

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. 5

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2017 America's Infrastructure Report Card

Do you know what Infrastructure Report Card grade we received in the Nation? How many of you had a chance to look at the ASCE America's Infrastructure Report Card that was unveiled in March? As a member of ASCE, we are committed to protecting the health, safety, and welfare of the public, and as such are equally committed to improving the nation's public Infrastructure. To achieve this goal, the Infrastructure Report Card was started by Society in 1988 and depict the condition and performance of the nation's Infrastructure in the familiar form of a school report card assigning letter

grades that are based on physical condition and needed fiscal investments.

The Society released a report card back in 2013, and now we can see how we have improved in some areas, and have not improved at all in other areas. America's Report Card had an overall GPA of a "D+" back in 2013 and for 2017 we still have a "D+." This is not a grade to be boasting about. The years of delayed maintenance and lack of modernization have left us with an outdated and failing infrastructure that can't meet our needs. Infrastructure has a direct impact on our personal and economic health and the infrastructure crisis is endangering our nation's future prosperity. What does this "D+" grade really mean? Does it mean that we are barely able to maintain the Infrastructure that we have? As a civil engineer, I believe we are and need to be stewards of Infrastructure. We have a moral duty to pass down to future generations an infrastructure system that will enhance the community and economic livelihood of our future generations. For far too long, we have had funding limitations that have severely restricted our progress. Infrastructure maintenance and the infrastructure renewal is critical for sustaining the economic engine of the Nation.

One of the ways we as civil engineers can promote and preserve infrastructure is by participating in the Legislative Fly-Ins. We had a group of ASCE members attend the Washington D.C. Fly-in and the one for Sacramento is coming up on May 17th. If you are interested, please make sure to be on the lookout for the e-mail regarding this event. The purpose of these events is to educate the legislature at the Capital about ASCE and the importance of infrastructure, help lobby upcoming legislation related to water or transportation, etc., and bring local infrastructure issues to the forefront. We also want to make sure that we are actively pursuing a relationship with the State Legislature on a continuous basis so they don't push our cause to the sideline.

My personal goal, and a challenge I want to direct to you, is to see how we can educate the community on the importance of infrastructure maintenance, encourage our colleagues in the public sector to continue the education and fight for funding the importance of infrastructure maintenance and actively communicate with our elected officials the important role that this maintenance plays in our everyday lives. We need to



The ASCE Grand Challenge

by James (Jim) Frost, P.E., M.ASCE, ASCE Region 9 Governor, Chair, Region 9 Grand Challenge Task Committee



There has been a lot mentioned in the news lately about our Nation's infrastructure. This issue was a key element in the elections last fall, and remains a key stated objective of the current administration which has pledged to provide support for infrastructure programs to the tune of \$1 trillion in funding over the next ten years. Most recently in the news, the American Society of Civil Engineers (ASCE) on March 9 released the 2017 Infrastructure Report Card (www.infrastructurereportcard.org), and gave the nation's infrastructure a D-plus grade, the same cumulative grade seen in the 2013 Report Card. The estimated investment needed by 2025 is \$4.59 trillion! Many would agree that this deficit is unacceptable – our infrastructure is in trouble, and swift action must be taken.

Determining the best way to fix our crumbling roads, bridges, pipelines, and waterways is a challenging issue. Some say if you have enough money, you can achieve almost anything! Also, we sent men to the moon with less equivalent computing power than a standard smart phone, and therefore shouldn't we be able to solve this problem? However, we also know that in the real world, funding is limited, and sometimes even non-existent. So, does a solution really exist?

The quick answer is yes! I am a firm believer in the resilience of humankind. While we are very capable of sometimes making a mess of our world, we are also very adept at finding solutions. The ASCE Grand Challenge (www.ascegrandchallenge.com) is all about finding such solutions to our infrastructure funding challenges.

The Nation's infrastructure funding needs keep increasing due to higher demands on existing infrastructure, and our aging facilities. At the same time, the available funding is not keeping pace. The gap between this demand and supply is referred to by ASCE as the "Grand Challenge." The figure below depicts this situation graphically:

The Grand Challenge represents a sustained approach to improving America's infrastructure based on the principals of economic



potential, global competitiveness, increased resiliency and long-term economic benefits of investment. It is an opportunity to rethink what is possible and foster the optimization of infrastructure investment in our society. To help get there, a group known as the ASCE Industry Leaders Council (www.asce.org/industry_leaders_council) has challenged the industry to develop projects that reduce the life cycle cost for infrastructure by 50 percent by 2025 and foster the optimization of infrastructure investments for society.

How Can You Help Achieve the Grand Challenge? The ASCE Grand Challenge asks all civil engineers to join in the solution to:

- Significantly enhance the performance and value of infrastructure projects over their life cycles by 2025, and;
- Foster the optimization of infrastructure investments for society.

Recognizing that Civil Engineers are global leaders responsible for building a better quality of life, you can also seek to take the following actions:

- Take the pledge and register as an involved Civil Engineer
- Lead and contribute to ASCE committee work related to life cycle cost analysis, performance based design, sustainability, innovation and resilience
- Author or present papers on topics that advance the ASCE Grand Challenge
- Attend or lead courses and training to accelerate the ASCE Grand Challenge
- Recognize successes with awards and recognition
- Promote innovative business models within your company, agency or with clients
- Share your success story at www.ASCEGrandChallenge.com

To help advance the initiative in California, ASCE Region 9 Board of Governors has initiated a subcommittee focused on the Grand Challenge. For more information please contact Jim Frost, Chair, ASCE Region 9 Task Committee on the Grand Challenge, at jfrost@kleinfelder.com

ASCE GRAND CHALLENGE

• The investments needed to improve our infrastructure continue to increase well beyond available funding. How do we close the infrastructure gap? The ASCE Grand Challenge asks all civil engineers to join in the solution to :

- o Significantly enhance the performance and value of infrastructure projects over their life cycles by 2025
- o Foster the optimization of infrastructure investments for society.

To reach this goal, the profession must influence major policy changes and infrastructure funding levels, while challenging civil engineers to focus on innovation, rethink life cycle costs, and drive transformational change—from planning to design to delivery.

Sharing your story is one way you can become part of the ASCE Grand Challenge strategic initiative.

More at <https://ascegrandchallenge.com/>

use the report card and let people know that we require more funding and more attention to our current needs in order to preserve and maintain what we have.

I want to share with you what I call the "Power of One." I learned this concept at a leadership conference years ago and I have been trying to implement throughout the years on everything I do from work to personal. If one person shared their perspective on infrastructure to at least one other person or more who doesn't know anything about infrastructure and then that person did the same thing and so on, imagine the possibilities of how many people we can reach. If we have more people talking about infrastructure regardless of whether they are a civil engineer, architect, teacher, doctor, etc. we would have much exposure and be on our way to doing something to improve. I remember when the word "infrastructure" first started being used, many people didn't know what it meant. Now, we hear this word on the news and is used frequently, but I am still not sure how many people truly understand what it means.

ARTICLE

Congratulations to the following LA Section Members!



We are pleased to be able to announce that **Dr. Allen C. Estes, Ph.D., P.E., F.ASCE - California Polytechnic State University, San Luis Obispo, Architectural Engineering Program** from the San Luis Obispo Branch of the Los Angeles Section has been selected by the ASCE Committee

on Education to receive an Honorable Mention plaque for the 2017 **Walter LeFevre Award** in the small program category.

We are also proud to announce that **Dr. James L. Beck, Ph.D., F.EMI, M.ASCE** from the Metropolitan Los Angeles Branch of the Los Angeles Section has been selected by the Engineering Mechanics Institute to receive the 2017 **George W. Housner Structural Control and Monitoring Medal** "For his exceptional and influential scholarship in structural monitoring and control research, and for his leadership in tackling uncertainty and model complexity through probabilistic approaches with emphasis on Bayesian methods."



www.ascelasection.org

For the safety and security of our families, we can't keep on ignoring the congested roads and the broken water mains. As a society we need to become better stewards of the environment through the use of sustainable infrastructure practices. It's going to take the government and industry leadership, sound technology community planning, and involved citizens to make changes.

Please check out America's Infrastructure web-site at <http://www.infrastructurereportcard.org> to see the detailed breakdown of our report card. We all have to work together. With perseverance and a common goal, we as business leaders can set the trend to making the world a better place to live by making difference one day at a time.

ARTICLE

Remembering: Indrajit K. Ghosh, P.E., F.ASCE



Indrajit passed away on April 3, 2017, at 7:14 am at French Hospital, in San Luis Obispo, California, from health complications that he suffered seriously in past two weeks. His wife and his two daughters were with him and held his hands while he peacefully left us.

Indra received his B.S. degree from Calcutta University in India in 1964, and MS degree from University of Surrey in U.K., in 1967. He worked in India for a year and then moved to U.K. In 1973, at height of nuclear power plant development projects, he began working in the U.S. and soon after met the love of his life, Ira. From 1973 till 2010 he worked for a number of companies including a few years with Bechtel Corporation and Enercon Services, Inc. He retired in 2010 but remained active and periodically went back to his homeland and lectured in Civil Engineering subjects at Indian Institute of Technology, Gujarat, India which he enjoyed very much.

Indra was a licensed Civil Engineers in the State of California. He was a Fellow and Life Member of American Society of Civil Engineers (ASCE). He maintained a good name and respected by his peers. Indra served as branch president for Central Savannah River Valley Branch of ASCE, 1994–1996, in South Carolina; and also branch president for Columbia Section of ASCE, 2000-2001.

Indra loved his family and his profession, and remained devoted to both. He is survived by his lifelong love, wife Ira and his lovely daughters Sujata living with her family in Switzerland, and Surabhi living with her family in Canada.

State Investments and Legislative Update

by Richard Markuson, CA Region 9 Legislative Advocate



The Democratic leaders of the Legislature and Governor Brown reached an agreement on a comprehensive transportation funding agreement and incorporated it in Senator Jim Beall's Senate Bill 1. As this is being published, the race is on to see if any Republicans will vote for the measure and its' tax and fee increases or if they will be able to secure the 2/3 vote needed with just Democrats. (Update: The Bill actually passed and Governor Jerry Brown had

already signed into law.)

The legislation, the *Road Repair and Accountability Act of 2017*, invests \$52.4 billion over the next decade - split equally between state and local projects:

Fix Local Streets and Transportation Infrastructure (50 percent):

- \$15 billion in "Fix-It-First" local road repairs, including fixing potholes
- \$7.5 billion to improve local public transportation
- \$2 billion to support local "self-help" communities that are making their own investments in transportation improvements
- \$1 billion to improve infrastructure that promotes walking and bicycling
- \$825 million for the State Transportation Improvement Program local contribution
- \$250 million in local transportation planning grants.

Fix State Highways and Transportation Infrastructure (50 percent):

- \$15 billion in "Fix-it-First" highway repairs, including smoother pavement
- \$4 billion in bridge and culvert repairs
- \$3 billion to improve trade corridors
- \$2.5 billion to reduce congestion on major commute corridors
- \$1.4 billion in other transportation investments, including \$275 million for highway and intercity-transit improvements,

Ensure Taxpayer Dollars Are Spent Properly with Strong Accountability Measures:

- Constitutional amendment to prohibit spending the funds on anything but transportation
- Inspector General to ensure Caltrans and any entities receiving state transportation funds spend taxpayer dollars efficiently, effectively and in compliance with state and federal requirements
- Provision that empowers the California Transportation Commission to hold state and local government accountable for making the transportation improvements they commit to delivering

- Authorization for the California Transportation Commission to review and allocate Caltrans funding and staffing for highway maintenance to ensure those levels are reasonable and responsible
- Authorization for Caltrans to complete earlier mitigation of environmental impacts from construction, a policy that will reduce costs and delays while protecting natural resources.

The transportation investment package is funded by everyone who uses California roads and highways:

- \$7.3 billion by increasing diesel excise tax 20 cents
- \$3.5 billion by increasing diesel sales tax to 5.75 percent
- \$24.4 billion by increasing gasoline excise tax 12 cents
- \$16.3 billion from an annual transportation improvement fee based on a vehicle's value (from \$25 to \$175)
- \$200 million from an annual \$100 Zero Emission Vehicle fee commencing in 2020.
- \$706 million in General Fund loan repayments.

Leadership in both the Senate and the Assembly expect the measure to be voted on by Thursday, April 6, 2017.

In the Senate, Senator Steve Glazer, Brown's own former political adviser, may withhold support of the bill "because he wants a provision banning BART transit strikes." Brown said he hoped to instead persuade Sen. Anthony Cannella, R-Ceres, to back the deal. "Cannella is more open than Glazer is" to supporting the bill, Brown said in an interview Thursday afternoon. It's unclear whether Cannella is willing to deal. Cannella's spokesman said the senator had taken no position and is "open to continuing discussions."

Brown called Glazer's no-strike idea a "perfectly reasonable" one, but "a non-starter" in this case. "That would kill the bill," he said.

SB 1 has a laundry list of other grants and allocations:

- \$5,000,000 each year to assist local agencies to implement policies to promote preapprenticeship training programs
- \$25,000,000 annually for expenditure on the freeway service patrol
- \$25,000,000 annually for local planning grants
- \$5,000,000 and \$2,000,000 annually to the University of California and the California State University, respectively, for conducting transportation research and transportation-related workforce education, training, and development.
- Any leftovers are split 50%/50% between the State and Locals.

Governor Brown signed ASCE supported AB 28 (Frazier D-Oakley) – an urgency measure – that reinstates California's participation in the Surface Transportation Project Delivery Pilot Program (later called the NEPA Assignment). The sunset means the authority will last only two years.

Governor's Appointments

To the High-Speed Rail Authority: **Ernest Camacho**, Sierra Madre, president and CEO of Pacifica Services, Inc. Term ends December 31, 2018.

To State Water Resources Board: **Tam Doduc** (reappointed), Sacramento, board member since 2005; **Joaquin Esquivel**, La Quinta, assistant secretary for federal water policy at the CA Natural Resources Agency since 2015.

Recent Reports

Pacific Research Institute has released its issue brief on the state's "housing crisis" and its causes, finds "housing in California is excessively expensive – four of the most expensive housing markets in the United States are found in California," also finds "government policies that have dis-incentivized home building" have resulted in a "severe shortage," and "perhaps the single-biggest hurdle to home building in California are burdensome regulations from the California Environmental Quality Act."

Restore the Delta has released its report, "California's Sustainable Water Plan," highlights "projects in communities statewide that are far smarter investments than Jerry Brown's controversial and expensive Delta Tunnels proposal," includes the Water Replenishment District of Southern California's proposal to build a water purification plant "that would make the district entirely self-reliant on local water."

State Water Resources Control Board has released its report on water conservation by urban districts during the month of January, finds Californians' monthly water usage was 20.5 percent lower compared to January 2013.

Journal of Geophysical Research: Solid Earth released "**Seismic Constraints on the Architecture of the Newport-Inglewood/Rose Canyon Fault: Implications for the Length and Magnitude of Future Earthquake Ruptures.**" "[T]wo earthquake faults ... are actually a single system that could produce devastating temblors affecting Tijuana to the Los Angeles region.... If offshore segments ... ruptured, they could generate a magnitude 7.3 quake capable of damaging much of the Southern California coastline.... An earthquake on a land-based portion of the system could reach magnitude 7.4 and create similarly widespread harm.... 'This system is mostly offshore but never more than four miles from the San Diego, Orange County and Los Angeles County coast. Even if you have a high 5- or low 6-magnitude earthquake, it can still have a major impact on those regions.'"

Legislative Analyst's Office released **Ten Years Later: Progress Towards Expending the 2006 Bond Funds**. The \$42 billion in bonds approved by voters in 2006 was "the biggest single approval of bonds in state history." The money—allocated for transportation, housing, K-12 and higher education, flood control and natural resources—was mostly meant to be spent within a decade. By November 2016, about \$36 billion (84%) of the authorized money had been expended, with differences among the bonds in spending

pace (96% of Prop. 1D education bonds have been spent, but only 57% of Prop. 1E flood prevention bonds). Reasons for expenditure lag include challenges in coordinating with other entities, project size and complexity, and multiple funding allocations.

Journal of Hydrology released "**Resistivity Imaging Reveals Complex Pattern of Saltwater Intrusion Along Monterey Coast.**" "Researchers ... have transformed pulses of electrical current sent 1,000 feet underground into a picture of where seawater has infiltrated freshwater aquifers along the Monterey Bay coastline. The findings ... help explain factors controlling this phenomenon, called saltwater intrusion, and could help improve the groundwater models that local water managers use to make decisions about pumping groundwater to meet drinking or farming needs.... [R]emoving too much of that groundwater can change the fluid pressure of underground aquifers, drawing seawater into coastal aquifers and corrupting water supplies. Saltwater intrusion is often irreversible."

ARTICLE

Notice of Region 9 Opening For At-Large Governor



ASCE Region 9 invites nominations for one Region 9 Governor At-Large position for a three-year term beginning October 1, 2017. To be considered for this position, you must be a Society member in good standing and have an Address of Record within the Region being represented. It is encouraged that nominees also

have prior service as a Branch, Section or Technical Group officer, member of a Section or Branch committee, or a member of a Society-level Committee and has demonstrated leadership skills. This is an appointed position.

A Letter of Intent to apply for this elected office must be submitted not later than June 1, 2017, to the Region 9 Nominating Committee Chair: Kenneth Rosenfield, at krosenfield@lagunahillsca.gov, (949) 707-2655. Please contact Kenneth Rosenfield for any questions. In addition, the following documents are also requested:

- Signed Governor Commitment document (contact Kenneth Rosenfield for form)
- Biographical Statement, not to exceed 200 words
- Vision Statement, not to exceed 200 words
- Any endorsements
- Headshot color photograph.

Nominees will be requested to attend an interview before the Region 9 Board of Governors on June 9, 2017, in Tustin, CA. Time and specific location to be confirmed.

2017 ASCE California Infrastructure Symposium & Region 9 Awards Dinner - Recap

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



On Friday, March 31st, ASCE's Region 9 and the Los Angeles Section co-hosted this year's California Infrastructure Symposium & Region 9 Awards Banquet at the California Science Center in the City of Los Angeles' Exposition Park, with almost 270 people in attendance. The theme for this year's symposium was "Dream Big - Ideas and Innovations for Sustainable Infrastructure", and our program certainly accomplished that!

One of the morning's keynote speakers was Phil Washington, CEO of LA Metro, who provided his perspective of Metro's vision and accomplishments for Los Angeles. The other keynote speaker was Norma Jean Mattei, 2017 ASCE President, who provided a compelling overview of the just-released 2017 ASCE Infrastructure Report Card. This year we were fortunate in having three current and former mayors address our symposium. During the lunch hour, Mayor James T. Butts, Jr. of the City of Inglewood presented the unique and historic position of the City of Inglewood as the host of not one but two NFL teams in the Rams and the Chargers. Mayor Butts also spoke about the potential to bring an NBA team to Inglewood in the near future.



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

Former City of Los Angeles Mayor Antonio Villaraigosa also spoke during lunch, and brought his perspective on the need for infrastructure investments throughout California.



From left to right: Jay Higgins ASCE Region 9 Director; Antonio Villaraigosa, former LA Mayor; Norma Jean Mattei, 2017 ASCE President; James T. Butts, Jr., City of Inglewood Mayor; and Yaz Emrani, 2017 California Infrastructure Symposium Chair.

Our first afternoon keynote speaker was the current mayor of the City of Los Angeles, Eric Garcetti. Mayor Garcetti also spoke of the continued needs for infrastructure investments, including partnering with the current administration on addressing LA's infrastructure needs. Our final keynote speaker was Shaun MacGillivray, Producer of the ASCE/Bechtel movie, Dream Big. The symposium was followed by a screening of the movie Dream Big at the California Science Center's IMAX theatre. This is a great production, and I highly recommend viewing it in IMAX 3D.



From left to right: Yaz Emrani, 2017 California Infrastructure Symposium Chair; Eric Garcetti, Los Angeles Mayor; Norma Jean Mattei, 2017 ASCE President; and Jay Higgins, ASCE Region 9 Director.

The 2017 symposium included two full-day tracks on water and transportation. Both tracks featured discussions by a broad array of panelists from State and local governments as well as private sector engineering firms. The Water Track covered four topics on Strengthening Local Drought Resilience, Indirect and Direct Potable Reuse, Safe and Reliable Water Supply (for Disadvantaged Communities), and Innovative Approaches for Sustainable Water Supply Infrastructure in the 22nd Century. The Transportation Track also covered four topics which consisted of Rail and Transit, Sustainable Port Development, Transportation Funding, and Hot Topics in Transportation.

ASCE thanks all these speakers for taking the time to present to our diverse audience of civil engineers and other community members who ranged from college students, to retirees in the civil engineering field.

Later that evening, 240 people attended the annual Region 9 Awards Banquet in the Samuel Oschin Pavilion under the majestic Space Shuttle Endeavor. Norma Jean Mattei, 2017 ASCE President, provided the keynote speech followed by a presentation of the 2016 Region 9 statewide awards for individuals and projects, which was hosted by the Chair of the ASCE Region 9 Awards Committee, and Region 9 Governor, Matt Kennedy. The presentations included a total of 22 project award winners and 15 individual award winners.

Project of the Year was awarded to the **San Diego-Tijuana Airport Cross Border Facility**. The Engineers of the Record were Latitude 33 and Kleinfelder, Inc. and the Owner is Otay-Tijuana Venture, LLC. The Cross Border Xpress (CBX) Terminal Building and Pedestrian Skybridge is an unprecedented binational project that provides direct, secure, and convenient access between a new terminal building in San Diego and the Tijuana International Airport (TIJ). It enables ticketed passengers flying into or out of TIJ to avoid unpredictable border wait times and often lengthy delays at congested land ports of entry at San Ysidro or Otay Mesa. After eight years of planning and preparation, CBX opened for public use in December 2015. In the U.S., CBX's 2-level terminal facility features more than 65,000 square feet of indoor and outdoor patio waiting areas for passengers and guests, along with retail, Duty Free, food and beverage venues, and fully bilingual customer service. The facility is open 24/7, with convenient short- and long-term parking on-site, as well as a variety of ground transportation options including rental car, taxi, Uber and shuttle access. The complex, multi-faceted 390-foot-long pedestrian bridge connecting the new terminal to TIJ blends engineering and construction excellence with binational collaboration; requiring bilingual coordination between the design team and contractors on both sides of the border. The project was privately financed and operated by Otay-Tijuana Venture, LLC (OTV), a private investment group with U.S. and Mexican shareholders. OTV placed considerable emphasis on creating a cost-effective facility that cohesively combines aesthetics and functionality.

For a complete listing of the award winners, please visit Region 9's infrastructure symposium website at www.cais17.org.

The sponsors for the symposium included 35 public agencies, companies, and ASCE San Francisco, San Diego, and Sacramento Sections plus the ASCE Orange County Branch. These organizations are dedicated to supporting ASCE and our State's infrastructure. The Symposium Platinum Sponsor was HDR and the Transportation and Water Track sponsors were David Evans and Associates and ECA, respectively. Not only did they provide financial support for the events, but they also facilitated the track presentations throughout the day. Our other Gold Sponsors included: AECOM, LA Metro, and Kleinfelder. Our Silver sponsors included: Carollo Engineers, Inc., Inc., Mott MacDonald, Michael Baker International, Parsons, Oldcastle Precast, RMC/Woodward & Curran, California Baptist University, LADWP, and the Port of Long Beach. Our Bronze Sponsors were: Amec Foster Wheeler, Anderson-Penna Partners, Caltrop Corporation, City of LA Bureau of Engineering, East Bay Municipal Utility District, Geoscience, HR Green, Mark Thomas Company, Pacific Advocacy Group, Rick Engineering, SA Associates, Santa Ana Watershed Authority Project, TKE Engineering, Vali Cooper, Western Municipal Water District, APWA, Southern California Chapter, ASCE Sacramento, ASCE San Diego, ASCE San Francisco, and my ASCE Branch, the ASCE Orange County Branch.

Our Awards Dinner Platinum Sponsors were: Stantec, Earth Systems, CWE, Belgard, Leighton and Associates, Psomas, Granite Construction, and Wiss, Janney, Elstner Associates, Inc. Our Gold sponsors were: David Evans and Associates, Hathaway Dinwiddie, Minagar & Associates, Inc. NMG Geotechnical, Inc., LPA, and SA Associates, Our Silver Sponsors included: Labelle Marvin, Huitt-Zollars, and the Riverside County Flood Control and Water Conservation District.

As the respective Chairs for the events, Matt Kennedy and I would like to thank all our volunteer staff for the planning and execution of both events. These volunteers helped make the event the great success that it was, along with our speakers and of course the fabulous audience! We look forward to San Francisco in 2018!

For more information please contact Yaz Emrani, Chair, ASCE Region 9 Infrastructure Policy Committee, yemrani@carollo.com



Failure to Act: Closing the Infrastructure Investment Gap for America's Economic Future

• **Failure to Act: The Impact of Current Infrastructure Investment on America's Economic Future** was released in 2013 as the culminating report on the economic impact of poor infrastructure in the U.S.

ASCE's *Failure to Act* economic studies show the impact on America's economy if we continue only at current infrastructure investment levels. Looking at current trends in infrastructure conditions and investment levels, this report series shows the economic consequences of continued underinvestment in our nation's infrastructure, and, conversely, if we increase investment levels to achieve a state of good repair, the gains that could be made by 2020 in terms of:

- o Personal disposable income
- o GDP and exports
- o Costs to businesses
- o Jobs

The culminating report was released on January 15, 2013 and presents an overall picture of the economic opportunity associated with infrastructure investment and the cost of failing to fill the investment gap.

ASCE finds that with an additional investment of \$157 billion a year between now and 2020, the U.S. can eliminate this drag on economic growth and protect:

- o \$3.1 trillion in GDP, almost the equivalent of Germany's entire GDP
- o \$1.1 trillion in U.S. trade value, equivalent to Mexico's GDP
- o 3.5 million jobs, more than the jobs created in the U.S. over the previous 22 months
- o \$2.4 trillion in consumer spending, comparable to Brazil's GDP
- o \$3,100 in annual personal disposable income

FAILURE TO ACT ECONOMIC STUDIES BY SECTOR

TRANSPORTATION

• Investing in our nation's roads, bridges, and transit systems will protect 877,000 jobs and \$1,060 per year for American families by 2020.

AIRPORTS, INLAND WATERWAYS, AND MARINE PORTS

• Airport congestion is on the rise. If we increase investment in our airports, over \$300 billion in GDP will be protected.

WATER AND WASTEWATER

• By investing in our water infrastructure to make it more reliable, we can prevent \$147 billion in increased costs to businesses by 2020.

ELECTRICITY

• An additional investment of \$11 billion per year between now and 2020 in our electricity infrastructure can protect 529,000 jobs and \$656 billion in personal income.

More information at www.asce.org.

INVESTING IN INFRASTRUCTURE - OUR NATION'S ECONOMIC ENGINE

BETWEEN NOW AND 2020, THE INVESTMENT SHORTFALL WILL GROW TO \$1.1 TRILLION.

\$1.66T
CURRENT
NEED

\$1.1T GAP

\$2.75T
FUTURE
NEED

AGING AND UNRELIABLE INFRASTRUCTURE WILL INCREASE COSTS BY

\$1.2 TRILLION
FOR BUSINESSES

\$611 BILLION
FOR HOUSEHOLDS

BY INVESTING AN ADDITIONAL \$157B PER YEAR THROUGH 2020,

WE CAN PREVENT:

\$3.1 Trillion
loss in GDP

\$1.1 Trillion
loss in total trade

\$3,100
per year drop in personal
disposable income per
household

\$2.4 Trillion
drop in consumer
spending

3.5 Million
job losses



Learn more at
asce.org/failuretoact

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

FAILURE TO ACT

CLOSING THE INFRASTRUCTURE ★ INVESTMENT GAP ★ FOR AMERICA'S ECONOMIC FUTURE

▶▶ We've only been paying **1/2** of America's infrastructure bill leaving an investment funding gap that hurts the **U.S. economy, businesses, workers and families.**

WHAT POOR INFRASTRUCTURE MEANS TO YOU

Poor roads and airports mean travel times increase. ▶▶ An aging electric grid and inadequate water distribution make utilities unreliable. ▶▶ Problems like these translate into higher costs for businesses to manufacture and distribute goods and provide services. ▶▶ These higher costs, in turn, get passed along to workers and families.

COST TO U.S. GDP

\$3.9
TRILLION BY 2025

LOST BUSINESS SALES

\$7
TRILLION BY 2025

LOST JOBS

2.5
MILLION JOBS IN 2025

COST TO FAMILIES

\$3,400
PER YEAR

IMAGINE WHAT \$3,400 COULD BUY YOUR FAMILY EVERY YEAR



GOING ON A FAMILY
VACATION



STARTING A
COLLEGE FUND



BUYING A NEW
COMPUTER & PHONE



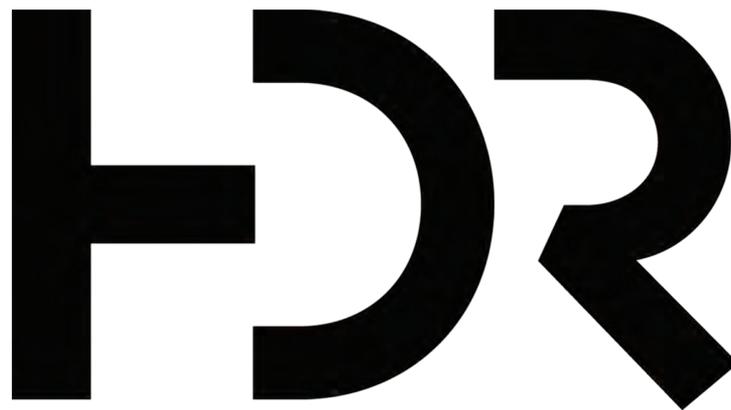
DOING A HOME
RENOVATION PROJECT

Symposium Sponsors

“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 **Symposium**:

Platinum Sponsor

The logo for HDR, consisting of the letters 'H', 'D', and 'R' in a large, bold, black, sans-serif font.

Gold Sponsors



DAVID EVANS
AND ASSOCIATES INC.

The logo for AECOM, with the letters 'A', 'E', 'C', 'O', and 'M' in a bold, black, sans-serif font.

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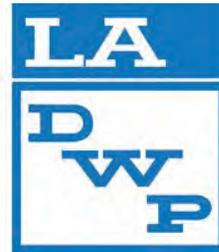
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ASCE Region 9 Legislative Day Wednesday, May 17, 2017 California State Capitol, Sacramento

The 2017 ASCE Region 9 Legislative Day will take place in Sacramento on Wednesday, May 17, 2017 during National Infrastructure Week. Highlights of the Legislative Day Agenda include:

Agenda		
Registration	7:30 - 8:00 AM	<i>DWR, Legal Conference Room</i>
Welcome & Opening Remarks	8:00 - 8:15 AM	<i>DWR, Legal Conference Room</i>
Briefings from the ASCE Region 9 Legislative Advocate	8:15 - 12:00 PM	<i>DWR, Legal Conference Room</i>
Lunch & Attendee Networking	12:00 - 12:30 PM	<i>DWR, Legal Conference Room</i>
Group Photo	12:45 - 1:00 PM	<i>California State Capitol</i>
Legislative Visits	1:00 - 4:30 PM	<i>California State Capitol</i>
Debriefing (Informal, No Host)	5:00 - 5:30 PM	<i>Hyatt Regency Lobby</i>

Meeting Location – California Department of Water Resources (DWR), 1416 9th Street, Sacramento, CA 95814. The recommended hotel for stay is the Holiday Inn Sacramento Downtown-Arena, 300 J Street, Sacramento, CA 95814.

There is no registration fee to attend; however, participants are responsible for their own travel expenses and must register so that legislative appointments may be scheduled. Please contact Anne Ettley, ASCE Region 9 Administrator, aettley@gmail.com if you have any questions.

Register at
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