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One of the 24 Projects of the Year (starting on page 56)

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The APWA Reporter, the official magazine of the American Public Works Association, covers all facets of public works for APWA members including industry news, legislative actions, management issues and emerging technologies.

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The transportation landscape: funding inertia and project progression

Larry Stevens, P.E., PWLF
APWA President

To find a President’s Message for where transportation infrastructure is right now in the U.S., one only has to select one from the July issue of 2008 to 2012 and copy and paste. The issues with federal transportation funding and political climate during these years were very similar to where we are today. In May this year MAP-21 received its first extension with hope that a long-term bill can be completed by the end of July. Long-term financing options have been discussed and, as always, the recognition of the need for a long-term bill is prevalent, but there is limited consensus to do the heavy lifting of committing revenue.

This year your Government Affairs Committee and D.C. staff mounted another expedition to Capitol Hill to drive home the message that continued extensions and poor financing were taking their toll on public works transportation projects. We heard encouraging information from both sides of the aisle with common goals of long-term funding certainty and robust investment but were presented with the same funding hurdles. The congressional roadblocks seem to be not with the infrastructure committees and chairs, but with those that control the finance committees and would elect to hold transportation funding hostage to a larger tax reform effort.

Our D.C. efforts were spearheaded by Andrea Eales, who has only been with APWA for a short time but has proven to have a detailed understanding of the long road to legislative approval. She moved the GAC team to key transportation players/staff for both houses. Not only did GAC staff talk directly with legislators and staff, but followed up to provide potential streamlining language should bills move forward.

MAP-21 rulemaking by the FHWA has put out some useful provisions for our projects of the last two years including streamlined CE provisions and penalties for late permit issuance by state DOTs. The dependable funding levels have helped agencies plan for projects over the last few years, but that has come to an end. APWA efforts have again focused on the financial benefits of a long-term bill alongside the ongoing need for infrastructure improvements for community, trade and environmental well-being. The GAC continually takes your local stories of project successes from and challenges with federal transportation funding to Capitol Hill. This is the most important information to bring forward so keep those stories going to your GAC and Transportation Committee.

To make our efforts robust on local, state and federal levels, the
During National Public Works Week, APWA President Larry Stevens participated in the 2015 Baltimore City Department of Public Works Employee of the Year Ceremony. President Stevens addressed the audience on the vital importance of public works on the country’s citizens every day. “The Baltimore DPW Employee of the Year recognition is a tremendous way to celebrate National Public Works Week and highlight the importance of public works and the men and women that serve in the profession,” Stevens said. Pictured are President Stevens along with Natasha Neale, Recycling Program Associate, who received the Employee of the Year award.
budget! The proliferation of bike share systems, ride-sharing, and connected or self-driving vehicles are and will be serving a growing population that utilizes multiple modes of mobility. A tightly packed Toronto session on bike share implementation and the recently commissioned Chattanooga (pop 170,000) bike system illustrates the wide interest in just one of these new uses of the right-of-way. The APWA Center for Sustainability has compiled best practices for all sectors of public works, including bicycle master plans, which are becoming a key part of transportation comprehensive planning for agencies of many sizes. These plans not only provide a long-term strategy for facility construction (as part of congestion mitigation, community health and air quality), but can also help strengthen grant applications for competitive funding sources.

Rating systems like INVEST, Envision, Greenroads, and others are also shaping how transportation projects are delivered. The systems create a baseline for sustainable project design and delivery and provide the case studies for progressive design that many agencies need to assess the risk of changing our traditional road projects. APWA’s Transportation Sustainability Subcommittee has been keeping members in tune with these systems (and others) as they develop. Envision awarded a platinum level certification to the LA County DPW for its “first of its kind” Sun Valley Watershed Multi-Benefit Project which included new trail infrastructure for both cyclists and pedestrians. Greenroads certified 11 transportation projects in 2014 and is now included in the City of Tacoma’s transportation policies. INVEST released version 1.1 in January and is being use by TxDOT for the Harbor Bridge Project in Corpus Christi. Be sure to look for Envision and Greenroads booths at Congress or check out the May issue of APWA Reporter for more efforts by the APWA Center for Sustainability on transportation-related items.

Speaking of Congress, Phoenix will boast a number of great sessions on transportation including Every Day Counts (EDC)-Shareholder Partnering, Transportation Safety for Small Cities and Rural Communities, Connected Vehicles, and Multimodal Street Upgrade Case Studies. If we don’t have a long-term funding bill by then, look for sessions like “Paying by the Mile” or “How to Address the Challenging Transportation Funding Shortage” to help your agency plan for funding your communities’ transportation needs. APWA continues to be the source of the most relevant case studies and project examples for these topics and many more to keep YOU up-to-date. Enjoy this July Transportation issue of the Reporter and we’ll see you in Phoenix!

Mrs. Martin goes to Kansas City

The “Low and Slow Across America’s Infrastructure” Tour, sponsored by APWA and Engineering News-Record, features best-selling author, Dan McNichol, Ph.D., who is driving a 1949 Hudson Commodore 8 (called Mrs. Martin) as a metaphor of the aged condition of infrastructure from Washington, D.C. to Los Angeles to assess the condition of infrastructure projects, visit with public works departments, and find some solutions along the way.

On Thursday, May 28, the Low and Slow touring party visited the streetcar development project in Kansas City, Mo., and then paused at Union Station for a public meet-n-greet. Pictured below is Dan McNichol, Mrs. Martin and members of the APWA staff.
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Cities need to get a lot smarter about how they use their water and energy, where their food comes from, how they move people around, and where they build housing. Healthy food, adequate clean water, accessible transit, and affordable housing are the building blocks of a quality urban life.”

– Francesca Vietor, Vice President, San Francisco Public Utilities Commission
As of the drafting of this article, no proposal for long-term sustainable transportation funding had gained momentum. Without the proverbial crystal ball, it is impossible to know if a solution will be identified and passed into law by July 31. However, based on recent years, and the diverse views of what the federal government’s role in transportation should be, a solution looks to be still further down the road.

All that being said, a few known factors may prompt action before the end of this calendar year, if not by the end of July. Since 2016 is a Presidential election year, and traditionally less is accomplished legislatively at the federal level during those years, perhaps lawmakers will see 2015 as “the year” to pass the next long-term surface transportation bill. Also worth noting is the 2013 bipartisan budget act (Public Law 113-67) which requires any general fund transfers be offset elsewhere in the federal budget. When President Obama signed the previous extension in August 2014, to keep the HTF solvent through May 2015, it was the first time offsetting funds had to be found for the HTF. A general funds transfer turned out not to be necessary in May but come July, that is expected to change. An estimated $11 billion will be needed for the rest of the year to pay for transportation programs.

No matter how this ultimately plays out the APWA Government Affairs team will be on top of it and working to make sure APWA members have the latest information needed. In order to best represent APWA interests to Congress and the Administration, your voice is needed along with your state and local examples of how this uncertainty impacts your communities. Please send examples to me at aeales@apwa.net.

Also, if you do not receive the weekly APWA “Washington Report,” please sign up to get it by going to: http://www.apwa.net/Resources/WashingtonReport/subscribe. This weekly news brief of D.C. happenings that affect public works is a useful tool that will keep you up to date. To make certain your U.S. Senators and Representatives know their decisions impact public works, please sign up to be an APWA Advocate by going to: http://www.apwa.net/be_involved/APWA-Advocates.

Finally, should you have any questions about APWA’s advocacy efforts, please reach out to me at aeales@apwa.net, or (202) 218-6730.
Candidates for the APWA Board of Directors named

Seven nominees are on the ballot for election to the APWA Board of Directors in 2015. Two candidates selected by the National Nominating Committee include Ronald J. Calkins, P.E., PWLF, Director of Public Works (retired), City of Ventura, Calif., for President-Elect; and Mary Joyce Ivers, CPF, PWLF, Fleet and Facilities Manager, City of Ventura, Calif., for Director-at-Large, Fleet and Facilities Management. The President-Elect will serve one year as President-Elect, one year as President, and then one year as Past President.

Five candidates nominated by regional nominating committees as directors include Richard F. (Rick) Stinson, PWLF, Director of Public Works, Town of Wakefield, Mass., for Director of Region I; Harry Weed, II, PWLF, Superintendent of Public Works, Village of Rockville Center, N.Y., for Director of Region II; Richard T. Berning, Director of Public Works (retired), City of Springfield, Ill., for Director of Region VI; Chuck Williams, PWLF, Municipal Services Director, City of Lenexa, Kans., for Director of Region VI; and Shahnawaz Ahmad, P.E., President, SA Associates, Arcadia, Calif., for Director of Region VIII.

The nine-member National Nominating Committee includes one representative of each of APWA’s nine regions as recommended by the Regional Directors and appointed by the APWA National President.

The two most recent APWA Past Presidents serve as facilitators and advisors to the committee. For 2015, the Past Presidents were Elizabeth Treadway, PWLF, Principal, AMEC Foster Wheeler PLC, Johnson City, Tenn., and Edward A. (Ed) Gottko, PWLF, Adjunct Professor, New Jersey Institute of Technology, Westfield, N.J.

National Nominating Committee members include Thomas C. Collins, PWLF, Deputy Director, Town of Natick, Mass.; Dominick Longobardi, Assistant to Commissioner/Chairman, Town of Hempstead, Merrick, N.Y.; James R. Neal, P.E., PWLF, Public Works Director, Charleston County, S.C.; Stan Brown, P.Eng., PWLF, City Manager, City of Oakwood, Ga.; Michael R. Dailey, P.E., Deputy City Engineer, City of Madison, Wis.; Angela R. Popenhagen, President, Stevens Engineers, Hudson, Wis.; David S. Fabiano, P.E., Project Principal, Stanley Consultants, Phoenix, Ariz.; Howard Arnold, Divisional Vice President, Tetra Tech, Inc., San Diego, Calif.; and Andrew G. Stevenson, Manager, ATAP Infrastructure Management Ltd., Saskatoon, Sask.

Ronald J. Calkins, P.E., PWLF President-Elect
Ronald J. Calkins served as the Director of Public Works for the City of Ventura, Calif., for 17 years. His previous work experience includes City Engineer for the City of Ventura; Assistant Public Works Director/Chief Engineer for the City of Santa Barbara, Calif.; and Principal Engineer, Senior Engineer, Associate Engineer and Assistant Engineer for the Ventura Regional Sanitation District.

Calkins has been a member of APWA’s Board of Directors since 2009 (serving as Region VIII Director) and has chaired the Finance Committee for the past two years. He is a former member of APWA’s State and Local Advocacy Task Force and the Body of Knowledge Task Force, and is a former Chapter Delegate for the Ventura County Chapter. He co-founded the Ventura County branch of APWA’s Southern California Chapter in 1982, which then became the Ventura County Chapter in 1995. Calkins is a former trustee for the Public Works Historical Society and a former trustee for the American Academy of Environmental Engineers and Scientists. He was named one of APWA’s Top Ten Public Works Leaders of the Year in 2008.

Mary Joyce Ivers, CPF, PWLF Director-at-Large, Fleet & Facilities Management
Mary Joyce Ivers has been involved in public works for over twenty-two years. For the past fifteen years she has served as the Fleet and Facilities Manager for the City of Ventura, Calif. In this position she manages a $10 million operating budget, is responsible for five supervisors and twenty employees, and interacts daily with City departments and the citizens of Ventura. In 2011, Ivers and her team collaboratively developed Fleet and Facilities Business Plans and Service Level Agreements for all of the customer departments and looked at providing public works services as a business model. This was the first business plan developed for any of the departments at the City of Ventura. In 2014, the City of Ventura Fleet was named the #1 Small Fleet in the Nation by Government Fleet.

Ivers has been very involved in fleet and facilities at both the local and national levels. At the local level, she is involved in the regional Gold Coast Fleet group and the Central Coast International Facilities Management Association. At the national level with APWA, she received the Certified Public Fleet Professional (CPFP) designation in 2008 and was recertified in 2013. In 2010, she was appointed to the Fleet Services Technical Committee and was appointed Chair in 2012. In 2011, Ivers served on the Education & Certification Strategic Planning Group as the Fleet Technical Committee member; this was the inception and development of the APWA Donald C. Peter B. King, Executive Director, departs to “other” Washington

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King became APWA Executive Director on October 1, 1998. “It has been a pleasure to have had the opportunity to serve 16 APWA National Presidents, dozens of members of Boards of Directors and hundreds of other leaders throughout North America during my tenure with APWA,” he said. “Without a doubt, public works professionals are deeply committed to the citizens they serve. I am proud to have been part of APWA.”

APWA President Larry Stevens, P.E., PWLF, noted, “Peter has served APWA and its membership with a high degree of professionalism and distinction during his 16-year tenure. We appreciate his executive leadership and steady hand, and wish him the best of luck in his new endeavors.”

The AWC is a private, nonprofit corporation that represents and advocates for Washington’s 281 cities and towns before the legislature, executive branch, state agencies, and Congress; delivers education programs; and provides a variety of group insurance services. King began his career with AWC and was on the staff for 11 years before moving to local government association executive positions in Iowa and Colorado before joining APWA. “I will be returning to the ‘other’ Washington where I will be working for and on behalf of mayors, council members and other city officials from AWC’s member cities,” King said.

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Stone Center for Excellence in Public Works. In 2014, the City of Ventura Public Works Department became the 92nd Accredited agency with Ivers as the Accreditation Manager. Ivers has made presentations on innovative fleet and facilities operations and written many articles promoting success stories within fleet and facilities operations that have been published in the APWA Reporter, Government Fleet, American City and County, Roads and Bridges and other publications.

Richard F. (Rick) Stinson, PWLF Director, Region I

Richard F. (Rick) Stinson has served as the Director of Public Works for the Town of Wakefield, Mass., since 2001. He directly oversees ten divisions which include Highway, Water, Sewer, Parks, Forestry, Cemetery, Fleet Maintenance, Buildings, Administration, and Engineering. He previously served as the Director of Operations for the Town of Danvers, Mass., from 1994-2001, and as Business Manager, Town of Wakefield, from 1988-1994. Stinson currently serves on Wakefield’s Galvin Middle School Advisory Building Committee, the Massachusetts Safe Routes to Schools Task Force, Wakefield’s World War II Monument Committee, and Wakefield’s Traffic Advisory Committee.

Stinson is a former member of APWA’s Finance Committee and chaired the Task Force on Future Conferences. He has been a member of the Governance Task Force (2006), National Nominating Committee (2004-05), Top Ten Public Works Leaders Selection Committee (2005-08), and Livable Communities Task Force (1997-98). He served on the New England Chapter Board of Directors for 15 years (1993-2008) and served as Chapter Delegate (2002-09) and Chapter President (2001). He has served on a number of chapter committees and chaired the Steering Committee for the 2010 Boston Congress. Stinson was named one of APWA’s Top Ten Public Works Leaders of the Year in 2003.

Harry L. Weed, II, PWLF Director, Region II

As Superintendent of Public Works for the Village of Rockville Centre, N.Y., Harry L. Weed, II, supervises the Highway Division, which handles road maintenance and tree-trimming; the Sewer Department, which handles the pump stations, sanitary, and storm sewers; the Sanitation, Water, and Parks Departments; and the Central Garage. He also oversees parking meter and console repairs and maintenance, street sweeping, road opening permits and sidewalk inspection program.

Weed is a former member of APWA’s Emergency Management Committee and was also a member of the Facilities & Grounds Committee for five years, chairing the committee for two years. He is a Past President of the New York Metropolitan Chapter, chaired the chapter’s Government Affairs Committee in 2003, and has been the Chapter Delegate since 2005. He has been a contributor to the APWA Reporter’s annual Facilities & Grounds issue, penning “Workplace Safety” (April 2007) and “Intergovernmental Cooperative Initiatives” (April 2006). He was named one of APWA’s Top Ten Public Works Leaders of the Year in 2008. In 2013, Weed was selected by New York Governor Cuomo to be the public works representative on the Governor’s response committee for Superstorm Sandy.

Richard T. Berning
Director, Region V

Prior to his retirement in 2004, Richard T. Berning served as the Director of Public Works for the City of Springfield, with 234 full-time employees and an operational budget of more than $36 million. He has worked in the public works profession nearly his entire career, beginning with his first job in 1969 as Assistant Gas Planning and Design Engineer with Illinois Power Company. He joined the City of Springfield in 1972 as an Assistant Traffic Engineer with responsibilities in traffic signal network renovation and construction. After working in the private sector for a number of years, Berning returned to the City of Springfield in 1988 as the City Engineer. Although he is retired from full-time public works service, he continues to work as a self-employed consultant.
Berning has been a member of APWA for more than twenty-five years and has been the Director of Region V for the past year serving an unexpired term. Prior to that he served the Illinois Chapter as the Chapter Delegate for eight years. At the chapter level he served as President, Vice President, and Secretary-Treasurer. He served on the Illinois Chapter Conference Committee for over ten years and has served on the Illinois Public Service Institute Advisory Board since its creation in 2001, twice serving as the chair for two-year terms. At the national level he has been a member of the Government Affairs Committee (2001-03, 2009-10), the Master’s Degree Task Force (2004-05) and the National Nominating Committee (2008). He is also a member of the National Society of Professional Engineers, Illinois Society of Professional Engineers, and Institute of Traffic Engineers. Berning has given presentations at a number of conferences and co-authored the article “Public Works in modern-day China” which ran in the April 2006 issue of the APWA Reporter.

Chuck Williams, PWLF
Director, Region VI

Chuck Williams was appointed in January 2010 as the Municipal Services Director for the City of Lenexa, Kans. His responsibilities include the maintenance of existing infrastructure including street, stormwater, traffic control, fleet, asset management and facilities. Prior to his current position, Williams served as the Public Works Director for the City of Gladstone, Mo., where he had responsibility for engineering, traffic control, utilities and streets. Williams also served in a variety of roles for the City of Manhattan, Kans., for more than 29 years.

Williams first became a member of APWA in 1982, in which his early involvement was as a member of the Kansas Chapter. Over the years with the Kansas Chapter he served as a Director, Secretary/Treasurer, President, Past President, and the Chapter Delegate. He is currently a member of the Kansas City Metro Chapter and served as the Chapter Delegate for five years. Prior to being on the chapter’s Board, he was a member of the chapter’s ACEC/APWA Partnering Committee. He served as the Accommodation’s Committee Chair for the 2008 and 2011 Mid-Am Conferences representing the Kansas City Metro Chapter. He also serves as an instructor in the chapter’s Public Works Institute. He is completing his first term as Director of Region VI.

Shahnawaz Ahmad, P.E.
Director, Region VIII

Shahnawaz Ahmad is President of SA Associates, a consulting civil engineering firm based in Arcadia, California and specializing in water and wastewater engineering. SA Associates was established in 1989 and provides engineering services to public works agencies.

Ahmad has a long history of service to APWA, to the public works industry, and to other engineering organizations. For APWA, he served as President of the Southern California Chapter, as well as the Chapter Delegate from 2004 to 2013. In 2010, Ahmad was elected to the House of Delegates Executive Committee and was named HOD Chair in 2012. He was also appointed to the Task Force on Refocus of the House of Delegates, which led to the formation of the Council of Chapters.

Ahmad is currently serving on the Project of the Year Awards Committee. He has also served on the National Nominating Committee and the Congress Program Review Committee. He has served as a Region 9 (California) Governor for the American Society of Civil Engineers and as a California State Director of the American Council of Engineering Companies. He is also currently serving on the Board of the Public Works Standards, Inc., publisher of The Greenbook (used by public agencies for standard plans and specifications in the Southern California area). He received the Harry S. Swearingen Award in 2013.

Get out and vote!
As an APWA member, you will have the opportunity to vote for members of the APWA Board of Directors between July 10, 2015 and August 9, 2015 on the “Members Only” section of the website, www.apwa.net.

Additional reminders of the voting process will be sent through the APWA website; via e-mail to every member for whom we have an e-mail address; and in future issues of the APWA Reporter.

If you have questions, please call (800) 848-APWA.
Transportation: Moving America Forward

Carol S. Estes, P.E.
Professional Development Program Manager
American Public Works Association
Kansas City, Missouri

APWA’s Transportation Committee represents the largest practice area in public works. Together with its four subcommittees and dedicated chapter liaisons, it provides education and information through sessions at Congress, Click, Listen & Learn programs, postings on the Transportation infoNOW Community and technical articles in the July edition of the APWA Reporter. Volunteers and experts in the many fields related to transportation have been busy providing members with resources for developing and exchanging ideas, knowledge and cutting-edge technologies. They also develop and advocate environmentally sound, sustainable, cost-effective, and safe systems that enhance the livability and quality of life in our communities. Committee members sponsor both advocacy and guidance position statements on transportation-related topics. This year the committee members helped to develop these Click, Listen & Learn Programs:

- Confronting Extraordinary Challenges in Winter Maintenance
- FHWA Proven Safety Measures for Intersections

At Congress this year, the Transportation Committee will be sponsoring or supporting five different sessions: “Every Day Counts Initiative on Local Public Agency Federal-Aid Project Stakeholder Partnering,” “Completing the Streets with Greenroads: Putting Policy Into Practice,” “Green Streets and Porous Pavement: Lessons for Sustainability, Savings, and Success,” “Applying Long-Term Thinking to Winter Maintenance Operations,” and “Paying by the Mile.”

This year the Transportation Committee focused on eight goals:

- Streamline Federally-Funded Project Delivery, Stabilize and Increase Federal Funding
- Improve Transportation Safety
- Promote Sustainable Transportation
- Support Winter Maintenance Activities
- Integrate Transportation and Emergency Management Activities
- Improve Member Communications
- Increase Our Input on Federal Legislation, Regulatory Proposals
- Increase Partnerships with Those Conducting Related Activities

If you have considered participating in APWA on a national level, you may be interested in serving on one of the four active transportation subcommittees. Most subcommittees meet bimonthly by conference call. The subcommittees are:

- Roadway Safety – This subcommittee focuses on ways of reducing accidents and eliminating roadway hazards through cost-effective solutions.
- Sustainable Transportation – This subcommittee looks at recycled materials specifications, electric vehicles and plug-in networks, porous asphalt pavement/pervious concrete, roundabouts, sustainable infrastructure rating systems, USEPA-HUD-DOT partnership, urban LID infrastructure and maintenance, and LED lighting.
- Winter Maintenance – The oldest of the subcommittees, the Winter Maintenance Subcommittee focuses on all issues related to snow and ice. Each year, the committee supports the educational sessions of the North American Snow Conference and also participates with other national organizations. The subcommittee developed and supports the “Winter Maintenance Supervisor Certificate Program.”
- Project Delivery – This subcommittee actively works to streamline the project delivery process and follows the activities of the Every Day Counts program.

All of the subcommittees are open to new members. Interested members may ask to join at any time and are not part of the annual nomination process. The staff liaison may be contacted for more information. Additionally, members may serve as a Transportation Liaison for their chapter or branch. For information on the program,
Members of the Transportation Committee include:

- Freeman Anthony, P.E. (Chair), Project Engineer, City of Bellingham, Washington
- Carla Anderson, P.E., Traffic Engineering Associate, Kansas Department of Transportation, Topeka, Kansas
- Joseph Kroboth, P.E., Director, Loudoun County, VA DOT
- Scott E. Nodes, P.E., PTOE, Assistant State Engineer, Arizona DOT, Phoenix, Arizona
- Doug Paulus, P.E., Hampton, Lenzini & Renwick, Elgin, Illinois
- Gary Strack, P.E., Associate, Shafer, Kline & Warren, Inc., Lenexa, Kansas
- Kathleen B. Davis, Chair, Director of Highways & Local Programs, Washington State DOT, Olympia, Washington, serves as the committee’s liaison to the APWA Board of Directors through her role as At-Large Director for Transportation. Carol Estes is the Staff Liaison.

Carol Estes, P.E., serves as the liaison to three of APWA’s Technical Committees: Engineering and Technology, Transportation, and Utility & Public Right-of-Way and the Donald C. Stone Research Council. She also serves as the point of contact for nine subcommittees: Winter Maintenance, Road Safety, Sustainable Transportation, Project Delivery, Right-of-Way Management, Construction Practices, GIROW, Locating, Abandoned Utilities and Damage Prevention. She can be reached at (816) 595-5222 or cestes@apwa.net.

Carol Estes liaison to three of APWA’s Technical Committees: Engineering and Technology, Transportation, and Utility & Public Right-of-Way and the Donald C. Stone Research Council. She also serves as the point of contact for nine subcommittees: Winter Maintenance, Road Safety, Sustainable Transportation, Project Delivery, Right-of-Way Management, Construction Practices, GIROW, Locating, Abandoned Utilities and Damage Prevention. She can be reached at (816) 595-5222 or cestes@apwa.net.
A grand time in Grand Rapids

Phyllis Muder
Professional Development Program Manager
American Public Works Association
Kansas City, Missouri

A grand time was had by all at the 2015 North American Snow Conference in Grand Rapids, Michigan. The beer city pulled out all the stops as the influx of snowfighters and exhibitors started hitting town on April 12. This year’s Snow Conference was one for the record books. The conference broke exhibit records with 207 companies participating covering over 46,000 square feet of exhibit space. With 1,853 attendees participating, the conference brought over 2,588 people to Grand Rapids this year. The Michigan Chapter provided many opportunities to experience the amenities of the city starting with a pub-crawl on Monday night to the various breweries around town and culminating in a fantastic night of festivities at the B.O.B. (Big Old Building).

There was a packed house at the Winter Maintenance Supervisor Certificate Workshop that kicked off the conference bright and early Sunday morning. A record 257 people earned their certificate after a long day learning the latest in snowfighting techniques. The workshop starts with attendees learning what should be included in their winter maintenance operations plans and why it is so critical to their agencies and communities. A lesson on how winter weather occurs, how to interpret weather data and how to modify operations followed. The session on winter maintenance materials provided best practices for selecting the appropriate material to use for various situations with significant focus on how to minimize environmental impacts. Since no snow removal can happen without trucks, the next session dealt with fleet and equipment use. Best practices for snow and ice control with a focus on modern snowfighting techniques such as anti-icing and the use of liquids closed out the formal training sections of the day. Since every winter some kind of freak weather happens somewhere in the country, the workshop culminates with a “What Happens When...” segment. This allows the attendees to network and discuss the out-of-ordinary situations that they have faced such as the extreme cold temperatures experienced in the upper-Midwest to the unprecedented snowfalls that occurred on the eastern seaboard. When asked on the overall snow survey, many participants listed the Winter Maintenance Supervisor Certificate Workshop their favorite part of the Snow Conference. (This workshop is available for chapters to host at their regional events. If you are interested, please contact Phyllis Muder at pmuder@apwa.net.)

The regular education sessions started at 1:00 on Sunday and continued through Tuesday afternoon. The
Monday’s Opening General Session welcomed everyone to the conference with welcoming remarks from the Michigan Host Committee, the Grand Rapid’s Mayor, and APWA President-Elect Brian Usher, who presented the Excellence in Snow & Ice Control Awards to three well-deserving agencies: the City of Columbus, Ohio; the City of Lenexa, Kansas; and the City of Waconia, Minnesota.

The General Session Talk Show focused on worker safety. Moderator Christine Walsh, Director of Operations, City of Beloit, Wisconsin, was joined on stage with panelists David L. Bailey, Employment Practices & Liability Specialist, Cities and Villages Mutual Insurance Company, Wauwatosa, Wisconsin; Gerald J. Byrne, Director, Kent County Road Commission, Grand Rapids, Michigan; Matt Dolan, Public Works Operations Specialist, City of West Des Moines, Iowa; and James H. Hurt, Public Services Director, City of Grand Rapids, Michigan.
Like last year, the Top Ten Issues for Winter Maintenance was a huge hit again this year. Some survey responses requested that we make this a regular feature. This session discussed the progress made on the issues identified last year and queried the audience as to the current relevance. Participants were provided opportunities to rank by importance the primary issues in nine key categories. These were Environment and Sustainability; Storage and Yard Operations; Administration, Leadership, Management and Training; Contracting and Contracts; Plowing, Unique Intersections and Special Operations; Weather Forecasting and RWIS; Materials, Liquids and Proactive Operations; Equipment, AVL and GPS; Media and Social Media. The issues that rose to the top of the ranks were as follows:

1. Succession Planning & Leadership – employees aging out and how to find the next generation
2. Material handling – sharing storage regionally between adjacent villages and material delivery issues in severe winters
3. Standardization of contracts and problems with being stuck with a low bid
4. Cul-de-sac design and other road design challenges
5. The need for historical road conditions/temperature database
6. Standardization for GPS/AVL hardware and software
7. Social media and finding intelligent ways to analyze social media content for positive purposes
8. Changing snow operation priorities – dealing with bike lanes, parking regulations, etc.
9. Training – how to change the “it’s the way we’ve always done it” mentality
10. Leadership

APWA’s Winter Maintenance Subcommittee took these concerns to heart and initiated discussions on these with various research entities such as Clear Roads, the Transportation Research Board (TRB), Aurora and SICOP/AASHTO SCOM for their consideration.

The conference education program closed out with a highly entertaining take on how the many generations currently in our workforce can work together better. Closing keynote speaker Jeff Havens’ fast-paced, in-your-face approach to generational differences had the audience in stitches while providing thought-provoking insight to how we all look at the world differently.

The sold-out technical tours on Wednesday provided attendees a chance to tour the Gerald R. Ford International Airport or to see the City of Kentwood’s public works facility for an overview of winter operations and truck fabrication.

Next year’s Snow Conference will be a little bit later in the spring than usual: May 22-25 in Hartford, Connecticut. With the winter they had this past year, it is sure to be a great show. If you would like to be considered as a presenter for the conference, please go to the APWA website and under the LEARN & GROW tab select the Call For Presentations. These submissions will be accepted until September 30, 2015, and presenters will be notified in early December. Thank you to everyone who attended this year’s conference and especially to the Michigan Host Committee for all their hard work. See you next May in Hartford!

Phyllis Muder can be reached at (816) 595-5211 or pmuder@apwa.net.
REGISTRATION IS NOW OPEN!

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Author, Journalist, Speaker
Low & Slow Across America: A Road Trip through the Nation’s Public Works… in a 1949 Hudson
Smooth Connection

The new PHX Sky Train® enhances customer experience at America’s friendliest airport

Amy Collins, CPSM
Deputy Manager – Corporate Communications & Marketing
Gannett Fleming, Inc.
Harrisburg, Pennsylvania

For Phoenix Sky Harbor International Airport (PHX), one of the 10 busiest airports in the U.S., projected growth had the potential to stand in the way of both airport operations and happy customers. After all, no traveler wants to face gridlock on the way to catch a flight.

Already challenged with traffic congestion, the airport’s existing landside transportation system would not be able to handle its future ground transportation needs. On a typical day, PHX accommodates 1,200 aircraft, 100,000 passengers, and 800 tons of cargo. “Projections indicated that future growth would bring significant traffic congestion to our roadways. It was important to evaluate our options in a timely manner and make improvements to accommodate Sky Harbor’s future customers,” said Judy Ross, Phoenix Deputy Aviation Director for Planning and Environmental.

Evaluating the options
The city had envisioned a transit system to connect its key facilities since the development of Terminal 4 more than 20 years ago. However, a study was needed to examine the factors surrounding the decision to move forward. Gannett Fleming was engaged to conduct a landside transportation planning study.

“The study looked at city and airport needs, explored how growth would impact daily operations, and suggested ways to improve capacity. Without a doubt, the roadway and terminal curb system was quickly reaching its limits. To sustain airport growth, a secondary ground transportation system was imperative,” said Mark Pilwallis, P.E., Gannett Fleming’s senior project manager for the PHX Sky Train®, who is based in the firm’s Phoenix, Arizona, office.

Concurrently, transit systems consultant Lea+Elliott conducted a lifecycle cost analysis, looking at options ranging from expanding roadways and adding bus services to building an automated people mover (APM) system.

The elevated people mover system weaves seamlessly through the airport’s 3,000-acre grounds. (Photography by © Bob Perzel)
Despite the large upfront capital investment, the APM was the most cost-effective option when considering overall lifecycle costs. This option provided an opportunity to run the system seamlessly through the landlocked, 3,000 acres of airfields, terminals, and roadways. Ultimately, the APM would transform ground transportation at PHX and create a world-class level of service and convenience for passengers.

Multimodal experience
Designed by Gannett Fleming and HOK, the initial 1.92-mile-long PHX Sky Train segment includes three elevated passenger stations and links the Phoenix region’s 44th Street Valley Metro light rail station with the airport’s economy parking area and the 88-gate Terminal 4. The system was opened to the public in April 2013.

Going over, instead of under, existing infrastructure created flexibility and led to one challenge that had never been tackled anywhere in the world. To provide an optimal alignment into the Terminal 4 Station, the guideway crosses over Taxiway Romeo (Taxiway R).

First in the world
While the team first considered going under the taxiway, a complex underground environment of utilities and adjacent facilities meant that the underground option would be disruptive and costly. In addition, locations for the Terminal 4 Station were limited. Plans were underway for the station to be elevated.

“Going above Taxiway R would result in the right geometry, allowing for a clean connection for Terminal 4 passengers,” noted Pilwallis. “Once we made the decision to go up, as opposed to under, we had to approach the Federal Aviation Administration [FAA].” The team worked for six months to develop acceptable design criteria, involving the FAA, control tower personnel, and airline representatives in the process.

“With the appropriate approvals in hand, the main challenge became creating a design that could be built in this congested environment,” Pilwallis said. The team used cast-in-place concrete to eliminate the logistical challenges of moving large precast segments to the site and developing a large staging area for the segments.

Ultimately, a 340-foot-long bridge was designed with a vertical clearance height of more than 75 feet—tall.
enough for a Boeing 747 to pass underneath!

**Vision takes flight**

Today, the award-winning automated PHX Sky Train operates 24 hours a day, arriving at stations approximately every three minutes during peak periods, and delivering passengers to their destinations within five minutes of boarding. The layout and operation of the system is designed to be intuitive and easy to use.

With goals for sustainability and long-term flexibility, the electrically-powered, automated PHX Sky Train encourages patrons to utilize alternative transportation by connecting Terminal 4 to Valley Metro light rail and Valley Metro buses. It is expected to reduce the airport’s greenhouse gas emissions by nearly 6,000 tons per year, and the three stations will use 30 percent less power than established normal baselines. The project is LEED® Gold certified by the U.S. Green Building Council, making it the only LEED-certified public transportation campus in the world.

“We alleviated roadway congestion while enhancing customer service,” Pilwallis said. “The team’s sustainable design solution positions Sky Harbor for success. Roadway and curbside congestion is alleviated, passengers experience easier connections to the surrounding community, and green building features exemplify the airport’s commitment to the environment,” he added.

**All aboard to Terminal 3**

An extension of the PHX Sky Train went into service in December 2014, just prior to the busy holiday season and the Arizona-hosted Super Bowl XLIX. This phase added a .7-mile section of guideway and a single station serving Terminal 3 with a walkway to Terminal 2, meaning all airport terminals are served by the automated train. With this extension, all inter-terminal connection buses were eliminated, providing further roadway and curbside congestion relief. A future phase of the PHX Sky Train program will add an additional 2.5 miles of guideway and connect to the rental car center. The full PHX Sky Train system will create a modern and efficient transportation system capable of serving the needs of the airport, its passengers, and the local community far into the future.

Interested in learning more? Check out the “Achieving New Heights at Phoenix Sky Harbor International Airport” session during the 2015 APWA International Public Works Congress & Exposition. The session takes place on Sunday, Aug. 30, at 3:00 p.m.

*Amy Collins can be reached at (717) 763-7211 or acollins@gfnet.com.*
The 2015 National Public Works Week (NPWW) celebrations raised the bar this year with higher levels of media and social media outreach than in previous years, and more municipalities participating in events such as Open Houses, school tours, equipment shows, media campaigns, and other public events. Many municipalities used the NPWW 2015 theme and artwork of “Community Begins Here” in their outreach and activities to recognize the important contributions that public works professionals provide as stewards of infrastructure. Government leaders also declared National Public Works Week 2015 with proclamations and resolutions in 38 states and the District of Columbia, as well as the U.S. Senate, which passed resolution (SR 186) introduced by Senator Inhofe and Senator Boxer in honor of the week.

In Canada, the Prime Minister, Stephen Harper, acknowledged public works professionals and the important contributions they make in his Letter of Greetings. The Canadian Premiers who proclaimed National Public Works Week included the Provinces of Newfoundland and Labrador, British Columbia, Manitoba, Alberta, Saskatchewan, and Nova Scotia. In addition, many cities and towns in the Provinces proclaimed National Public Works Week as did numerous mayors and city councils across the U.S.

“Low & Slow Across America’s Infrastructure Tour”

Overlapping with this year’s National Public Works Week was the inclusion of an APWA-sponsored public works awareness campaign, titled the “Low & Slow Across America’s Infrastructure Tour,” with Engineering News-Record (ENR), which officially launched on May 19 at the Washington, D.C. Department of Public Works Fleet Campus. D.C. Director of Public Works Bill Howland officiated the beginning of their NPWW celebration and the Tour launch with staff and participants.

The Low & Slow Tour features infrastructure author and advocate, Dan McNichol, Ph.D., driving his 1949 Hudson Commodore 8 from Boston to
Los Angeles to take stock of the nation’s infrastructure projects, talk with public works directors and their staff, and find some solutions along the way.

McNichol displayed his vehicle at the event and met with DPW’s Fleet employees, many of whom brought photos of their own restored antique cars to show off. DPW also displayed an array of its own fleet, showcasing the many clean fuel and electric vehicles that have contributed to their recognition by 100 Best Fleets as one of the greenest public fleets throughout North, South and Central America.

“We are honored to be the first stop along the APWA infrastructure tour,” said Howland. “The tour was an excellent way to not only acknowledge the work our Fleet Administration has done to make D.C. one of the best and greenest public fleets in the country, but also a great way to honor all the public works employees tasked with the difficult, gritty and sometimes dangerous job of keeping the nation’s roads, streets, bridges and water systems clean, safe and operational.”

Government NPWW Proclamations

During National Public Works Week, many states issued proclamations that highlighted the role that public infrastructure plays in protecting the environment, improving public health and safety, contributing to economic vitality and enhancing the quality of life in every community. Several showcased their proclamation events, such as Allegheny County, PA, where the County Council proclamation presentation for NPWW was presented by members Peter Overcashier, Joseph Hrabik, Cathy Trexler, and Councilman Robert Macey. In Iowa, APWA President Larry Stevens was present when the Iowa Governor proclaimed the week along with other chapter members.

All of the U.S. states that issued proclamations in honor of National Public Works Week this year include: Alabama, Alaska, Arizona, Colorado, Delaware, Florida, Georgia, Hawaii, Illinois, Indiana, Iowa, Kansas, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, North Carolina, North Dakota, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont,
Virginia, Washington, West Virginia, and Wyoming.


**Increased Outreach**

The National Public Works Week outreach this year included many posts from municipalities and public agencies that were participating with NPWW celebrations, events and activities highlighted in APWA social media. The NPWW social media activity was posted throughout the week with new pictures, videos, news stories and Twitter, Facebook, Instagram, YouTube, and other website content, which were all included in this year’s social media coverage. Also, APWA created a special NPWW webpage to compile the social media activity and see all the content posted. Many used the National Public Works Week hashtag (#NPWW) on social media posts.

**Top Ten Public Works Leaders 2015**

This year’s National Public Works Week marks the 55th anniversary of the Top Ten Public Works Leaders award, which is one of the most coveted and prestigious awards presented by APWA. The Top Ten Leaders award program inspires excellence and dedication in public service by recognizing outstanding career service achievements of individual public works professionals from both the public and private sectors in North America.

From its inception in 1960, APWA’s selection of a Top Ten list of exceptional public works professionals has identified 550 men and women who reflect the highest standards of professional conduct for public works officials. The honorees have been recognized for discharging critical responsibilities in connection to the design, construction, maintenance and/or operation of major public works projects or activities in large and small municipalities.

The 2015 Top Ten Award recipients include:

- Jeb Blackwell – City Engineer, City of Charlotte, NC
- Stan Brown – Director of Municipal Services, City of Oakwood, GA
- Tom Collins – Deputy Director of Public Works, Town of Natick, MA
- Darwin Durnie – Director of Business Development, Stantec Consulting, Alberta, ON
- Greg McCaffery – Director of Municipal Services, City of Junction City, KS
- Natalie Meeks – Public Works Director, City of Anaheim, CA
- Dennis Randolph – Director of Public Works, City of Grandview, MO
- Greg Reeder – Public Works Director, City of Council Bluffs, IA
- Paul Smelter – Director of Water and Wastewater, Niagara Region, ON
- John Trujillo – Public Works Director, City of Phoenix, AZ

For more information about APWA’s National Public Works Week 2015, or prior years’ activities and events, visit the APWA website at: http://www.apwa.net/discover/National-Public-Works-Week, or for more information, contact APWA Media Relations and Communications Manager, Laura Bynum, at (202) 218-6736, or lbynum@apwa.net.

D.C. Commission on the Arts and Humanities in partnership with the D.C. Department of Public Works announced the Designed to Recycle program, a new public art initiative that transforms recycling trucks into mobile public art works. The image shows a new, two-dimensional art printed on vinyl and wrapped onto recycling truck that will circulate through all eight wards of the District of Columbia.
Adding value to projects with Envision®

Jennifer A.K. Rivers, ENV SP, LEED AP
Vice President, Operations
Institute for Sustainable Infrastructure
Washington, D.C.

Agencies and infrastructure owners are picking up Envision as a sustainability tool that works for their projects and communities. Since the 2012 launch of the Envision sustainable infrastructure rating system, hundreds of projects have incorporated Envision and six projects have earned Envision awards. Currently, over 450 projects are using Envision, including 40 that are on the path to an Envision award.

In addition, over 3,000 people have earned the Envision Sustainability Professional (ENV SP) credential to better understand how the principles of sustainability apply to infrastructure. About a quarter of ENV SPs are public works professionals.

This article discusses the different ways agencies and project design teams are using Envision to add value to their projects.

Why Envision?
The majority of infrastructure in the U.S. is owned by the public sector for the purpose of providing vital services to communities. For many infrastructure owners, increasing the value a project brings to a community is more important than the market value of the project.

The infrastructure community has seen the need for sustainable practices for years. For example, the ASCE Report Card, which points out deficiencies in America’s infrastructure, includes promoting sustainability and resilience as a key solution. Many municipalities and other infrastructure owners have sustainability goals, but have had a hard time choosing which of the existing guidance or rating systems (up to 900 by some counts) are best for them or lack the resources to develop their own approach.

Envision is a holistic framework for evaluating and rating the community, environmental, and economic benefits of all types and sizes of infrastructure projects over their entire life cycle. It is a product of the Institute for Sustainable Infrastructure (ISI) in partnership with the Zofnass Program for Sustainable Infrastructure at the Harvard Graduate School of Design. APWA co-founded ISI in 2010, along with the American Council of Engineering Companies (ACEC) and the American Society of Civil Engineers (ASCE).

The Envision sustainable infrastructure rating system is a tool to help owners, planners, designers, contractors, and others create cost-effective, resource-efficient, and adaptable long-term infrastructure investments. It contains 60 sustainability criteria, called credits, that help users address major impact areas. The credits are arranged into five categories called Quality of Life, Leadership, Resource Allocation, Natural World, and Climate and Risk.
Envision helps infrastructure owners and project design teams ask both “are we doing the project right?” and “are we doing the right project?” That is to say, Envision helps identify if the project meets the needs of the community and to evaluate environmental and social benefits of the project. It is a guide to help the user make decisions about the investment of scarce resources to build better infrastructure projects.

Envision is easy to use. It is available at no cost on the ISI website. It is not prescriptive—there are no minimum requirements and there are no mandates to design a project a certain way. Many infrastructure owners find they can use Envision to improve their internal planning and design process, to promote communication across agencies and with community members, or to pursue an award in a way that meets their agency needs and priorities.

**Ways to add value**

Since Envision is free to download and is flexible to be used in many different ways, it provides an opportunity to add value to any project without adding layers of complexity. Agencies use the Envision framework in different ways, including as a tool to bring the project team together to assess project sustainability, to communicate with community members to identify their needs and priorities, and to seek third-party recognition for their accomplishments.

**Project Assessment.** Some agencies are using Envision in-house to assess the sustainability aspects of their projects. They use this to capture what they are doing well and to identify potential areas to improve. Some agencies are also using Envision to compare project alternatives. In many cases, this includes encouraging staff members to earn the Envision Sustainability Professional (ENV SP) credential to increase expertise and confidence in using the tool.

For example, the New York City Department of Environmental Protection has incorporated sustainability practices, including Envision, throughout the core of their entire capital program. They also use Envision as an icebreaker to introduce employees to elements of sustainable design and as a way to promote dialogue between engineers.

The County of Los Angeles Department of Public Works conducted Envision assessments on several large projects and made the results public on their website. Over 100 department employees already hold the ENV SP credential.

Communication. Far too often, a project is defined by a single metric in the public eye: cost. The project cost alone doesn’t give a full picture of what the agency is doing for the community, particularly what vital services they provide or how they safeguard limited resources like energy and water. Envision can be used as a communication tool to seek public feedback or to explain the value of a project to community members.

The City of Edina, Minnesota, used Envision as part of its public involvement strategy on the 54th Street Reconstruction and Arden Park Area Stormwater Management Plan project. They used Envision as a way to help stakeholders understand the social, environmental, and economic strengths of different project options and to seek input on community

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priorities. The APWA Minnesota Chapter website contains a news article with more details on this project.

**Envision Verification and Awards.** Infrastructure owners also pursue third-party recognition in order to earn Envision awards. This process involves an independent review (called Verification) of the project team’s assessment and supporting documentation to confirm the project meets the Envision evaluation criteria.

Most of the documentation necessary for Verification already exists in the project plans, specifications, and associated reports, so little additional time is needed to prepare and submit an application packet.

Some agencies are opting for project Verification as a quality control measure. The independent review confirms that the design team implemented the sustainable best practices described in Envision. Other agencies seek an Envision award to demonstrate their leadership in sustainability. Awards provide a way for forward-leaning agencies to stand out.

In both cases, agencies seeking an independent review are communicating to the communities they serve that they are building infrastructure to meet the needs of their constituents while increasing the value of the infrastructure investment over its life cycle.

**Implementing Envision to support sustainability**

Agencies play a key role in determining how Envision should be used in their projects. Agencies are listing Envision in their community sustainability plans, including it in design competitions or award schemes, listing Envision in specific project RFPs/RFQs, and using Envision to support funding mechanisms.

- A sustainability plan or guidance document can explain how Envision is part of an agency or city’s goals. The Nederland

The City of Edina, Minnesota, used Envision as part of its public involvement strategy on the 54th Street Reconstruction and Arden Park Area Stormwater Management Plan project.
(Colorado) Sustainability Action Plan, the MassDOT South Station Expansion Project Environmental Notification, and the Kansas City (Missouri) Citywide Business Plan all reference the Envision rating system. Similarly, the San Diego Regional Construction Procurement Committee included Envision as part of an implementation plan in a “Top 4 Issues” paper.

• Several design competitions are requiring the use of Envision as a prerequisite for entry. For example, Port San Antonio encouraged teams to use Envision on a multi-family, mixed-use design competition at the former Kelly Air Force Base. This allowed designers to show the project owner different ways Envision could benefit them.

• Envision can be included in award programs to assess project entries.

The Inter-American Development Bank has worked with researchers from the Zofnass Program for Sustainable Infrastructure at the Harvard University Graduate School of Design to complete Envision assessments on the Infrastructure 360 Awards.

• Including Envision in an RFP or RFQ encourages consultants to use Envision. APWA has created guidance on including sustainability and Envision in RFPs (www2.apwa.net//Documents/RFPGuidanceELAV.pdf). RFPs that reference Envision have been issued by the Madison (Wisconsin) Metropolitan Sewerage District, the Pinellas County (Florida) Department of Environment and Infrastructure, the Maine Turnpike Authority, and the Architect of the Capitol, among others.

• Funding for meeting Envision goals is one of the most direct ways to encourage the use of the rating system. The California Department of Water Resources encourages Envision through a grant matching program where applicants that attain Envision Gold awards are entitled to a 5% increase in the state cost share of the total project cost or a 10% increase for a Platinum level award.

The bottom line is that Envision creates confidence in the way infrastructure is designed, built, and operated. Infrastructure owners have many options for using Envision to add value to their projects.

Jennifer A.K. Rivers can be reached at (202) 218-6746 or rivers@sustainableinfrastructure.org.

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n 2011, I had been working to administer the Town of Farragut’s Stormwater Matters program for about three years. During this period I focused primarily on learning the foundations of what a water quality professional ought to know. I started out with construction stormwater inspection and enforcement and moved into illicit discharge detection and elimination, municipal good housekeeping and the rest of the NPDES program areas. After learning the ropes, thanks to the support of countless informal mentors, I wanted to pursue a credential from a respected organization that communicated that I was competent and invested in the profession. More importantly, I wanted to prove to myself that I could do it.

I come from what some might consider an “atypical” background for a stormwater professional. Having graduated in 2005 with a Bachelor of Fine Art in Studio Art, I hadn’t really considered working in the environmental sector until 2006 when I served my first term of AmeriCorps with AmeriCorps*NCCC. It was the year after Hurricane Katrina had laid waste to the coastal southeast and I spent the bulk of my service year conducting disaster recovery operations and natural resource management in Louisiana and Mississippi. It was then that I realized how much I enjoyed working to clean, protect and restore the great outdoors and I would go on to complete a Master of Science in Environmental Policy & Management in 2008 consciously shifting my career focus away from introspective aesthetic inquiry to community-based environmental impacts. Nonetheless, my professional foundation was, and still is, rooted in visual communication. This background provides a distinctly different skill set from one in engineering or one of the biological, chemical or geological sciences. The CSM credential provided an opportunity for me to demonstrate that my capabilities had grown to reflect a level of proficiency in these areas and that these areas, including visual communication, are not necessarily exclusive from one another.

In 2011, I also found myself inspired by a community partner who had invited me to the annual Halls Outdoor Classroom Celebration in North Knoxville. Teachers, students and members of the surrounding neighborhoods came out in large numbers to celebrate the space, enjoy nature and have a good time. What I saw was a clear convergence of the arts and the sciences and a broad range of partners and I began advocating for an Outdoor Classroom and Water Quality Demonstration space in Farragut as a means of educating the community about water quality and enhancing civic engagement through service learning. In 2014 the Outdoor Classroom was built. The space features numerous permeable systems, rainwater harvesting and has started...
to become one of the most dynamic avenues through which our water quality program has the opportunity to interact with our residents, visitors and business owners.

What the CSM represents to me has changed as my career has evolved. In 2011 it was a way for me to demonstrate to myself and my peers that I could manage a water quality program effectively. In 2015 the CSM has come to serve as a reminder of the convergence of disciplines necessary to get things done for my community and its water resources—to bring to bear the best of what I have to offer and to identify the productive talents of others and match them to the appropriate pieces of my small, but important, piece of the puzzle. To be a CSM demands that you not only be certified, but that you be creative to solve the multidisciplinary challenges posed by your work. Creative Stormwater Manager.

Regardless of your credential, title or role in water quality, you will not likely be able to solve the puzzle on your own. Stormwater is in many regards a technical scientific discipline, but even more so, it is a discipline of purpose. This type of work deserves a passionate application of the artistry that you practice, be it biology or basket weaving (contrasting arts selected for alliterative impact, you’re welcome), and the CSM is an excellent way to allow water quality professionals of broad talents and capabilities to demonstrate a standardized level of competence in their field in the areas of clean water policy, engineering and program administration while committing to a standard of excellence through continuing education and the ethical pursuit of excellence in their work to protect, enhance and restore water quality in their communities. Go out and do good work.

Jason Scott can be reached at jscott@townoffarragut.org.
Recognize Your Leaders

Nominator’s Name: John Baker, West Slope Chairperson of the APWA Colorado Chapter
Candidate’s Name: Renee Railsback
Candidate’s Title: APWA Colorado Chapter Board Member and Director of Colorado Local Technical Assistance Program
Candidate’s Agency/Organization: Colorado Local Technical Assistance Program
Candidate’s City/State: Boulder, Colorado

How long has the candidate been involved in the public works industry? 15 years

How long has the candidate worked in their current position? 14 years

Please describe the reason that the candidate is being considered for recognition.
Renee is a very active member of the APWA Colorado Chapter. She is the Immediate Past President of the National LTAP Association, CARMA Board Secretary, manages the CLTAP Program, is an active participant representing local and rural road needs on the state’s STIC Executive Committee and SHSP Executive Committee, and has served as Chairperson on three national LTAP committees including the NLTAPA Safety Committee.

How was the candidate’s leadership ideas/actions brought to the forefront?
Renee has high energy and passion for the public works field that has really helped and supported the resources/education for local communities/entities across the state of Colorado. She has also developed and expanded the LTAP’s two Roads Scholar training programs along with their Supervisor Certificate program. After providing technical assistance to many local agencies following recent disaster recovery efforts in Colorado, Renee developed an Emergency Response training program for public works employees, and has been invited to teach it at many locations across the country and at TRB in Washington, D.C.

Who did the candidate work with to help bring this idea/action forward?
Renee’s great skills are networking and making the necessary connections with key stakeholders and organizations across the state to advance local agency needs, along with involving/networking with COOT, APWA and FHWA to get more resources to local organizations.

Did the candidate experience any challenges when trying to implement this?
Limited funding is always a challenge with education, technical assistance and resource sharing, but Renee has managed CO LTAP successfully to bring the most effective resources, funding opportunities and training to local agencies. She spends a lot of time representing local entity needs of public works/APWA to bring local and rural agency needs to the forefront of transportation decision makers.

Are there steps/processes that, when looking back, the candidate could have done differently to make this idea/action even more successful (lessons learned)?
The greatest lesson that we see Renee has learned is the importance of networking and having a passion for public works helping others to meet their potential in their fields of public works, and she accomplishes it all with only 2.25 FTE at her Center.
**EDUCATION CALENDAR**

For more information about these programs or to register online, visit [www2.apwa.net/Events](http://www2.apwa.net/Events).
Program information will be updated as it becomes available.
Questions? Call the Professional Development Department at **1-800-848-APWA**.

### 2015

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<td>July 13-17</td>
<td>CSM, CPII and CPFP Certification Exams (computer-based testing)</td>
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<tr>
<td>August 30 - September 2</td>
<td>2015 International Public Works Congress &amp; Exposition, Phoenix Convention Center, Phoenix, AZ</td>
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### 2016

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<tr>
<td>May 22-25</td>
<td>2016 North American Snow Conference, Hartford, CT</td>
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<td>2016 International Public Works Congress &amp; Exposition, Minneapolis, MN</td>
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= Click, Listen & Learn program (Free to Members)

= Live Conference (Paid Registration)

= Certification Exam

= Web-based training

APWA members may access past Click, Listen & Learn programs from the Members’ Library at no cost. Programs can be streamed to your computer via the link found in the library.
If you have expertise that you would like to share, please use the online Call for Presentations form to describe your expertise and perspective on the topic: [www.apwa.net/callforpresentations/](http://www.apwa.net/callforpresentations/)

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Don’t miss this opportunity to advertise in the August issue which covers the 2015 APWA International Public Works Congress & Exposition in Phoenix (Aug. 30-Sept. 2) and will feature articles from speakers at the conference.

The deadline to reserve your space is July 8; the materials are due by July 10. **Bonus:** Advertise and we’ll give you a free listing in our “Products in the News” column!

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Oysters admittedly do not have a lot of charisma, resting quietly in their beds or exposed on the half shell at restaurants, but they have a lot going on. In addition to the discoveries that some species are good eating and some produce pearls, we have come to understand that the lowly bivalve plays an important role in the ecology of our coastal areas. But that’s not the whole story.

While most types of oyster have thick, hard shells that find use in some coastal areas as paving for driveways and low-volume roads, the windowpane oyster (Placuna placenta to the scientific community) is different. Also called the “capiz,” this oyster has a translucent outer shell that local craftsmen use to make lampshades, kitchen utensils, and even the glazing for windows where the species is prevalent—from the Gulf of Aden, to India, to the Philippines.

Oyster shells are chemically about 99 percent calcium carbonate. What makes the cadiz interesting as more than a curio is the shell’s extraordinary toughness, its resistance to penetration and damage, when it is made up primarily of calcite, a particularly brittle and weak form of that mineral.

Researchers at MIT undertook to learn the reasons for that toughness.

The researchers used a sharp diamond tip in an apparatus to measure precisely the loads that would dent and penetrate the shells. They then used electron microscopy and optical diffraction to examine the resulting damage. They found that the windowpane’s unique properties come from a specialized nanostructure that efficiently dissipates the energy of the penetrating instrument and localizes the deformation, while giving the shell its translucency.

It turns out the shell is made up of very thin calcite layers structured as elongated, diamond-shaped tiles arranged like a mosaic. These layers, with an average thickness of 300 nanometers (about 1/300 the thickness of a human hair), make up about 99% of the mass of the shell. In between the calcite layers are much thinner layers of organic material.

The nanostructure initially isolates damage through an atomic-level process of “twinning”; a crystal breaks up into a pair of mirror-image regions sharing a common boundary (picture butterfly wings). This twinning process occurs all around the stressed region, forming a buffer zone that keeps the damage from spreading outward. The twinning also activates other energy-dissipation mechanisms that preserve the mechanical and optical integrity of the surrounding material. Unlike most materials in which cracks radiate out and obstruct the view, the shell beyond the point of damage stays intact and translucent.

These observations make the lowly cadiz a promising model for developing new bio-inspired synthetic materials offering a combination of toughness and transparency. Protective gear such as eye and face shields for construction workers and soldiers, projectile-resistant windows and windshields, and blast shields are immediate candidates. What the exact form of these new materials will be remains to be seen, but this initial research certainly seems to have yielded a pearl.

Andrew Lemer, Ph.D., is currently a Senior Program Officer with the National Academy of Sciences of the United States of America. In addition to technical papers and occasional articles for the Reporter, he writes on civil infrastructure and human settlement at www.andrewlemmer.com.
At present, seventeen Public Works Institutes (PWIs) are presenting instruction in “Supervision and Management of Public Works” in various formats and areas of emphasis. However, all of the Institutes have agreed to train their members in the eleven areas (“units”) listed in the sidebar on p. 35. Instruction in the first five units was discussed in earlier editions of the APWA Reporter. This article discusses the Northern California Chapter’s Public Works Institute and the material it presents as part of Unit 6: Impact of Law on Public Works.

Introduction – Northern California’s Public Works Institute
The Northern California Chapter’s Public Works Institute was founded in 2006 after a meeting with approximately twenty local directors of public works who discussed how the chapter could best serve its members. The directors all gave our chapter the same feedback—instead of the then-current sink-or-swim approach in which high performers were appointed to supervisory and managerial positions without any preparation, we needed to develop an approach for training our future leaders.

Based on that input, and after participating in APWA’s initial PWI Task Force, our chapter adopted a 90-hour program of instruction covering 58 subjects presented in four three-day Modules.

In the last nine years, the chapter has presented 24 Modules attended by over 1,100 public works practitioners.
Attendees have come from 59 cities, ten San Francisco Bay Area counties, six special districts and four private firms. One hundred seventy-five students have attended all four Modules, “graduated” and received certificates of completion from APWA. Many of these students have enrolled in APWA’s Donald C. Stone Center for Leadership Excellence in Public Works and are working on achieving certification as Public Works Supervisors and Public Works Managers. Some former students have now returned as instructors for our Public Works Institute.

Additional Institutes have been created by the Sacramento, Southern California, and San Diego Chapters. Since all four Institutes follow the same format, students are free to attend different Modules in different locations to accelerate completion of the 90 hours of instruction.

In 2014 APWA convened a meeting of all Institutes in which the program of instruction was broadened from 58 subjects to 77 subjects grouped into 11 Units. Each PWI is required to present all 11 units, but has been given flexibility in which of the 77 subjects to present to address local needs. The Northern California Chapter has chosen to present all 77 subjects.

Unit 6: Impact of Law on Public Works
In the past, public works officials had to be familiar with three basic legal areas: contracting, conflict of interest and liability. With the growth in public works responsibilities and with the increased litigiousness in our society, public works officials now have to be aware of laws governing:

- Purchasing and contracting
- Conflict of interest
- Civil Rights (race, color, religion, age, disability, etc.)
- Workplace Safety (OSHA and other regulations)
- Environmental law (air, water, food, endangered species, solid waste, etc.)
- Employment Laws (labor standards, union contracts, etc.)
- Tort law (liability)

Public works officials are not lawyers. No one expects us to be expert in all of the above legal areas. However, if we are completely ignorant of the laws, one of two things may happen—we will stumble along blindly until we get in trouble, or we will run to City Attorneys for advice at every step, thus paralyzing our ability to act. Lawyers are trained to protect their clients from harm. To do this they must consider everything that can go wrong, sometimes without considering the probability that such events could occur. Public works officials need to know enough about the laws to judge when to act and when to ask for legal advice.

The Northern California PWI presents Unit 6 in three areas with specific Learning Objectives:

**General Legal Issues**
- Examine key legal areas affecting PW operations
- Identify best approaches to working with your City Attorney

**Employment Law**
- Identify and describe the laws impacting PW employees
- Discern the kinds of actions that could get you fired

**Liability and Public Works**
- Understand the difference between your actions as an individual and your actions as a public employee
- Identify the extent of your immunity and personal liability
- Describe the concept of design immunity

The difficulty lies in teaching this wide array of subjects in 1-2 hours. We touch on the laws briefly and then focus on two key issues guaranteed to increase student interest—“things that will get you fired” and “working with your City Attorney.”

“Things that will get you fired” includes a class discussion of the reasons why employees were recently fired in cities that the students represent. This usually leads to a good discussion of theft, racism, sexism and various real or perceived conflicts of interest.

“Working with your City Attorney” includes a discussion of when to go to your attorney and when to make

“An individual has not started living until he can rise above the narrow confines of his individualistic concerns to the broader concerns of all humanity.”

– Dr. Martin Luther King, Jr. (1929-68), American clergyman, activist, and civil rights leader
the decision yourself (risk tolerance), what to tell your attorney (everything), and when to take your attorney’s advice (asking permission vs. asking for forgiveness). The importance of maintaining a good working relationship with your attorney is also emphasized.

More
To keep the students’ attention, instruction is presented by current or retired directors of public works who have experience with the issues discussed. Directors are encouraged to share real-life stories regarding attorneys, lawsuits, and legal issues they wish they had known about before they had to deal with them.

The presentations routinely receive high scores from student evaluations in both usefulness of subject matter and how well it was presented.

We are happy to share information and presentations with chapters having active Institutes and with chapters thinking about starting new Institutes. The Northern California Public Works Institute’s Powerpoint™ presentation of this Unit is available on APWA’s website at www.apwa.net/learn/PW-Institutes/Institute-Resources/Curriculum/Pow PowerPoint-Presentations. Since each chapter presents this information in a slightly different way, the reader may also wish to contact other chapters to get their perspective.

Additional information about this Unit can be found in APWA’s publication Public Works Administration, Chapter 2 – Legal Aspects of Public Works. Or feel free to contact me at vandmtroyan@comcast.net.

Public Works Institute Units
1. Supervisory Techniques and Skills
2. Basic Management Skills
3. Communications Skills
4. Leadership Skills
5. Community Service/Customer Orientation Skills
6. Impact of Law on Public Works
7. Fundamentals of Government
8. Finance
9. Resource Management Skills
10. Public Works Operations
11. Creating the Future
Previously, most households had oil-powered heating, at least in Jämtland, but this has now been replaced by district heating that comes from renewable sources of energy or other renewable options. Now it’s the transport sector’s turn, with investments such as Green Highway being of great significance.

Green Highway is a partnership between Sundsvall, Östersund and Trondheim, along with the main power companies in each region. The aim is to create a fossil-fuel-free transport corridor between Sundsvall and Trondheim, as well as to demonstrate that investments in green technology boost the economy and contribute to sustainable growth and reduced environmental impact. In extension, this may mean emission-free destinations that are attractive to both residents and tourists.

“WeWhile waiting for national guidelines and definitions, something we have long worked for, we are aiming for as little use of fossil fuels as possible. This now means investments in electric vehicles and fuels such as biogas and ethanol,” explains Anne Sörensson, one of the project managers at Green Highway in Östersund.

The region produces a significant proportion of renewable energy through wind power and hydropower, which means there is great potential for electric vehicles to use green electricity. The E14 (Sundsvall-Trondheim) has been named as one of two national test routes for enabling electric vehicles to drive between Sweden and Norway.

Even if Green Highway’s outside appearance is often linked with a stretch of road, it really deals with a partnership between the regions of Västernorrland, Jämtland and Tröndelag, across a national border. Disseminating information, participating in a range of processes and acting as a network hub, Green Highway is helping to create the right conditions for a renewable and energy-efficient transport corridor. And Anne Sörensson is looking for more stakeholders to invest in becoming fossil-fuel free:

“We are happy to publicise companies as good examples and to loan out our brand in order to give them a boost in choosing to be fossil-fuel free and energy efficient. The more of us that work on this issue, the greater our chance of achieving our aims. Just imagine if it were to be like domestic heating, that we can become fossil-fuel free in this region, that we had a city with low noise levels and cleaner air,” concludes Sörensson.

Östersund has many charging stations, thanks to a progressive power company and a municipality that was quick to take green issues seriously. Mikael Hagman, a project manager at Jämtkraft, uses one of the company’s many electric cars when he wants to show how the latest smart fast charging works. The car is almost silent, just the sound of the wheels on tarmac, as we move smoothly along the road while discussing the future of electric cars and the latest smart charging station—a solution that Mikael Hagman describes as “a door key to the intelligent home.”

Jämtkraft, along with the City of Östersund and Green Highway, were early to identify electric power as one of several alternatives to fossil fuels. In the wake of the financial crisis and after the collapse of the auto industry a couple of years ago, the “first generation” charging posts were put up in collaboration with regional business.

Kristina Andersson can be reached at kristina.andersson@jamtkraft.se.
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Strengthen your knowledge and get recognized for your stormwater expertise with the APWA CSM certification.
How do roadway signs affect driver safety and, when it comes to visibility, does brighter always mean better? How long do traffic signs really last and how can we better maintain our existing signage to save money? Where can we learn more about traffic sign materials, placement, and installation? From sign management and maintenance to sign life expectancy and retroreflectivity, the Minnesota Local Road Research Board (MN LRRB)—an organization dedicated to improving the quality of the local city and county transportation systems—has developed several resources to help local agencies administer their traffic signage. Most importantly, these resources promote driver safety by supporting Minnesota’s Toward Zero Deaths (TZD) initiative, a program dedicated to reducing traffic crashes, injuries, and deaths on Minnesota’s roads.

These traffic sign resources include:

- Traffic Sign Management and Maintenance Online Training Course
- Sign Retroreflectivity Toolkit
- Traffic Sign Life Expectancy Research Project
- Updated Traffic Sign Maintenance and Management Handbook

Traffic Sign Management and Maintenance Online Training Course
Seasoned maintenance staff continue to retire without transferring their knowledge to their younger replacements. To help bridge this increasing knowledge gap, the MN LRRB recently funded the

A new Traffic Sign Management and Maintenance online training course includes narrated presentations and video clips to help local employees learn at their own pace.
development of a comprehensive and user-friendly online training course to provide a consistent set of sign maintenance and management practices to employees of cities, counties, and municipalities.

The self-guided online course includes 10 modules, each containing a narrated presentation, video clips, and a quiz. Course topics include:

- Sign safety and policy
- Sign materials, placement, installation, and retroreflectivity
- Sign maintenance and management practices
- New federal requirements related to sign maintenance and management

The online course is available through the University of Minnesota’s Center for Transportation Studies as part of their national involvement with the federal Local Technical Assistance Program (more information is available at www.mnltap.umn.edu). To learn more about the course or to register, please visit the course website: http://www.mnltap.umn.edu/training/topic/traffic/onlinesign/.

**Sign Retroreflectivity Toolkit**

About half of all traffic fatalities occur at night. These casualties often involve departures from the roadway caused by decreased nighttime visibility. Critical to preventing such crashes is the retroreflectivity (night visibility) of road signs.

Because traffic sign retroreflectivity weakens over time, highway agencies must ensure their signs remain clearly visible at night. While local organizations have always been encouraged to maintain their traffic signs, the Federal Highway Administration (FHWA) now requires public agencies to implement a sign maintenance and replacement program to guarantee road sign retroreflectivity levels meet the minimum levels outlined in the *Manual on Uniform Traffic Control Devices* (MUTCD).

![Maintenance staff use retroreflectometers to ensure traffic signs meet minimum retroreflectivity levels.](image)

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To assist Minnesota local agencies conform to the federal mandate, the MN LRRB has created a toolkit to help local agencies develop a customized sign maintenance plan that considers each agency’s budget, resources, and sign inventory.

This toolkit, available online, includes a variety of resources including:

- Know Your Retro – Maintaining Sign Retroreflectivity
- 2014 Traffic Sign Retroreflective Sheeting Identification Guide
- MN Manual on Uniform Traffic Control Devices (MUTCD) Requirements
- Sign Assessment and Management Methods Fact Sheet

“Because local agencies have limited budgets and varying circumstances, it’s important that they be given all the available options for customizing a sign maintenance program to meet their specific needs,” says Michael Sheehan, Olmsted County Engineer.

For more information, please visit: http://www.dot.state.mn.us/stateaid/trafficsafety/retroreflectivity/sign-retroreflectivity-mn-toolkit.pdf.

Traffic Sign Life Expectancy Research Project
As mentioned earlier, retroreflectivity is critical for nighttime visibility and driver safety. Knowing how long a sign will maintain adequate retroreflectivity helps to ensure roadway safety throughout the sign’s service life and saves money by avoiding unnecessary replacement costs.

But how long do traffic signs really last? Unfortunately, there is limited data on the functional service life of traffic signs (particularly those using the newest sheeting materials). So to answer the sign life expectancy question, the MN LRRB has funded a new research project to develop expected sign life values, enabling local agencies to better manage their traffic sign assets.

To begin studying retroreflectivity, MnDOT researchers use a test deck to study various sign materials and develop expected sign life guidelines, enabling local agencies to better manage their traffic sign assets.

MnDOT researchers gathered a variety of roadside signs (along with each sign’s age, location, and installation records) from around the state. Researchers used these signs to create a test deck at its MnROAD Research Center (http://www.dot.state.mn.us/mnroad/map.html), where a team of experts is using this test deck (which includes several south-facing signs angled upward to accelerate deterioration) to study retroreflectivity and color readings. These findings will eventually help researchers determine the average useful life of sign sheeting material and develop best practices and sign maintenance policies. Preliminary data already suggests that traffic signs should be expected to last at least 15 to 30 years, which is longer than the typical manufacturer’s warranty.

For more information on this expected sign life project, please visit: http://www.dot.state.mn.us/materials/signretroreflectivity.html.

Updated Traffic Sign Maintenance and Management Handbook
Mandatory sign management plans benefit motorists as well as local agencies. These plans help ensure maintenance workers properly update their road signs to meet current safety and retroreflectivity standards. Proper sign management plans also allow local agencies to protect themselves against liability in the event of a crash.

To assist local agencies in developing their required sign management plans, investigators recently updated MnDOT’s Traffic Sign Maintenance and Management Handbook. Designed to help agency employees better maintain their traffic signage, the guide includes sample documents, current policies, and money-saving tips for removing unnecessary signs, which can reduce maintenance costs by up to 30 percent. Other pertinent topics include:
The updated Traffic Sign Maintenance and Management Handbook helps agency employees meet current safety and retroreflectivity standards while reducing maintenance costs.
Impacts of transportation technology

Blaine Leonard, P.E., Intelligent Transportation Systems Program Manager, Utah Department of Transportation, Salt Lake City, Utah, and Chair, AASHTO Technical Working Group on Connected Vehicles; Gary Strack, P.E., Senior Project Manager, Shafer, Kline & Warren, Inc., Lenexa, Kansas, and member, APWA Transportation Committee

You may have heard about the Google car, a driverless vehicle being tested by the famous Internet company, and wondered if that possibility is real. It is. You might have also wondered if the driverless car, and other advanced transportation technology, will have an impact on your operations. It will. The automakers, government agencies, and a variety of private sector entities are working on a broad range of transportation technology, many of which are being deployed now, and they will transform the nature of transportation, traffic management, and transportation planning.

There are two primary focus areas in new transportation technology—vehicle automation and connected vehicles. For vehicle automation, the end goal is to have a driverless vehicle, but the technology is currently being developed and deployed in increments, some of which is available today. Adaptive cruise control, where your vehicle can alter its speed to maintain a following distance and avoid a crash, is available on many models today. There are features on some models that enable the car to parallel park itself, since many of us don’t like to do that. Most of these automated features are based on conditions the vehicle can “see”—imaging developed from sensors, digital image recognition, Lidar mapping, etc. These kind of automated features, where the vehicle takes control of certain functions, will continue to be added to new cars. At some point, possibly as early as 2025, the sum of these features will add up to total automation. Bill Ford, the Executive Chairman of Ford Motor Company, recently said that “by the time we get to the autonomous vehicle, it won’t be that big of a deal.” That is because these features will be added incrementally.

The second focus area is connected vehicles. The end goal is not necessarily a driverless vehicle, but is providing information to the driver. This technology is based on what the vehicle, and the driver, can “learn.” Information, being shared anonymously between vehicles, and between the vehicle and the infrastructure, will assist the driver in decision making—on route selection, safety conditions, weather, and other things. Because of potential safety benefits, beginning in about 2020, every new light vehicle manufactured for use in the United States will be required to have a communication device on-board to send and receive this kind of information. Cars will tell each other where they are, how fast they are moving, whether they are accelerating or decelerating, and other things. And, many government agencies are planning to deploy similar communication equipment along the roadside, in signal cabinets and elsewhere, to report signal timing schemes, presence of hazards, and other road condition data to the vehicles.

In a broader sense, “connected vehicles” also refers to automaker and private sector applications to connect your vehicle to the cloud, largely for navigation and entertainment purposes. If you purchase a new car today, there is a good chance that some of these features will be part of the package.

A primary benefit of autonomous and connected vehicles, and, in fact, the driver behind connected vehicle regulations, is safety. It is reported that driver error is a significant factor in 75 percent of all crashes, things like driver inattention, driver oversight, misjudgment of distance, and over-steering. Automation can overcome many of those factors. The National Highway Traffic Safety Administration (NHTSA) has determined that connected vehicle technology can mitigate over 80 percent of all non-impaired crashes. Since many state departments of transportation have “Zero Fatalities” or reduced crash goals, this technology is of great interest to them.

It has been said that this coming change in vehicle automation will be as transformational as the conversion from horses to horsepower. The impact will be broad and change our driving habits, travel patterns, and even vehicle ownership models. Government agencies at all levels are assessing the impacts of those changes, preparing for modified operations, and getting involved in the deployment of technologies to encourage and benefit from these advancements. For instance, a number of states, and a few municipalities, are beginning to deploy communication systems as part of their intelligent transportation network.
addition to improving traffic safety, they hope to make traffic flow more efficiently, enhance traffic signal operations, improve the reliability of transit schedules, manage freight movements with less disruption, warn drivers more quickly of traffic hazards, and reduce emissions.

There are still some unknowns about how these changes will impact local governments, and the extent of those impacts are being actively evaluated. A few examples of what some of those impacts and benefits might be are as follows:

Paint striping viability: Systems which guide automated vehicles or warn drivers about lane departure depend on being able to detect lane markings. For these to be effective, there might need to be a tighter specification on paint reflectivity. That will impact the frequency of painting, selection of materials, and maintenance budgets.

Traffic signal connectivity and timing: A number of the connected vehicle applications which focus on improved traffic mobility and intersection crash avoidance will rely on messages sent from the traffic signal indicating signal phase and timing. These will require late-model signal controllers, broadcast hardware (such as dedicated short-range communication radio – DSRC), and, in some cases, connectivity between adjacent signals and the traffic operations center. Some applications provide information which allows the driver to alter speeds and avoid red lights. These “eco-drive” applications will also require signal data to be broadcast along the corridor.

Fixed hazard signage: Providing real-time warnings to drivers about sharp curves, low bridges, or stop-sign running vehicles will require broadcast equipment (likely DSRC) to be installed at these locations. This equipment will need power, a cabinet, and a pole for mounting the antenna.

Planning and zoning: One potential connected vehicle application would maintain information about available parking in urban areas and provide the data directly to the driver. This would prevent the driver from spending time and fuel looking for open parking lots and spaces. And, automated vehicles may need no parking at all; after dropping off their passenger, they could move on to other trips or park in less congested areas. While these systems would likely be offered by private sector vendors, municipalities eventually need to consider whether parking space regulations and zoning should be altered to meet changing demand.

Traffic management staff: As intelligent systems become more pervasive in our traffic management and signal operations, our staff may need a different skill set and focus. Connectivity, big data, and optimization schemes will require new talents and a shift in our operations and maintenance workload.

These advancements, while they may sound a little ominous and disruptive, will yield incredible benefits to operating agencies and the public. Imagine a world with few crashes and fatalities, reliable commute times, and dependable parking spaces. Imagine cleaner air and no congestion. These possibilities are in our future with automated and connected vehicles. Since these technologies are emerging today, now is the time to get involved in efforts to understand, plan and deploy them. Help create the future.

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Stakeholder Partnering: Transforming transportation at the local level

Michael Smith
Project Management Engineer/Team Leader
Federal Highway Administration Resource Center
Atlanta, Georgia

The FHWA’s Every Day Counts (EDC) initiative began in 2010 as an effort to help states and local agencies deliver transportation projects smarter and faster, and much of this focus has been on promoting technologies. However, EDC also includes initiatives that promote effective and flexible program administration strategies and options. One such strategy is “stakeholder partnering.” Stakeholder partnering, which launched as part of the second round of EDC in 2012 and is continuing under the third round that began in late 2014, is an effort that is bringing state, local and federal agencies together to create a more efficient federal-aid process and give innovators an edge.

Why stakeholder partnering?
About 20 percent of the federal-aid program goes to fund local agency projects every year. That amounts to roughly $8 billion. Given the size of the program and its broad national impact, the FHWA has embraced stakeholder partnering as a means to make programmatic improvements and speed up project delivery.

“We think that the key players at each level of government should be involved to help make sure we are using the funding dollars, regardless of source, as effectively as possible,” said Robert Wright, the FHWA Local Programs Manager. “Ultimately, the goal is effective and efficient project delivery.”

On the local agency side, we often hear that federal projects take too long and cost too much,” said Wright, “and from the state’s perspective, there are staffing resource challenges in helping local agencies manage these projects and stay in compliance. Since lengthy delivery timeframes can significantly add to project costs, stakeholder partnering can be an effective tool to explore improving project delivery.”

Wright said that the idea behind stakeholder partnering is simple: bring transportation professionals from different agencies together at one table to talk and to listen.

“Talking begets working on processes together,” he said, “and talking leads to collaboration and cooperation. This

The key elements of stakeholder partnering are representation from federal, state and local agencies; shared understanding; and progress on issues of concern.
is not about project-level partnering. That is something that most owner-agencies and contractors do already on specific projects. We want to be able to deal, at a programmatic level, with the range of issues that come up across a majority of projects.”

How it works
Stakeholder partnering is a representative process, and not every local agency needs to be involved. Locals can stay abreast of what is happening through representatives on the committee who feed information back to them.

This is where organizations such as the National Association of County Engineers (NACE) and the American Public Works Association (APWA) can contribute. Rather than reaching out to each county for a representative to be on the committee—some states have more than 100 counties—states can enlist representatives from their NACE affiliate and APWA chapters and take advantage of existing communication structures.

Brian Roberts, NACE’s Executive Director, said that if states connect with their NACE affiliate, or transportation liaisons in APWA, these representatives will in turn reach out to the other counties or the other APWA professionals.

“That is how states can take what might be 1,000 agencies they could potentially deal with and narrow it down to a manageable number,” said Roberts. “That is why it is important to work with national organizations.”

Roberts is one of stakeholder partnering’s strongest proponents. In fact, NACE and APWA teamed in submitting stakeholder partnering for consideration for the second round of EDC, known as EDC-2. Stakeholder partnering was part of a three-pronged EDC-2 strategy, along with certification programs and consultant services flexibilities, to improve locally administered federal-aid projects. It then moved forward as a singular effort under the third round (EDC-3).

Stakeholder partnering committees can be shaped to fit the size and structure of local agency programs in each state. Even states that do not have a designated local agency program still have opportunities to benefit from it, as well as metropolitan planning organizations, regional transportation authorities, and others who administer federal-aid projects.

Roberts said that while some states, such as California, have large stakeholder partnering programs that have been in place for years, those that are smaller or just starting have been successful as well.

“These programs evolve over time,” he said. “It is important to start somewhere and grow from there. Each stakeholder partnering committee will be different, because each state is different.”

Results
Stakeholder partnering is improving processes by first creating a better understanding by all involved of what is needed for highway projects at each level, and better understanding equals better outcomes.

Jean Mazur, FHWA California Division, presented an FHWA perspective on stakeholder partnering at the EDC-3 Summit in Sacramento, California. She said California’s stakeholder partnership, the Transportation Coop Committee, provides her Division with insights on local level project delivery challenges, which they then use to examine how federal requirements are administered and look for opportunities to streamline.

“Stakeholder partnering gives us an opportunity to make sure local agencies understand what the requirements are and what is expected of them,” she said, “and if we have a specific requirement we have to implement, it helps us do it in a way that is least burdensome to the state and the local agency.”

“We all have competing priorities, and some may wonder if we really have time to sit around a table and talk. But the time spent up front saves a lot of time over the long run,” said Mazur. “It’s worth it!”

Mazur provided a recent example of how California’s Transportation Coop Committee benefits all involved.

“Federal Highways and the state had decided to make what we felt
were some small tweaks to the Disadvantaged Business Enterprise program. We brought that to the stakeholder partnering group and talked to them about it, and it became clear pretty quickly that the local agencies would have a hard time with one of the two changes that we wanted to make,” she said. “We decided to implement the first change and allow time to determine the results, then, go back to our stakeholder partnering group and decide if implementing the second change is needed.”

“This is the point of stakeholder partnering; it gives FHWA and the state a better understanding of local issues. When everyone participates, it gives us information we can use to administer the most efficient and effective federal-aid program possible.”

Caltrans Local Assistance Division Chief Ray Zhang, also a presenter at the Summit, described the Transportation Coop Committee as a way to convert stakeholders into partners.

“We don’t always have to agree at the end of the meeting, but through this process we develop an understanding of both sides of the situation, and each side’s limitations, so that, moving forward, there’s more cooperation. Understanding each other’s perspective helps us all, collectively, to do our jobs better,” said Zhang.

Roberts was also a presenter at the EDC-3 Summits, helping spread the word about the stakeholder partnering effort and its impacts on local projects.

“Stakeholder partnering brings all three parties together and gives us an equal say at the table,” he said. “When we go home, things may be different, but at that meeting we all feel like we have an equal say, and that’s how we’re going to have progress.”

“We have a lot of success stories out there,” said Roberts. “I don’t know of any endeavor that hasn’t been successful for stakeholder partnering. We have got nothing to lose and everything to gain by doing this.”

“At the end of the day, we all want the same things and have the same goals. Whether you work for a city, a county, an MPO, the state or Federal Highways, we all want a safe, efficient transportation network. And, we want to do it as quickly and cost effectively as we can.”

Resources
The FHWA EDC team recently produced a new video on stakeholder partnering that provides a basic overview of the program and addresses commonly asked questions. It is available on YouTube at https://youtu.be/YNakgG97XuA and has been added to the library of informational videos available on the Federal-aid Essentials website at http://www.fhwa.dot.gov/federal-aidessentials. Feel free to share the video with a stakeholder you feel could benefit from this type program.

Michael Smith is a Project Management Engineer and Team Leader for the Construction Project Management Technical Service Team in the FHWA Resource Center’s Office of Technical Services in Atlanta, Georgia. He can be reached at (404) 562-3694 or at michael.smith@dot.gov.

Stakeholder Partnering: State of the Practice
Just over half of all states currently employ some form of stakeholder partnering. Every Day Counts (EDC) has identified seven states with mature programs that could be helpful to others as models. Two of these states, California and Virginia, have volunteered to be “champion” states and share their methods for success with others. Another 16 states are on board and have developed State Implementation Plans, including three states, Ohio, Michigan and Arizona, which launched Stakeholder Committees in 2014.

Several states have not yet developed an Implementation Plan but have indicated an interest in doing so. APWA and NACE and their state affiliate members are working to encourage participation in remaining states that do not yet have a program.
Pedestrian Safety: Make it personal to you!

Carla P. Anderson, P.E., Traffic Engineering Associate, Kansas Department of Transportation, Traffic Engineering Unit, Lecompton, Kansas; member, APWA Transportation Committee

When I decided to write about “Pedestrian Safety” I started with a Google search to see what information is available to anyone with an interest. One of the sites I had expected to see was the National Highway Traffic Safety Administration (NHTSA) because they manage the Fatal Analysis Reporting System (FARS).

The NHTSA (FARS) states on their website that “Everyone has different preferences when it comes to transportation, but there’s one that all road users share—even everyone is a pedestrian.” This is a pretty good quote to start with and to make pedestrian safety personal to the reader. (www.nhtsa.gov/FARS)

I played around in the FARS database and found that in 2012, 4,743 pedestrians were killed with 26% of these deaths due to the pedestrians not yielding to the right-of-way. Most of the pedestrian deaths were between 6:00 p.m. to midnight, and the age range of pedestrians is from 45 to 64 years old as the highest age group to lose their life. This is not to say that the 26% of the deaths due to not yielding

Table 1
Total Fatalities and Pedestrian Fatalities in Traffic Crashes, 2004–2013

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Fatalities</th>
<th>Pedestrian Fatalities</th>
<th>Percentage of Total Fatalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>42,836</td>
<td>4,675</td>
<td>11%</td>
</tr>
<tr>
<td>2005</td>
<td>43,510</td>
<td>4,892</td>
<td>11%</td>
</tr>
<tr>
<td>2006</td>
<td>42,708</td>
<td>4,795</td>
<td>11%</td>
</tr>
<tr>
<td>2007</td>
<td>41,259</td>
<td>4,699</td>
<td>11%</td>
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<tr>
<td>2008</td>
<td>37,423</td>
<td>4,414</td>
<td>12%</td>
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<td>2009</td>
<td>33,883</td>
<td>4,109</td>
<td>12%</td>
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<tr>
<td>2010</td>
<td>32,999</td>
<td>4,302</td>
<td>13%</td>
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<tr>
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<td>32,479</td>
<td>4,457</td>
<td>14%</td>
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<tr>
<td>2012</td>
<td>33,782</td>
<td>4,818</td>
<td>14%</td>
</tr>
<tr>
<td>2013</td>
<td>32,719</td>
<td>4,735</td>
<td>14%</td>
</tr>
</tbody>
</table>


NHTSA’s National Center for Statistics and Analysis
to the right-of-way were all between the times of 6:00 p.m. and midnight, or that all of these were between the ages of 45 to 64 years old. However, it stands to reason that if the time and ages are high then it could be possible many would fit into these categories. The pedestrian tab on the NHTSA website provides a table that compares the years between 2004 through 2013 (see p. 47). Notice that the percentage of total fatalities is rising.

So why would we care about these statistics? This should concern all of us and it made me look at pedestrian safety a bit more closely since I am right in the middle of this age group being 50 some years of age. I have a bike and enjoy riding during the evening hours but I get lazy. So I justify my laziness by fear of shortening my live or injuring myself because of the crash possibilities.

Another interesting website is the Center for Disease Control and Prevention (CDC) which did surprise me to see pedestrian safety tips offered. Check into this website because it offers a lot of good and appropriate information. (www.cdc.gov/Motorvehiclesafety/Pedestrian_safety/index.html)

The CDC website offers this as food for thought: “How big is the problem? In 2012, 4,743 pedestrians were killed in traffic crashes in the United States, and another 76,000 pedestrians were injured. This averages to one crash-related pedestrian death every two hours, and a pedestrian injury every seven minutes. Pedestrians are 1.5 times more likely than passenger vehicle occupants to be killed in a car crash on each trip. Pedestrians were one of the few groups of road users to experience an increase in fatalities in the United States in 2011, totaling 4,432 deaths. We are working hard to raise awareness of the dangers to pedestrians, and to provide leadership, expertise, and resources to communities across America to combat these crashes. We urge parents, caregivers, educators, traffic safety officials, and advocates to make the most of our pedestrian safety resources to improve the quality of life in their communities. Pedestrian safety is an increasingly important topic on all our minds whether we are a Public Works Director, Traffic Engineer, parents, employer, employee and any one of us.” (www.cdc.gov/Motorvehiclesafety/Pedestrian_safety/)

Wow, if that doesn’t get you thinking, I’m not sure what will unless someone close to you sadly becomes a statistic.

So what can be done to promote pedestrian safety?
Maybe your public works office could send out pedestrian safety flyers to residences with the website addresses. Just a thought! There are many websites out there with a lot of great information.

Many of us are outraged that drivers on the roads are more interested in their cell phone than to see what may be in their path of travel. Just the other day on the local news report I heard about a driver who drove on the right side of a school bus with the stop paddle extended with children just about to step forward onto the bus. I have no idea how a driver can miss a large bright yellow school bus. Is it possible we don’t give safety the priority it deserves? Does anyone realize how very close we are to seriously injuring or killing others/those we care about?

Is it possible that many of the 26% of pedestrians that were mentioned in the FARS who did not yield to the right-of-way were busy texting or possibly had ear buds in and too engrossed in their music to notice that they did not have the right-of-way? I love music and don’t pay attention when I walk to the donut shop to get away from the crash reports. Even when I am cautious there could be a driver who wants to beat the light.

Changing human behavior is very challenging. I do things as a pedestrian I know I shouldn’t do. So my advice is to be honest with yourself and recognize you need to make changes to be a safer driver and a safer pedestrian. You can be an example for someone else, LIKE YOUR OWN FAMILY. Make it personal to you and be safe in everything you do.

Engineering pedestrian safety!
As an engineer myself, I know and use many of the guidelines that are available when we design a project involving all of the traveling public, pedestrian or otherwise.

• Manual on Uniform Traffic Control Devices (MUTCD)
• Americans with Disabilities Act (ADA)
• Proposed Right of Ways Accessibility Guidelines (PROWAG)

The MUTCD, ADA and PROWAG provide much guidance and, in many cases, requirements that address
accessibility for all. They provide direction to the designers on how to handle crosswalks, sidewalk cross slopes, landings, crosswalk ramps, signalized crossings, and include safety to pedestrians while projects are under construction, just to name a few.

Engineers often have the opportunity to review plans under various stages of design and can look for opportunities to recommend additional safety improvements. I have had the opportunity on occasion to see the projects constructed and how the general public likes the changes after it is constructed. Generally, the public is pleased after the construction is completed and things are back to normal. However, it can be pretty disappointing to see water ponding in the truncated domes or a utility taking half of the five-foot sidewalk width away from the pedestrian access. When projects improve the sidewalks in front of stores and restaurants, it is good to see that many of the businesses have respect for the required sidewalk width. However, there are a few who do not and they block the walkways with tables and chairs.

Make it personal to you!
It really takes all of us, the general public, public officials, business owners, parents, schools, designers, maintenance staff, construction workers, and YOU to bring down the number of pedestrian deaths we are seeing each year. Please challenge yourself professionally and in your personal lives to use safe pedestrian practices. Go ahead—push that pedestrian walk button. I know it seems like an eternity to wait but it is worth it.

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The Atlanta Streetcar: A ride in the right direction

Michael Geisler
Chief Operating Officer
City of Atlanta, Georgia

The City of Atlanta has long been considered the economic and cultural capital of the Southeast. Over the past five years, the city has experienced rapid growth, attracting new businesses, revitalizing neighborhoods, and solidifying its place as the “Hollywood of the South,” with a booming entertainment and film industry.

Despite these successes, access to viable and stress-free commuting options for those who live and work in downtown Atlanta is limited.

Downtown Atlanta has the highest concentration of jobs in the expansive metropolitan region, drawing approximately 118,000 workers each weekday. With many of Atlanta’s 40 million annual visitors regularly flowing into the Downtown area, residents and tourists need additional transit and transportation options that are convenient, efficient and affordable.

In order to improve access to the core of the city, Mayor Kasim Reed launched the Atlanta Streetcar as the first step toward further developing the city’s transit system.

Phase One, a 2.7-mile route crossing east-to-west from Centennial Olympic Park to the MLK National Historic Site, opened to passengers at the end of last year.

Operated jointly by the City of Atlanta, the Metropolitan Atlanta Region Transportation Authority (MARTA), and the Atlanta Downtown Improvement District, the route consists of modern electric streetcars connected to an overhead power system with a single trolley wire. The streetcars operate on-street, traveling in lanes shared with other traffic, allowing for continued vehicular circulation through the Downtown corridor.

The Streetcar’s passengers will ride for free through the end of 2015.

Operational costs will be covered by the TIGER II grant funds along with advertising, the city’s car rental and hotel motel tax and some funds from the Atlanta Downtown Improvement District. Atlanta received the largest TIGER V grant from the Obama Administration in the nation, which paid for the majority of construction costs.

The Streetcar’s most immediate benefit is last mile connectivity for individuals who use mass transit as their primary form of transportation. By providing missing circulation and direct connectivity to existing transit services, the Streetcar will allow residents, commuters, and tourists alike to better access the Downtown area.

It connects the eastern and western districts of Downtown, which have been separated by the I-75/I-85 corridor for fifty years. Linking these two areas back to one another will allow them to further develop in a way that has not been possible for more than a generation.

Further, the Streetcar project provides an opportunity to implement infrastructure upgrades to the Downtown area, including redesigned sidewalk surfaces, striped bicycle lanes, traffic signal upgrades, and the conversion of a major one-way thoroughfare to a two-way street in order to ease congestion.

“The Streetcar links neighborhoods that have been divided for more than a generation,” said Mayor Reed. “This
The Streetcar is a far more energy-efficient option than other forms of transit. In particular, it offers a more sustainable and viable alternative to buses while emitting less noise and fewer emissions.

The Streetcar’s loop through Downtown marks a critical first step toward revitalizing the city’s transit system, neighborhoods, and sustainability efforts. Connecting the Streetcar to the Atlanta BeltLine, a multi-use trail built on top of an abandoned railroad track that circles the city, will link two transformational developments together and will likely prove to be one of the most important projects in Atlanta’s history.

Future expansion of the Streetcar, along with significant improvements to the city’s infrastructure, thanks to the passing of $250 million infrastructure bond referendum, will allow residents, commuters, and tourists to travel in a safer, friendlier, and cleaner manner.

As Chief Operating Officer for the City of Atlanta, Michael Geisler directly manages and oversees all city operating departments and related agencies including Aviation, Police, Fire, Corrections, Parks, Recreation and Cultural Affairs, Planning and Community Development, Public Works, Watershed Management, Human Resources, Procurement, Information Technology, Sustainability and Enterprise Assets. He served as the Deputy Commissioner and Chief Financial Officer for the City of Atlanta Department of Watershed Management, a position he assumed in November 2012 after a national search was conducted. Geisler brings to the position more than 30 years of experience in strategic and tactical management, combined with excellent business development, operations and financial acumen. He can be reached at (404) 330-6004 or atlmedia.com.

Beyond improved connectivity, the Streetcar is expected to have major economic benefits for the area. As a result of its construction, Downtown is expected to see 5.1 million square feet of retail absorption as well as an increase of 4.4 million square feet of new office space by 2030.

“Prior to opening, the Streetcar attracted $561 million in investment within a five-minute walk of the track alignment,” said A.J. Robinson, President of Central Atlanta Progress and the Atlanta Downtown Improvement District. “Now that it’s officially launched, it will continue to provide significant economic benefits for many years to come.”

Other cities have enjoyed similar benefits from streetcar systems, such as Seattle and Portland, Ore., and now cities like Washington, D.C. are looking to complete their own streetcar systems.

The Streetcar will also build on sustainability efforts in the Downtown area. It runs through some of Atlanta’s most walkable neighborhoods, which also feature some of the city’s most sustainable buildings.
As the U.S. economy gains strength, cities across the country are using that growth to spur new investment in transportation infrastructure projects. Infrastructure is the backbone of a community, providing the essential components for people, goods and capital to move.

Atlanta learned important lessons during the Great Recession and in the recovery—one of the most important being the need to prioritize infrastructure maintenance and investment. In preparing to host the 1996 Centennial Olympics, Atlanta invested $150 million in key infrastructure projects, which facilitated hundreds of thousands of people attending Olympic events and boosted the regional economy. But infrastructure investment dropped off in subsequent years and the recession made even basic maintenance a tough proposition for the city. The end result? A $900 million backlog in maintenance and projects. Unless the City tackled this backlog, it would reach a point of crisis within the decade.

After weathering the Great Recession and stabilizing the City’s finances, Mayor Kasim Reed proposed a historic $250 million infrastructure bond as the core of the City’s Renew Atlanta Infrastructure Bond campaign. Approved unanimously by the Atlanta City Council and then overwhelmingly by voters in a referendum, the bond will fund a quarter of the City’s backlog and marks one of the largest infrastructure investments in Atlanta’s history. “We could not be in a better position to take on this challenge,” said Mayor Reed. “This bond will allow us to make the most significant single investment in modern times to improve the look, feel and experience of our city.”

Notably, this investment will not lead to any increase in property taxes, which have not been raised in five years. In fact, the FY2015 budget included a reduction in property taxes. Due to Atlanta’s AA credit rating—its strongest rating in 12 years—the City will pay a competitive 5.4% fixed-interest rate on the 30-year general obligation bonds. Funds are expected to be available in July and will be immediately distributed to a wide variety of projects. It is important to Mayor Reed, Chief Operating Officer Michael Geisler, and Public Works Commissioner Richard Mendoza that Atlanta residents see visible results quickly.

“A Complete Streets approach will guide a citywide effort to improve Atlanta’s roads. The bond will fund resurfacing of major roads as well as repairs and upgrades to city streets that will address curbs, sidewalks, bike lanes, and crossing signals. These projects will allow Atlanta to control congestion, improve mobility, and provide more transportation options, especially for the growing number of cyclists in Atlanta. Building more than 30 miles of new bicycle lanes is an important part of Mayor Reed’s plan to increase the number of people commuting by bicycle in the next three years.

The city will also dedicate over $40 million to synchronizing thousands of traffic signals—covering the entire city—in a groundbreaking investment to reduce commute times and improve residents’ ability to easily move around the city.

Additionally, in order to ensure that every resident has access to transportation options regardless of their disability status, $5 million will
be directed toward improving ADA access throughout Atlanta.

Beyond transportation projects, a further $63 million will be dedicated to upgrading police and fire stations as well as recreation centers across the city. This investment will markedly increase public safety and services for Atlanta residents without costing taxpayers a single additional penny.

The economic benefits of infrastructure projects are well-known and documented; using methodology established in the American Recovery and Reinvestment Act, the City estimates more than 1,000 direct jobs and thousands of indirect jobs will be created by the Renew Atlanta infrastructure bond. The indirect economic impact extends beyond jobs to an overall economic boost that will resonate across the metropolitan Atlanta region.

While the Renew Atlanta investment will take a sizable bite out of the backlog, Mayor Reed and COO Geisler know the $250 million investment alone won’t solve the problem. The City has also identified several other sources of revenue to fund the remaining projects in the backlog. Increasing capital budgets, sales of assets, federal and state grants, private donations, and improved operational efficiency will contribute to a comprehensive funding strategy to address the City’s remaining infrastructure issues.

Mayor Reed’s efforts to revamp Atlanta’s infrastructure puts the city on path to preserve its well-earned reputation as a transportation hub, further revitalize the city’s economy, and ensure that residents and visitors enjoy easy access to the economic and cultural capital of the South.

Richard Mendoza joined the City of Atlanta in 2010 as the Commissioner of Public Works. Mendoza is responsible for leading the department offices of Transportation, Solid Waste, and Fleet Services. The department is comprised of 783 full-time equivalent personnel with an annual operating budget of $100.3 million, and a capital budget of $50 million. Mendoza can be reached at (404) 330-6004 or atlmedia.com.
ike every other state in the nation, California no longer collects enough money in gasoline taxes to maintain its roads. Unlike most other states, however, California is ready to do something about it. California legislators and Governor Jerry Brown believe it’s time to examine whether a road charge is a viable alternative to the gas tax.

For almost a century, the excise tax paid at the pump has been the primary source for transportation funding. The more gallons used, the more money there is for roadways. In California, travelling 12,000 miles a year costs about $370 dollars in taxes, including fuel excise taxes and local sales taxes. This money pays for local city and county roads and the state highway system. Until the last decade, funding was sufficient to meet most routine maintenance and rehabilitation needs. However, since the state’s last increase in excise taxes in 1994, inflation has cut the buying power of that tax in half. And looking ahead, fuel efficiency standards are expected to significantly improve, meaning fewer gas taxes collected for the same or increased miles driven. The end result will be more demand on the system, but less money to pay for it.

As a result of the impending problem, state lawmakers have called for a pilot program to study the viability of a road charge. The legislation calls for the pilot to commence by January 2017 and requires a report to the Legislature by June 2018. The outcome of the pilot will then be fully vetted by the Legislature to determine if a road charge is a viable alternative to the gas tax. Governor Brown would like the results a year earlier.

California’s pilot follows a similar program run by its neighbor to the north. The Oregon Department of Transportation is leading the way by...
becoming the first state to implement an alternative to the gas tax. Oregon’s pilot program is looking at several methods on how to collect vehicle miles traveled in lieu of paying the gas tax. Options range from a simple odometer reading to more technical options that include an in-vehicle mileage device with possible value-added services. Oregon’s limited permanent program kicks off in July with 5,000 volunteers. But can this work for California?

California’s pilot will be based on parameters set in Senate Bill 1077. Work on the project kicked off in January 2015 with the establishment of a Technical Advisory Committee (TAC) under the authority of the California Transportation Commission. The TAC is charged with guiding the design of the pilot by addressing a number of key policy questions such as:

- How to best protect Personal Privacy – Any system for the pilot must protect specific driver and other personally identifiable information.
- Allow User Choice – Californians should have the ability to select a reporting option of choice based on multiple technology and non-technology options.
- Be Enforceable – The system should meet all security and compliance measures to detect and deter evasion and fraud.
- Be Fair and Equitable – All Californians should pay their fair share for using the transportation system. A fair system may account for vehicle type and size (e.g., fuel efficiency and weight) and consider breaks for lower income and disadvantaged Californians.
- Keep Pace with Change – The system should be open, adaptable, and expandable towards current and future technologies, and allow private sector participation.
- Avoid Double Charging – The individual paying a road usage charge should not have to pay both the gas tax and the road usage charge.
- Be Simple – The system should be uncomplicated, streamlined, and transparent.
- Clearly Identify Responsibilities – Roles, responsibilities, administration, and oversight functions should be clearly identified.
- Incorporate Cost Efficiencies – The system should incorporate low capital and operating costs to ensure highest return on system investment.
- Integrate with Other State Policies – The system should also align with California’s economic, energy, environmental, and congestion management goals.

The TAC is made up of 15 individuals that represent a diverse background including representatives of the data security and privacy industry, privacy rights advocacy organizations, the equity community, members of the Legislature, telecommunication industry and highway user groups and stakeholders.

As California’s pilot project unfolds, its progress will be available at www.CaliforniaRoadChargePilot.com.

Norma Ortega can be reached at (916) 654-3986 or norma.ortega@dot.ca.gov.
Each year, APWA presents the Public Works Projects of the Year awards to promote excellence in the management and administration of public works projects, recognizing the alliance between the managing agency, the contractor, the consultant, and their cooperative achievements. This year’s award winners will be recognized during APWA’s International Public Works Congress & Exposition, which takes place August 30-September 2 in Phoenix, Arizona.

The winners of the 2015 Public Works Projects of the Year Award are:

**Disaster or Emergency Construction/Repair**
- <$5 million: Kelley Stand Road
- $25 million–$75 million: SR 530 Landslide Emergency Response and Repair

**Environment**
- <$5 million: La Jolla Ecological Reserve Low Flow Diversion Project
- $5 million–$25 million: Port of Olympia Stormwater Treatment System
- $25 million–$75 million: Cascades Park
- >$75 million: Bay Division Pipeline Reliability Upgrade - Bay Tunnel Project

**Historical Restoration/Preservation**
- <$5 million: Balch Gulch Bridge at NW Thurman Street Rehabilitation
- $5 million–$25 million: Avenida Menendez Seawall

**Structures**
- <$5 million: Julian Wash Linear Park
- $5 million–$25 million: Eloise T. Leveritt Public Works Building
- $25 million–$75 million: Pierce County Sewer and Traffic Operations Facility
- >$75 million: Anaheim Regional Transportation Intermodal Center
- >$75 million: Target Field Station

**Transportation**
- <$5 million: SW 9th Street at Innovation Square
- $5 million–$25 million: Bagby Street Reconstruction
- $5 million–$25 million: Houghton Road, Irvington Road to Valencia Road
- $25 million–$75 million: Mercer Corridor Improvements Project
- >$75 million: San Francisco-Oakland Bay Bridge New East Span

**Small Cities/Rural Communities Projects of the Year:**
- **Disaster/Emergency:** San Ramon Canyon Storm Drain Project
- **Environment:** Stevens Creek Corridor Park & Restoration Phase 2
- **Historical Restoration/Preservation:** Rehabilitation of the Bath Village Covered Bridge
- **Structures:** Bridge District Water Storage Facility and Park Project
- **Structures:** Pajaro Neighborhood Park
- **Transportation:** Fairchild Overpass Improvement
On August 28, 2011, torrential rains of Tropical Storm Irene inundated the Green Mountains of southern and central Vermont. The storm left many roads and bridges in a state of shambles, isolating many communities. In Sunderland, Vermont, a four-mile stretch of Kelley Stand Road that included two bridge structures received extensive damage during this event. A true country road, Kelley Stand Road winds up the mountain adjacent to the Roaring Branch Brook and serves as an important link between the communities of Sunderland and Stratton. Additionally, it provides recreational access to the Green Mountain National Forest (GMNF).

Following the storm the road was impassable except for foot traffic, and even then it remained a treacherous hike. With no means to fix the road and winter looming, the Town of Sunderland officially closed the road. Because Kelley Stand Road provides access to the GMNF, the damages qualified for repair under the Emergency Relief for Federally Owned Roads (ERFO) program. Through a collaborative agreement between the GMNF and the Town of Sunderland, funding was put in place for design and reconstruction of the roadway facility.

Construction on Kelley Stand Road began on September 25, 2013. This project integrated the engineering accomplishments with a community’s need and delivered an emergency response project on an aggressive schedule. Planning for the weather during construction added another level of complexity to advancing the work and keeping the project on schedule.

The project team advanced significant reconstruction efforts at 32 distinct sites on Kelley Stand Road along with minor repairs and resurfacing along the entire project corridor. The team worked well into winter conditions and dealt with snow and subfreezing temperatures to continue advancing the project. On the surface it may seem like the project schedule could be advanced more quickly by simply adding more manpower; however, when factoring in material availability, manufacturing of project bridge elements, the restrictive in-stream work windows, and the narrow project corridor, the project had to be carefully planned and coordinated to allow for advancement while not outpacing the potential restrictions.

The project design called for incorporation of rock cross vanes throughout areas of Roaring Branch Brook that were susceptible to erosive forces during storm events. The stream structures were constructed of massive rocks from the project site to provide stability to Roaring Branch streambed and to relieve stresses on the stream banks during high flow events. The structures were designed and constructed to add resiliency to the transportation infrastructure, but they also provide improved stream health and aquatic organism habitat.

Through the scoping process and into design, the design team took on additional tasks that were not part of the original scope. Kelley Stand Road was officially reopened to the public on September 15, 2014.
At 10:37 a.m. on March 22, 2014, a massive landslide occurred near the community of Oso in Snohomish County, Washington. There was no time to escape. Surrounding neighbors described the ground shaking and hearing a deafening noise like a freight train. Forty-three people lost their lives and 10 were seriously injured. More than 36 structures were destroyed and nine others were damaged by the flooding that followed. Emergency calls to 911 were made and the community responded. Snohomish County’s Department of Emergency Management (DEM) activated its Emergency Operations Center and called rescue teams and support staff. Local, state and federal personnel, contractors, and volunteers joined in the search and rescue operations.

More than 900 local, state, tribal, and federal personnel, trained and untrained volunteers, contractors, families, and neighbors were involved in the search, rescue, and recovery operations. Lorena Eng, WSDOT’s Northwest Regional Administrator, and Steve Thomsen, Snohomish County’s Public Works Director, led a strong, coordinated team effort founded on many years of working together. WSDOT sent employees to support the county staff in the Emergency Operation Center and the Incident Command Locations (ICL). Snohomish County and WSDOT worked together to respond to needs and support the communities.

Six major projects addressing the SR 530 Landslide Emergency Response and Repair were bid at a combined total of $43 million and were scheduled to be completed before October 1, 2014. Cumulatively, the six projects came in $7.5 million under budget and finished 22 days early. WSDOT, Snohomish County, and their contractors worked within the same footprint to get the work done before the fall rains.

The six projects were unique, in that they involved many of the same agencies, contractors, and local community members working together toward the common goal of recovering landslide victims, restoring access between Arlington and Darrington, and restoring 80 acres of land to a safer and more stable condition.

Project achievements include the following: the SR 530 Incident Debris Removal Project recovered 1,001 personal items and construction crews worked under the direction of the Snohomish County Sheriff’s office during the recovery of the last victim; the project replaced six culverts with fish passable culverts which improved fish habitat; the worksites maintained strict safety practices that resulted in no OSHA recordable events and only one lost-time incident due to heat stress; the new mile-long section of SR 530 has been restored to two lanes and was elevated to minimize the chance of flooding; the restored site drains well, minimizing future hazards; the community was supportive of the team’s work to stabilize the area; WSDOT and Snohomish County applied for and met eligibility requirements for FEMA and FHWA funding. This funding enabled completion of these projects.

Managing Agencies: Snohomish County, Washington; Washington State Department of Transportation
Primary Contractors/Consultants: AECOM; guy F. Atkinson Construction; BCI Contracting; Environmental Science Associates; Granite Construction; IMCO General Construction; Jacobs Engineering; URS
Nominated By: Washington Chapter
La Jolla Ecological Reserve Low Flow Diversion Project

Managing Agency: City of San Diego, California
Primary Contractor: Palm Engineering Construction Co., Inc.
Primary Consultant: Harris & Associates
Nominated By: City of San Diego, California

The La Jolla area of special biological significance (ASBS) 29 has approximately 1.7 miles of shoreline adjacent to the City of San Diego. The ASBS 29 contains 453 acres of marine habitat, including a marine protected area, San Diego-La Jolla Ecological Reserve (now referred to as the La Jolla State Marine Conservation Area). There are 184 direct discharges of urban runoff into the ASBS and nine naturally occurring streams or gullies in the La Jolla community tributary to ASBS 29. In addition, the ASBS 29 receives discharge from retaining wall backdrains and groundwater seepage primarily fed by the infiltration of landscape irrigation. Low-flow stormwater discharge from these sources was determined to be a significant contributor to water pollution levels in ASBS 29. Therefore, the La Jolla Ecological Reserve Low Flow Diversion Project was identified as critically important to addressing water quality concerns in ASBS 29.

In the design phase, careful planning was used to locate facilities, sequence the construction with the dry season, and to phase traffic control around the intricate construction associated with these types of projects. During construction, the city, contractor, design team, and construction management team collaborated closely on complex design modifications to facilitate construction and address unforeseen conditions, including an undocumented joint utility trench in conflict with two vaults. The result of the coordination was project delivery under the total bid price and delivery on time and in advance of the summer construction moratorium.

The California Regional Water Control Board identified the La Jolla Cove Ecological Reserve (ASBS 29) low-flow contamination as one of the 36 most significant sites and sources of pollution in California. This project now collects and diverts contaminated low flow from above, within and below the highly traveled Torrey Pines Road and diverts it into the sewer system for treatment. This diverts contaminated low flows away from the highly sensitive biological and recreational area and safely to the sewer system for treatment with features to prevent sewer system overload.

The state-funded and locally administered La Jolla Ecological Reserve Low Flow Diversion project utilized state-of-the-art trenchless technology and system controls, and accommodated community needs from design through construction to clean up the state’s 36th most significant site and source of water pollution—ASBS 29. Contaminated low flows are now safely diverted to the sewer system. The benefits accrue to the marine ecosystem, the beachgoers, and the local and state economy that depend on coastal water quality. Outreach and innovation helped reduce construction impacts and the project was completed with no accidents on the heavily traveled Torrey Pines Road.
Logging and logyard operations are rooted in the history of Washington State, as are the seaports the logs travel through to their worldwide destinations. Nearly 130 million board feet of logs move through the Port of Olympia’s marine terminal every year; the majority of this 65-acre site is devoted to 25-foot-high stacks of logs, log debarkers, and immense log loading machines. Every log that moves through the Port leaves behind bark and other organic material. This material accumulates and is washed into south Puget Sound where it is consumed by bacteria and in the process depletes the oxygen supply in the water. Low oxygen leads to stress and mortality of aquatic life. Due to this, Washington State’s Industrial Stormwater Permit has set benchmarks for stormwater containing oxygen-depleting material, and the Port of Olympia and many other logyards are required to treat their logyard runoff to meet these benchmarks. For the Port of Olympia where annual average rainfall is 52 inches, this means the Port must treat 64 million gallons of stormwater each year.

The Port had a clear goal throughout the project: it wanted a system to treat stormwater to, or below regulatory limits, and a system flexible to meet the changing demands of an active port. At the time of design there were no existing successful logyard treatments for the pollutants of concern found at this site. The Port’s design and engineering consultant, Herrera Environmental, designed a 3.25-acre stormwater treatment facility that will meet the state permit’s benchmark values.

The facility includes a three-cell system for oxidation, pH adjustment, and settling; a pod of back-flushing sandfilters; a sludge pond; sludge handling facilities; and a treatment building. The site also includes a decant pad for handling street sweeping and catch basin cleaning wastes. The site configuration is designed to accommodate future growth, and the system components are modular, to allow the system to be augmented or scaled back quickly and efficiently. An existing stormwater pond was retained as another design element allowing future polishing and or backup capacity. The treatment facility also required significant conveyance system improvements, and a new triplex pump station.

The modular and adaptable design provides the Port with flexibility for reducing operating costs should their treatment needs change. The treatment facility design successfully incorporated application of wastewater treatment technologies to treat highly variable stormwater and used relatively inexpensive pilot testing to guide the design. Gallon for gallon, the system will be less expensive than other technologies, including a passive treatment system the Port initially considered (and rejected), yet without the concerns of long-term reliability or consistency that came with the passive system.
Cascades Park

Managing Agency: City of Tallahassee-Leon County Blueprint 2000 and Beyond Intergovernmental Agency
Primary Contractor: Sandco, Inc.
Primary Consultant: Genesis
Nominated By: Florida Chapter

Cascades Park, the new, 25-acre urban park in Tallahassee, successfully performs as a major new flood control/floodplain management system, and an outstanding recreational facility for the community. Funding for the $30 million project was obtained primarily through the Leon County penny sales tax, under Blueprint 2000 and Beyond, the intergovernmental agency of Leon County and City of Tallahassee. The park lies on a U.S. EPA Superfund site and is a model for reuse of an abandoned industrial site for recreational uses and stormwater management. The managing agency is delighted with the completed project, and the community has embraced Cascades Park as the preeminent facility in the Tallahassee Parks system.

From 2002 until March 2014, Genesis was involved in the planning and design of the Capital Cascades Trail and Cascades Park. The Capital Cascades Trail Master Plan called for a comprehensive program for new passive recreation development and extensive stormwater management facilities in a 5.2-mile corridor through downtown Tallahassee’s southeast quadrant. The centerpiece of this green urban corridor, Cascades Park, would occupy a formerly industrial, EPA Superfund site. The St. Augustine Branch stream and “Cascades” waterfall had historically conveyed stormwater through this site, and with continued urban growth in the area, the Cascades had been lost and the stream transformed into a significant, hardened, open-channel stormwater conveyance.

The stormwater master plan encompassed the drainage basin north of the park site and the St. Augustine Branch for a total contributing drainage area of approximately 989 acres. This large, densely developed upstream drainage basin generates significant runoff volumes at high velocities. The Cascades Park design produced a unique new stormwater management system that emulates the original St. Augustine Branch stream bed, creating a healthy, sustainable stream ecology with revegetated stream banks that contribute to the treatment process as water flows through the site. The essentially “floodable” park and its amenities are designed around the overarching stormwater retrofit master plan, providing much-needed flood relief for this low-lying section of Florida’s Capital city.

Key elements of the project include a major box culvert system that directs damaging storm event runoff to the lower pond where it stages up and backfloods the park before discharging downstream; large, naturally shaped ponds connected by meandering streams that offer significant floodplain storage volume; an intricate Alum Injection System that enhances the water quality of the minor storm event runoff, which is directed to both the upper and lower ponds; large, in-pond fountains provide aeration to both ponds while adding beautiful park features; and an onsite well that maintains the base flow entering the upper pond during drought conditions, and assists in maintaining water quality.
Bay Division Pipeline Reliability Upgrade - Bay Tunnel Project

**Managing Agencies:** San Francisco Public Utilities Commission

**Primary Contractor:** Michels/Jay Dee/Coluccio, Joint Venture

**Primary Consultant:** Jacobs Engineering

**Nominated By:** San Francisco Public Utilities Commission

The San Francisco Public Utilities Commission (SFPUC) operates a regional water supply system, transporting water from the Sierra Nevada Mountains to a network of pipelines, tunnels, reservoirs, pump stations and other facilities with the objective of supplying an average of 260 million gallons of high quality drinking water to 2.6 million customers in San Francisco and in the Bay Area.

In 2002, the SFPUC launched a $4.8 billion Water System Improvement program (WSIP) to repair, replace and seismically upgrade the aging infrastructure. This enormous retrofit program, known as the Hetch Hetchy Water System Improvement Program (WSIP), spanned seven counties and included 83 projects. The program will deliver improvements that enhance the City’s ability to provide reliable, affordable, high-quality drinking water to its 26 wholesale customers and regional retail customers in Alameda, Santa Clara, and San Mateo Counties, and to 800,000 retail customers in San Francisco, in an environmentally sustainable manner. The WSIP is structured to cost-effectively meet water quality requirements, improve seismic and delivery reliability, and achieve water supply goals.

During the Condition Assessment, the SFPUC found two major water supply pipeline arteries in the system to be particularly vulnerable to seismic events. The Bay Division Pipelines 1 and 2 (BDPL 1 & 2) were built in the mid-1920s and 1930s and were nearing the end of their useful working life. These pipelines travel from the city of Newark, above ground on wooden trestles, under the San Francisco Bay, on a 1920s-era bridge, and then across marshy wetlands on a pile-supported trestle into the city of Menlo Park. The replacement of these BDPL 1&2 pipelines with a more seismically robust tunnel (Bay Tunnel) was identified as a key element of the WSIP program.

One of the largest projects in the program was the Bay Tunnel, which provides a conduit across San Francisco Bay in an environmentally and seismically sensitive area. The tunnel is located between two of California’s most active faults, the San Andreas fault and the Hayward fault.

The Bay Tunnel Project involved the construction of a 15-foot excavated diameter, five-mile-long tunnel that sits up to 110 feet under the San Francisco Bay and adjacent marshlands. The tunnel’s alignment was located between two vertical shafts, one at each end of the tunnel, with access structures and pipeline connections from the Bay Tunnel to the existing Bay Division Pipeline (BDPL) No. 1, BDPL No. 2, and the new BDPL No. 5.

The Bay Tunnel is the very first tunnel excavated by a Tunnel Boring Machine (TBM) under San Francisco Bay. It is a critical lifeline facility, designed to remain operable following a major seismic event in the San Francisco Bay Area.

*Image courtesy of the San Francisco Public Utilities Commission/Photographer Robin Scheswohl*
The 110-year-old Balch Gulch Bridge was built during the 1905 Lewis and Clark Centennial Exposition and World’s Trade Fair as a gateway to Portland’s developing Willamette Heights neighborhood. As the oldest intact bridge in Oregon and one of only few remaining of its type in the entire nation, the pin-connected steel deck truss is a noteworthy historic and engineering treasure. In fact, Dr. Robert Hadlow, Oregon Department of Transportation Historian, espoused the bridge as “one of the most significant spans in Oregon.”

The passion for the history of the bridge and its surroundings exhibited by the design team is evident in the time and thought devoted to the historic content on the project website, history facts included in the monthly newsletters, and detailing of the new handrail and floor beams.

Given its age and condition, the Balch Gulch Bridge was in critical need of modernization and rehabilitation. Uneven wooden sidewalks caused pedestrians to trip and slip during soggy Portland days. Structural deck elements like wood stringers and deteriorating steel floor beams caused many potholes and cracks along the bridge deck surface, making for an unsafe and uncomfortable ride. Furthermore, because of the imposed weight restriction, fire trucks were unable to use the aging bridge and were forced to make a one-mile-long detour which added four minutes to their response time in the area. Additionally, TriMet public buses were forced to reduce their speed while crossing the bridge to preserve its serviceable life.

Considering the age of the bridge and its poor condition, it would have been easy to replace it with a shiny new one. However, the easy path was not chosen. Given its unique characteristics, its special place in Portland history, and its eligibility for the National Register of Historic Places, rehabilitation of the Balch Gulch Bridge was really the only viable option.

Federal-aid funds were sought and obtained to rehabilitate the bridge by replacing all components above the historic deck trusses. After a local agency match, the total project budget was approximately $4 million.

The decision to preserve the historic bridge inspired people from the public and government agencies alike. It also inspired the City of Portland Bureau of Transportation to set the following goals: lift the weight restriction without replacing the historic trusses; rehabilitate the bridge’s deteriorated superstructure while maintaining and honoring the historic aesthetics of the bridge; restore the original appearance of the 1905 historic bridge handrail, but strengthen it to meet modern safety standards; design the modern steel floorbeams to match the shape of the deteriorated historic riveted steel beams; replace the deteriorated wood deck and riveted steel beams, while shoring the historic trusses in place; and ensure that Macleay Park would remain open to the public during construction.

Managing Agency: City of Portland, Oregon, Bureau of Transportation
Primary Contractor: Cascade Bridge, LLC
Primary Consultant: City of Portland, Oregon, Bureau of Transportation
Nominated By: City of Portland, Oregon, Bureau of Transportation

PROJECT OF THE YEAR:
HISTORICAL RESTORATION/PRESERVATION
LESS THAN $5 MILLION

Balch Gulch Bridge at NW Thurman Street Rehabilitation
The Avenida Menendez Seawall project, completed in February 2014 for $6.7 million, culminated a long, 12-year process of consensus building, planning, design and construction resulting in a new, current-day seawall capable of holding back Category I hurricanes, while at the same time preserving and protecting one of St. Augustine’s most valued assets—the historic coquina seawall.

The historic St. Augustine seawall has long been an integral part of the city’s fabric—a coquina sentinel from rough waters, a promenade for romantic strolls, and waterside socials. The Spanish first began building the original seawall in 1696 south of the Castillo de San Marcos fort. The section recently improved was built between 1833 and 1844 by graduates of the United States Military Academy at West Point. But it has been battered by time and tide, from a devastating hurricane in 1846 that partially collapsed it, to Tropical Storm Fay in 2008.

Modern techniques in jetting and driving pilings, cofferdams for dewatering, underdrains and drainage structures, and the finishing of the promenade with coquina concrete and coquina shell finishing on the precast parapets and merlons made this a most interesting as well as architecturally beautiful finished product.

Construction called for establishing cofferdam cells within the waterway using steel sheet piles. The precast concrete piles were driven into mud, extending thirty-plus feet below the mud line. The cell was dewatered, and top caps and merlons were formed and poured in place. Concrete was pumped from trucks located on the adjacent roadway.

Additionally, the construction project called for new streetlights with historic gas light fixtures. City staff worked with electricians and light suppliers to achieve a final product that softens the light source for a more historic look while also achieving energy savings.
PROJECT OF THE YEAR:
STRUCTURES
LESS THAN $5 MILLION
Julian Wash Linear Park

Managing Agency: Pima County, Arizona
Primary Contractor: Granite Construction
Primary Consultant: Kimley-Horn
Nominated By: Arizona Chapter

The Julian Wash Linear Park provided 2.7 new miles of sixteen-foot asphalt multi-use paths as part of the Loop system in Pima County. This replaced a temporary on-road bike lane portion of path with a roadway-separated safe path. The project was delivered by a CMAR team led by the Pima County Project Management Office (PMO) including Granite Construction, Kimley-Horn, and other Pima County departments. The project was funded with a non-traditional public-private partnership (P3), where the Community Benefit Healthcare Foundation provided construction funding via an agreement with Pima County. Excellent design and craftsmanship fit this path into a seemingly undevelopable, challenging, and narrow wash corridor to the great benefit of the community.

The project was originally considered an undevelopable section along the Julian Wash from Alvernon to Campbell. This was an extremely narrow corridor, and without bank protection along the wash, it seemed impossible to provide a path that wouldn’t impact the wash negatively or one that would function integrally with the highly erosive wash environment. Kimley-Horn’s lead designer for this project, Scott Altherr, P.E., CFM, has an extensive background with hydrology and hydraulics, and he was able to creatively align the path through existing development, highly eroded and degraded areas, and around challenging existing utilities. The County originally envisioned this project as a series of smaller packages to be delivered sequentially as Job Order Contract projects. This resulted in a set of small packages with the intent to be field fit with prequalified contractors.

In a surprise change of events, a local community health foundation approached the County searching for a project similar to the Linear Park to invest in. By creating a P3, the team was able to bring in significant federal dollars to benefit local indigent healthcare while still installing the same recreational public works improvement as originally planned. This changed the planned delivery method to a Construction Manager at Risk (CMAR) approach, which would still provide a prequalified contractor but additionally resulted in transparent pricing methodology and responsibility to the outside private partner.

Although the CMAR team was developed late in the project, the process still allowed for a pre-construction value engineering and constructability review. The design team participated heavily, updating engineering drawings and side-by-side pricing review during the process. Although it is always recommended to start a CMAR process early in the design, the team still received significant value resulting in a net cost reduction of at least $800K from the initial GMP to the final. Though construction was challenged by monsoon season delays, it was substantially completed on time, including installation of a bridge, in the week leading up to the November 1 Opening Event.
Decatur’s public works building, named for Eloise T. Leveritt, the City’s first female city commissioner, is the heart that keeps the City’s circulatory system functioning smoothly. This much-needed renovation project provides a state-of-the-art facility that helps the Public Works Department deliver more and better services while upholding city standards for environmental sustainability.

Recently completed improvements include space for the current public works operations as well as additional space for the City’s new Design, Environment and Construction Division (DEC) which handles permitting and inspections. With the creation of DEC, residents, developers and contractors now have a one-stop shop for obtaining plan reviews and permits. The new facility also includes space for the City Schools of Decatur Facilities Maintenance and Transportation Division. This is the first of two facilities currently shared between the City of Decatur and the City Schools of Decatur, marking a renewed partnership between the organizations.

The new exterior façade is compatible with the evolving, mixed-use neighborhood locally identified as East Decatur Station. The project incorporates the City’s design guidelines for pedestrian streetscape improvements. The building received LEED Gold certification.

At the onset of construction, Hogan Construction Group (Hogan) planned several sustainability initiatives, but also looked for new opportunities throughout the process. Hogan developed a waste and recycling program that utilized a disposal vendor that separates all waste offsite which allowed for controlled separation of recyclable materials. Often when waste separation occurs onsite using multiple containers, it is difficult to monitor the subcontractors’ compliance to the recycling program. Utilizing an offsite program offered the capability to capture the largest amount of recyclable material.

The project had a significant amount of waste from selective demolition as well. Hogan collected sound wood studs that were removed and stored them for later use. They were able to use several of the collected studs as safety rails throughout the project. Additionally, they reused roof blocking that was in acceptable condition.

Two underground retention systems were installed to overcome some challenging site conditions including useable space restrictions and grade changes. As the community grew and additional services were necessary, a larger work force and fleet were required and parking had become difficult to manage. By using the underground retention systems, the City was able to efficiently handle their fleet, and provide a sustainable drainage solution for the site conditions.

The building also features energy efficiencies, including expansive windows to utilize natural lighting maximized by the building’s orientation on an east-west axis. Automatic light controls in Buildings A & B and skylights provide lighting optimization while reducing energy consumption. The project’s HVAC system is Daikin’s VRV system which utilizes Variable Refrigerant Flow technology providing energy efficiencies to the HVAC system. This is the City’s first time using a VRV system.

Managing Agencies: City of Decatur, Georgia
Primary Contractor: Hogan Construction Group
Primary Consultant: Stevens & Wilkinson
Nominated By: Georgia Chapter
PROJECT OF THE YEAR:
STRUCTURES
$25 MILLION–$75 MILLION

Pierce County Sewer and Traffic Operations Facility

Managing Agency: Pierce County, Washington
Primary Contractor: Walsh Pacific
Primary Consultant: TCF Architecture
Nominated By: Washington Chapter

The Pierce County Sewer and Traffic Operations (STOP) Facility is a grouping of six interrelated buildings that brought the Sewer Division (SD) maintenance and operations (M&O) staff (maintain the sewer pipe and pump stations throughout the county), the Traffic Operations (TO) staff (maintain street signs, traffic signals, street illumination and pavement markings throughout the county) and a portion of the Equipment Services Division (ESD) (maintain the vehicle fleet) together in a central location. The facility combines these three Public Works and Utilities (PWU) work groups into a single facility for the purpose of delivering long-term, reliable, efficient, cost-effective, and quality infrastructure maintenance services to the citizens of Pierce County.

Building A is the administrative center piece and “front door” of the campus. This building brings all employees together, providing offices for managers and supervisors along with meeting rooms, dispatch/crew room, locker rooms, showers, lunch room, traffic operations center, reception area, and a workout room. Building A is where the traffic and sewer crews meet to discuss daily work assignments prior to going out in the field, while also functioning as the consolidated center of operations for sewer and traffic systems during emergency events. The integration and consolidation of administrative resources and crew facilities will enable the SD and TO to deliver services with greater coordinated efficiency and streamlined communication.

Building B is a controlled warehouse consolidating all inventories in a single building, while providing both the sewer and traffic crews with efficient and covered access to parts, tools and materials. The building is divided into three sections: (1) working stock storage of materials used by TO including wire spools, signal heads, and miscellaneous PVC pipe; (2) tools and new parts inventory warehouse for traffic and sewer staff, and (3) drive-through working stock storage for the sewer crews. The building provides the main purchasing office with separate access for vendors and a parts counter for interfacing with County crews. The building is located near the south entrance to limit interaction between vendor delivery trucks and County vehicles which enter and exit primarily through the north gate.

Building C contains all shop facilities supporting the sewer and traffic M&O programs, as well as the ESD for the maintenance of vehicles and equipment. The other four buildings on the campus are as follows: Building D – Vehicle and Materials Storage; Building E – Small Equipment Storage; Building F – Fuel and Wash; and Building G – Pole Storage.

Other facilities include a tipping wall which provides elevated access for traffic and sewer crews to off-load waste and recycled materials into large, vendor-operated container boxes; and a 1,500 kW/1,875 kVa generator that provides power for the full campus during power outage events.
The Anaheim Regional Transportation Intermodal Center (ARTIC) is the first LEED Platinum-designed transit station in the world. It is a significant vision of public transportation infrastructure realized in the City of Anaheim and centrally located in Orange County, California. ARTIC is an iconic 120-foot-tall, 67,000-square-foot transportation hub and mixed-use activity center. The facility increases community mobility options and is a model for energy efficiency, while promoting sustainable living. This regional landmark serves three million Orange County residents as well as more than 40 million visitors annually.

“ARTIC is a community-focused facility that will change how people think about public transportation,” said Ernest Cirangle, FAIA, LEED AP, design principal for HOK’s Los Angeles office. He added, “This iconic facility is a symbol of a new era of public transit and was only made possible because of city leaders’ unwavering commitment to a contemporary and bold design.” The architectural and structural engineering masterpiece has been called “…the most complicated steel structure ever attempted,” by the American Institute of Steel Construction. The total cost of the project (environmental, design, right-of-way acquisition and construction) was $188 million, funded by multiple agencies.

The array of transportation services includes Orange County Transportation Authority (OCTA) (bus service), Metrolink (regional commuter rail system), Amtrak, Anaheim Resort Transportation (ART), shuttles, taxis, bikes, tour and charter buses (such as Greyhound and Megabus.com), and other public/private transportation providers. ARTIC is located on 16 acres and offers a public plaza/drop-off area, 13 bus bays, state-of-the art rail platforms, commuter biking facilities, electric vehicle charging stations, a self-service book vending station, Wi-Fi, and approximately 1,100 parking spaces. Commuter-friendly tenants opened at ARTIC in Spring 2015 and include The Oyster Bar, Ritter’s Steam Kettle Cooking, and The Lost Bean Organic Coffee and Tea.

Due to the project’s close proximity to the Santa Ana River trail, the location is prone to liquefaction. A geotechnical investigation was performed which analyzed various methods of foundation construction that would support the iconic steel structure. The methods included, among others, spread footing, caissons and mat slabs. The preferred and economical method was a mat slab foundation which required densification of the existing soils to combat the effects of liquefaction. The project employed the use of Deep Dynamic Compaction (DDC) which is the repeated dropping of a weight (30-ton) from about 80 feet above with a special crane with a quick release mechanism. The application required the excavation of a moat to absorb the vibration and impacts to surrounding structures from the seismic activity.

In streamlining mobility throughout this beautiful yet densely populated region, the City and its residents will realize both short-term and long-term benefits through population and tourism growth, housing accessibility, local job creation, future innovative projects, and environmental sustainable practices for years to come.
Opened on May 17, 2014, Target Field Station (formerly known as the Interchange), located in Minneapolis’ North Loop neighborhood, is a state-of-the-art multi-modal transit station with complementary mixed-used development and year-round activated public space. At the doorstep of Target Field, it is the new “Grand Central Station” for Minneapolis. Taking inspiration from the city’s distinct seasons and love of the outdoors, the project’s common areas have been specially designed to support a variety of activities for transit and non-transit users alike, ensuring maximum use and comfort.

The overall design emphasizes the principles of Open Transit by bringing together transit and urban culture into a one-of-a-kind destination that enhances commuters’ experience and promotes a stronger community. Target Field Station includes an elevated light rail transit (LRT) station, rail bridge, promenade, and two levels of public plaza, with areas available for neighborhood bars and eateries, cultural and entertainment spaces, and community events.

The site includes a Great Lawn, a valuable green space for activities, and 286 below-grade parking spaces. The Great Lawn provides the city with opportunities for pre-game events, community concerts, seasonal events, and individual activities. An amphitheater and informal seating area form The Cascade, which provides year-round entertainment and recreation opportunities, including a place for informal lunch meetings between friends or clients, street fairs, and outdoor concerts.

In the winter, all plaza and drive surfaces utilize an integrated snowmelt system, using excess heat generated by the neighboring Hennepin Energy Recovery Center (HERC) to melt snow and ice along walkways, paths, stairs, driveways, and parking areas. By using the site’s natural topography and the landscape’s natural filtering properties, stormwater is funneled to a series of cisterns and underground storage systems. Water is then sent back to the HERC to quench ash as part of an initiative by the Mississippi Watershed Management Organization.

Target Field Station is a bustling urban park, transit station, and neighborhood gathering space. It connects more than 500 trains arriving and departing daily via METRO Blue Line (Hiawatha) Light Rail, METRO Green Line (Central Corridor LRT), and Northstar Commuter Rail. This destination connects communities by linking the region’s growing commuter and LRT network, as well as miles of new bike and walking trails. Near Target Field Station, visitors can access daily bus operations that connect the Twin Cities metropolitan area.

Target Field Station is a project of Hennepin County, the Hennepin County Regional Railroad Authority, and the Hennepin County Housing and Redevelopment Authority. The project was funded by a mix of federal, state and local sources. More than half of the project was funded by local government.

When Alachua General Hospital was demolished in 2010, it left a 16-acre hole in Gainesville’s urban core. Strategically located between the University of Florida’s main campus and Downtown Gainesville, the empty lot spelled massive economic opportunity for the region. The Gainesville Community Redevelopment Agency (CRA), the University of Florida, and City of Gainesville collaborated to create a shared vision for the property. They dreamed up Innovation Square, a modern “live-work-play” development that would capitalize on the university’s robust research base, enterprising technology entrepreneurs, and talented workforce.

How does transportation come into play? In 2012, the Gainesville CRA began the design of SW 9th Street and SW 3rd Avenue—two roadways that would lay the groundwork for Innovation Square’s utility grid and public access. The streets, which run north-south and east-west, bisect the former hospital superblock and have created pedestrian-friendly, walkable streets enjoyed by many. A total of 1,471 linear feet of new streets, utility infrastructure, and greenspace was installed.

The streets were designed to transform the former superblock into a more human-scaled, walkable place and to plan for future development on the Innovation Square by installing robust public infrastructure beneath the streets—developers could just “plug and play” their buildings into the ready-to-go system. Another major goal for the project was to demonstrate sustainable approaches to public infrastructure, with emphasis on stormwater management within a state-designated impaired drainage basin. It was important that stormwater management solutions provided the needed treatment without subtracting from developable land reserved for the buildout of Innovation Square.

The design team was challenged to think through maintenance regimes and life cycles of materials, ensuring that solutions took into account all aspects of sustainability including environmental, economic, and social viewpoints. The team performed a life-cycle analysis of material choices to help inform decisions, understand long-term maintenance impacts, replacement costs, and general quality of life impacts.

SW 9th Street was designed as the district’s signature corridor. Careful attention was paid to the creation of a comfortable pedestrian and vehicular realm above ground and the installation of a highly-capable infrastructure grid below ground. The final design features a concrete roadway with a 50-year+ lifespan, LED lighting, bioretention cells to manage stormwater runoff, silva cells to encourage healthy street tree growth to combat urban heat island effect, a pervious and ADA-compliant “slate-gravel” park, and native vegetation. Furthermore, the stormwater infrastructure in the area was aged, undersized, and the conveyance system crossed several parcels preventing redevelopment from occurring. A 72” stormwater bypass pipe was designed to collect stormwater from the subregion and deliver it to a treatment basin, solving capacity issues and flooding, and eliminating hurdles to redevelopment in the area.
Over the last 15-20 years, the adjacent Downtown and Midtown areas of Houston, Texas have undergone tremendous improvements and are witnessing a return of higher-density residential and mixed-use development. Between 1995 and 2012, for example, Midtown population has increased from less than 1,000 residents to more than 9,500 residents and their property tax base has increased from $157 million to $1.2 billion.

Prompted by a 2008 drainage study to address flooding issues in the area, the Bagby Street Reconstruction is part of the City of Houston’s Midtown Tax Increment Reinvestment Zone (TIRZ), formally known as “Reinvestment Zone Number Two,” which was created in 1994 for the redevelopment of Midtown (the area located generally between the central business district and the Museum District/Texas Medical Center). The Midtown Redevelopment Authority administers the Capital Improvements Program to stimulate development in the area.

In short, the Midtown Redevelopment Authority Bagby Street Reconstruction Project included Low Impact Development (LID); complete pavement reconstruction; four signal designs; full utility analysis and replacement of storm sewer, waterline, and sanitary sewer; pedestrian enhancements; on-street parking; context-sensitive solutions; landscaping; illumination; extensive utility coordination; and achieving Greenroads™ Silver Certification, making this the first Greenroads Project in Texas and the highest-scoring of the eight Greenroads Projects worldwide.

The primary objective for this project was effectively balancing the need to move traffic while improving the business environment and pedestrian experience. Or a bit more specifically, converting a fast-moving street originally designed for automobiles to a people-focused community and destination that improves the quality of life for residents, businesses, and visitors.

Matt Thibodeaux, Executive Director for Midtown Redevelopment Authority, describes the project as “a chance to show our commitment to this community by investing in truly great projects. Our team has set high standards for not just the physical appearance of the street, but also the relevance of the street to the community, demonstrating leadership in sustainable development, and our commitment to maintaining this area after the project is complete.”

To truly meet the goals of the Midtown Redevelopment Authority, the design team (Walter P Moore and Design Workshop) knew that the basic scope of the project was more like a starting point. It wasn’t just providing the necessary infrastructure improvements to make the area functional and more attractive; it was doing so in a way that created: a walkable, bikeable, mixed-use community with safe and convenient access to amenities; a sustainable development (environmentally, economically, and aesthetically); and an identifiable sense of place and community.

They also needed to be able to measure these improvements to gauge effectiveness and to meet the requirements of becoming a certified Greenroads project.

Photo credit: © Shau Lin Hon – Slyworks Photography
Managing Agencies: City of Tucson, Arizona, Department of Transportation
Primary Contractor: Hunter Contracting Co.
Primary Consultant: Psomas
Nominated By: Arizona Chapter

The Houghton Road, Irvington Road to Valencia Road project consisted of widening three miles of Houghton Road from a two-lane roadway to a six-lane divided, multi-modal scenic parkway. Coordination with the public, a Citizens Design Review Committee (CDRC), businesses, stakeholders and elected officials started at the Design Concept Report (DCR) stage and continued through final design and construction. Important project elements included native landscaping and water harvesting, wildlife compatible crossings, upgraded traffic signals, bike lanes, and a multi-use path. Significant right-of-way acquisitions were required from the Arizona State Land Department and a few private property owners, but no resident/business relocations. The project also included identification of conflicts with a 24-inch water line, a 12-inch gas line, and electric transmission lines, drainage analysis and coordination with development projects.

Extensive access management measures were implemented in order to maintain mobility along this roadway. The project included a solar-powered emergency fire signal and five traffic signals. Two signals (at Drexel Road and Poorman Road) were designed with Florida T signal (or Continuous Green T) configurations to allow southbound traffic to flow without having to stop. The project also provided multiple improvements for alternative modes including 12 bus pullouts, and a paved, landscaped multi-use path along the east side of the road. Extra wide access ramps and a special bike-friendly treatment to accommodate pedestrians and bicyclists were included for all the crosswalks along the path to allow bicyclists to cross the side streets without having to walk their bikes.

New multi-cell arch structures over three large washes, including Atterbury Wash, were included to provide all-weather access, and water harvesting was also incorporated along the entire project.

Houghton Road by the numbers: 250,000 cubic yards of borrow; 65,000 tons of asphalt; 10,200 linear feet of 18- to 72-inch storm drain; 15,300 linear feet of water lines; 4,500 cubic yards of structural concrete; five signalized intersections; and 40 acres of landscaped area.

Some of the technological innovations used in the project to improve efficiency included use of digital surface models to guide GPS-equipped grading equipment; development of 3D models to evaluate conflicts and required phasing for installation of underground utilities; use of tables (iPads) in the field to georeference electronic copies of the plans within Google Earth; and unique Florida T intersections to provide continuous traffic flow for southbound traffic (there are only two other such intersections in the Tucson area and very few in the state—these have been very well received by the public as access is provided to the side streets while maximizing mobility for commuter traffic on Houghton Road).

PROJECT OF THE YEAR: TRANSPORTATION
$5 MILLION BUT LESS THAN $25 MILLION

Houghton Road, Irvington Road to Valencia Road
The East Phase of the Mercer Corridor Improvements Project is the first of a two-phase project initiated by the City of Seattle to convert the former Mercer/Valley Street one-way couplet to a two-way operation between I-5 and Dexter Avenue South.

The purpose of the project was to improve local circulation to businesses and residences in the area through vehicular and pedestrian measures and to provide for more direct vehicular movements through the corridor. The improvements also provide more direct access from I-5 to the area and to neighborhoods to the north and west. The project improves vehicular, freight, pedestrian and bicycle safety within and through the project area.

The Mercer Corridor Project provides increased opportunities and incentives to walk, bike or use public transportation. It does this by providing transportation infrastructure necessary to make South Lake Union a healthy and desirable place to live, work, shop and play. It is a critical part of Seattle’s City Center strategy to create vibrant, livable, walkable mixed-use communities—like South Lake Union—within easy access to the downtown core. This project provides and supports more convenient transportation options, manages congestion and improves accessibility for those who are unable to or choose not to drive. The project was developed as a result of a coordinated and inclusive planning process with residents, businesses and property owners, and other stakeholders who use the corridor. Stakeholders included King County, who operate streetcar and trolley systems, WSDOT, SDOT, Seattle City Light, Seattle Public Utilities, ZAIO Communications, Crown Castle, Comcast, Verizon, Amazon, Fred Hutch Cancer Center, MOHAI, Vulcan and numerous other stakeholders and businesses in the area.

The project includes one mile of new bike lanes, six blocks of multi-use trail, 21 curb bulbs, 32 block faces of improved and widened sidewalks, improved pedestrian crossings at 12 intersections, and median and landscaping that contribute to a sense of place and enhanced safety—a place people want to be. Enhancements also are consistent with Seattle’s Complete Streets Policy and Seattle’s Bicycle and Pedestrian Master Plans. These improvements connect several multi-use trails in Seattle, including the Cheshiahud Loop Trail that circles Lake Union, the Lake to Bay Loop that provides an urban walking trail between Elliott Bay and Lake Union, and connections to the Burke-Gilman Trail, which links the Puget Sound with Redmond. The bike trail improvements provide a quantified health benefit of $6.6 million. The project’s non-motorized improvements increase transit ridership and make transit more viable by integrating the South Lake Union Streetcar, connecting South Lake Union to downtown Seattle.
After the 1989 Loma Prieta earthquake caused a section of the upper deck of the original East Span in San Francisco, California, to collapse onto the lower deck, it was determined that replacing the seismically-vulnerable bridge was the safest, most cost-effective option. The new East Span of the San Francisco-Oakland Bay Bridge (East Span), which opened to traffic on time on September 2, 2013, is not only a dramatic landmark structure, but it is also a monument to the latest in bridge design and seismic engineering technologies. The project, which is the State of California’s largest public works project to date, also marks the transformation of a Bay Area bridge into a global icon.

At 2,047 feet long and 258.33 feet wide, the new East Span is the longest single-tower, Self-Anchored Suspension Span (SAS) in the world and the world’s widest bridge. The structure comprises four seamless and interrelated components: the SAS, with a main span length of 1,263 feet; the 1.2-mile-long Skyway bridge (Skyway), an elevated segmental concrete box girder that ascends from the Oakland shoreline to connect to the SAS; the Oakland Touchdown (OTD), a 4,229-foot-long low-rise post-tensioned concrete box girder that links the East Span to the Oakland shoreline; and the Yerba Buena Island Transition Structure (YBITS), a 1,542-foot-long post-tensioned concrete box girder that connects the SAS to the east portal of the Yerba Buena Island tunnel.

The East Span is located in a high seismic zone, situated between two major faults capable of producing large earthquakes. It is also one of the most heavily-used toll bridges in the United States. Working closely with the California Department of Transportation (Caltrans), California’s Metropolitan Transportation Commission (MTC), and the California Transportation Commission, the design team of T.Y. Lin International/Moffatt & Nichol, Joint Venture, delivered a comprehensive design strategy that focused on setting and delivering the highest standards for seismic safety while respecting the functional and aesthetic requirements of the local communities.

Among the many seismic engineering advancements incorporated into the East Span, the SAS’s single tower consists of four steel legs connected by fusible shear link beams. It is the first bridge of any kind to use fusible shear links in its tower to protect tower shafts during an earthquake. It is also the first bridge on this scale to use a single, pre-bent, three-dimensional suspension cable. Deck sections are connected by hinge pipe beams that transfer bending and shear, absorbing seismic energy and protecting the main structure. The enormous steel pipe piles for the foundations were driven up to 300 feet below the surface of the bay to reach stable soils.

Photo credit: Brooke Duthie Photography
Managing Agency: City of Rancho Palos Verdes, California  
Primary Contractor: L.H. Woods & Sons, Inc.  
Primary Consultant: Harris & Associates  
Nominated By: City of Rancho Palos Verdes, California

Construction of the San Ramon Canyon Storm Drain Project was urgently needed to manage stormwater runoff and debris that repeatedly closed a major thoroughfare into and out of the City of Rancho Palos Verdes. The stormwater events also threatened the property and lives within a mobile home community located directly below the street. Another factor the City considered was the significant erosive impact the stormwater was having on the landslide-prone canyon walls in the upper section of the Canyon.

The project includes installation of a 4,000-foot-long, 54-inch diameter, thick-walled steel drainage pipe, running from the middle of San Ramon Canyon just east of the PVDE switchbacks to the ocean. The inlet structure located in the upper canyon, which functions to direct storm flows from the streambed into the pipe, is founded on 60-foot concrete piles capped with cast-in-place grade beams that were installed in 2013. The above-ground structure is built from “shotcrete,” which is applied to a built-in-place reinforcing steel cage using a high-pressure hose. The exposed surface was finished using hand tools by skilled craftsman to create a smooth surface in order to improve hydraulic efficiency. The inlet structure is built around the upper end of the 54-inch pipe that was installed after the tunnel was built. Inside the tunnel, the pipe was surrounded by an expanding grout to lock it in place and fill the annular space between the outside of the pipe and the inside of the tunnel. The pipe was installed using several methods including two types of tunneling, and a more traditional “cut and cover” section. The longest section of tunnel runs from just south of Palos Verdes Drive South up to the inlet structure in the canyon.

Tunneling was the primary construction practice used on over half of the pipe’s alignment to minimize the impact of sound, vibration and dust that might otherwise have affected the community adjacent to the construction, as well the natural preserve areas that surrounded the work. The tunneling work was accomplished with two 37-foot-long tunneling machines built especially for the project and a collection of experienced and dedicated miners. As the upper tunneling machine chewed its way through the earth, the miners constructed a “barrel” right behind it using curved steel beams and wood lagging to keep the excavated space open and intact. The lower tunneling machine and steel sleeve were advanced using a hydraulic ram from the bluff-top, with excavated materials backed out on a conveyor system. Ventilation, water, power, rail, and rib and lag materials had to be advanced behind the machines in a complex process.

The Storm Drain was successfully completed and now provides a significant benefit to the local community through improved flood protection and safer, more dependable traffic access to the entire Palos Verdes Peninsula.
he Stevens Creek Corridor Park & Restoration Phase 2 project has opened five acres of public land within a beautiful creek corridor to the public, including a quarter-mile stretch of Stevens Creek and the historic Stocklmeir family homestead with its orchard lands. A new, fully accessible all-weather trail links the public to over 60 acres of open space in the creek corridor.

This new segment completes a leg of the regional Stevens Creek Trail system, which is planned to connect the San Francisco Bay Trail to the Bay Area Ridge Trail. This trail segment ties directly to bus stops and bike lanes on Stevens Creek Boulevard, links to neighborhoods and popular park sites, and provides inviting pedestrian and bicycle access to the busy “tri-school area” of the city. A new footbridge links the Stocklmeir site to the existing trails within Blackberry Farm and McClellan Ranch Preserve. Gathering areas, benches and other amenities are included on the new trail.

The project widened and restored a degraded section of Stevens Creek. The creek provides habitat to a variety of rare and protected wildlife species. One of these is the Central California Coast steelhead, a federally-threatened species which is sometimes described as an ocean-going rainbow trout. Steelhead live in this part of Stevens Creek year-round. Steelhead not only spawn but also are reared in this reach. The restored section of the creek is federally designated as Critical Habitat for the steelhead.

This project restored the creek by widening the channel, creating pool-riffle sequences for steelhead, and providing desirable in-stream floodplains and new backwater areas for habitat complexity and wildlife refuge. The restoration has dramatically improved the habitat value, stability and beauty of the creek.

All the concrete and riprap were removed from the creek. The channel and banks are now stabilized using entirely natural materials and methods. The restoration has dramatically improved the habitat value, stability and beauty of the creek. Extensive amounts of invasive nonnative vegetation have been removed. Over 1½ acres of new riparian, wetland and upland habitat plantings have been installed, with over 200 new trees, more than 2,400 watershed-specific plants, and a thoughtful palette of six dozen native species that have been individually placed to flourish in micro-conditions throughout the site.

This complex public works project involved creative, high-quality planning, design and construction to achieve an outstanding result. The unusual environmental challenges and project constraints were handled through active ongoing collaboration among the city, design team, contractor, and regulatory agencies. This collaboration successfully addressed specialized requirements of grants, permits and environmental measures; residences within 10’ of the work zone; keeping a popular golf course and restaurant open; keeping an old and crucial sanitary main in use while relocating it; presence of federally-threatened wildlife species; and protecting a sensitive creek corridor while actively reconstructing it.
Managing Agencies: Town of Bath, New Hampshire; New Hampshire Department of Transportation  
Primary Contractor: Wright Construction Company, Inc.  
Primary Consultant: Hoyle, Tanner & Associates, Inc.  
Nominated By: New England Chapter

The Bath Village Covered Bridge is a 392'-6" long multi-span structure spanning the Ammonoosuc River and Ammonoosuc Rail Trail in the Town of Bath, New Hampshire. The overall width of the bridge is 24'-6" with a distance of 23'-4¼" between the centerline of trusses. A 5'-0" wide sidewalk or raised platform is located inside and adjacent to the upstream truss. The structure carries vehicular and pedestrian traffic and is comprised of local timber species, predominately spruce or hemlock. The bridge is also exceptional both for the length of its individual spans, its overall length and its uncommon width. The west span with its original length of 175 feet (prior to the much later addition of a support pier) placed it among the longest-span bridges of its day. With an overall length of 392 feet and width of 24'-6", it stands as one of America's monumental covered bridges.

The Bath Village Covered Bridge serves as an integral part of the local transportation network providing access from the town center and US Route 302 for residents of the western part of the town. The Ammonoosuc River separates about one-third of the Town's residents from the Village Center, with the Bath Village Bridge providing the most traveled, most direct, and most important river crossing for the Town of Bath. As such, it is also used by police, ambulances and small fire department vehicles for emergency response to access the westerly area of Town. If the bridge was taken out of service it would have require about one-third of the town's residents and emergency response vehicles to make a lengthy detour of over ten (10) miles.

The purpose of the rehabilitation project was to address structural deficiencies and safety concerns associated with the Bath Village Covered Bridge to meet the current standards to the extent possible in the most cost-effective manner possible. Upon completion, the bridge is adequate for a ten (10) ton vehicular load.

Construction began with repairs to the added arches which were temporarily shored from the bridge trusses. The end laminations were removed and then spread apart with wedges. To maintain the historic character and structural integrity of the added arches, the butt splice locations were retained in the arches. The staggering of the arch laminations results in a stronger structural member as the arches resist a portion of their loading through bending; however, it also makes replacement more difficult. The new laminations were added to the arches, nailed to each other with a pre-determined nailing pattern and then held together with through or “stitch” bolts. In a later portion of construction, the arch rods were added to new needle beams and the arches again shared live and snow load with the trusses.
The Bridge District of West Sacramento, located directly across the Sacramento River from downtown Sacramento, is bound south and southwest by US50/Business-80, on the north and northwest by Tower Bridge Gateway (formerly State Route 275), and the Sacramento River on the east. Once a thriving industrial district, this 188-acre area is characterized more recently by vacant properties and underutilized warehouse and industrial land uses. In 1993, the City of West Sacramento adopted the Triangle Specific Plan, which envisions the District as a dense, pedestrian-friendly, mixed-use area featuring office, residential, and commercial development that will transform the District into an extension of the urban fabric of downtown Sacramento including extensive riverfront amenities. Over the past several years, the City has been working intensively to implement the Triangle Specific Plan and the initial phase of infrastructure needed for development in the District. The Bridge District Water Storage Facility was required to meet the water demands for this development. The tank and pump station had to be operational prior to the issuance of any new occupancy permits in the District. The previously planned park was integrated into the site and the tank and pump station design project, to provide a holistic, integrated concept to the site.

The facility consists of the following major components: 3.1-million-gallon capacity AWWA D100 above-ground steel storage tank; pump station building; electric transformer pad; perimeter fencing; motor-operated sliding gate with key pad entry; security; integrated SCADA; a 1.5-acre water-themed neighborhood park (Jerome D. Barry Park).

Because of the small site and close proximity of the tank and pump station to the park (essentially splitting the park into three components, with the tank in the middle), the design team developed a park concept that celebrated the water infrastructure. Park elements were designed with a water theme, with the tank serving as a water droplet in the middle of the site, and waves rippling out from the center in various forms of the park. This was accomplished through rippling seating walls, turf areas, landscape beds, and play structure surfaces. In addition, to indicate the industrial nature of the area, the tank was outfitted with colorful pipes around its perimeter at varying levels, and vertically, to symbolize the water being delivered to the surrounding community. These pipes were backlit with matching colored LED lights, to continue the concept at night. These colorful pipes were continued from the tank into the park, as matching color bands, connecting the park to the water facility. Other water-themed features of the park include benches made from water pipes, a rain garden and stormwater swale, and pipe spools within the pump station walls allowing park visitors to peer through into the pump station to see the facility in action.

Photo credit: Herb Garcia
The Pajaro Neighborhood Park Project involved the construction of a new, state-of-the-art five-acre park—the first public park in the unincorporated community of Pajaro in Monterey County. In March 2014, the County was able to give Pajaro the park they so evidently needed and this has proven to be a significant contribution to improving residents’ lives by enhancing community pride and encouraging positive social interaction.

The park was constructed on an old construction storage yard donated to the community free of charge by Granite Construction (a different company than Granite Rock Company, the contractor). Park elements include a three-acre synthetic sports field for soccer and baseball, barbecue shade structures, a stage pavilion, two large playgrounds for different age groups, a basketball court, a walking/jogging path, and a large community mural along the walls of the park.

Funding for the project consisted of a $5M grant from the California Department of Parks and Recreation’s Statewide Park Development and Community Revitalization Program of 2008 (Proposition 84), a $138,500 grant from the CalRecycle Tire-Derived Product grant program, and $1.2M in Redevelopment Agency Tax Increment funds generated by the community.

The project used many environmentally friendly and sustainable techniques in its design, including bioswales which replenish the groundwater, solar panels mounted on the restroom building to reduce non-renewable energy demands, a multi-use parking lot for commuter “park and ride” to promote carpooling, and drought-tolerant, native plantings to reduce water consumption.

The sports fields also used synthetic turf which requires no irrigation, another future water-saving measure. Its sub-base is lime-treated to stabilize poor soil and minimize shifting in the flood zone. The rubberized field infill material was manufactured from recycled tires supported by a California Department of Resources Recycling and Recovery (CalRecycle) Tire-Derived Product grant.

The park brings much-needed open space to the small, and often underserved, farming community of Pajaro. It plays a large role in making life better for the town of Pajaro by enhancing community involvement, health, education and pride.

The park has brought the community together, strengthening connections between local artists, historians, schools, families and business. Its central location and proximity to the Pajaro River provides convenient access to open space, exercise, arts, culture and nature. The park’s art and educational elements help to increase cultural unity, create a sense of place and support economic development in the community. The public art mural and large artistic tiles display a historical timeline of Pajaro’s beginnings and culture while providing local work to artists in the community.

Pajaro Neighborhood Park inspires the community’s residents to foster relationships, improve their health, follow their dreams and build a better community.
Managing Agency: City of Danville, Illinois
Primary Contractor: City of Danville, Illinois
Primary Consultant: Alfred Benesch & Company
Nominated By: City of Danville, Illinois

The City of Danville has two Class I railroads dissecting the community with 85-plus trains per day transporting goods from the southern coasts to the north. Multiple at-grade crossings cause significant motorists delays, limit public transportation services, and hinder the response time of first responders. The only east-west arterial without an at-grade crossing is Fairchild Street. Fairchild Street provides a connection from the Indiana state line and Interstate 74 to the area hospital at the western end of Fairchild Street. It also provides direct connectivity to Illinois Route 1. Fairchild Street is in the center of the city and serves Danville’s only public high school.

Fairchild Street passed beneath six tracks (three of which are mainline tracks) of the Norfolk Southern and CSX Transportation railroads using a viaduct comprised of two concrete arch tunnels and a series of retaining walls built circa 1915. The viaduct had unconventional braced retaining walls up to 30 feet in height. The City commissioned an engineering analysis and found that the walls had moved laterally up to 13 inches over their life and had “structurally failed.” The engineering report also recommended the City begin planning for the replacement of the viaduct and continually monitor its condition.

The City began the process of replacing the viaduct in 2006 with an initial action to stabilize the viaduct until a permanent replacement option could be implemented while simultaneously conducting a corridor study. That process was completed with the opening of the modern Fairchild Overpass in 2014.

One of the primary design objectives was to improve the efficiency of the Fairchild and Bowman intersection which had the historically significant Germantown Fire Station on the northeast corner and Fairchild School on the southwest corner. The alignment of Bowman was changed from a tangent to an S curve to avoid impacts to these significant structures while providing additional capacity and turning movement widening. The project design will result in decreased emissions through the Bowman and Fairchild intersection improvements and the addition of a shared use path providing for alternative transportation modes.

Prior to the Fairchild Overpass Improvement, the Fairchild right-of-way consisted of paved surfaces from the north to south right-of-way for much of the project. The improvement created boulevards and backslopes with landscaping opportunities for environmental enhancements. Robust tree plantings were specified to reduce greenhouse emissions and to mitigate urban heat island effects. During construction, turf grass was replaced with native plantings at a net project savings to lower water demand and maintenance costs. During construction, four commercial properties asked to have pavement removed and the enhanced landscaping added after seeing it being installed within the right-of-way.
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“Several years ago, our City Council, in their infinite wisdom, decided we needed to own a municipal golf course. When the economy went south, so did the golf course and we ended up stuck with it. I’ve heard several other places have had the same issue but we’ve been charged with finding a suitable use for the property. Do you have any suggestions?”

Ah, golf courses! Wonderful things—on paper—but not always the most cost effective or successful endeavors for local governments. You are correct, though, that there have always been closed golf courses across the country. Some had stayed abandoned for years because of the extra effort it takes to prepare the ground for other projects. The Lee County Parks Department, Ft. Myers, Fla., had a similar experience, although it was a private golf resort that failed. Rather than have it be an eyesore in the county, they purchased the property and has converted it into the Lehigh Acres Trailhead Park which is a great place to walk, hike, bike, skate, push your baby in a stroller, and walk your dog on a leash. The half-mile paved multi-use trail encircles a four-acre replicated prairie with more than 18,000 native grasses and wildflowers. There are plenty of birds, along with a great observation deck to spot them from. The park is actually an eco-park with ecological benefits more than just preserving greenery.

Because the park was converted into an eco-park much of the original topography such as berms, greens and sand traps was retained. This helped to ensure that fewer nonrenewable resources were expended on onsite construction equipment to grade the site. There are also several man-made rain gardens, or planted depressions, that were designed to help improve water quality by capturing and filtering runoff prior to discharge. While preserving about 900 percent of the site’s existing trees, including pines and sabal palms, invasive exotic plant species were eliminated. Many native plants were added into the park. These require less water and less care than non-native plants and are also friendly to wildlife and provide habitat. Adding to the “green theme” are recycling bins that are located next to each trash bin.

Coincidentally, a bus stop is located right across the street from the park’s entrance and provides a good reminder that ride-sharing is a great way to reduce greenhouse gas emissions! We have a saying here in Missouri—“You can’t make a silk purse out of a sow’s ear”—but in this case, that’s not true. Great use of existing property to the betterment of many.

“We’ve done just about everything we can think of to monitor our utility usage throughout the city but it doesn’t seem to be making much difference in our energy costs. We’ve installed new technology and we get a lot of data from a huge variety of sensors and systems that monitor and manage the building space, equipment and conditions for all the facilities our department manages. We thought having all this information could help us make good decisions for improving the financial and environmental performance of the buildings but it doesn’t seem to matter. What are we doing wrong?”

Far be it for me to ever tell you what you’re doing wrong! Especially since it sounds as if you have done all the right things so far. We all know that buildings can be budget busters! Statistics indicate that state and local governments spend more than $10 billion a year on energy to provide public services and meet constituent needs, up to as much as 10 percent of a city’s operating budget. All the facilities that are required for the citizens to access their government services. Installing technology that collects data from the many sensors and systems that monitor and manage building space, equipment and conditions, is the first step to making optimal savings but there seems to be a catch. In many of our buildings the systems are isolated and the data is poorly structured, which limits the value of the information and makes it difficult to gain a high-level view of what is going on across a portfolio of buildings. Governments need integrated oversight of buildings across the board so they can more easily analyze risks, identify potential risks, and make informed decisions to improve performance and reduce costs.
points of failure, and look for new opportunities for improvement with greater predictability and accountability. They need a system-wide, single view of the truth.

One way to do this is through technology that mines and aggregates data, allowing the government to manage assets such as building on a converged, integrated platform. Through this platform, employees can collect and analyze real-time energy and asset data to improve operations. Energy-intensive equipment can be monitored to identify operating anomalies and corrective work orders can be issued that can quickly and dramatically reduce energy consumption. Such a platform can streamline and supplement information flows with applications that are designed to keep assets operating at peak performance levels. Agencies need to centralize monitoring and coordinate and deploy resources for the highest return, and accelerate energy reduction with integrated maintenance, project and space management. Plain and simple, to manage facilities and building space management. Plain and simple, integrated maintenance, project and process automation enables the delivery of intelligent management of the data with business outcomes and process automation enables the delivery of intelligent management support. One such source is the IBM Building Management Center. I’m certain there are others so you may want to check them out. Sounds like you’ve done everything right up to the point of being able to receive and utilize all the necessary data.

Q “How can we get the most out of our employees? With all the cuts in hours, benefits, etc. over the past few years, as well as government’s inability to offer stock options or such as private industry does, how can we make our employees realize they are valuable to us and need them to be happy and to feel good about being key to the public service?”

A You’re right. Our government agencies would be nothing without the hard work and commitment of the employees. People who want to work in the public sector don’t do it because of the wages or benefits. They do it because they want to contribute to the greater good. As a public sector manager, it is our responsibility to remember this and work to make our employees feel integral to the mission and goals of the job they show up to do every morning and at which they achieve. They need to be turned into owners. Owners, in government agencies? Not likely. We know that private industry has realized higher satisfaction, retention and productivity through stock options or profit sharing. We can’t offer big perks but that doesn’t mean we should sit around with our hands tied. We can achieve the same results by appealing to what attracted government employees to their careers in the first place—they want to help by solving problems and providing better opportunities for others.

One of the most powerful ways to accomplish this is to recognize public employees for attitudes, action and commitment that underscore their ownership in public service and its strong purpose. Because we can’t provide cash or stock incentives, we often forget that money isn’t the only way to acknowledge outstanding performance and commitment to the job. Recognition through a special ceremony, a newsletter or newspaper article, that calls attention to how an employee has given above and beyond the requirements of his position, can be a great boost to the employee’s feeling a personal connection to the department and the community. Public employees often turn down more lucrative careers in the private sector or work long after others are already on their drive home but they WANT to help those in need. They WANT to be part of a mission to do what is right. It’s the job of the organizational leadership to help them help us with that mission. Ultimately, employee satisfaction is the start of a chain reaction leading to higher productivity. That means that an agency or department can dream bigger and reach higher, knowing that committed employees are on board with its goals of public service. If we are lucky enough to attract workers motivated by opportunities to help others, we’d be foolish not to prioritize their retention.

People spend about a third of their lives at a working age. Of that, half of their waking lives are spent in an office or other place of work. It’s no surprise they want to spend that time meaningfully. With creative ideas and strong leadership, public employees can feel truly integral to their employer’s goals. They can feel like owners—even without the stock options!

Ask Ann...
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SDLG offers a well-made wheel loader backed by a great warranty

It’s been just over a year since SDLG entered North America, and to date, the company’s development plan continues to be right on track. The goal of providing customers with an alternative to premium, used wheel loaders has made inroads into the industry, as both dealers and customers are seeing the benefits of offering quality wheel loaders backed by top-notch support.

The launch of SDLG has been met with great observance, with sellers and users of construction equipment paying great attention to the brand’s value proposition and what it could mean for the industry. As dealers have now seen how well the wheel loaders perform and the level of support they’re given, many are signing on to offer the machines to their own customers. In its short tenure the brand has grown across North America from seven dealers at 12 locations to 23 dealers at 40 locations.

Al Quinn, director of SDLG North America, attributed the rapid expansion of SDLG’s dealer networking to a growing trust in the brand and its wheel loaders’ capabilities. “The rapid expansion of SDLG is testament to the notion that if you build a solid foundation for a brand, business will flourish,” he said. “Over the last year, dealers have seen how well these wheel loaders perform and the high level of support given to them, which has encouraged them to partner with SDLG and offer these machines to their customers.”

Each of the companies stocks a wide range of construction equipment and has teams of well-trained sales and service personnel to back SDLG products. They all also offer SDLG’s 21st Century Product Support, which uses a central parts location to ship parts to customers and dealers, often within 24 hours.

SDLG has a North American lineup of four wheel loaders. The range includes: The SDLG LG938L, a 2.5 yd³ capacity wheel loader; the LG948L, a 3.0 yd³ capacity wheel loader; the LG958L, a 4.0 yd³ capacity wheel loader; and the LG959, which has the same basic specs as the LG958L, but with wet disc brakes rather than dry disc. All four loaders are backed by a 12-month, 1,500-hour manufacturer’s warranty.

“There are lots of features on higher-priced machines that our customers don’t need, don’t want or can’t necessarily afford,” Quinn said. “SDLG can offer them a wheel loader that doesn’t break the bank or lose their return on their investment if it’s not in continual usage. It’s also a great alternative to used machines, offering a well-made new wheel loader backed by a great warranty.”
**ARMOUR-SEAL frame and chassis component encapsulant**

New undercoating allows public works departments to easily and safely protect their trucks and equipment, all in their own shop, with minimal downtime! **ARMOUR-SEAL** extends operational life-cycles by protecting the truck frame and chassis components, such as diesel tanks, oil pans, brake cables and wiring harnesses from rust and corrosion damage caused by salt and chlorides used to deice roadways. Apply with the air-operated **PISTOL-GRIP Spray Gun**. No mixing! Call 1-800-688-6221.

**Adlens® announces Adlens Interface™, adjustable eyewear to combat digital eye strain**

Sixty percent of Americans spend over six hours in front of a screen every day, with some 40% not aware of the increased risk this poses to experiencing the effects of digital eye strain. **Adlens Interface** is designed to alleviate these symptoms by combining continuously adjustable focus with a specially formulated HEV light-reducing tint, allowing the wearer to fine-tune their vision for the distance of the screen and reduce digital eye strain. In a user test, over 50% immediately noticed the difference when using their computers, while 60% saw an improvement when using their smartphones and tablets. For more information, please visit www.adlens.com.

**Morgan Advanced Materials’ Electrical Carbon**

Morgan Advanced Materials Electrical Carbon business announces that its range of **carbon brushes** are ideal for wind turbine applications, with new designs and materials that are resulting in longer brush life and increased generator uptime. Morgan’s globally available brush grades are created to be environment-specific, offering maximized performance in low or high load conditions. Leading-edge laboratory equipment, coupled with years of experience in carbon brush technology, has led Morgan to develop advanced materials to address the environmental extremes experienced by wind turbines, including scorching heat or corrosive sea salt. For more information, please visit www.morganadvancedmaterials.com.

**Rivertop Renewables’ Corrosion Reduction Calculator**

**Rivertop Renewables**, a Montana-based novel chemicals company, has launched its **Corrosion Reduction Calculator**, a tool designed to determine the return on investment (ROI) of adding the company’s Headwaters® Corrosion Inhibitors to salt brine for state winter road maintenance. Developed by Rivertop using the latest research, case studies, and government agency data, the Calculator compares the cost of purchasing and handling the inhibitor to the savings of avoiding corrosion-induced repair and replacement of vehicles, snow fighting equipment, roads and bridges. More information is available at rivertop.com.
Utilities Production & Treatment Manager

City & Borough of Juneau, Alaska

Full-time

$84,593.60-$90,313.60 annually (DOQ)

The Public Works and Engineering, Utilities Division is looking for an experienced candidate interested in serving as the Utilities Production & Treatment Manager who manages staff, systems, and facilities for the City and Borough of Juneau (CBJ). The CBJ Utilities Division provides water and wastewater services to 32,000 residents and businesses and over a million visitors annually. This Utilities Production & Treatment Manager position will oversee the potable water supplies and wastewater treatment for the entire community, including managing more than 20 staff in the operation of two major potable water sources and treatment plants, three major wastewater treatment plants, and the bio solids handing program.

A completed CBJ application form, Number P001, résumé, and cover letter must be received by the Human Resources & Risk Management Department for consideration in the first round of applicant screening on July 15, 2015. To be considered for this screening, all materials must be submitted by 4:30 p.m. (Alaska Standard Time) on July 15, 2015.
UPCOMING APWA EVENTS

International Public Works Congress & Exposition
2015  Aug. 30-Sept. 2   Phoenix, AZ
2016  Aug. 28-31   Minneapolis, MN
For more information, contact Dana Priddy at (800) 848-APWA or send e-mail to dpriddy@apwa.net.

National Public Works Week: May 15-21, 2016
Always the third full week in May. For more information, contact Jon Dilley at (800) 848-APWA or send e-mail to jdilley@apwa.net.

North American Snow Conference
2016  May 22-25   Hartford, CT
For more information, contact Brenda Shaver at (800) 848-APWA or send e-mail to bshaver@apwa.net.

JULY 2015


13-17 APWA: CSM, CPII and CPFP Certification Exams (computer-based testing), (800) 848-APWA, www.apwa.net

16-19 American Society of Concrete Contractors, Concrete Executive Leadership Forum, White Sulphur Springs, WV, www.asconline.org


AUGUST 2015

2-6 StormCon, Austin, TX www.stormcon.com


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Just-in-time manufacturing, farm-to-table freshness, guaranteed overnight delivery — as American business moves, so do the demands on our nation’s roads. Congestion and traffic delays cost the trucking industry $9.2 billion a year.* Rough roads increase vehicle wear and tear.† It all adds to business costs and purchase prices.‡ Asphalt pavements are easy to maintain cost-effectively, ensuring maximum performance with minimal delay for truckers and everyone who relies on them. Smoother, faster, fewer delays... that’s drivability. That’s asphalt.

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* ATRI, Cost of Congestion to the Trucking Industry, 2014 • † TRIP, Bumpy Roads Ahead, 2012 • ‡ TTI, Urban Mobility Report, 2012