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National Conference Issue



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"Act as if it were impossible to fail." — Dorothea Brande

ASCE National President and Conference Chair's Message



William Henry, P.E.,
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Visionary Leadership

Civil engineering is about leadership, and 'Visionary Leadership' is more than just our conference theme. The 2005 Annual Civil Engineering Conference is about challenging ourselves as civil engineers and examining the issues confronting the business and profession of civil engineering, and the public we serve. During this week's workshops, forums and sessions we will tackle the visionary leadership



Robert Bein, P.E., L.S.,
F.ASCE
2005 National
Conference Chair

necessary to confront the tough issues facing our profession, including the role of the individual engineer in the fight against corruption in the design and construction industry, the devastating impact the Asian tsunami and Gulf Coast hurricanes had on the effected regions—as well as our national and global economies—and the ongoing challenge of renewing and securing our nation's rapidly deteriorating infrastructure.

Since 1852, civil engineers have relied on ASCE to help them meet the challenges of the profession. There is no doubt that the future of engineering holds many new demands and challenges. ASCE is already making plans to equip our members with the new tools and skills needed to broaden their knowledge and expertise. We are committed to lifelong learning—through conferences and workshops like this one—that will prepare civil engineers to meet the challenges they face and to fulfill their mandatory state continuing education requirements.

It is our commitment to service and to upholding the public's trust that unites us. Our professional code of ethics recognizes the protection of public health and safety as the foremost responsibility of the civil engineer. A critical issue facing the engineering community is the infrastructure development and renewal needed to support America's continued prosperity. ASCE's efforts are focused on expanding investment, enhancing delivery and maximizing effectiveness, as well as establishing a sound financial foundation for future improvements. Infrastructure is the foundation of the country's well being. Business is built upon it, and our society's quality of life depends on it.

By striving to improve our profession, we will improve our infrastructure and our communities. We will improve the partnerships essential to keeping pace with and surpassing needs by striving to improve public understanding. Our work doesn't end with the completion of a project or a funding reauthorization. That is just the beginning of a new process—assessing the next need and working toward the next goal.

We must acknowledge the accomplishments we have made; strive toward future achievements; and most importantly, we must take pride in our role as civil engineers and our partnership with the public. It's great to be a civil engineer!

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THIS NEWSLETTER IS PRINTED ON RECYCLED PAPER.

Rich Haller, P.E.
Section President



Welcome to Los Angeles!

On behalf of over 6,000 members of the Los Angeles Section, I'd like to welcome the **ASCE's Annual Civil Engineering Conference** attendees. We are excited to "show off" southern California and for you to experience our hospitality. The conference is packed with unique visionary leaders' forums, presentations, tours, dinners and social events for all ages, including students. In addition, a special session on lessons learned from hurricanes Katrina and Rita has been added. The conference theme, "Next Generation Infrastructure: Projects that Create the Future" will focus on the vision, motivation and leadership required by the projects of the future. What a great opportunity to grow as leaders, both professionally and personally, and to learn about projects of the future! We look forward to seeing you there!

The Los Angeles Section conducted its annual **Awards and Installation Dinner** at the prestigious Club 33 in New Orleans Square, Disneyland. New Section officers were installed by Carl Blum, P.E., F. ASCE, the new Region 9 director. The Section officers are listed in this month's newsletter and on our website at www.ascelasection.org. We welcome Diego Cadena, P.E., M. ASCE, as our new treasurer, and thank Mark Tufenkjian, P.E., M. ASCE, for his two years of dedicated service. Mark will continue to assist us as we complete the first ever outside audit of our books this fall.

It was an extreme pleasure to present the President's Plaque to **Neil Morrison, P.E., M. ASCE**, in recognition of his leadership to the Section over the last year. During the year, Neil was instrumental in getting the largest award from ASCE National for the State Public Affairs Grant program. The Section used a portion of these funds to establish the first annual State Legislative Day Program, where fifty ASCE members from across the state traveled to Sacramento last February to meet with our legislators. Other accomplishments during the year included the formation of Region 9 (comprised of the 4 sections in California), and a positive balance year-end budget. Neil's service as our Section's representative at numerous functions, and his support of Branch, Younger Member Forum, Life Member Forum and Committee activities, are greatly appreciated. Thanks Neil!

Fifteen **awards and honorable mentions** were presented during the dinner. Competition was fierce with multiple outstanding nominations submitted for each award. The Awards Committee's decisions were difficult, and the recipients should be commended for their outstanding individual work and projects, which have contributed significantly to the profession and society. Recipients are posted on the Section website and are listed in a separate section of this newsletter. More detailed information will be presented over the next several issues of the newsletter.

Our Section focus this year is to expand the **Statewide Legislative Program** to include the February 22nd Legislative Day and "back home" contacts, as well as the **Disaster Preparedness Program**. Mike Thornton, P.E., M. ASCE (mthornton@tkeengineering.com), is coordinating our Legislative Program. The Disaster Preparedness Program, headed up by Jack Ralston, [(818) 345-9199 or (818) 345-5283 (fax)], is seeking Professional Engineer volunteers to receive California Office of Emergency Services Disaster Service Worker training and to help in the event of a major natural disaster.

Please get involved in your local Branch, Younger Member Forum, Life Member Forum or Technical Group/Committee, and be sure to **renew your ASCE membership early**, including your LA Section membership. If you are not a member, please sign up at <https://www.asce.org/online/>.

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EDITORIAL

The Civil Engineer

This month we welcome visiting members from other parts of the country to our great city for ASCE's Annual Civil Engineering Conference. Leadership, ethics, water resources management, transportation...these are just a few of the key issues your conference will be tackling in its various sessions.

As this special issue of the Los Angeles Section Monthly will be distributed to conference attendees, we have included articles that pertain not only to items of local interest, but to conference topics as well. We hope the local topics will provide our visitors with a taste of the region's flavor. The local announcements and advertisements will also provide out-of-town ASCE members with an overview of how our Section functions.

One of the most important highlights of this issue is our display of the Los Angeles region's Civil Engineering Landmarks. We thought it was important to showcase the various local infrastructure systems that make our daily lives easier here in Los Angeles. These creations provide a visible monument of how our profession can achieve substantial change in the lives of many. However, these structures are often simply seen as utilitarian and unexceptional. To extricate them from this obscurity, these landmarks have been selected in order to recognize not only the projects themselves, but the value of the individuals and the civil engineering advancements that contributed to their creation. As you visit these landmarks during the conference, or when you get a chance on your own time, take pride in being associated with a profession that can build such great things.

Again, we welcome the conference attendees, and hope that both visitors and Los Angeles Section members enjoy this expanded issue of our newsletter!

- Dr. Cris B. Liban, P.E.

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Tuesday, October 25, 2005
 1:00 – 5:30 p.m.

On December 26, 2004, a deadly tsunami roared ashore along the coasts of the Indian Ocean, devastating the lives of millions. In response, ASCE, in cooperation with the Institution of Civil Engineers, sent technical teams to South Asia to study the extensive infrastructure damage and to investigate the specific causes of failure in the region's life support systems, including water supplies, roads and rail networks, sewerage systems, and power supplies and ports, as well as structural buildings collapse. During this session, the team members will share reports from their investigations in Thailand, Sri Lanka, India and Indonesia, as well as scientific information on geology, tsunamis and the environment.

International Roundtable

Wednesday, October 26, 2005
 2:00 – 5:30 p.m.

Disaster Reduction for the Poor

Annual economic losses associated with natural disasters increased from an average of \$75.5 billion in the 1960s to an average of \$659.9 billion in the 1990s. A nation's poor often bear the greatest cost in terms of lost lives and livelihoods, as well as rebuilding their shattered communities and infrastructure. This session will feature a presentation by World Bank Senior Operations Officer Jelena Pantelic on innovative ideas and methods to address this situation.

Surviving Nature's Forces: Have Civil Engineers Built Safe Communities?

Civil engineers are largely responsible for rebuilding the communities that are destroyed by natural disasters. This session will feature presentations from evaluation teams who have traveled to the locations affected by the recent tsunami. A panel of experts will present questions to the international engineering community to explore the basic tenets of the role of civil engineering in protecting human health, safety and welfare in the future.

SPECIAL SESSION

Lessons Learned from Katrina: Should Civil Engineers Lead

Thursday, October 27, 2005
 5:45 – 7:00 p.m.

The ASCE assessment teams will discuss the hurricane and the storm characteristics, and attendees will hear first-hand accounts of what happened to the region's constructed environment and where we go from here. A moderated panel discussion on the role of civil engineers in the recovery and reconstruction will follow the presentations.

Student Forum on Career Development and Leadership

Friday, October 28, 2005
 2:00 – 5:15 p.m.

The Student forum is specifically designed to provide students with valuable leadership and career development information, while building connections with professionals. Students will have the opportunity to interact with a number of professional engineers from diverse backgrounds and learn what to expect during various career stages. The forum will include presentations such as "Ethics in Leadership" and "Student Leadership for Success" to give students insight on how to achieve success in the engineering profession. Students will also have the chance to participate in a Quiz Bowl, a question and answer competition, to win exciting prizes.

Water/Transportation Tours

Saturday, October 29, 2005
 10:00 a.m. – 5:00 p.m.

Tour attendees will view some of the leading-edge transportation and water facilities in Southern California.

- Transportation Tour will highlight upgrades and expansion projects underway at the ports of Los Angeles and Long Beach, as well as the Alameda Corridor.
- Water Tour 1 will feature the region's leading-edge water supply, reclamation and recycling projects, including the Los Angeles Aqueduct Filtration Plant, Sun Valley Watershed Management, the Long Beach Desalination Plant, the Santa Monica Urban Runoff Recycling Facility, and the West Basin Water Recycling Facility.
- Water Tour 2 will focus on Orange County's world famous water recycling projects, including wetland restoration along the Santa Ana River, water reuse in the City of Irvine, and Orange County's state of the art reclamation and groundwater replenishment system.

In between tours, the ASCE History and Heritage Committee will also present an overview on how engineers have contributed to the growth of Southern California's infrastructure and how current projects fit into the "big picture" today.

Rebuilding Together: Third Annual Community Service Event (Bradley Multipurpose Senior Center)

Sunday, October 30, 2005
 7:30 a.m. – 5:00 p.m.

This day-long event is a great opportunity to improve the local community through civil engineering. Civil engineers will work together to strengthen the accessibility, safety and functionality of the Bradley Multipurpose Senior Center. Projects include building and installing a ramp for the auditorium stage, replacing outdoor benches and tables, improving the flooring and ceilings, repairing damaged bridge railings and more. A noontime ceremony will acknowledge the efforts of ASCE, Rebuilding Together and the Bradley Multipurpose Senior Center.

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New Officers Installed, Awards Presented September 29

Section members enjoyed a day of fun at Disneyland and a night of celebration in the exclusive Club 33 located near New Orleans Square! Region 9 Director Carl Blum, P.E., F. ASCE, inducted the new officers and Metro Los Angeles Branch President Jay Higgins, P.E., M. ASCE and Section President Rich Haller, P.E., M. ASCE presented awards. Section award recipients were as follows:

- Outstanding Civil Engineer in Private Sector: James H. Clark, P.E., F. ASCE
- Outstanding Civil Engineer in Government: Mark R. Norton, P.E., M. ASCE, John K. Correa, P.E., M. ASCE (Honorable Mention)
- Outstanding Younger Civil Engineer: Kathereen M. Shinkai, P.E., A.M. ASCE, Gary K. Gilbert, P.E., A.M. ASCE (Honorable Mention)
- Outstanding Private Sector Civil Engineering Project, Ladera Ranch, DMB Ladera, LLC
- Outstanding Government Civil Engineering Project: Northeast Interceptor Sewer Project, City of Los Angeles, Department of Public Works, Project Cuesta Grade, California Department of Transportation District 5 (Honorable Mention), Redlands Recycled Water Project, City of Redlands (Honorable Mention)
- Outstanding Civil Engineer in Community Service: John T. Morris, P.E., DEE, F. ASCE
- Outstanding Life Member: Charles Ruiz, P.E., M. ASCE
- Excellence in Journalism Award: Heather Lourie Ignatin, Orange County Register
- Lifetime Achievement Awards: Herbert I. Nakasone, P.E. and M. ASCE, Bob Hodson, P.E.
- President's Award: Michael P. Thornton, P.E., M. ASCE



Recipients and spouses gather at Disneyland's Club 33 prior to the awards and officer installation banquet

2005 ASCE Los Angeles Section Awards

- **Outstanding Civil Engineer in Private Sector**
This award recognizes individual engineering achievement in the private sector. This year's recipient **James H. Clark, P.E., F. ASCE** is being recognized for engineering achievement as a vice president of Black & Veatch Corporation, managing water and wastewater projects, and a long term commitment to professional practice serving as national president of the Water Environment Federation and on the Stockholm Water Prize Nominating Committee of the Royal Swedish Academy of Sciences. Mr. Clark served as the senior process engineer and project manager of the \$1.1 billion City of Los Angeles Hyperion Treatment Plant expansion project, and in 2004 was named as one of the 50 most influential people in public works by Public Works Magazine.
- **Outstanding Civil Engineer in Government**
This award recognizes individual engineering achievement in the public sector. This year's recipients are **Mark R. Norton, P.E., M. ASCE** and **John K. Correa, P.E., M. ASCE (Honorable Mention)**. Mr. Norton is the Water Resources and Planning Manager for the Santa Ana Watershed Project Authority and has spearheaded the preparation of the Santa Ana River Integrated Watershed Program, planning for future water supply, quality, reuse, and related environmental needs within the 2,600 square mile watershed. In addition, Mr. Norton led the effort to prepare the first ever infrastructure report card for the Inland Empire region of Southern California, increasing awareness of the condition and level of service of the existing infrastructure.
Mr. Correa is General Manager of the Ojai Valley Sanitary District, managing a \$6 million budget, staff of 19, and the operation of a 3 MGD tertiary wastewater treatment plant. Mr. Correa is being recognized in particular for his leadership in completing challenging engineering projects such as directional drilling for installation of a sewer pipeline, his willingness to share his experiences, and his strong commitment as a local community volunteer.
- **Outstanding Younger Civil Engineer**
This award recognizes individual engineering achievement by a younger engineer (35 years of age or younger). This year's recipients are **Kathereen M. Shinkai, P.E., A.M. ASCE**, and **Gary K. Gilbert, P.E., A.M. ASCE (Honorable Mention)**. Ms. Shinkai is the Civil Engineering Group Manager for Site Development for Carter & Burgess. She is starting a land development team at the firm's new Orange County presence. She has held numerous ASCE leadership positions with the Orange County Branch and Younger Member Forum (YMF) and will serve as the 2005/2006 Orange County YMF President.
Mr. Gilbert is a civil engineer for Diaz-Yourman & Associates managing geotechnical aspects for a wide variety of projects. Mr. Gilbert has held numerous ASCE leadership positions beginning as the CSU Long Beach Student Chapter President, after graduation serving as student Practitioner Advisor, and most recently Orange County YMF Secretary.
- **Outstanding Private Sector Civil Engineering Project**
Ladera Ranch, DMB Ladera, LLC – located within the Old Rancho Mission Viejo land in south Orange County, this master planned community has become a showcase project for the building and development industry. Ladera Ranch is a collection of villages and neighborhoods linked together by a latticework of trails and parks. The 4,000 acre

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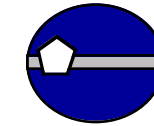
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- **Outstanding Government Civil Engineering Project Northeast Interceptor Sewer Project, City of Los Angeles, Department of Public Works** – a \$162M, 5.3 mile, 8 foot diameter relief sewer along the LA River near downtown Los Angeles, completed ahead of schedule despite significant construction challenges. The second largest construction contract ever awarded by the Dept of Public Works was operational 3 days ahead of a RWQCB Cease and Desist Order required milestone. Three tunnel boring machines were used to construct the tunnel which also included 4 work shafts for construction of junction/drop structures, and 7 maintenance shafts; the carrier pipe was Pre-stressed Concrete Cylinder Pipe. Three reaches were classified as "gassy tunnel" requiring the use of "explosion proof" equipment and full time gas monitoring. Elevated gas levels were encountered and mitigated. An extensive community outreach program engaged the local communities during the 3.5 year construction period.

Project Cuesta Grade, California Department of Transportation (Honorable Mention) – a \$48M widening and reconstruction of the State Route 101 Cuesta Grade (3.5 mile, 7% slope) north of San Luis Obispo by Caltrans District 5. The completed roadway provides truck climbing lanes in each direction, increased lane widths, shoulders, structures and drainage to reduce the risk of slides, and other safety improvements. Revised curvature and vertical profile has produced the openness and feel of a modern highway. Seven retaining walls totaling over a mile in length are curved, tiered, landscaped, textured and painted to blend with historic San Luis Obispo. A complex four stage construction sequence allowed for two traffic lanes to remain open in both directions during much of the project. A conveyor belt was installed over traffic lanes to move soil/rock from the "cut" to "fill" sides. Environmental considerations included preservation of historic facilities and installation of fish passage weirs for steelhead trout.

Redlands Recycled Water Project, City of Redlands (Honorable Mention) – \$24.5M upgrade to an existing wastewater treatment facility and recycled water distribution pipelines. The completed facility can produce up to 6 MGD of recycled water meeting the requirements of Title 22 for use in cooling towers and crop irrigation. Innovative design features included the use of a membrane biological reactor in the largest application of the technology in the western U.S., and the incorporation of biological total inorganic nitrogen removal and submerged membrane solids separation into a single system. Innovative project management techniques were used to construct the improvements while maintaining treatment standards and to reduce the risks of a relatively new treatment technology.

- **Outstanding Civil Engineer in Community Service**
This award recognizes the efforts of civil engineers in community service. This year's recipient is **John T. Morris, P.E., DEE, F. ASCE**. Mr. Morris has long participated in community activities in his hometown of San Marino serving in a variety of organizations including

leadership roles such as church elder and assistant scoutmaster. He has been a member of the San Marino City Club since 1973 and is currently serving as President. Mr. Morris is also a member of the Pasadena Tournament of Roses Association and chairs the Royal Court Coronation. Since 1990, Mr. Morris has served as San Marino's representative to the Metropolitan Water District Board of Directors while operating his own water resources consulting business. In addition to ASCE activities, Mr. Morris is an active leader in the Water Environment Federation, the Water Reuse Association, the U.S. Desalination Coalition, and the National Water Research Institute.

- **Outstanding Life Member**
This award recognizes contributions to the Section's Life Member Forum (LMF), infrastructure of the community, and civil engineering. This year's recipient is **Charles Ruiz, P.E., M. ASCE** a long-time member and highly active supporter of the LMF. His accomplishments include organizing the annual Life Member banquet honoring the careers of new Life Members, reviewing major infrastructure projects and providing written and oral input, and participating in Section Board activities. Prior to retirement, Mr. Ruiz served in the US Army Corps of Engineers from the 1960s through the 1990s in the Los Angeles and San Francisco offices, and ultimately served in the Office of the Assistant Secretary of the Army for Civil Works in the Pentagon.
- **Excellence in Journalism Award**
This award recognizes a reporter who enhances public understanding of civil engineering. This year's recipient is **Heather Lourie Ignatin, Orange County Register**. Ms. Ignatin has regularly covered transportation related topics as well as a regular column titled "Honk", which answers readers questions regarding traffic related issues. She has regularly consulted with the traffic engineering community for technical input and her column has become a forum for readers to voice concerns and get answers related to traffic and transportation issues in Orange County.
- **Lifetime Achievement Awards**
This award recognizes long term contributions to the civil engineering profession. This year's recipients are **Herbert I. Nakasone, P.E., M. ASCE** and **Bob Hodson, P.E.** Mr. Nakasone has served in a variety of capacities at the County of Orange for 34 years. He is currently the Director of Public Works and Chief Engineer for the Resources and Development Management Department. Mr. Nakasone is in charge of a staff of 475 personnel, an annual budget of over \$250M, and the design, construction, and operation of roadways and regional flood control facilities. His leadership has been critical to the progress of the \$1.4B Santa Ana River Mainstem Project, planning for major roadway corridors, and addressing a myriad of new storm water and water quality regulations and requirements.

For many years, Mr. Hodson has had a major role in public works projects in the cities of Fullerton, Cerritos, and Placentia. He served as the Assistant City Engineer for the City of Cerritos from 1986 to 1988, and from 1988 to 1992 as the Director of Public Works for the City of Placentia. In 1992, Mr. Hodson returned to the City of Fullerton serving as Director of Engineering until his retirement in 2004. In addition to numerous traditional public works projects, major City of Fullerton projects included the Highland Avenue Underpass, maintenance yard reconstruction and expansion, and major expansions to the library and police station. Mr. Hodson served as the President of the Orange County City Engineers Association and as Chairman of the OCTA Technical Advisory Committee.

continued on page 8

ASCE Takes a Stand Against Corruption in Construction

An Article on Global Ethics by Arthur Fox, ASCE Past President

A Task Committee on Global Principles for Professional Conduct (TCGPPC) will wrap up sixteen months of effort at our Annual Conference with a full-day forum on ways to fight bribery and corruption in engineering and construction. Morning and afternoon sessions will review efforts to date and discuss continuing work of the Task Committee through 2006. The Leadership & Management Luncheon speaker, CH2M-Hill's Ralph Peterson, will focus on the anti-corruption initiative in his remarks. And, the mid-afternoon opening plenary session will feature as keynote speaker Fluor's CEO Alan Boeckmann, who leads the Partnership Against Corruption Initiative of the World Economic Forum.

The Society's emphasis on combating corruption came to the fore as the initiative of President Bill Henry when he came into office. Traveling around the world during his Presidency, he has spread his ideas on fighting corruption on visits to Asia, Latin America and most recently to Egypt, Poland and Italy. President Henry's principal idea has been that individuals—individual members of ASCE, its affiliated engineering societies around the world, and construction industry organizations within the U.S.—can have an impact on the funding for projects that is lost to corruption.

How big is the problem? Global construction investment in 2004 (in the countries that measure it) totaled \$3.9 trillion. The Berlin-based organization, Transparency International, estimates that 10% of construction funds are lost to bribery, extortion or graft in some form. The math is simple: \$390 billion was lost to corruption in 2004 - possibly enough to have solved the world hunger problem that year.

How can individual ASCE members (and other millions of engineers around the world) put a dent in this horrendous loss?

At President Henry's direction, TCGPPC has written a set of Principles for Professional Conduct and offered them to ASCE's so-called Agreement of Cooperation societies in 67 countries. The Task Committee has written new Guidelines that will be submitted to ASCE members for approval as a rewrite-with-teeth for Canon 6 of the Society's Code of Ethics. The committee has written a new ASCE Policy on combating corruption, stressing zero tolerance for bribery. Finally, and perhaps most important, TCGPPC has written an Engineer's Charter, pledging to fight corruption, for signatures of individual engineers around the globe. That Charter and the proposed Guidelines are to appear in the current issue of ASCE News.

The global loss to corruption by the engineering and construction industry may come as a shock when you read that \$390-billion figure. While some may think corruption is foreign to the United States and not a problem in our construction industry, it is a problem when we have one ex-governor in jail right now. Some may recall a vice-president who left office after receiving bribe money still owed by a contractor from his days as a governor. Around the world the U.S. has lots to do to clean up its act. Transparency International ranks the U.S. 13th on a list of countries measured by a "bribe payers index" and 17th least corrupt. TI identifies construction as the most corrupt of industries, ahead of arms and defense, oil and gas. Foreign corrupt practices acts in the U.S. and many other countries do not stop corruption. What will?

President Henry's initiative and the work of his task committee could conceivably put millions of engineers out there with whistles in their pockets. Individual engineers as threats to corrupt officials and others can stop corruption before it starts. They can blow the whistle, using hotlines to report what they see happening that must be stopped. Corruption will never be ended. But it can be lessened.

That's the importance of the session on combating corruption at this year's Annual Conference. If you miss it, read of the continuing efforts of TCGPPC in ASCE News. And, consider your obligation, according to the Society's Bylaws, to "report promptly...any observed violation of the Society's Code of Ethics."

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ARTICLE

National Report Cards

Traffic congestion and our children's overcrowded schools are daily reminders that the state of our nation's infrastructure directly affects our economy and quality of life. ASCE has been evaluating the condition of our nation's infrastructure systems since 1998, and has seen little to no improvement.

The *2005 Report Card for America's Infrastructure* assessed 15 infrastructure categories, including three new categories—public parks and recreation, rail and security—and the grades ranged from a high of C+ for solid waste to a low of D- for drinking water, navigable waterways and wastewater.

Both drinking water and wastewater declined from a D to a D- in the four years since ASCE's last national assessment. The nation's drinking water system faces a staggering public investment need to replace aging facilities, comply with safe drinking water regulations and meet future needs. However, Federal funding in 2005 remains at \$850 million, less than 10 percent of the total national requirement. Aging wastewater systems discharge billions of gallons of untreated sewage into U.S. surface waters each year, and the EPA estimates that the nation must invest \$390 billion over the next 20 years to meet increasing demand.

Navigable waterways also received a D-, compared to a D+ in 2001. Waterways are an excellent method for moving large volumes of bulk commodities at a fraction of the cost of rail or trucks. However, of the 257 locks on the more than 12,000 miles of inland waterways operated by the U.S. Army Corps of Engineers, nearly 50 percent are functionally obsolete. By 2020, the number will increase to 80 percent.

In transportation, two categories worsened—roads from D+ to D and transit from C- to D+. Poor road conditions cost U.S. motorists \$54 billion a year in repairs and operating costs—\$275 per motorist—and Americans spend 3.5 billion hours a year stuck in traffic, at a cost of \$63 billion a year to the economy. Transit use increased faster than any other mode of transportation—up 21 percent between 1993 and 2002. Yet when congressional leaders finally reached an agreement on the Transportation Equity Act: A Legacy for Users (TEA-LU), funding remained nearly \$100 billion less than deemed necessary by the Federal Highway Administration's 2002 Conditions and Performance Report.

For three categories—bridges, dams and solid waste, the grades remained the same as in 2001. Bridges again received a C grade. Between 2000 and 2003, the percentage of the nation's 590,750 bridges rated structurally deficient or functionally obsolete decreased slightly from 28.5 percent to 27.1 percent. However, one in three urban bridges was classified as structurally deficient or functionally obsolete.

For dams, the grade remained a D. Federally owned dams are in good condition and there have been modest gains in repair of small watershed dams. However, since 1998, the number of unsafe dams has risen by 33 percent to more than 3,500. It will take \$10.1 billion over the next 12 years to address all critical non-federal dams, dams which can pose a direct threat to human life should they fail.

Only two categories improved slightly—aviation, up from a D in 2001 to a D+, and schools, up from a D- to a D. While much attention has been given to airport security, capacity issues must be

addressed to avoid costly delays in the future. Demand for air travel is on the rebound with a projected growth of 4.3 percent annually through 2015.

In 1999, it was estimated that \$127 billion was needed to bring school facilities to good condition. Other sources have since reported a need as high as \$268 billion.

New categories—rail and public parks and recreation—both received a C- grade. Two areas, energy and hazardous waste, were found to be in decline, both from a D+ to D. As in 2001 solid waste again rated a C+.

The other new category—infrastructure security—received an incomplete. While the security of our nation's critical infrastructure has improved since Sept. 11, the information needed to accurately assess its overall status is not readily available to engineering and design professionals.

To remedy America's current and looming problems, not including estimates for infrastructure security needs, ASCE has estimated an investment need of \$1.6 trillion over a five-year period from all levels of government and the private sector. The *2005 Report Card* was assessed by an advisory council of 24 of the nation's leading civil engineers representing a broad spectrum of disciplines. Each category was evaluated on the basis of condition and performance as reported by federal sources; capacity versus need; and current and pending investment of state, local and federal funding versus need. Hundreds of studies, reports and other sources were analyzed, and more than 2,000 engineers were surveyed to determine what was happening in the field.

Each time ASCE has released a *Report Card for America's Infrastructure*, it has raised public awareness about America's crumbling infrastructure. While the Report Cards and the attention they drew are effective in building public support for infrastructure renewal, civil engineers must continue to lead the discussion on viable solutions.



In order to broaden the dialogue on infrastructure renewal, ASCE has encouraged Sections and Branches to develop and promote infrastructure report cards for their cities, states or regions. Focusing on infrastructure that is relevant to the local community allows Sections and Branches the opportunity to influence local residents and key decision-makers to support infrastructure renewal.

The latest local Report Card effort will come from the Los Angeles Section, which issued its first report in 2002. In their first *Report Card*, the Section assessed 11 of the County's infrastructure systems at an overall GPA of C+, with \$4 billion needed for investment. Grades ranged from a D for urban runoff to an A- for the County's solid waste infrastructure, with drinking water and streets/highways receiving a C-, bridges receiving a C, parks and transit each receiving a C+, dams receiving a B-, and flood control, ports and wastewater systems receiving a B.

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RBF CONSULTING RANKS #1 - BEST FIRM TO WORK FOR IN THE NATION -

RBF Consulting (RBF), one of 12,500 engineering firms nationwide, has earned the distinction of being the "Best Civil Engineering Firm to Work For" in the United States. In a summit and awards ceremony held by CE News in Baltimore, MD last week and attended by the top 50 firms, RBF ranked number one in the nation.

"We encourage our team to follow their passion for civil engineering, community and environmental planning, urban design, surveying and construction management in an environment that makes them happy," said Bob Kallenbaugh, Co-President of RBF. "Being recognized nationally for the culture that we embrace and being able to tell the world about our amazing RBF team is an honor and a privilege."

Key factors in the selection of RBF Consulting as the best firm included the working relationships within the company among the team members and with RBF leadership, the richness of the corporate culture, vision and mission of the firm, professional development opportunities, employee benefits, family atmosphere, advanced technology, social events and involvement in community service activities. The award designed by CE News Magazine, is presented to the firm that ranks the highest in the submittal process which includes a corporate survey, employee satisfaction survey, and personal interviews with RBF executives.

"It has been RBF's heartfelt mission to make the world a better place", stated James McDonald, Co-President of the firm. "Every team member strives to improve our Nation's communities, transportation, storm water management and water systems, and overall environment, as they work hand in hand with our clients. To help our employees achieve this goal, RBF leadership team does everything possible to make the world a better place for our 930 employees."

As the civil engineering field catapults to unprecedented levels of recognition, RBF Consulting leads the way in offering their exceptional people an exceptional place to work.

Make the most out of your ASCE National and Section membership. RENEW TODAY!!!

Los Angeles Section American Society of Civil Engineers 2005 Awards

continued from page 5

- **President's Award**

This award is presented by the outgoing Section President to an individual who contributed significantly to the Los Angeles Section during the previous year. This year, President Neal Morrison has selected **Michael P. Thornton, P.E., M. ASCE** to receive the award in recognition and appreciation of his long term support of the profession and ASCE, and in particular Mr. Thornton's hard work during the year creating a legislative program. This new program included the formation of a Legislative Committee and organization of the first ever Legislative Day in Sacramento. The results of this program were phenomenal and Mr. Thornton's efforts are very much appreciated. Mr. Thornton is President of TKE Engineering located in Riverside.

CIVIL ENGINEERS FROM LOS ANGELES MAKING A DIFFERENCE IN THEIR COMMUNITIES

The American Society of Civil Engineers has awarded the Los Angeles Section Metropolitan Los Angeles Younger Member Forum (YMF) its ASCE National Public Service Award for the amount and quality of its public service activities.

This award is presented in recognition of the YMF's efforts that enhance the recognition of civil engineering as a respected profession through their involvement in public service activities.

The YMF's significant public service accomplishments are indeed praiseworthy. It was selected for this award for various reasons. First, YMF's introduction of an engineering component to the HOPE worldwide Child Development Program's weekend mentoring program. This program was designed to specifically target underrepresented children from low-income communities with scarce resources. Throughout the year, the YMF visited Melvin Elementary School, Stanford Elementary School, and Trinity Elementary School. These are all inner-city elementary schools within the Los Angeles Unified School District (LAUSD). Haile Ford, a young engineer with the county of San Bernardino, was the team captain for the first series, which was an egg-drop competition. Eddie Lyons, a young engineer with the Los Angeles Department of Public Works, was the team captain of the second series, gumdrop and toothpick structures competition.

The YMF also participated in the Christmas Train Event by decorating the train engine with stuffed animals and drawing the attention of younger members to the plight of poverty stricken families and the failing infrastructure just south of the border. Dolores Ventura, a young engineer with Infrastructure Engineering Corporation in San Diego, coordinated the YMF volunteers.

Lastly, YMF members were recognized for their efforts in hosting the Popsicle Stick Bridge Competition, which attracted over 300 high school students from the Los Angeles area. Julian Garcia, a young engineer with the Los Angeles Department of Public Works, coordinated this event. Individually, each of these endeavors are significant; as a whole, all are of special importance.

The award will be presented to members of the ASCE Los Angeles Section Younger Member Forum at the Leadership Breakfast on Sunday, October 30, 2005 during the ASCE Civil Engineering Conference in Los Angeles.

For further information please contact:

Dolores Ventura
14271 Danielson Street
Poway, CA 92064
Tel: (858) 413-2400 • Fax: (858) 413-2440
E-mail: dventura@iecorporation.com

ASCE's 2005 Member-Get-A-Member Drive Depends on You!

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FUTURE CITY COMPETITION NEEDS YOU...TO BE AN ENGINEER MENTOR!

Future City is an organization comprised of many engineering organizations, including ASCE, that provides engineering education outreach to middle school students. This outreach is in the form of a competition of teams composed of 3 middle school students, a science teacher, and an engineer mentor. Together the team works on designing a city of the future using SimCity software by Maxis, printing out a map, preparing an abstract and essay about their city, building a scale model of the city using recyclable materials, and presenting the city to a team of judges at the Los Angeles Regional Competition at the California Science Center in Los Angeles on Saturday, January 28, 2006.

The Los Angeles Regional Future City Committee would like all engineers, registered or not, to participate in this event by volunteering to be an engineer mentor for a local middle school. Contact information for schools needing engineer mentors can be provided by the Future City Committee. Engineers are encouraged to contact middle schools close to their home or work place to make working with the team as easy as possible. They are also encouraged to invite nearby middle schools that are not currently registered to participate in this enriching activity. The commitment includes meeting and advising the team about their deliverables at a time that is mutually convenient to all. Mentors are encouraged to start working with their teams as soon as possible to ensure that the competition's deadlines are met.

Winners of the Regional Competitions receive an all-expense paid trip to Washington, D.C. to compete in the National competition. Past winners of the National competition have received all-expense paid trips to NASA's Space Camp in Huntsville, Alabama.

More information about Future Cities can be obtained at www.futurecity.org

To become an engineer mentor and make a difference in the lives of our youth, please contact the Los Angeles Region Engineering Mentor Coordinator:

Fred A. Gonzalez, MBA, P.E.
Los Angeles County Department of Public Works
11th floor, Watershed Management Division
900 S. Fremont Avenue • Alhambra, CA 91803
ph 626-458-5948 • fx 626-457-1526
fgonzal@ladpw.org • fgonzaleig@yahoo.com

A Great Idea From the Life Members

The ASCE Life Members' Public Image Committee request that members take their (to be discarded) Civil Engineering magazines to their doctor's office or barber shop and merge them with the stack of magazines. We feel that this will be an effective way to make the general public more aware of what civil engineers do.

Find out the latest section & branch news
@ www.ascelasection.org

P.E. License Review Course

The RBF Consulting P.E. License Review Course for the April 21st and 22nd, 2006 professional license exam will begin on January 7, 2006 and continue for thirteen (13) Saturdays, ending on April 8, 2006. The course is taught by practicing professionals and includes several unique features:

- Course fee includes eight textbooks and over 2,000 pages of focused lecture notes and solved practice and example problems.
- Enrollment strictly limited to 30 students.
- Comprehensive coverage of all subjects addressed by the eight-hour exam as well as those covered by the California Special Survey and Seismic Portion of the exam.
- Approximately 100 hours of classroom instruction.
- Excellent course track record.
- Centrally located at the Irvine Spectrum Offices of RBF Consulting, 14725 Alton Parkway in Irvine. A pleasant atmosphere is combined with a convenient Orange County location.
- Continental breakfast provided for each session.

The course is designed to emphasize personalized instruction and practical applications of principles covered by the examination. The review course fee is **\$1,300** and includes textbooks and instructor lecture notes. The course is offered for the April exam only and partial classes are available to returning students only at no cost. For more information please contact Ms. Debi Blake at (949) 855-7032 or via e-mail dblake@rbf.com. You may also log onto our website to review the course schedule and register at <http://www.rbf.com>.

National Report Cards continued from page 7

The 2005 Report Card for Los Angeles County Infrastructure will be unveiled on October 27, 2005, at the University of Southern California's (USC) Davidson Conference Center Embassy Room. The event, being held in conjunction with the ASCE Annual Conference, will include presentations by Section leadership, along with Los Angeles Mayor Antonio Villaraigosa (invited), County Board of Supervisors Chair Gloria Molina (invited), USC Keston Institute for Infrastructure Executive Director Richard Little, AICP, Assemblyman Keith Richman (R-District 38), and ASCE Executive Director Patrick J. Natale, P.E., F.ASCE, CAE. The event will also include two moderated panel discussions on transportation and urban runoff infrastructure. Local radio personality Kitty Felde, host of KPCC's *Talk of the City* program, will serve as moderator, and panelists will include representatives from the Los Angeles County Department of Public Works' Watershed Management Division, the USC Viterbi School of Engineering, the Los Angeles Regional Water Quality Control Board, Tree People, the Los Angeles City Council, and regional transportation experts and engineers.

Metro Orange Line: A Transit Achievement; A Community Showcase

The Metro Orange Line, built by the Los Angeles County Metropolitan Transportation Authority, is the latest innovation in transit technology.

New to Los Angeles County, this unique transit alternative consists of 13 art and technology filled stations. Scheduled to debut in San Fernando Valley at the end of October 2005, the Orange Line complements Los Angeles' growing subway system by providing a dedicated busway system.

The transitway's significance lies in its offering of service and technology comparable to light rail, but at half the construction cost. The Orange Line and its technology are being monitored by other transit systems across the country, as providers look to reduce traffic in an age of booming technology and limited transportation funding.

The new Metro Liner buses include a smooth entry and exit system, automatic station announcements and other customer-focused amenities. The system's overall design and style take into account the needs of riders with physical impairments, and meet Americans with Disabilities Act (ADA) compliance requirements.

The Orange Line transitway, the first in this region, integrates full accessibility, signalization, transit connections, communities and service. Its 80 acres also include a 14-mile bikeway, eight miles of pedestrian paths, over 800,000 plants, 5,000 trees and six decorative landscape areas. Ridership of the Orange Line is expected to reach 20,000 boardings per day by 2020.

Additional information regarding the Orange Line, the Metro Liner and other Metro projects could be found at www.metro.net.



Photo Courtesy of Metro

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Paul Karp's Retirement

Many of you may know Paul Karp from one of his many positions on the Central Coast - starting as an Engineering Trainee and later serving as an Engineer at the Diablo Canyon Nuclear Power Plant, the Goleta Water District, and San Luis Obispo County Sanitation. Starting in 1977, he served as Director of Public Works and City Engineer for the City of Arroyo Grande, where he remained until 1995, when he moved to the city of Santa Maria. He was promoted to Director of Public Works in 1996, and is retiring on December 9, 2005.

We would like to invite you to a celebration in honor of his retirement on December 2, 2005 at 6:00 p.m. at the Santa Maria Veteran's Memorial Building, 313 West Tunnell St., Santa Maria, CA. The \$20.00 registration fee includes a BBQ dinner of chicken or beef and a gift for Paul. (Tickets will not be available at the door.)

Please save the date and RSVP to Bonnie Sinor, City of Santa Maria Engineering at (805) 925-0951 X227, Bonnie Skeoch, Utilities, at (805) 925-0951 X7211 or Kathleen Villegas, Community Development, at (805) 925-0951 X376 and indicate your preference for the BBQ.

Hope to meet you there! Help us to honor his incredible career!

Los Angeles Civil Engineering Landmarks

Need a break between conference sessions? Want to get out and get some fresh air? The City of Los Angeles and the surrounding area have lots to offer, including several notable Civil Engineering Landmarks. More information on these and other Los Angeles landmarks can be found at www.ascelasection.org.

Los Angeles City Hall Completed in 1928 Location: Los Angeles



The first high-rise in Southern California—at 452 feet—City Hall was the tallest building in Los Angeles until 1964. The building's seismic retrofit after the 1994 Northridge earthquake included the largest base isolation project in Southern California.



Colorado Street Bridge Completed in 1913 Location: Pasadena

This open spandrel reinforced concrete arch bridge crossing the Arroyo

Seco Parkway is the third longest concrete arch bridge in California. At 1,500 feet long and some 150 feet high, the bridge's main span stretches 153 feet. When built, it was the longest bridge in California and ranked among the tallest in the world. It was first listed on the National Register of Historic Places in 1981.

Four Level Interchange Completed in 1953 Location: City of Los Angeles



The prototype for modern interchanges on limited-access highways—such as the Interstate System—the Interchange was the first to eliminate the clover-leaf pattern, so that entering and exiting vehicles no longer need to cross paths.



Arroyo Seco Parkway Designated a National Historic Civil Engineering Landmark in 1999 Completed in 1940 Location: Pasadena, South Pasadena and Los Angeles,

Los Angeles County

The first urban freeway in the western United States, and the first freeway to be built as a state highway, the Parkway was the forerunner of many subsequent freeway projects. The Parkway is now known as the Pasadena Freeway.

Los Angeles Memorial Coliseum Completed in 1923 Location: Los Angeles



The Coliseum was originally constructed as a shallow bowl with 75,000 seats arranged on one tier placed on top of the embankment created by excavating the bowl. In 1931, it was enlarged to 105,000 seats by placing one additional tier of seats on earth fill and another as a supported reinforced concrete structure. The expanded stadium was used to host the Summer Olympic Games both in 1932 and 1984.



Rose Bowl Completed in 1923 Location: Pasadena

The Tournament of Roses Committee for the annual New Year's Day football game constructed the stadium. Its firsts include the first transcontinental radio broadcast of a sporting event in 1927, the first national telecast of a college football game

in 1952, the first coast to coast color telecast in 1962, and the first satellite TV broadcast to Europe in 1968.

Port of Los Angeles Completed in 1871 Location: San Pedro Bay, approximately 20 miles south of central Los Angeles



The Main Channel was dredged initially to a depth of ten feet and a breakwater was constructed. By 1912, the first 8,500-foot section of breakwater was completed and the Main Channel was widened to 800 feet and deepened to 30 feet. The Southern Pacific Railroad's first major wharf in San Pedro was completed by 1912. The 18,500-foot middle breakwater and other improvements were completed in 1937.

The Port, which encompasses 7,500 acres, has become dominant in international trade as the biggest and most efficient gateway in North America.



Los Angeles International Airport (LAX) Completed in 1928 Location: Los Angeles near the south coast of Santa Monica Bay, Los Angeles County

From the initial dirt and oiled runways and two small hangars, this project has grown to become one of the world's busiest passenger and cargo airports, with over 51 million passengers in 1994 and over 1.7 million tons of cargo in 1984.

The facility is the first airport to have a major highway—Sepulveda Boulevard/State Highway 1—travel under the runways in a tunnel, and the first airport to utilize the satellite concept. It is also the first commercial airport to be designed for jet aircraft, and the only airport to have four parallel runways comprising two distinct airfields.



Newport Harbor Designated a California Historic Civil Engineering Landmark Completed in 1936 Location: Newport Bay, Orange County

The project represents one of the finest small boat harbors along the Pacific Coast. The Harbor's 9,000 slips and moorings are worth approximately \$1 billion.

Angel's Flight Completed in 1901 Scheduled to Reopen in 2006 Location: City of Los Angeles



Built on the steep eastern slope of Bunker Hill, a few blocks north of what is now the Los Angeles Civic Center, Angel's Flight was the "world's shortest incorporated railroad" when opened on New Year's Eve in 1901. It is estimated that the Angel's Flight has carried more passengers per mile than any other railroad in the world, with over 100 million in its first 50 years.

In February 1969, Angel's Flight was taken out of service, dismantled and placed in storage for 27 years during the redevelopment of Bunker Hill. It was reconstructed one block south and service resumed in February 1996. However, the railroad closed a few years later due to a tragic accident. It is scheduled to reopen in 2006.



County Sanitation Districts of Los Angeles County Total Sewer System Completed in 1925 (approximately) Location: Los Angeles County

Passage of the County Sanitation Act in 1923 made possible the joint ownership of facilities and staffing. This led to the organization of the sewerage facilities for 72 cities and unincorporated territories. The County Sanitation Districts of Los Angeles County are a confederation of 26 independent special districts that serve the water pollution control needs of 5 million people within an area of 640 square miles.



County Sanitation Districts of Orange County Completed in 1912 Location: Coastal Orange County

As of 1993, the Districts served 90% of the population of Orange County, approximately 2.1 million people over 470 square miles, with 825 miles of trunk sewers and two treatment plants disposing of 270 million gallons of wastewater per day. Most of the effluent is discharged five miles offshore in 190-foot-deep water.



Colorado River Aqueduct Designated a National Historic Civil Engineering Landmark in 1994 Completed in 1941 Location: Riverside and San Bernardino Counties

Selected by ASCE in 1955 as one of the "Seven Modern Civil Engineering Wonders of the United States," the Aqueduct was unprecedented in size and scope when completed. At 242 miles long, it includes 92 tunnels, 64 miles of open canals, 54 miles of cut-and cover conduit, 29 miles of siphons, 4 dams, 5 reservoirs and 5 pumping plants that lift 1,608 cubic feet per second through 1,617 feet of elevation.

Los Angeles County Total Flood Control System Completed in 1980 (Major Facilities) and in 1998 (Additional Storm Drains and Modifications) Location: Los Angeles County south of the San Gabriel Mountains

The total system includes over 20 major dams, 114 debris basins, hundreds of miles of flood control channels and thousands of miles of underground storm drains.



-All photos courtesy of the Los Angeles Section History and Heritage Committee.