women, and people with diverse backgrounds into engineering, showing them that they can do it too," said Menzer Pehlivan, Ph.D., P.E., another of the film's featured engineers. "We need to raise awareness so that we can grab those brilliant minds and show them that through engineering they can change the world."

Putting the spotlight on successful women in engineering

The numbers don't lie.

Women made up only 15.1 percent of the engineering workforce in 2015, according to a report by the Bureau of Labor Statistics and the Engineering Workforce Commission.

Dream Big puts several female engineers on screen, giving them a chance to share their stories and giving girls a chance to imagine themselves in the same role someday.

"I believe that every young woman and girl should understand that they can do this," said Avery Bang, EI, whose work with Bridges to Prosperity is highlighted in the film. "This is not only for men, this is not only for a certain class of people, it's not only for people whose parents or uncles or grandfathers were engineers. Engineering is very accessible, and I think that accessibility can build belief."

More than just a film

Dream Big is more than a movie; it's a movement.

All of the aforementioned pieces – the education, the inspiration – are incorporated into a variety of companion educational materials so that families and students can further explore their excitement for the film.

"It's more than just a 40-minute movie," said Burrows. "It will live on, and you can find out more and more depending on how deep you want to go with all the supporting materials that will go into schools."

Find more than 50 *Dream Big* hands-on activities, ten webisodes, 12 lesson plans, and three design challenge exhibits.

ASCE has led the *Dream Big* initiative with Bechtel, the ASCE Foundation, NCEES, UEF, and a coalition of engineering organizations. Stay up-to-date on the latest *Dream Big* updates.



From the Academy Award® Nominated Producers of **EVEREST** and **THE LIVING SEA**

MACGILLIVRAY FREEMAN'S

DREAM BIG

ENGINEERING OUR WORLD

A HEARTFELT STORY OF HUMAN INGENUITY

A MACGILLIVRAY FREEMAN FILM "DREAM BIG" PRODUCED IN PARTNERSHIP WITH AMERICAN SOCIETY OF CIVIL ENGINEERS PRESENTED BY BECHTEL CORPORATION
EDITED BY STEPHEN JUDSON AND JASON PAUL PRODUCED BY SHAUN MACGILLIVRAY DIRECTED BY GREG MACGILLIVRAY

DreamBigFilm.com

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LOS ANGELES | CALIFORNIA

CA INFRASTRUCTURE
SYMPOSIUM MARCH 31
2017
& AWARDS DINNER

Dream Big – Ideas and Innovations for Sustainable Infrastructure

California Science Center | 700 Exposition Park Drive | Los Angeles



Your registration includes a private screening of "Dream Big: Engineering our World" to be shown in the IMAX theatre at 6:00 p.m., followed by a Q&A with Dream Big Producer, Shaun MacGillivray.

KEYNOTE SPEAKERS

James T. Butts, Jr. — *Mayor, City of Inglewood*

Shaun MacGillivray — *Producer,*

"Dream Big: Engineering Our World"

Norma Jean Mattei — *President, ASCE*

Antonio Villaraigosa — *Former Mayor of L.A.*

Phil Washington — *CEO, Los Angeles Metro*

WATER TRACK SPEAKERS

- **State Water Resources Control Board** – *Darrin Polhemus, Deputy Director, Division of Drinking Water*
- **City of Los Angeles** — *Adel Hagakhalil, Assistant Director of Bureau of Sanitation*
- **Metropolitan Water District** — *John Bednarski, Section Manager, Water Supply Initiatives*
- **City of San Diego** — *Amy Dorman*
- **Orange County Water District** — *Mike Markus, General Manager*
- **Mojave Water Agency** — *Lance Eckhart*
- **Santa Ana Watershed Project Authority** — *Mark Norton, Water Resources and Planning Manager*
- **SCS Engineers** — *Chuck Houser, Project Manager, Hydrologist*
- **Sonoma County Water Agency** — *Jay Jasperse, Chief Engineer and Director of Groundwater Management*
- **City of Los Angeles** — *Deborah Weintraub, Chief Deputy City Engineer – Bureau of Engineering*
- **UC San Diego** — *Dr. Martin Ralph, Director – Center for Western Weather and Water Extremes*

TRANSPORTATION TRACK SPEAKERS

- **California High Speed Rail Authority** — *Noopur Jain, Chief Engineer*
- **Metrolink** — *Arthur Leahy, Executive Director*
- **Los Angeles Metro** — *Phil Washington, CEO*
- **Port of Long Beach** — *Doug Sereno, Director of Program Management*
- **Port of Los Angeles** — *Tony Gioiello*
- **Port Hueneme** — *Christina Birdsey, Director of Operations and Engineering*
- **Port of Long Beach** — *Sean Gamette*
- **California Transportation Commission** — *Will Kempton, Retired CEO*
- **Assembly Transportation Committee** — *Honorable Jim Frazier, Chair*
- **WSP / Parsons Brinckerhoff** — *Lauren Isaac, Manager of Sustainable Transportation*
- **Los Angeles World Airports (LAWA), LAX Landside Access Modernization Program** — *Jacob Adams, Senior Program Manager*
- **City of Los Angeles Department of Transportation** — *Dan Mitchell, Chief Engineer and Assistant General Manager*

Special Addition: March 30th Envision Training Workshop – USC

For more information about the symposium, awards dinner or the workshop, visit

www.cais17.org

Hot Topics in Transportation Engineering in California

by David M. Schwegel, P.E., Region 9 Transportation Committee Chair



The ASCE Region 9 Transportation Committee has been collaborating with agencies and consultants statewide in connection with organizing the 2017 California Infrastructure Symposium & Region 9 Awards Dinner event to be held on March 31 at the California Science Center in Los Angeles, www.cais17.org. Based on this collaboration, the following 10 hot topics were identified and will be highlighted at the event:

1. Autonomous Vehicles: These vehicles are able to perceive their surroundings and navigate without human aid.

2. Connected Vehicles: This refers to the Intelligent Transportation System (ITS) infrastructure enabling vehicle-to-vehicle communication.

3. Driverless Vehicles: Former US Transportation Secretary Anthony Foxx and Google CEO Eric Schmidt drove in such a vehicle between the San Jose International Airport (SJC) and Google Corporate Headquarters for a Town Hall Meeting on Transportation in 2014. Lauren Isaac of WSP/Parsons Brinckerhoff will be presenting on this topic at the Symposium.



Lauren Isaac



Anthony Foxx & Eric Schmidt

4. Marketing the Transportation Profession: The "Dream Big" IMAX movie will be shown at the Symposium to promote the Civil Engineering profession. Look for those elements that are specific to Transportation Engineering.



David Ross

5. Public Outreach: As Radio Show Commentator David Ross explained at a Women's Transportation Seminar (WTS) Gala in Seattle in 2003, "you transportation professionals design the systems that my listeners complain about" underscoring the importance of clearly communicating to the public the challenging tradeoffs we face in our daily decision making.

6. Connected Mass Transit Corridors:

Providing near-term conventional rail improvements to transport passengers to the Initial Operating Section (IOS) (Central Valley to Silicon Valley) of the High-Speed Rail Project (www.hsr.ca.gov) are essential for generating the ridership revenue necessary to construct High-Speed Rail over the Tehachapi Mountains into the Los Angeles Basin. Metrolink CEO Art Leahy will discuss the latest efforts on Southern California's premier commuter rail system to get the region ready to connect to High-Speed Rail (www.hsr.ca.gov).



Art Leahy



Jacob Adams

7. Rail/Airport Integration: Bringing rail to airports allows airline passengers to access city centers without having to fight traffic congestion. Jacob Adams of the Los Angeles World Airports will provide an update on the latest efforts to run Metro Light Rail to Los Angeles International Airport (LAX).

8. Fixing Our Roads: Greater Sacramento Area Economic Council (<https://www.selectsacramento.com>) CEO Barry Broome explained at a Fix Our Roads Rally in Sacramento on January 18, that deteriorating roadways communicates to prospective out of town companies that "we can't even take care of our most basic infrastructure", making marketing and economic stimulation efforts especially challenging.



Barry Broome



Dan Richard

9. Goods Movement: As California High Speed Rail Authority (www.hsr.ca.gov) Board Chairman Dan Richard explained at the US High Speed Rail (www.ushsr.com) Conference in San Francisco in May 2012, advances in the Panama Canal continue to put California Ports at a competitive disadvantage primarily due to inland traffic congestion. The Symposium will feature an

entire session on Southern California Ports.



Connected and Automated Vehicle Definitions

Greg Larson, Chief, Caltrans Office of Traffic Operations Research



As a follow-up to the articles on Transportation Hot Topics and the research that Caltrans is doing in the areas of Connected, Automated, and Autonomous Vehicles, the Caltrans Office of Traffic Operations research is providing definitions on these three topics:

- Connected Vehicles:** Connected vehicles use vehicle-to-vehicle and vehicle-to-infrastructure communications to enable applications that improve the safety and mobility of vehicle travel while reducing adverse environmental impacts. The best examples of these communications technologies are Dedicated Short Range Communications (DSRC), and the existing cellular telephone network. Using a combination of either or both of these technologies, data related to road and traffic conditions can be collected from vehicles as they travel through the transportation system, processed into useful information, and used by operating agencies to more efficiently manage the system and to inform drivers so that they can make better decisions pertaining to their safety and mobility. Drivers are still always in responsible control of the safe operation of their vehicle, but receive enhanced information, alerts, and if necessary, warnings to improve their safety and mobility.
- Automated Vehicles:** Automated vehicles use sensors, computers, and actuators to control the steering and speed (throttle and brakes) of the vehicle in a manner that ensures a combination of both safety and mobility. Such vehicles may also be connected (see above) or autonomous (see below). The concept of vehicle automation builds upon emerging driver assistance systems (e.g., Lane Keeping Assist, Cooperative Adaptive Cruise Control, and Automated Emergency Braking Systems), which help drivers perform their driving task better, and envisions a time when machines will be primarily responsible for safely controlling the vehicle operation, perhaps with still some level of driver "attention" under well-defined conditions.
- Autonomous Vehicles:** These are automated vehicles that are self-contained, meaning that they gather all the knowledge of the environment around them from their own sensors, and are not dependent upon receiving data from other vehicles or the infrastructure. Many use a priori knowledge of roadway engineering, such as standard lane widths and markings, to enhance their performance. Performance may be degraded if their sensors are occluded from "seeing" objects around them by other nearby vehicles, darkness, bad weather, or fixed objects such as buildings or foliage.



For more information on the Caltrans Division of Traffic Operations, go to <http://www.dot.ca.gov/trafficops/>

10. Transportation Funding: Transportation Committee Chair and Assembly Member Jim Frazier will discuss the latest efforts to get the Legislature to pass a long-term Transportation Funding Package. Los Angeles County Metro CEO Phil Washington and Former Los Angeles City Mayor Antonio Villaraigosa will discuss the success of the recent Los Angeles County Half-Cent Sales Tax Measure at the Symposium.



Jim Frazier



To learn more about the activities of the Region 9 Transportation & Development Committee, please contact me at davidmschwegel1@gmail.com



Phil Washington & Antonio Villaraigosa

ASCE Members statewide are always encouraged to collaborate with like-minded professionals both within and beyond the Civil Engineering profession. Specifically, members are encouraged to explore these hot topics more

deeply at the 2017 California Infrastructure Symposium on March 31 where subject matter experts will be addressing each one in depth.



History
&
Heritage

Celebrating the 100th Anniversary
of the Los Angeles Section



ASCE California Infrastructure Symposium

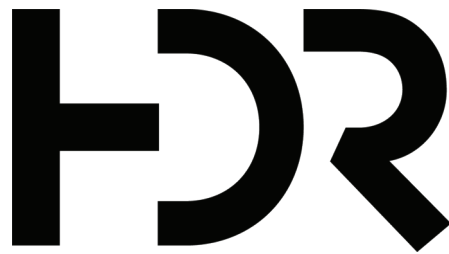
"Dream Big - Ideas and Innovations for Sustainable Infrastructure"



The Los Angeles Section and Region 9 of ASCE would like to thank the following organizations for their generous contributions in support of the March 31, 2017

California Infrastructure Symposium:

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Dream Big: Engineering Our World is a film for IMAX® and giant screen theatres that offers exciting opportunities to transform students' understanding of engineering and inspire them to want to learn even more about the “E” in STEM.

Curriculum Tie-Ins

Dream Big explores how we use science and technology to build, invent and shape our world. Curriculum addressed in the film include:

- Engineering
- Science and Technology
- Mathematics
- Social Studies
- Geography



High school students from Mississippi are featured in the film as they compete in the World Solar Challenge in Australia.

Educational Resources for Your Classroom

Dream Big is more than just a film. It's an entire education program with resources to help enhance the learning from the film.

- **Educator Guide** features 12 lesson plans for grades K – 12 that align with Next Generation Science Standards (NGSS).
- **Education Website** will include all these educational resources, including ideas for working with your local science center and volunteer engineers.

www.DiscoverE.org/dreambig

- **Activities Booklet** contains 52 hands-on engineering activities, some of which are even featured in the film.
- **10 Educational Webisodes** that offer detailed information on topics such as wind and earthquake engineering, alternative energy sources and extreme engineering. 3 to 5 minutes in length.
- **Education Trailer** for teachers and school personnel to gain an understanding of the educational value of the film.

www.DreamBigFilm.com

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Monthly: Est. 1913

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Forest Stewardship Council
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Typesetting, Layout & Printing: Apollo Printing & Graphics



Please send all copy to the Editor by
the first of the month preceding publication.

Identification Statement

ASCE Newsletter, (ISSN 0273-6233)
is published monthly by ASCE,
Los Angeles Section, 1405 Warner Ave.
Tustin, California 92780. Subscription price
included in Section dues of \$55.

Circulation

Circulated monthly (except for a joint
July/August issue) to the 5,000 subscribing
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